Mini Mania Inc., on the web:

Limited technical information for the MSR is available online at:

www.new.minimania.com/msrtech.htm

Note: We have done our best to provide a high quality scan tool for the Mini at a very low cost. Unfortunately, the level of technical assistance we can provide is minimal. Please note that we are not staffed to answer questions about codes, diagnostics, or Mini problems or offer repair advice. We apologize for any inconvenience this may cause.

Warranty:

Mini Mania Inc. of Nevada City, CA., hereinafter called "Mini Mania Inc." warrants, to the original purchaser, that your model number MSR, Mini Scan/Reset tool, hereinafter called "unit", is free from any defects in material and workmanship for a period not exceeding ninety days from the date of purchase. If any such defect is discovered within the warranty period, Mini Mania Inc. will repair or replace the unit free of charge, subject to verification of proof of purchase, and verification of the defect or malfunction upon delivery. This warranty does not apply to defects resulting from abuse, alterations, or unreasonable use of the unit; resulting in cracked or broken parts, or units damaged by excessive heat, cold, or moisture. This warranty does not apply to non-functional and cosmetic attributes of the unit such as color, finish, or labels. In no event does Mini Mania Inc. assume liability for any damage beyond the refund of the purchase price of the unit. This warranty is null and void if the unit has been disassembled, modified, or if the inner tamper seals are broken.

To process a warranty claim please contact the original seller for information & return authorization. All warranty claims must be accompanied by the original receipt. Warranty claims can only be processed by the original purchaser. This warranty is non-transferrable.

Mini Mania Inc ®
Nevada City, CA, USA

Technical: 530.470.8300
Sales: 800.946.2642

Mini Mania

MSR

Code-Scan/Reset Tool for Mini Cooper & Mini Cooper S

Instruction Manual & Code Tables

Mini Mania

IMPORTANT DISCLAIMER:
READ NOW

Thank you for purchasing the MSR scanner/resetter for BMW Mini Cooper and Mini Cooper S. This product was designed to provide a long service life and ease of use at a low cost. In designing this product we went to great lengths to assure compatibility and safe operation with BMW Mini's built up to 2004. As with any software-based device, there is a risk that a small number of unique Engine ECU variants may not be compatible with this device. Mini Mania Inc. (also referred to as Mini Mania) may not be held liable for any problems resulting from incompatibilities. Additionally, the code definitions contained in this manual should be regarded as a starting point for diagnosing a problem - the codes your Mini generates can often be misleading, and there may be errors in our code definitions. Before spending your money on a repair, make sure you have a clear understanding of the problem by using additional sources of information, such as a good quality repair manual, expert advice, the Internet, etc... **Mini Mania Inc. may not be held liable for any expenses you incur in response to the codes or instructions contained in this manual.**

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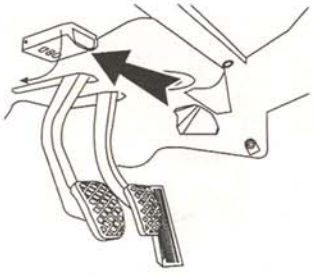
WHERE TO PLUG IT IN

The Diagnostic Connector Location

To use the MSR you must plug it into the diagnostic connector. To locate the Diagnostic Connector, open the driver's door, kneel down and look up at the underside of the dashboard. You will see the diagnostic connector near the pedals, above the driver's left leg (see illustration below.) You will see a rectangular access panel, (often embossed with the letters OBD) with a rounded thumb grip you will use to snap it off. The cover will swing downward revealing the 16 pin diagnostic connector inside.



Under The dashboard: black arrow shows location of the diagnostic connector's protective cover.

MSR FACE PANEL

The MSR Face Panel Explained

1. **Display:** Shows menu selections, activity and fault codes.
2. **Select button**: Used to review and select the available functions. (See page 5)
3. **GO button:** After using "Select" to choose a function (see page 5). The GO button causes the function to execute.

