2017 Model Year Mirage G4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2017 Model Year Mirage MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

On-board diagnostic monitor ID	Standardized/ manufacturer defined test ID	Monitoring item	Simple technical description	Conversion coefficient in using general scan tool
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

On-board diagnostic monitor ID	Standardized/ manufacturer defined test ID	Monitoring item	Simple technical description	Conversion coefficient in using general scan tool
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 − Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

On-board diagnostic monitor ID	Standardized/ manufacturer defined test ID	Monitoring item	Simple technical description	Conversion coefficient in using general scan tool
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2016 Model Year Lancer 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle De-viation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2016 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crank-shaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2016 Model Year Outlander Sport 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2016 Model Year Outlander Sport 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANU-FACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2016 Model Year Outlander 2.4L I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the camshaft target phase angle and the camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 − Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2016 Model Year Outlander V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank linear air-fuel ratio sensor by checking the rich/lean switching frequency of the right bank linear air-fuel ratio sensor.	× 1 count
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	A/F Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank linear air-fuel ratio sensor by checking the rich/lean switching frequency of the left bank linear air-fuel ratio sensor.	× 1 count
06	08	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear- Heated Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank linear air-fuel ratio sensor and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear- Heated Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank linear air-fuel ratio sensor and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank 1 − Sensor 1 Heater Monitoring Current	ECM checks the amperage of the right bank linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
45	86	A/F Sensor Heater Monitor Bank 2 – Sensor 1 Heater Monitoring Current	ECM checks the amperage of the left bank linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Lancer 2.0L Turbo MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Lancer 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Mirage MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Outlander 2.4L I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the camshaft target phase angle and the camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Outlander V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank linear air-fuel ratio sensor by checking the rich/lean switching frequency of the right bank linear air-fuel ratio sensor.	× 1 count
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	A/F Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank linear air-fuel ratio sensor by checking the rich/lean switching frequency of the left bank linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	08	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear- Heated Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank linear air-fuel ratio sensor and right bank heated oxygen sensor (rear).	× 0.0039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear- Heated Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank linear air-fuel ratio sensor and left bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank 1 – Sensor 1 Heater Monitoring Current	ECM checks the amperage of the right bank linear air-fuel ratio sensor heater.	× 0.001 A
45	86	A/F Sensor Heater Monitor Bank 2 – Sensor 1 Heater Monitoring Current	ECM checks the amperage of the left bank linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Outlander Sport 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 − Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 Model Year Outlander Sport MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANU-FACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIP-TION	CONVERSION COEF-FICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pres-sure can be reduced (the amount of pressure reduc-tion) using the fuel tank dif-ferential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 − Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular ac-celeration of crankshaft and detect misfire. EWMA (Ex-ponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Cur-rent Driving Cycle	ECM monitors angular ac-celeration of crankshaft and detect misfire. Misfire counts for last/current driv-ing cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANU-FACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIP-TION	CONVERSION COEF-FICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2014 Model Year Lancer 2.0L Turbo MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2014 Model Year Lancer 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2015 and 2014 Model Year Lancer EVO MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2014 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2014 Model Year Mirage MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2014 Model Year Outlander l4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the camshaft target phase angle and the camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2014 Model Year Outlander V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANUFAC-TURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank linear air-fuel ratio sensor by checking the rich/lean switching frequency of the right bank linear air-fuel ratio sensor.	× 1 count
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	A/F Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank linear air-fuel ratio sensor by checking the rich/lean switching frequency of the left bank linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANUFAC-TURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	08	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear- Heated Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank linear air-fuel ratio sensor and right bank heated oxygen sensor (rear).	× 0.0039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear- Heated Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank linear air-fuel ratio sensor and left bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANUFAC-TURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank 1 − Sensor 1 Heater Monitoring Current	ECM checks the amperage of the right bank linear air-fuel ratio sensor heater.	× 0.001 A
45	86	A/F Sensor Heater Monitor Bank 2 − Sensor 1 Heater Monitoring Current	ECM checks the amperage of the left bank linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANUFAC-TURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARD-IZED / MANUFAC-TURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2014 Model Year Outlander Sport MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitor-ing is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Heated Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Heated Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2013 Model Year Lancer 2.0L Turbo MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2013 Model Year Lancer 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARD-IZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARD-IZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 − Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARD-IZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARD-IZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2013 Model Year Lancer EVO MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitor-ing is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2013 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2013 Model Year Outlander I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2013 Model Year Outlander V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1 count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank 1 − Sensor 1 Heater Monitoring Current	ECM checks the amperage of the right bank heated oxygen sensor (front) heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
45	86	Oxygen Sensor Heater Monitor Bank 2 – Sensor 1 Heater Monitoring Current	ECM checks the amperage of the left bank heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2013 Model Year Outlander Sport MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 − Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 Model Year Lancer 2.0L Turbo MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the heated oxygen sensor (front) heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 Model Year Lancer 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOS-TIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 Model Year Lancer EVO MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitor-ing is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	**STANDARDIZED /** MANUFACTURER DEFIND TEST ID	**MONITORING ITEM**	**SIMPLE TECHNICAL DESCRIPTION**	**CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL**
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 Model Year Outlander l4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitor-ing is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 Model Year Outlander V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1 count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank 1 − Sensor 1 Heater Monitoring Current	ECM checks the amperage of the right bank heated oxygen sensor (front) heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
45	86	Oxygen Sensor Heater Monitor Bank 2 – Sensor 1 Heater Monitoring Current	ECM checks the amperage of the left bank heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 Model Year Outlander Sport MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 and 2011 Model Year Eclipse I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	08	"Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	08	"Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM/PCM checks the amperage of the cylinder 1, 4 heated oxygen sensor (front) heater.	× 0.001 A
45	86	Oxygen Sensor Heater Monitor Bank2-Sensor1 Heater Monitoring Current	ECM/PCM checks the amperage of the cylinder 2, 3 heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Eclipse V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank1 − Sensor1 Heater Monitoring Current	ECM/PCM checks the amperage of the right bank heated oxygen sensor (front) heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
45	86	Oxygen Sensor Heater Monitor Bank2-Sensor1 Heater Monitoring Current	ECM/PCM checks the amperage of the left bank heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Endeavor MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	PCM checks the amperage of the right bank heated oxygen sensor (front) heater.	× 0.001 A
45	86	Oxygen Sensor Heater Monitor Bank2-Sensor1 Heater Monitoring Current	PCM checks the amperage of the left bank heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2012 and 2011 Model Year Galant MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	PCM checks the amperage of the cylinder 1, 4 heated oxygen sensor (front) heater.	× 0.001 A
45	86	Oxygen Sensor Heater Monitor Bank2-Sensor1 Heater Monitoring Current	PCM checks the amperage of the cylinder 2, 3 heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Lancer 2.0L Turbo MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Lancer 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <Vehicles for California>	82	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (3rd) in order to monitor whether the heated oxygen sensor (3rd) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Lancer EVO MODE 6 REFERENCE TABLE The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <Vehicles for California>	82	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (3rd) in order to monitor whether the heated oxygen sensor (3rd) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Outlander I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Outlander V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1 count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	Oxygen Sensor Heater Monitor Bank 1 – Sensor 1 Heater Monitoring Current	ECM checks the amperage of the right bank heated oxygen sensor (front) heater.	× 0.001 A

