| OBD Monitor<br>ID<br>(OBDMID) | Test<br>ID<br>(TID) | Units and Scaling<br>ID<br>(UASID) | Description   | Range For Information ONLY. Source information is ISO-15031-5 document | Resolution For Information ONLY. Source information is ISO-15031-5 document | Associated DTC |
|-------------------------------|---------------------|------------------------------------|---|--|---|----------------|
|                               |                     |                                    |   |  |   |                |
|                               |                     |                                    | Oxygen Sensor Monitor<br>Bank 1 Sensor 1                                    |  |   |                |
| 01                            | 01                  | 0A                                 | Rich to Lean Sensor Threshold Voltage                                       | 0.0 to 7.99 V  | 0.122 mv / bit  | -              |
| 01                            | 02                  | 0A                                 | Lean to Rich Sensor Threshold Voltage                                       | 0.0 to 7.99 V  | 0.122 mv / bit  | -              |
| 01                            | 07                  | 0A                                 | Minimum Sensor Voltage Achieved   | 0.0 to 7.99 V  | 0.122 mv / bit  | P0131          |
| 01                            | 08                  | 0A                                 | Maximum Sensor Voltage Achieved   | 0.0 to 7.99 V  | 0.122 mv / bit  | P0132          |
| 01                            | 09                  | 10                                 | Time between Sensor Transitions (Calculated)                                | 0 to 65535 ms  | 1.0 ms / bit  | P0130          |
| 01                            | 0A                  | 10                                 | Sensor Period (Calculated)  | 0 to 65535 ms  | 1.0 ms / bit  | P0133          |
|                               |                     |                                    |   |  |   |                |
|                               |                     |                                    | Oxygen Sensor Monitor<br>Bank 1 Sensor 2                                    |  |   |                |
| 02                            | 01                  | 0A                                 | Rich to Lean Sensor Threshold Voltage                                       | 0.0 to 7.99 V  | 0.122 mv / bit  | -              |
| 02                            | 02                  | 0A                                 | Lean to Rich Sensor Threshold Voltage                                       | 0.0 to 7.99 V  | 0.122 mv / bit  | -              |
| 02                            | 05                  | 10                                 | Rich to Lean Sensor Transient (Gradient) Time                               | 0 to 65535 ms  | 1.0 ms / bit  | P013A          |
| 02                            | 07                  | 0A                                 | Minimum Sensor Voltage Achieved   | 0.0 to 7.99 V  | 0.122 mv / bit  | P0137          |
| 02                            | 08                  | 0A                                 | Maximum Sensor Voltage Achieved   | 0.0 to 7.99 V  | 0.122 mv / bit  | P0138          |
| 02                            | 81                  | 0A                                 | Sensor Voltage Achieved for below Commaded Target Voltage Functional Check  | 0.0 to 7.99 V  | 0.122 mv / bit  | P2270          |
| 02                            | 82                  | 0A                                 | Sensor Voltage Achieved for above Commanded Target Voltage Functional Check | 0.0 to 7.99 V  | 0.122 mv / bit  | P2271          |
| 02                            | 86                  | 10                                 | Rich to Lean Sensor Delay (Response) Time                                   | 0 to 65535 ms  | 1.0 ms / bit  | P013E          |
|                               |                     |                                    |   |  |   |                |
|                               |                     |                                    | Oxygen Sensor Monitor<br>Bank 2 Sensor 1                                    |  |   |                |
| 05                            | 01                  | 0A                                 | Rich to Lean Sensor Threshold Voltage                                       | 0.0 to 7.99 V  | 0.122 mv / bit  | -              |
| 05                            | 02                  | 0A                                 | Lean to Rich Sensor Threshold Voltage                                       | 0.0 to 7.99 V  | 0.122 mv / bit  |                |
| 05                            | 07                  | 0A                                 | Minimum Sensor Voltage Achieved   | 0.0 to 7.99 V  | 0.122 mv / bit  | P0151          |
| 05                            | 08                  | 0A                                 | Maximum Sensor Voltage Achieved   | 0.0 to 7.99 V  | 0.122 mv / bit  | P0152          |
| 05                            | 09                  | 10                                 | Time between Sensor Transitions (Calculated)                                | 0 to 65535 ms  | 1.0 ms / bit  | P0150          |

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| 05                            | 0A                  | 10                                 | Sensor Period (Calculated)                    | 0 to 65535 ms   | 1.0 ms / bit  | P0153          |