DIRECTIONS

1.) Turn on key (DO NOT START ENGINE)
2.) Plug tool into diagnostic connector (see page 3 for description) Tool is ready to use when it displays "Fc".
3.) Use the "Select" button to select one of the functions shown below
4.) Press "GO" to execute the function

Function Reference

Fc **Fault Code Read**. The tool automatically starts in this mode, (though it won't read the fault codes until you press the "GO" button). When GO is pressed the unit will attempt to read the fault codes. If there are no faults it will display "--". If it finds faults, it will display the first code found. Look up the code in the Table (see pages 6 through 13) for your Mini Model. To then view further faults press GO again, repeat until the end of the fault list - (tool will show "--"). Press GO to return to "Fc" (starting point.)

cE **MIL Reset.** (Resets "Check Engine" or "Service Engine Soon") When you have selected cE in the display, you are now ready to reset the MIL "malfunction indicator lamp". Pressing GO will execute the reset. When finished it will return to "Fc". This clears all faults and extinguishes the MIL. To verify the reset, UNPLUG the tool and start the engine- MIL should be off. *(Note: After a MIL reset on some models with Automatic Transmission, the Automatic Transmission Light will be on. To clear it, simply start the engine twice.)*

oL **Oilservice Reset**. When you have selected oL in the display, you are now ready to reset the "oilservice" light. Pressing GO will execute the reset. During the reset procedure the display will count from 0 to 2. When finished the display will return to "Fc". Si indicator will indicate a successful reset when finished. (See page 14 for trouble shooting)

in **Inspection reset**. When you have selected "in" in the display, you are now ready to reset the "inspection" light. Pressing GO will execute reset. During the reset procedure the display will count from 0 to 9. When finished the display will return to "Fc". Si indicator will indicate a successful reset when finished. (See page 14 for troubleshooting)

Making sense of the codes

IMPORTANT: Please read the following before using the MSR

Reading Five-Digit Codes using a Two-Digit Display:

The Mini stores and reports codes in a five digit format. The MSR has only two digits. To account for this we use a three frame display method. The tool automatically displays each frame for about a second then starts over. The following illustration shows an example code of "P1234."

This example shows code "P1234"

Frame 1 will always show " P"

The second and third frames contain the four numeric digits of the code, in this example "1234"

In this example the tool flashes P....12... 34 over and over again until "GO" is pressed, which then displays the next code.

Then back to " P"

When the MSR has reached the end of the code list stored in the Mini's ECU it will just display two dashes.

Press GO again to return to "FC"

After reading a code with the MSR, locate the correct code table for your Mini Cooper or Mini Cooper S (pages 7 though 13). Look up the code definition in the code table by locating the code (left column), and the definition (right column.)

CODE TABLES:

USE THESE CODE DEFINITIONS WISELY

The code definitions contained in this manual should be regarded as a starting point for diagnosing a problem. The codes that your Mini generates can be misleading. There may also be errors in this manual. Before spending your money on a repair or replacement parts, make sure you have a clear understanding of the problem by using additional sources of information, such as a good quality repair manual, expert advice, the Internet, etc... Note: Unfortunately, we are not staffed to answer your questions about codes, diagnostics, or Mini problems or offer repair advice. We apologize for any inconvenience this may cause.