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
45	86	Oxygen Sensor Heater Monitor Bank 2 – Sensor 1 Heater Monitoring Current	ECM checks the amperage of the left bank heated oxygen sensor (front) heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2011 Model Year Outlander Sport MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	A/F Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the linear air-fuel ratio sensor by checking the rich/lean switching frequency of the linear air-fuel ratio sensor.	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <Vehicles for California>	82	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (3rd) in order to monitor whether the heated oxygen sensor (3rd) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between linear air-fuel ratio sensor and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
41	86	A/F Sensor Heater Monitor Bank1 – Sensor1 Heater Monitoring Current	ECM checks the amperage of the linear air-fuel ratio sensor heater.	× 0.001 A
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Eclipse I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	08	"Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	08	"Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Eclipse V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condi-tion of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Galant V6 MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Galant I4 MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Endeavor MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Lancer EVO MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <California>	82	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (3rd) in order to monitor whether the heated oxygen sensor (3rd) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
31 <California>	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Lancer Sportback 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Lancer 2.0L Turbo MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year 2.4L Lancer MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <California>	82	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (3rd) in order to monitor whether the heated oxygen sensor (3rd) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Lancer Sportback 2.4L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <Vehicles for California>	82	Oxygen Sensor Monitor Bank 1 –Sensor 3 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (3rd) in order to monitor whether the heated oxygen sensor (3rd) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (3rd) in order to monitor the response of the heated oxygen sensor (3rd).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (L4-IN) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (L4-EX) Cam Phase Angle Deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2010 Model Year Outlander V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	08	Oxygen Sensor Monitor Bank 2 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 –Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year Eclipse I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	08	"Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	08	"Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year Eclipse 3.8L V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year Endeavor MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year Galant I4 MODE 6 REFERENCE TABLE The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	08	"Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	08	"Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year Galant 3.8L V6 MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <California>	82	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage change	ECM checks the output voltage of the center exhaust pipe heated oxygen sensor in order to monitor whether the center exhaust pipe heated oxygen sensor output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 3 Output Voltage change	ECM checks the output voltage drop slope of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
31 <California>	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
E1 <California>	87	HC Adsorber Monitor Bank 1 Response time delay between Rear- and 3rd-Oxygen Sensors <Applicable to SULEV model>	During forced rich control, time difference is monitored between two points: from when heated oxygen sensor (rear) is switched to "rich" to when center exhaust pipe heated oxygen sensor is switched to "rich".	× 1 msec

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year 2.4L Lancer MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year 2.0L Turbo Lancer MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year Outlander I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
35	89	VVT Monitor Bank 1 (Intake side) Cam phase angle deviation (between target and actual position)	ECM monitors the deviation between the intake camshaft target phase angle and the intake camshaft actual phase angle.	× 0.01°
36	89	VVT Monitor Bank 2 (Exhaust side) Cam phase angle deviation (between target and actual position)	ECM monitors the deviation between the exhaust camshaft target phase angle and the exhaust camshaft actual phase angle.	× 0.01°
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2009 Model Year V6 Outlander MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.
By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1 count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Lancer EVO MODE 6 REFERENCE TABLE The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitor-ing is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Lancer 2.0L MODE 6 REFERENCE TABLE The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <California>	82	Oxygen Sensor Monitor Bank 1 –Sensor 3 Output Voltage change	ECM checks the output voltage of the center exhaust pipe heated oxygen sensor in order to monitor whether the center exhaust pipe heated oxygen sensor output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 3 Output Voltage change	ECM checks the output voltage drop slope of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039
31 <California>	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
E1 <California>	87	HC Adsorber Monitor Bank 1 Response time delay between Rear- and 3rd-Oxygen Sensors <Applicable to SULEV model>	During forced rich control, time difference is monitored between two points: from when heated oxygen sensor (rear) is switched to "rich" to when center exhaust pipe heated oxygen sensor is switched to "rich".	× 1 msec