|                               |                     |                                    |   |   |   |                |
|                               |                     |                                    | Oxygen Sensor Monitor<br>Bank 2 Sensor 2      |   |   |                |
| 06                            | 01                  | 0A                                 | Rich to Lean Sensor Threshold Voltage         | 0.0 to 7.99 V   | 0.122 mv / bit  | -              |
| 06                            | 02                  | 0A                                 | Lean to Rich Sensor Threshold Voltage         | 0.0 to 7.99 V   | 0.122 mv / bit  | -              |
| 06                            | 05                  | 10                                 | Rich to Lean Sensor Transient (Gradient) Time | 0 to 65535 ms   | 1.0 ms / bit  | P013C          |
| 06                            | 07                  | 0A                                 | Minimum Sensor Voltage Achieved               | 0.0 to 7.99 V   | 0.122 mv / bit  | P0157          |
| 06                            | 08                  | 0A                                 | Maximum Sensor Voltage Achieved               | 0.0 to 7.99 V   | 0.122 mv / bit  | P0158          |
| 06                            | 81                  | 0A                                 | Maximum Sensor Voltage for Functional Check   | 0.0 to 7.99 V   | 0.122 mv / bit  | P2272          |
| 06                            | 82                  | 0A                                 | Minimum Sensor Voltage for Functional Check   | 0.0 to 7.99 V   | 0.122 mv / bit  | P2273          |
| 06                            | 86                  | 10                                 | Rich to Lean Sensor Delay (Response) Time     | 0 to 65535 ms   | 1.0 ms / bit  | P014A          |
|                               |                     |                                    |   |   |   |                |
|                               |                     |                                    | Catalyst Monitor Bank 1                       | EWMA = Exponentially Weighted   | Moving Average  |                |
| 21                            | 84                  | 05                                 | Catalyst Test Bank 1 ( normalized ) - EWMA    | 0.0 to 1.999  | 0.0000305 / bit   | P0420          |
|                               |                     |                                    |   |   |   |                |
|                               |                     |                                    | Catalyst Monitor Bank 2                       | <b>EWMA</b> = Exponentially Weighted  | Moving Average  |                |
| 22                            | 84                  | 05                                 | Catalyst Test Bank 2 ( normalized ) - EWMA    | 0.0 to 1.999  | 0.0000305 / bit   | P0430          |
|                               |                     |                                    |   |   |   |                |
|                               |                     |                                    | EVAP Monitor (Cap Off)                        |   |   |                |
| 39                            | 80                  | 81                                 | EVAP Tank Gross Leak                          | -32768 to +32767  | 1.0 / bit   | P0455          |
|                               |                     |                                    |   |   |   |                |
|                               |                     |                                    | EVAP Monitor 0.020"                           | EWMA = Exponentially Weighted Moving Average EONV = Engine Off Natural Vacuum |   |                |
| 3C                            | 80                  | 05                                 | EONV NV 0.020 Test - EWMA                     | 0.0 to 1.999  | 0.0000305 / bit   | P0442          |
|                               |                     |                                    |   |   |   |                |

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|                               |                     |                                    | Purge Flow Monitor                                   |  |   |                |
| 3D                            | 88                  | 81                                 | Purge Valve Flow Test - Stuck Open / Leak            | -32768 to +32767   | 1.0 / bit   | P0496          |
| 3D                            | 8C                  | 81                                 | Canister Vent Valve Test - Stuck Closed / Restricted | -32768 to +32767   | 1.0 / bit   | P0446          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Oxygen Sensor Heater Monitor<br>Bank 1 Sensor 1      |  |   |                |
| 41                            | 81                  | 14                                 | Sensor Element Impedance                             | 0 to 65535 Ohms  | 1 Ohm / bit   | P0135          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Oxygen Sensor Heater Monitor<br>Bank 1 Sensor 2      |  |   |                |
| 42                            | 81                  | 14                                 | Sensor Element Impedance                             | 0 to 65535 Ohms  | 1 Ohm / bit   | P0141          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Oxygen Sensor Heater Monitor<br>Bank 2 Sensor 1      |  |   |                |