Mini Cooper

(See page 10 for Mini Cooper S table)

P0030	HO2S Heater Control Circuit (Bank 1 Sensor 1)
P0031	HO2S Heater Control Circuit Low (Bank 1 Sensor 1)
P0032	HO2S Heater Control Circuit High (Bank 1 Sensor 1)
P0036	HO2S Heater Control Circuit (Bank 1 Sensor 2)
P0037	HO2S Heater Control Circuit Low (Bank 1 Sensor 2)
P0038	HO2S Heater Control Circuit High (Bank 1 Sensor 2)
P0053	HO2S Heater Resistance (Bank 1 Sensor 1)
P0054	HO2S Heater Resistance (Bank 1 Sensor 2)
P0107	Manifold Absolute Pressure/Barometric Pressure Circuit Low Input
P0108	Manifold Absolute Pressure/Barometric Pressure Circuit High Input
P0112	Intake Air Temperature Sensor 1 Circuit Low
P0113	Intake Air Temperature Sensor 1 Circuit High
P0114	Intake Air Temperature Sensor 1 Circuit Intermittent
P0116	Engine Coolant Temperature Circuit Range/Performance
P0117	Engine Coolant Temperature Circuit Low
P0118	Engine Coolant Temperature Circuit High
P0119	Engine Coolant Temperature Circuit Intermittent
P0122	Throttle/Pedal Position Sensor/Switch 'A' Circuit Low
P0123	Throttle/Pedal Position Sensor/Switch 'A' Circuit High
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control
P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)
P0130	O2 Sensor Circuit (Bank 1 Sensor 1)
P0131	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 1)
P0132	O2 Sensor Circuit High Voltage (Bank 1 Sensor 1)
P0133	O2 Sensor Circuit Slow Response (Bank 1 Sensor 1)
P0135	O2 Sensor Heater Circuit (Bank 1 Sensor 1)
P0136	O2 Sensor Circuit (Bank 1 Sensor 2)
P0137	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2)
P0138	O2 Sensor Circuit High Voltage (Bank 1 Sensor 2)
P0141	O2 Sensor Heater Circuit (Bank 1 Sensor 2)
P0171	System Too Lean (Bank 1)
P0172	System Too Rich (Bank 1)
P0201	Injector Circuit/Open - Cylinder 1
P0202	Injector Circuit/Open - Cylinder 2
P0203	Injector Circuit/Open - Cylinder 3
P0204	Injector Circuit/Open - Cylinder 4
P0222	Throttle/Pedal Position Sensor/Switch 'B' Circuit Low
P0223	Throttle/Pedal Position Sensor/Switch 'B' Circuit High
P0261	Cylinder 1 Injector Circuit Low
P0262	Cylinder 1 Injector Circuit High
P0264	Cylinder 2 Injector Circuit Low
P0265	Cylinder 2 Injector Circuit High
P0267	Cylinder 3 Injector Circuit Low
P0268	Cylinder 3 Injector Circuit High
P0270	Cylinder 4 Injector Circuit Low
P0271	Cylinder 4 Injector Circuit High