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Outlander I4 MODE 6 REFERENCE TABLE The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor.	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.0039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Outlander 3.0L V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system. By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be con-firmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1 count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	ECM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
03 <California>	82	Oxygen Sensor Monitor Bank 1 –Sensor 3 Output Voltage change	ECM checks the output voltage of the center exhaust pipe heated oxygen sensor in order to monitor whether the center exhaust pipe heated oxygen sensor output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 –Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1 count
06	08	Oxygen Sensor Monitor Bank 2 –Sensor 2 Maximum Sensor Voltage for Test Cycle	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 –Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 –Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 –Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
E1 <California>	87	HC Adsorber Monitor Bank 1 Response time delay between Rear- and 3rd-Oxygen Sensors	During forced rich control, time difference is monitored between two points: from when heated oxygen sensor (rear) is switched to "rich" to when center exhaust pipe heated oxygen sensor is switched to "rich".	× 1 msec

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the bat-tery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnor-mal values and so on. In case of this, the ECU outputs are han-dled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-val-ues.

NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Eclipse I4 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Eclipse 3.8L V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	ECM/PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAG-NOSTIC MONI-TOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Endeavor MODE 6 REFERENCE TABLE The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	08	Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Galant l4 MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	08	"Oxygen Sensor Monitor Bank 1 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	08	"Oxygen Sensor Monitor Bank 2 – Sensor 2 Maximum Sensor Voltage for Test Cycle"	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2008 Model Year Galant V6 MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAG-NOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 –Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	08	Oxygen Sensor Monitor Bank 1 –Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 –Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 –Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 –Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count

ON-BOARD DIAG-NOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	08	Oxygen Sensor Monitor Bank 2 –Sensor 2 Maximum Sensor Voltage for Test Cycle	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) outputs the rich signal.	× 0.122 mV
	82	Oxygen Sensor Monitor Bank 2 –Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 –Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 –Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.0039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.0039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAG-NOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAG-NOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAG-NOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2007 Model Year Eclipse I4 MODE 6 REFERENCE TABLE The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condi-tion of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A2	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2007 Model Year Eclipse 3.8L V6 MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2007 Model Year Endeavor MODE 6 REFERENCE TABLE The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A6	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2007 Model Year Galant l4 MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 1, 4 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 1, 4 heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor whether the cylinder 1, 4 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 1, 4 heated oxygen sensor (rear) in order to monitor the response of the cylinder 1, 4 heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the cylinder 2, 3 heated oxygen sensor (front) by checking the rich/lean switching frequency of the cylinder 2, 3 heated oxygen sensor (front).	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor whether the cylinder 2, 3 heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the cylinder 2, 3 heated oxygen sensor (rear) in order to monitor the response of the cylinder 2, 3 heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 1, 4 side by the output frequency ratio between cylinder 1, 4 heated oxygen sensor (front) and cylinder 1, 4 heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at cylinder 2, 3 side by the output frequency ratio between cylinder 2, 3 heated oxygen sensor (front) and cylinder 2, 3 heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED/ MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2007 Model Year Galant 3.8L V6 MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency	PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change	PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time	PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage drop slope	PCM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/Current Driving Cycle	PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2007 Model Year Outlander MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 - Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1 count
02	82	Oxygen Sensor Monitor Bank 1 - Sensor 2 Output Voltage drop slope	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 - Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 1 - Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor.	× 1 msec
03 <California>	82	Oxygen Sensor Monitor Bank 1 - Sensor 3 Output Voltage change	ECM checks the output voltage of the center exhaust pipe heated oxygen sensor in order to monitor whether the center exhaust pipe heated oxygen sensor output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 - Sensor 3 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	88	Oxygen Sensor Monitor Bank 1 - Sensor 3 Output Voltage drop slope	ECM checks the output voltage drop slope of the center exhaust pipe heated oxygen sensor in order to monitor the response of the center exhaust pipe heated oxygen sensor.	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 - Sensor 1 Rich/Lean Switching frequency	ECM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1 count
06	82	Oxygen Sensor Monitor Bank 2 - Sensor 2 Output Voltage change	ECM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 2 - Sensor 2 Rich To Lean Sensor Switch Time	ECM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
	88	Oxygen Sensor Monitor Bank 2 - Sensor 2 Output Voltage drop slope	ECM checks the output voltage drop slope of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire General Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1 count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/ Current Driving Cycle	ECM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1 count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
E1	87	HC Adsorber Monitor Bank 1 Response time delay between Rear- and 3rd-Oxygen Sensors <Applicable to SULEV model>	During forced rich control, time difference is monitored between two points: from when heated oxygen sensor (rear) is switched to "rich" to when center exhaust pipe heated oxygen sensor is switched to "rich".	× 1 msec

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*
*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*
NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM outputs the stored latest monitor test result.
NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECU outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM outputs the valid-values.
NOTE: "Test Limit Type & Component ID byte" output from the ECM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

2006 Model Year Endeavor MODE 6 REFERENCE TABLE

The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor (Bank 1)	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 1 Test Result and Limit Value (max.)	× 0.0039
02	Catalyst monitor (Bank 2)	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 2 Test Result and Limit Value (max.)	× 0.0039
03	EGR monitor	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	EGR Monitor Pressure Value Test Result and Limit Value (min.) kPa	× 0.43 kPa
06	Evaporation leak monitor (Small leak)	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 1 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
07	Evaporation leak monitor (Gross leak)	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	EVAP Leak Mon. Gross Pressure Value Test Result and Limit Value (min.) kPa	× 0.032 kPa