| 45                            | 81                  | 14                                 | Sensor Element Impedance                             | 0 to 65535 Ohms  | 1 Ohm / bit   | P0155          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Oxygen Sensor Heater Monitor<br>Bank 2 Sensor 2      |  |   |                |
| 46                            | 81                  | 14                                 | Sensor Element Impedance                             | 0 to 65535 Ohms  | 1 Ohm / bit   | P0161          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Fuel System Monitor<br>Bank 1                        |  |   |                |
| 81                            | 80                  | AF                                 | Additive Fuel (Offset) Correction                    | -327.68 to +327.67 %   | 0.01 % / bit  | P2187, P2188   |
| 81                            | 82                  | 05                                 | Multiplicative Fuel (Slope) Correction               | 0.0 to 1.999   | 0.0000305 / bit   | P2177, P2178   |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Fuel System Monitor<br>Bank 2                        |  |   |                |
| 82                            | 80                  | AF                                 | Additive Fuel (Offset) Correction                    | -327.68 to +327.67 %   | 0.01 % / bit  | P2189, P2190   |
| 82                            | 82                  | 05                                 | Multiplicative Fuel (Slope) Correction               | 0.0 to 1.999   | 0.0000305 / bit   | P2179, P2180   |

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|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Misfire Cylinder 1 data  |  |   |                |
| A2                            | 0B                  | 24                                 | EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles | 0 to 65535 counts  | 1 count / bit   | P0301          |
| A2                            | 0C                  | 24                                 | Misfire counts for the last / current driving cycles                                       | 0 to 65535 counts  | 1 count / bit   | P0301          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Misfire Cylinder 2 data  |  |   |                |
| А3                            | 0B                  | 24                                 | EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles | 0 to 65535 counts  | 1 count / bit   | P0302          |
| А3                            | OC.                 | 24                                 | Misfire counts for the last / current driving cycles                                       | 0 to 65535 counts  | 1 count / bit   | P0302          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Misfire Cylinder 3 data  |  |   |                |
| A4                            | 0B                  | 24                                 | EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles | 0 to 65535 counts  | 1 count / bit   | P0303          |
| A4                            | 0C                  | 24                                 | Misfire counts for the last / current driving cycles                                       | 0 to 65535 counts  | 1 count / bit   | P0303          |
|                               |                     |                                    |  | A  |   |                |
|                               |                     |                                    | Misfire Cylinder 4 data  |  |   |                |
| <b>A</b> 5                    | 0B                  | 24                                 | EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles | 0 to 65535 counts  | 1 count / bit   | P0304          |
| A5                            | 0C                  | 24                                 | Misfire counts for the last / current driving cycles                                       | 0 to 65535 counts  | 1 count / bit   | P0304          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Misfire Cylinder 5 data  |  |   |                |
| A6                            | 0B                  | 24                                 | EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles | 0 to 65535 counts  | 1 count / bit   | P0305          |
| A6                            | 0C                  | 24                                 | Misfire counts for the last / current driving cycles                                       | 0 to 65535 counts  | 1 count / bit   | P0305          |
|                               |                     |                                    |  |  |   |                |
|                               |                     |                                    | Misfire Cylinder 6 data  |  |   |                |
| A7                            | 0B                  | 24                                 | EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles | 0 to 65535 counts  | 1 count / bit   | P0306          |

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| A7                            | 0C                  | 24                                 | Misfire counts for the last / current driving cycles | 0 to 65535 counts  | 1 count / bit   | P0306          |
|                               |                     |                                    |  |  |   |                |