P0300 Random/Multiple Cylinder Misfire Detected
P0301 Cylinder 1 Misfire Detected
P0302 Cylinder 2 Misfire Detected
P0303 Cylinder 3 Misfire Detected
P0304 Cylinder 4 Misfire Detected
P0304 Cylinder 4 Misfire Detected
P0304 Cylinder 4 Misfire Detected
P0313 Misfire Detected with Low Fuel
P0324 Knock Control System Error
P0326 Knock Sensor Circuit Range/Performance
P0335 Crankshaft Position Sensor 'A' Circuit
P0336 Crankshaft Position Sensor 'A' Circuit Range/Performance
P0340 Camshaft Position Sensor 'A' Circuit
P0341 Camshaft Position Sensor 'A' Circuit Range/Performance
P0351 Ignition Coil 'A' Primary/Secondary Circuit
P0352 Ignition Coil 'B' Primary/Secondary Circuit
P0420 Catalyst System Efficiency Below Threshold (Bank 1)
P0441 Evaporative Emission System Incorrect Purge Flow
P0442 Evaporative Emission System Leak Detected (small leak)
P0443 Evaporative Emission System Purge Control Valve Circuit
P0444 Evaporative Emission System Purge Control Valve Circuit Open
P0445 Evaporative Emission System Purge Control Valve Circuit Shorted
P0455 Evaporative Emission System Leak Detected (large leak)
P0456 Evaporative Emission System Leak Detected (very small leak)
P0500 Vehicle Speed Sensor 'A'
P0506 Idle Air Control System RPM Lower Than Expected
P0507 Idle Air Control System RPM Higher Than Expected
P0601 Internal Control Module Memory Check Sum Error
P0603 Internal Control Module Keep Alive Memory (KAM) Error
P0604 Internal Control Module Random Access Memory (RAM) Error
P0638 Throttle Actuator Control Range/Performance (Bank 1)
P0642 Sensor Reference Voltage 'A' Circuit Low
P0643 Sensor Reference Voltage 'A' Circuit High
P0652 Sensor Reference Voltage 'B' Circuit Low
P0653 Sensor Reference Voltage 'B' Circuit High
P0705 Transmission Range Sensor 'A' Circuit Malfunction (PRNDL Input)
P0815 Upshift Switch Circuit
P0816 Downshift Switch Circuit
P1106 Manifold Air Pressure Sensor Too Low at Engine Stop
P1107 Manifold Air Pressure Sensor Too Low at Idle Engine Running
P1108 Manifold Air Pressure Sensor Too Low at Full Load for Low Engine Speed
P1109 Manifold Air Pressure Too High in Deceleration
P1122 Pedal Position Sensor 1 Low Input
P1123 Pedal Position Sensor 1 High Input
P1125 Throttle Position Sensor A and B Range/Performance Small Error
P1126 Throttle Position Sensor A and B Range/Performance Large Error
P1143 O2 Sensor Activity Check Signal Too High (Bank 1 Sensor 2)
P1144 O2 Sensor Activity Check Signal Too Low (Bank 1 Sensor 2)
P1222 Pedal Position Sensor 2 Low Input
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P1224 Pedal Position Sensor 1 and 2 Range/Performance Error
P1226 Throttle Malfunction (Flap Malfunction)
P1229 Throttle Sensor Adaptation Failure
P1320 Flywheel Adaptation for Misfire Detection Range
P1321 Flywheel Adaptation for Misfire Detection Performance
P1366 Ignition Coil 'A' Primary/Secondary Circuit Low
P1367 Ignition Coil 'B' Primary/Secondary Circuit Low
P1436 Leakage Diagnostic Pump Open Circuit
P1437 Leakage Diagnostic Pump Range/Performance
P1442 Leakage Diagnostic Pump Control Circuit Signal Low
P1443 Leakage Diagnostic Pump Control Circuit Signal High
P1475 Leakage Diagnostic Pump Reed Switch Did not Close
P1476 Leakage Diagnostic Pump Clamped Tube