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
08	Evaporation leak monitor (Very small leak)	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 0.5 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
09	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 1 Sensor 1)	PCM monitors the deteriorated condition of the heated oxygen sensor by checking the lean/rich switching frequency of the heated oxygen sensor.	HO2S B1 SENSOR 1 Rich/Lean Switching Count Test Result and Limit Value (min.)	×1 count
0A	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 2 Sensor 1)	PCM monitors the deteriorated condition of the heated oxygen sensor by checking the lean/rich Switching frequency of the heater oxygen sensor.	HO2S B2 SENSOR 1 Rich/Lean Switching Count Test Result and Limit Value (min.)	× 1 count
0B	Heated oxygen sensor monitor (Voltage) (Bank 1 Sensor 2)	PCM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor output is stuck.	HO2S B1 SENSOR2 Change in Volt Test Result and Limit Value (min.)	× 19.5mV
0C	Heated oxygen sensor monitor (Voltage) (Bank 2 Sensor 2)	PCM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor output is stuck.	HO2S B2 SENSOR 2 Change in Volt Test Result and Limit Value (min.)	× 19.5mV

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

2006 Model Year Lancer Evo MODE 6 REFERENCE TABLE

The engine control module (ECM) monitors the con-dition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM monitors can be confirmed. The value at the last monitoring is output by ECM as a test result.

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor	ECM monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	Catalyst Frequency Ratio Test Result and Limit Value (max.)	× 0.0039
03	EGR monitor	ECM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold differential pressure sensor.	EGR Monitor Pressure Value Test Result and Limit Value (min.) kPa	× 0.43 kPa
06	Evaporation leak monitor (Small leak)	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 1 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
07	Evaporation leak monitor (Gross leak)	ECM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	EVAP Leak Mon. Gross Pressure Value Test Result and Limit Value (min.) kPa	× 0.032 kPa

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
08	Evaporation leak monitor (Very small leak)	After ECM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 0.5 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
09	Heated oxygen sensor (front) monitor (Rich/Lean Switching)	ECM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the lean/rich switching frequency of the heated oxygen sensor (front).	HO2S B1 SENSOR1 Rich/Lean Switching Count Test Result and Limit Value (min.)	× 1 count
0B	Heated oxygen sensor (rear) monitor (Voltage Change)	The engine control unit checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	HO2S B1 SENSOR2 Change in Volt Test Result and Limit Value (min.)	× 19.5 mV

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

2006 Model Year Lancer MODE 6 REFERENCE TABLE The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condi-tion of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM <M/T> or the PCM <A/T> monitors can be confirmed. The value at the last monitoring is output by ECM <M/T> or the PCM <A/T> as a test result.

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor	ECM <M/T> or PCM <A/T> monitors the deterioration of catalyst by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	Catalyst Frequency Ratio Test Result and Limit Value (max.)	× 0.0039
03	EGR monitor	ECM <M/T> or PCM <A/T> monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	EGR Monitor Pressure Value Test Result and Limit Value (min.) kPa	× 0.43 kPa
06	Evaporation leak monitor (Small leak)	After ECM <M/T> or PCM <A/T> vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM <M/T> or PCM <A/T> monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 1 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
07	Evaporation leak monitor (Gross leak)	ECM <M/T> or PCM <A/T> monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	EVAP Leak Mon. Gross Pressure Value Test Result and Limit Value (min.) kPa	× 0.032 kPa

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
08	Evaporation leak monitor (Very small leak)	After ECM <M/T> or PCM <A/T> vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM <M/T> or PCM <A/T> monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 0.5 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
09	Heated oxygen sensor (front) monitor (Rich/ Lean Switching)	ECM <M/T> or PCM <A/T> monitors the deteriorated condition of the heated oxygen sensor (front) by checking the lean/rich switching frequency of the heated oxygen sensor (front).	HO2S B1 SENSOR1 Rich/Lean Switching Count Test Result and Limit Value (min.)	× 1 count
0B	Heated oxygen sensor (rear) monitor (Voltage Change)	ECM <M/T> or PCM <A/T> checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	HO2S B1 SENSOR2 Change in Volt Test Result and Limit Value (min.)	× 19.5 mV

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

2006 MODEL YEAR Montero MODE 6 REFERENCE TABLE The powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which PCM monitors can be confirmed. The value at the last monitoring is output by PCM as a test result.

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor (Bank 1)	PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	Catalyst Mon. Freq. ratio B1	× 0.0039
02	Catalyst monitor (Bank 2)	PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	Catalyst Mon. Freq. ratio B2	× 0.0039
03	EGR monitor	PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	EGR Monitor Pressure	× 0.43 kPa
06	Evaporation leak monitor (Small leak)	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVP Leak 1 mm Pressure	× 0.032 kPa
07	Evaporation leak monitor (Gross leak)	PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	EVP Leak GRS Pressure	× 0.032 kPa

TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
08	Evaporation leak monitor (Very small leak)	After PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVP Leak 0.5 Pressure	× 0.032 kPa
09	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 1 Sensor 1)	PCM monitors the deteriorated condition of the heated oxygen sensor by checking the lean/rich switching frequency of the heated oxygen sensor.	HO2S B1 S1 R/L Switching	× 1 count
0A	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 2 Sensor 1)	PCM monitors the deteriorated condition of the heated oxygen sensor by checking the lean/rich switching frequency of the heated oxygen sensor.	HO2S B2 S1 R/L Switching	× 1 count
0B	Heated oxygen sensor monitor (Voltage) (Bank 1 Sensor 2)	PCM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor output is stuck.	HO2S B1 S2 Voltage	× 19.5 mV
0C	Heated oxygen sensor monitor (Voltage) (Bank 2 Sensor 2)	PCM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor output is stuck.	HO2S B2 S2 Voltage	× 19.5 mV

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

2006 Model Year Outlander MODE 6 REFERENCE TABLE

The engine control module (ECM) <M/T> or the powertrain control module (PCM) <A/T> monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM <M/T> or PCM <A/T> monitors can be confirmed. The value at the last monitoring is output by ECM <M/T> or PCM <A/T> as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency	ECM/PCM monitors the deteriorated condition of the heated oxygen sensor (front) by checking the rich/lean switching frequency of the heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change	ECM/PCM checks the output voltage of the heated oxygen sensor (rear) in order to monitor whether the heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time	ECM/PCM checks the rich to lean switching time of the heated oxygen sensor (rear) in order to monitor the response of the heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors	ECM/PCM monitors the deterioration of catalyst at side by the output frequency ratio between heated oxygen sensor (front) and heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa
3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire General Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles.	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED /MANUFACTURER DEFINED TEST ID	MONITORING ITEM	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/Current Driving Cycle	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value.

SUPPORTED TEST IDS FOR MODE $06 FOR 1996-1999 MODEL YEAR ECLIPSE 420A ENGINE.

Mode $06 Supported Test IDs - The following table lists the supported Test IDs for 420A engine application:

Monitor Item	TID	TID Description	Comp ID	Scaling (bit. Wt.)	Model Year
O2 SENSOR	11	O2 Sensor 1/1 Half-Cycle Counter	80	1 count per bit	1996-1999
	13	O2 Sensor 1/1 Big-Slope Counter	80	1 count per bit	1996-1999
	16	O2 Sensor 1/2 High Voltage	80	20 mv per bit	1999
	17	O2 Sensor 1/2 Low Voltage	00	20 mv per bit	1999
O2 HEATER	19	O_2 Heater 1/1 Hot Trend Counter	80	1 count/bit	1996-1999
	1A	O_2 Heater 1/2 Hot Trend Counter	80	1 count/bit	1996-1999
	1B	O_2 Heater 1/1 Δ Voltage	80	20 mv/bit	1996-1999
	1C	O_2 Heater 1/2 Δ Voltage	80	20 mv/bit	1996-1999
CATALYST SYSTEM	15	Catalyst Slow O_2 1/1 Response Counter	80	1 count/bit	1997-1999
	21	Catalyst 1/1 Switch Frequency Ratio	00	0.39% per bit	1996-1999
EGR SYSTEM	41	EGR Monitor Δ Adaptive Fuel Shift	80	0.19%/bit	1996-1999
PURGE FLOW SYSTEM	51	Purge Monitor Δ IAC Shift	80	1 step per bit	1996-1999
	52	Purge Monitor Δ Adaptive Fuel Shift	80	0.19% per bit	1996-1999
	53	Purge Monitor Δ RPM Shift	80	1/8 RPM per bit	1996-1999
EVAPORATIVE SYSTEM	61	0.040" Leak Detection Pump Period	80	100 ms per bit	1996-1999

NOTE: The component ID of $00 represents a maximum test limit. For a minimum test limit, the component ID will be $80.

1996 thru 1999 ECLIPSE 420A Engine OBD II Drive Cycle

The following procedure has been established to assist technicians in the field with enabling and running OBD II Monitors. The order listed in the following procedure is intended to allow the technician to effectively complete each monitor and to set the Readiness Status in the least time possible.

NOTE

A. Once the monitor run process has begun, do not turn off the ignition. By turning the ignition key off the monitor enabling conditions will be lost. Only the O2 Heater Monitor runs after key off.
B. By performing a battery disconnect, or erasing diagnostic trouble codes, the Readiness and all additional OBD information will be cleared.

MONTIOR RUN PROCESS TIP

The following is an outline of the Monitoring Run Process, including suggestions and tips in order to aid in the process of meeting the enabling criteria for these monitors. The most efficient order has been outlined below, the first two monitors have very similar enable criteria, so it is possible that the Evaporative Leak Monitor will run while operating the vehicle to enable the Catalyst Monitor.

Evaporative Leak Monitor

This monitor requires a cold start, usually an overnight soak or parked for at least 8 hours without the engine running. The engine coolant temperature must be within 10 degrees of ambient/battery temperature, and the sensed Ambient (outside) temperature must be between approximately 40° F and 90° F.

Catalyst Monitor

The vehicle will need to be driven at a steady highway speed for a few minutes. The monitor will typically enable and start running around 45 to 60 mph under normal driving conditions. If the vehicle is equipped with a manual transmission, using 4th gear may assist in meeting the monitor running criteria.

EGR Monitor

The EGR monitor enable conditions are basic that the vehicle is in closed loop operation and coolant temperature above 170° F. It is necessary to maintain the TPS, MAP, RPM and Vehicle Speed ranges at a constant with very little fluctuation to allow the monitor to complete during the cycle.

1996 thru 1999 ECLIPSE 420A Engine OBD II Drive Cycle

O2 Sensor Monitor

The vehicle will need to be driven for a period of time at highway speeds and brought to a complete stop for a short period of time, with the Automatic Transaxle left in Drive the monitor should run. The O2 Monitor will not run in Park or Neutral on Automatic Transaxle equipped vehicles.

Purge Monitor

The Purge Free cells must be updated before the monitor will run. The enabling conditions are similar to the O2 Sensor Monitor enabling conditions such as, the vehicle will need to be driven for a period of time at highway speeds and brought to a complete stop. The Purge Flow Monitor will attempt to run every OTHER throttle closure. If all of the parameters are met and it still does not run, with your foot firmly on the Brake, quickly open and close the throttle, this will allow another Purge Free update, and then the Purge Flow Monitor should run.