P1477 Leakage Diagnostic Pump Reed Switch Did Not Open
P1570 Electronic Control Module Sensor Supply A Low Output
P1571 Electronic Control Module Sensor Supply A High Output
P1572 Electronic Control Module Sensor Supply A Noisy Signal
P1573 Electronic Control Module Sensor Supply B Low Output
P1574 Electronic Control Module Sensor Supply B High Output
P1575 Electronic Control Module Sensor Supply B Noisy Signal
P1600 External Control Module Random Access Memory (RAM) Error
P1607 CAN-Version
P1611 Serial Communication Link Transmission Control Module
P1612 Serial Communication Link Instrument Pack
P1613 Serial Communication Link ASC (Automatic Stability Control)
P1615 Electronic Control Module Processor SPI-Bus Failure
P1617 Electronic Control Module H Bridge Controller
P1679 Electronic Throttle Control Monitor Level 2/3 Torque Loss Calculation
P1680 Electronic Throttle Control Monitor Level 2/3 ADC Processor Fault
P1681 Electronic Throttle Control Monitor Level 2/3 Engine Speed Calculation Error
P1682 Electronic Throttle Control Monitor Level 2/3 Idle Speed 'A' Calculation Fault
P1683 Electronic Throttle Control Monitor Level 2/3 Idle Speed 'B' Calculation Fault
P1684 Electronic Throttle Control Monitor Level 2/3 Clutch Torque Min Error
P1685 Electronic Throttle Control Monitor Level 2/3 Clutch Torque Max Error
P1686 Electronic Throttle Control Monitor Level 2/3 Pedal Position Sensor Diagnostic Error
P1687 Electronic Throttle Control Monitor Level 2/3 Throttle Position Sensor Diagnostic Error
P1688 Electronic Throttle Control Monitor Level 2/3 Mass Air Flow Calculation
P1689 Electronic Throttle Control Monitor Level 2/3 Torque Calculation Error
P1691 Electronic Throttle Control Monitor Level 2/3 Motorised Throttle Control Engine Speed Limitation Error
P1692 Electronic Throttle Control Monitor Level 2/3 Motorised Throttle Control and Fuel Injection Switch Off 'A'
P1693 Electronic Throttle Control Monitor Level 2/3 Motorised Throttle Control and Fuel Injection Switch Off 'B'
P1698 Transmission Control Module Control Error
P1699 Transmission Control Module Checksum Error
P1705 Transmission Control Module LED Output Open Circuit
P1706 Transmission Control Module LED Output Short Circuit
P1739 Clutch Solenoid Communication Error
P1741 Clutch Solenoid Open Circuit
P1742 Clutch Solenoid Short Circuit
P1749 Secondary Pressure Solenoid Communication Error
P1751 Secondary Pressure Solenoid Open Circuit
P1752 Secondary Pressure Solenoid Short Circuit
P1785 Transmission Ratio Control Actuator Circuit Malfunction
P1786 Transmission Ratio Control Actuator Circuit Range/Performance
P1787 Transmission Ratio Control Actuator Open Circuit
P1788 Transmission Ratio Control Actuator Short Circuit
P1789 Transmission Ratio Control Actuator Communication Error
P1815 Wheel Plus Switch Error Low Input
P1816 Wheel Minus Switch Error Low Input
P2096 Post Catalyst Fuel Trim System Too Lean (Bank 1)
P2097 Post Catalyst Fuel Trim System Too Rich (Bank 1)
P2122 Throttle/Pedal Position Sensor/Switch 'D' Circuit Low Input
P2123 Throttle/Pedal Position Sensor/Switch 'D' Circuit High Input
P2127 Throttle/Pedal Position Sensor/Switch 'E' Circuit Low Input
P2128 Throttle/Pedal Position Sensor/Switch 'E' Circuit High Input
P2138 Throttle/Pedal Position Sensor/Switch 'D' / 'E' Voltage Correlation
P2270 O2 Sensor Signal Stuck Lean (Bank 1 Sensor 2)

P2271 O2 Sensor Signal Stuck Rich (Bank 1 Sensor 2)
P2300 Ignition Coil 'A' Primary Control Circuit Low
P2301 Ignition Coil 'A' Primary Control Circuit High
P2303 Ignition Coil 'B' Primary Control Circuit Low
P2304 Ignition Coil 'B' Primary Control Circuit High
P2400 Evaporative Emission System Leak Detection Pump Control Circuit/Open
P2401 Evaporative Emission System Leak Detection Pump Control Circuit Low
P2402 Evaporative Emission System Leak Detection Pump Control Circuit High
P2404 Evaporative Emission System Leak Detection Pump Sense Circuit Range/Performance