O2 Sensor Heater Monitor

The vehicle will need to be driven for a period of time at highway speeds to satisfy the enabling conditions for the O2 Sensor Heater Monitor. The monitor runs with the ignition key off after vehicle operation. Allow the vehicle to hot soak for a few minutes before checking to determine if the monitor completed the cycle. Turning the key on pre-maturely will abort the monitor test and the vehicle will have to be driven to arm the enabling conditions again.

Mis-Fire Monitor

Mis-Fire monitor is continuously running during engine operation. For the Mis-Fire monitor to be enabled, the Adaptive Numerator must be learned since battery disconnect and every Key on there after (known as Power-on learning).

The Adaptive Numerator is a software learning routine that tells the PCM where the crankshaft slots are. Since every crankshaft is different, the PCM must learn exactly where its particular crankshaft slots are; otherwise its RPM calculations would be wrong.
After a battery disconnect and then a power-up of the PCM, the Adaptive Numerator is set to a value which it would be at if everything were perfect (crankshaft slots, sensors, PCM hardware, etc.). If the Adaptive Numerator is equal to the default value, no learning has happened and the Mis-Fire Monitor will not run. To allow the PCM to learn the Adaptive Numerator, the following must happen:

1996 thru 1999 ECLIPSE 420A Engine OBD II Drive Cycle

Mis-Fire Monitor (continued)

Open Throttle
Engine Cool Temp above 100°F Or if below 100°F,
Wait for ECT rise of 59°F
More than 10" Vacuum
Above 1200 RPM
Below 3000 RPM - A/T
Below 3488 RPM - M/T

Once the PCM has learned the Adaptive Numerator, the Mis-Fire Monitor will run.

Fuel System Monitor

Fuel System monitor is continuously running during engine operation.

97 MODEL YEAR of ALL MODELS MODE 6 REFERENCE TABLE

The engine control module (ECM) or powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor (Bank 1) P0420 P0421	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 1 Test Result and Limit Value (max.)	× 0.0039
02	Catalyst monitor (Bank 2) P0431	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 2 Test Result and Limit Value (max.)	× 0.0039
03	EGR monitor P0400	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold differential pressure sensor.	EGR Monitor Pressure Value Test Result and Limit Value (min.) kPa	× 0.43 kPa
04	Evaporative Purge System Monitor(ISC change) P0440	When turning on the EVAP purge solenoid in controlling the closed loop of the idle speed and the air-fuel ratio, the ECM/PCM monitors the purge control system operation through the change of the IAC position.	Purge Monitor ISC Step Test Result and Limit Value (min.)	×1 step
05	Evaporative Purge System Monitor (Lambda shift) P0440	When turning on the EVAP purge solenoid in controlling the closed loop of the idle speed and the air-fuel ratio, the ECM/PCM monitors the purge control system operation through the change of the air fuel ratio (Lambda shift).	Purge Monitor L Trim change Test Result and Limit Value (min.)	×0.2 percent

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	Evaporation leak monitor (Small leak) P0442	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 1 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.065 kPa

*NOTE: *1 : Minimum value: The test fails if test value is less than this value.*

*NOTE: *2 : Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Results, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "00" or "FF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value. These hexadecimal values are not shown on the Multi Use Tester (M.U.T.-II/III).

98-01 MODEL YEAR of ALL MODELS MODE 6 REFERENCE TABLE

The engine control module (ECM) or powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor (Bank 1) P0420 P0421	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 1 Test Result and Limit Value (max.)	× 0.0039
02	Catalyst monitor (Bank 2) P0431	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 2 Test Result and Limit Value (max.)	× 0.0039
03	EGR monitor P0400 P0401	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold differential pressure sensor.	EGR Monitor Pressure Value Test Result and Limit Value (min.) kPa	× 0.43 kPa
06	Evaporation leak monitor (Small leak) P0442	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 1 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.065 kPa
07	Evaporation leak monitor (Gross leak) P0455	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	EVAP Leak Mon. Gross Pressure Value Test Result and Limit Value (min.) kPa	× 0.065 kPa

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
08	Evaporation leak monitor (Very small leak) P0442	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 0.5 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.065 kPa

*NOTE: *1 : Minimum value: The test fails if test value is less than this value.*

*NOTE: *2 : Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Results, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "00" or "FF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value. These hexadecimal values are not shown on the Multi Use Tester (M.U.T.-II/III).

02-03 MODEL YEAR of ALL MODELS MODE 6 REFERENCE TABLE

The engine control module (ECM) or powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor (Bank 1) P0420 P0421	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 1 Test Result and Limit Value (max.)	× 0.0039
02	Catalyst monitor (Bank 2) P0431	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	Catalyst Frequency Ratio Bank 2 Test Result and Limit Value (max.)	× 0.0039
03	EGR monitor P0400 P0401	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold differential pressure sensor.	EGR Monitor Pressure Value Test Result and Limit Value (min.) kPa	× 0.43 kPa
06	Evaporation leak monitor (Small leak) P0442	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 1 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
07	Evaporation leak monitor (Gross leak) P0455	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	EVAP Leak Mon. Gross Pressure Value Test Result and Limit Value (min.) kPa	× 0.032 kPa

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
08	Evaporation leak monitor (Very small leak) P0456	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 0.5 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
09	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 1 Sensor 1) P0133	ECM/PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the lean/rich switching frequency of the right bank heated oxygen sensor (front).	HO2S B1 SENSOR 1 Rich/Lean Switching Count Test Result and Limit Value (min.)	×1 count
0A	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 2 Sensor 1) P0153	ECM/PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the lean/rich Switching frequency of the left bank heated oxygen sensor (front).	HO2S B2 SENSOR 1 Rich/Lean Switching Count Test Result and Limit Value (min.)	×1 count
0B	Heated oxygen sensor monitor (Voltage) (Bank 1 Sensor 2) P0139	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	HO2S B1 SENSOR2 Change in Volt Test Result and Limit Value (min.)	× 19.5mV
0C	Heated oxygen sensor monitor (Voltage) (Bank 2 Sensor 2) P0159	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	HO2S B2 SENSOR 2 Change in Volt Test Result and Limit Value (min.)	× 19.5mV

*NOTE: *1 : Minimum value: The test fails if test value is less than this value.*

*NOTE: *2 : Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Results, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "00" or "FF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or "80". "00" means the maximum value and "80" means the minimum value. These hexadecimal values are not shown on the Multi Use Tester (M.U.T.-II/III).

04-05 MODEL YEAR of ALL MODELS MODE 6 REFERENCE TABLE

The engine control module (ECM) or powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	Catalyst monitor (Bank 1) P0420 P0421	ECM/PCM monitors the deterioration of catalyst*3 by the output frequency ratio between heated oxygen sensor (front)*3 and heated oxygen sensor (rear)*3.	Catalyst Frequency Ratio Bank 1 Test Result and Limit Value (max.)	× 0.0039
02	Catalyst monitor (Bank 2) P0431	ECM/PCM monitors the deterioration of catalyst*4 by the output frequency ratio between heated oxygen sensor (front)*4 and heated oxygen sensor (rear)*4.	Catalyst Frequency Ratio Bank 2 Test Result and Limit Value (max.)	× 0.0039
03	EGR monitor P0401	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor or the monifold differential pressure sensor.	EGR Monitor Pressure Value Test Result and Limit Value (min.) kPa	× 0.43 kPa
06	Evaporation leak monitor (Small leak) P0442	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 1 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
07	Evaporation leak monitor (Gross leak) P0455	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	EVAP Leak Mon. Gross Pressure Value Test Result and Limit Value (min.) kPa	× 0.032 kPa

TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	INDICATION OF SCAN TOOL	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
08	Evaporation leak monitor (Very small leak) P0456	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	EVAP Leak Mon. 0.5 mm Pressure Value Test Result and Limit Value (max.) kPa	× 0.032 kPa
09	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 1 Sensor 1) P0133	ECM/PCM monitors the deteriorated condition of the heated oxygen sensor (front)*3 by checking the lean/rich switching frequency of the heated oxygen sensor (front)*3.	HO2S B1 SENSOR 1 Rich/Lean Switching Count Test Result and Limit Value (min.)	×1 count
0A	Heated oxygen sensor monitor (Rich/Lean Switching) (Bank 2 Sensor 1) P0153	ECM/PCM monitors the deteriorated condition of the heated oxygen sensor (front)*4 by checking the lean/rich Switching frequency of the heated oxygen sensor (front)*4.	HO2S B2 SENSOR 1 Rich/Lean Switching Count Test Result and Limit Value (min.)	×1 count
0B	Heated oxygen sensor monitor (Voltage) (Bank 1 Sensor 2) P0139	ECM/PCM checks the output voltage of the heated oxygen sensor (rear)*3 in order to monitor whether the heated oxygen sensor (rear)*3 output is stuck.	HO2S B1 SENSOR2 Change in Volt Test Result and Limit Value (min.)	× 19.5mV
0C	Heated oxygen sensor monitor (Voltage) (Bank 2 Sensor 2) P0159	ECM/PCM checks the output voltage of the heated oxygen sensor (rear)*4 in order to monitor whether the heated oxygen sensor (rear)*4 output is stuck.	HO2S B2 SENSOR 2 Change in Volt Test Result and Limit Value (min.)	× 19.5mV

*NOTE: *1 : Minimum value: The test fails if test value is less than this value.*

*NOTE: *2 : Maximum value: The test fails if test value is greater than this value.*

*NOTE: *3 : In case of the V6 engine, the state of the right bank is shown. Incase of the dual manifold catalytic converter of the 4 cylinder engine, the state of the No.1 and No.4 cylinders are shown.*

*NOTE: *4 : In case of the V6 engine, the state of the left bank is shown. Incase of the dual manifold catalytic converter of the 4 cylinder engine, the state of the No.2 and No.3 cylinders are shown. The 4 cylinder engine which doesn't have the dual manifold catalytic converter is not applied.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Results, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "00" or "FF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.

NOTE: "Test Limit Type & Component ID byte" output from the ECM/PCM is given in hexadecimal of "00" or

"80". "00" means the maximum value and "80" means the minimum value. These hexadecimal values are not shown on the Multi Use Tester (M.U.T.-II/III).

06 MODEL YEAR of Galant and Eclipse MODE 6 REFERENCE TABLE

The engine control module (ECM) or the powertrain control module (PCM) monitors the condition of emission control system.

By selecting MODE 6 using scan tool, Test Result and Limit Value (minimum) *1 or (maximum) *2 about the main items of emission control system which ECM/PCM monitors can be confirmed. The value at the last monitoring is output by ECM/PCM as a test result.