Mini Cooper S

P0030 HO2S Heater Control Circuit (Bank 1 Sensor 1)
P0031 HO2S Heater Control Circuit Low (Bank 1 Sensor 1)
P0032 HO2S Heater Control Circuit High (Bank 1 Sensor 1)
P0036 HO2S Heater Control Circuit (Bank 1 Sensor 2)
P0037 HO2S Heater Control Circuit Low (Bank 1 Sensor 2)
P0038 HO2S Heater Control Circuit High (Bank 1 Sensor 2)
P0053 HO2S Heater Resistance (Bank 1 Sensor 1)
P0054 HO2S Heater Resistance (Bank 1 Sensor 2)
P0107 Manifold Absolute Pressure/Barometric Pressure Circuit Low Input
P0108 Manifold Absolute Pressure/Barometric Pressure Circuit High Input
P0112 Intake Air Temperature Sensor 1 Circuit Low
P0113 Intake Air Temperature Sensor 1 Circuit High
P0114 Intake Air Temperature Sensor 1 Circuit Intermittent
P0116 Engine Coolant Temperature Circuit Range/Performance
P0117 Engine Coolant Temperature Circuit Low
P0118 Engine Coolant Temperature Circuit High
P0119 Engine Coolant Temperature Circuit Intermittent
P0122 Throttle/Pedal Position Sensor/Switch 'A' Circuit Low
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P0125 Insufficient Coolant Temperature for Closed Loop Fuel Control
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P0130 O2 Sensor Circuit (Bank 1 Sensor 1)
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P0132 O2 Sensor Circuit High Voltage (Bank 1 Sensor 1)
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P0141 O2 Sensor Heater Circuit (Bank 1 Sensor 2)
P0171 System Too Lean (Bank 1)
P0172 System Too Rich (Bank 1)
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P0202 Injector Circuit/Open - Cylinder 2
P0203 Injector Circuit/Open - Cylinder 3
P0204 Injector Circuit/Open - Cylinder 4
P0222 Throttle/Pedal Position Sensor/Switch 'B' Circuit Low
P0223 Throttle/Pedal Position Sensor/Switch 'B' Circuit High
P0261 Cylinder 1 Injector Circuit Low
P0262 Cylinder 1 Injector Circuit High
P0264 Cylinder 2 Injector Circuit Low
P0265 Cylinder 2 Injector Circuit High
P0267 Cylinder 3 Injector Circuit Low
P0268 Cylinder 3 Injector Circuit High
P0270 Cylinder 4 Injector Circuit Low
P0271 Cylinder 4 Injector Circuit High
P0300 Random/Multiple Cylinder Misfire Detected

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P0303 Cylinder 3 Misfire Detected
P0304 Cylinder 4 Misfire Detected
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P1223 Pedal Position Sensor 2 High Input
P1224 Pedal Position Sensor 1 and 2 Range/Performance Error
P1226 Throttle Malfunction (Flap Malfunction)
P1229 Throttle Sensor Adaptation Failure
P1237 Secondary Upstream Manifold Air Pressure Sensor Low Input
P1238 Secondary Upstream Manifold Air Pressure Sensor High Input
P1239 Secondary Upstream Manifold Air Pressure Sensor Too Low at Engine stop
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P1242 Secondary Upstream Manifold Air Pressure Sensor Too High in Deceleration
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P1683	Electronic Throttle Control Monitor Level 2/3 Idle Speed 'B' Calculation Fault
P1684	Electronic Throttle Control Monitor Level 2/3 Clutch Torque Min Error
P1685	Electronic Throttle Control Monitor Level 2/3 Clutch Torque Max Error
P1686	Electronic Throttle Control Monitor Level 2/3 Pedal Position Sensor Diagnostic Error
P1687	Electronic Throttle Control Monitor Level 2/3 Throttle Position Sensor Diagnostic Error
P1688	Electronic Throttle Control Monitor Level 2/3 Mass Air Flow Calculation
P1689	Electronic Throttle Control Monitor Level 2/3 Torque Calculation Error
P1691	Electronic Throttle Control Monitor Level 2/3 Motorised Throttle Control Engine Speed Limitation Error
P1692	Electronic Throttle Control Monitor Level 2/3 Motorised Throttle Control and Fuel Injection Switch Off 'A'
P1693	Electronic Throttle Control Monitor Level 2/3 Motorised Throttle Control and Fuel Injection Switch Off 'B'
P1698	Transmission Control Module Control Error
P1699	Transmission Control Module Checksum Error
P1705	Transmission Control Module LED Output Open Circuit
P1706	Transmission Control Module LED Output Short Circuit
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P1741	Clutch Solenoid Open Circuit
P1742	Clutch Solenoid Short Circuit
P1749	Secondary Pressure Solenoid Communication Error
P1751	Secondary Pressure Solenoid Open Circuit
P1752	Secondary Pressure Solenoid Short Circuit
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P1786	Transmission Ratio Control Actuator Circuit Range/Performance
P1787	Transmission Ratio Control Actuator Open Circuit
P1788	Transmission Ratio Control Actuator Short Circuit
P1789	Transmission Ratio Control Actuator Communication Error
P1815	Wheel Plus Switch Error Low Input
P1816	Wheel Minus Switch Error Low Input
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P2122	Throttle/Pedal Position Sensor/Switch 'D' Circuit Low Input
P2123	Throttle/Pedal Position Sensor/Switch 'D' Circuit High Input
P2127	Throttle/Pedal Position Sensor/Switch 'E' Circuit Low Input
P2128	Throttle/Pedal Position Sensor/Switch 'E' Circuit High Input
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P2271	O2 Sensor Signal Stuck Rich (Bank 1 Sensor 2)
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P2301	Ignition Coil 'A' Primary Control Circuit High
P2303	Ignition Coil 'B' Primary Control Circuit Low
P2304	Ignition Coil 'B' Primary Control Circuit High
P2400	Evaporative Emission System Leak Detection Pump Control Circuit/Open
P2401	Evaporative Emission System Leak Detection Pump Control Circuit Low
P2402	Evaporative Emission System Leak Detection Pump Control Circuit High
P2404	Evaporative Emission System Leak Detection Pump Sense Circuit Range/Performance

Appendix

Common Problems /Troubleshooting

Flashing E message on tool:

Occasionally the MSR will flash "E" when an attempt is made to read codes or reset the MIL light (Check Engine or Service Engine Soon). "E" means the car is not responding to the tool: This happens when the data line (also called "diagnostic bus") inside the car is "hung" or disabled.

Things to try to resolve the "E" error message:

1.) **Insertion Depth:** Check the insertion of the MSR into the diagnostic connector. If it is not fully inserted the unit will not work.

2.) **Reversing the power-up sequence:** Plug in the MSR first, THEN turn on the ignition key. This is the opposite of the routine specified by the manual and the tool label. This procedure has proven very effective on some cars.

3.) **Cycle power:** Plug in tool, cycle the ignition key on and off two or three times (do not start engine)

4.) **Other warning lights:** Observe that no other malfunction indicator lights are on.

Often a malfunctioning module (i.e. DME, EGS/transmission, ABS traction control, etc...) can impair or "hang" the diagnostic bus.

6.) Power resetting of all modules (entire car)

Note: before doing this procedure, get your radio security code from the dealer.

a.) Disconnect the main car battery.
b.) Activate the emergency flasher lights (this will fully drain all power from all ECUs) wait 5 minutes
c.) Reconnect the main battery and try the tool again.

7.) Module Troubleshooting: If you suspect a particular module is malfunctioning or damaged, you may wish to consult repair documentation for the car (see page 14) and attempt to isolate the problem by removing the module from the diagnostic bus. **WARNING:** This procedure is for qualified mechanics only.

8.) The Dealer
Visit your local Mini dealership. The MSR will not serve it's intended purpose if the diagnostic bus is impaired by a malfunctioning control module. If one of the modules is inhibiting communications it is necessary to visit a Mini dealer or qualified repair facility to diagnose and fix/replace the bad module.