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
01	81	Oxygen Sensor Monitor Bank 1 – Sensor 1 Rich/Lean Switching frequency P0133	ECM/PCM monitors the deteriorated condition of the right bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the right bank heated oxygen sensor (front).	× 1count
02	82	Oxygen Sensor Monitor Bank 1 – Sensor 2 Output Voltage change P0140	ECM/PCM checks the output voltage of the right bank heated oxygen sensor (rear) in order to monitor whether the right bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV
	05	Oxygen Sensor Monitor Bank 1 – Sensor 2 Rich To Lean Sensor Switch Time P0139	ECM/PCM checks the rich to lean switching time of the right bank heated oxygen sensor (rear) in order to monitor the response of the right bank heated oxygen sensor (rear).	× 1 msec
05	81	Oxygen Sensor Monitor Bank 2 – Sensor 1 Rich/Lean Switching frequency P0153	ECM/PCM monitors the deteriorated condition of the left bank heated oxygen sensor (front) by checking the rich/lean switching frequency of the left bank heated oxygen sensor (front).	× 1count
06	82	Oxygen Sensor Monitor Bank 2 – Sensor 2 Output Voltage change P0160	ECM/PCM checks the output voltage of the left bank heated oxygen sensor (rear) in order to monitor whether the left bank heated oxygen sensor (rear) output is stuck.	× 0.122 mV

ON-BOARD DIAGNOSTIC MONITOR ID	STANDARDIZED / MANUFACTURER DEFIND TEST ID	MONITORING ITEM and RELATED DTC	SIMPLE TECHNICAL DESCRIPTION	CONVERSION COEFFICIENT IN USING GENERAL SCAN TOOL
06	05	Oxygen Sensor Monitor Bank 2 – Sensor 2 Rich To Lean Sensor Switch Time P0159	ECM/PCM checks the rich to lean switching time of the left bank heated oxygen sensor (rear) in order to monitor the response of the left bank heated oxygen sensor (rear).	× 1 msec
21	83	Catalyst Monitor Bank 1 Frequency ratio between Front- and Rear-Oxygen Sensors P0421	ECM/PCM monitors the deterioration of catalyst at right bank side by the output frequency ratio between right bank heated oxygen sensor (front) and right bank heated oxygen sensor (rear).	× 0.039
22	83	Catalyst Monitor Bank 2 Frequency ratio between Front- and Rear-Oxygen Sensors P0431	ECM/PCM monitors the deterioration of catalyst at left bank side by the output frequency ratio between left bank heated oxygen sensor (front) and left bank heated oxygen sensor (rear).	× 0.039
31	84	EGR Monitor Difference of manifold pressure before and after EGR activation P0401	ECM/PCM monitors the operation of EGR system by the pressure difference of intake manifold between before and after introduction of EGR using the manifold absolute pressure sensor.	× 0.0117 kPa
39	85	EVAP Monitor (Cap off) Pressure drop during de-pressurizing P0455	ECM/PCM monitors the leak of fuel evaporation gas by checking whether the pressure can be reduced (the amount of pressure reduction) using the fuel tank differential pressure sensor after sealing the fuel tank and the fuel line.	× 0.0117 kPa

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3B	85	EVAP Monitor (0.040") Pressure rise during airtight condition P0442	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/ PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
3C	85	EVAP Monitor (0.020") Pressure rise during airtight condition P0456	After ECM/PCM vacuumizes the fuel tank and the fuel line and then the specified time is passed, ECM/ PCM monitors the leak of fuel evaporation gas through the fuel tank differential pressure sensor to check the reduction of vacuum in the fuel tank.	× 0.0117 kPa
A1	0B	Mis-Fire General Data EWMA Misfire Counts For Last 10 Driving Cycles P0300	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire General Data Misfire Counts For Last/ Current Driving Cycle P0300	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A2	0B	Mis-Fire Cylinder 1 Data EWMA Misfire Counts For Last 10 Driving Cycles P0301	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

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A2	0C	Mis-Fire Cylinder 1 Data Misfire Counts For Last/ Current Driving Cycle P0301	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A3	0B	Mis-Fire Cylinder 2 Data EWMA Misfire Counts For Last 10 Driving Cycles P0302	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 2 Data Misfire Counts For Last/ Current Driving Cycle P0302	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A4	0B	Mis-Fire Cylinder 3 Data EWMA Misfire Counts For Last 10 Driving Cycles. P0303	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 3 Data Misfire Counts For Last/ Current Driving Cycle P0303	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A5	0B	Mis-Fire Cylinder 4 Data EWMA Misfire Counts For Last 10 Driving Cycles P0304	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count

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A5	0C	Mis-Fire Cylinder 4 Data Misfire Counts For Last/ Current Driving Cycle P0304	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A6	0B	Mis-Fire Cylinder 5 Data EWMA Misfire Counts For Last 10 Driving Cycles P0305	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 5 Data Misfire Counts For Last/ Current Driving Cycle P0305	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count
A7	0B	Mis-Fire Cylinder 6 Data EWMA Misfire Counts For Last 10 Driving Cycles P0306	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles.	× 1count
	0C	Mis-Fire Cylinder 6 Data Misfire Counts For Last/ Current Driving Cycle P0306	ECM/PCM monitors angular acceleration of crankshaft and detect misfire. Misfire counts for last/current driving cycle.	× 1count

*NOTE: *1: Minimum value: The test fails if test value is less than this value.*

*NOTE: *2: Maximum value: The test fails if test value is greater than this value.*

NOTE: When not finishing the monitor of the driving cycle for the request of On-Board Monitoring Test Request, the ECM/PCM outputs the stored latest monitor test result.

NOTE: When the monitored test results are erased by the battery disconnection and so on, the ECM/PCM outputs the values in hexadecimal of "0000" or "FFFF", otherwise it outputs abnormal values and so on. In case of this, the ECM/PCM outputs are handled as invalid-values. When the first monitor (Readiness Status) is completed after this, the ECM/PCM outputs the valid-values.