Tool will not reset other lights: The MSR would not reset the brake lining light, the SRS/airbag light, or the ABS brake light. • The MSR only resets the Check engine, Service Engine Soon, Oilservice and Inspection lights.

Service Light reset fails: Some Minis will not reset prior to the illumination of the service light ("Oilservice or Inspection"). In all cases we advise you to wait for the service light to come on before attempting a reset. In other words, if there is any "countdown" remaining, do not attempt a reset.

Sources of Technical Information:

BMW/Mini: Pay-by-use technical information can be obtained online directly from BMW at http://www.minitechinfo.com/ Fees start at $20 per day.

Manual Publishers (All may not publish manuals for late model Mini Coopers.)

Robert Bentley Publishing: 1-800-423-4595 Alldata: 1-800-859-3282 Chiltons: 1-800-695-1214	Mitchells: 888-724-6742 Haynes: 1-800-442-9637

Recommended Reading: • Bosch Automotive Handbook, by Robert Bosch, ISBN: 0837606144 • Bosch Fuel Injection and Engine Management, by Charles O. Probst. ISBN: 0837603005.

Glossary:

A/C = Air conditioner
ABS = Anti-lock Brake System
ASC = Skid control (see "Intervention")
ADS = Aux Throttle Position Motor
AHK = Active Rear Axle Kinematics
BLS = Brake Light Switch
Check Engine Light: on the dashboard, indicates the DME has detected a problem
CC = Check control
CO = Carbon Monoxide
DDE = ECU for Diesel Engine
Diagnostic Connector: Where the MSR plugs into the car. See page 3.
DISA =intake runner length tuning mechanism
DME = Engine ECU (Gasoline engine): monitors and controls all engine sensors and functions
DSC = Dynamic Stability Control
DWA = Alarm system
E = Communications error: See "Flashing E below"
EGS = Electronic Automatic Transmission
EKAT = Electrically heated catalytic convertor
EKM = electronic Body Module
EML = Electronic Throttle Control
EVAP = relates to fuel vapor recovery often this code indicates a loose gas cap
EWS = Drive away protection (alarm system)
Fault Code: a "code" stored in the DME memory- indicates a past or present problem.
Fuel Trim = adjustments to maintain proper air fuel ratio (see Lambda Control)
Flashing E: (in MSR display) communication problem in the vehicle, please see page 13
GM = General Module
Intervention, MSR, ASC = intervention is when another control unit (i.e. skid control) requests a power/torque change from the DME. Code indicates DME assessed the request as being incorrect or too long.
Lambda Control = Code means DME is unable to maintain requisite air/fuel ratio due to external factor (air leak, bad injector, sensor, etc...). (also see fuel trim)
LDP = Loss Diagnosis Pump
Load Calculation Cross Check (HFM vs TPS)= when actual air flow exceeds +/- 25% of calculated air flow.
MDK = Motorized Throttle Valve
MIL = Malfunction Indicator Lamp, also called the "Check Engine" or "Service Engine Soon"
MLF = Multi function Steering Wheel
MSR = Drag Torque Intervention (torque reduction for anti skid) see "Intervention"
NTC = coolant temperature sensor
Oilservice & Inspection: Also called SI (abbrev. for service interval) maintenance reminder lights
PWG = Pedal Sensor Potentiometer
QL = idle air mass adaption (see Fuel Trim)
MSR: The scan/reset tool. Subject of this manual
RAM = DME random access memory
ROM = DME program memory
Scan Tool: Generic term for the MSR
Service Engine Soon: on the dashboard, indicates the DME has detected a problem.
SI = Service Interval
SMG = BMW Motorsport Sequential Gearbox
SRS = Airbag
TD = Tachometer Signal
TEV = Evap, fuel tank vent / purge valve
Ti Additive: idle fuel adaption (see fuel trim)
Ti multiplicative: adaption a percentage +/- of injector time (see Fuel Trim)
TR signal = from DME, RPM and valve position
VANOS = Adjustable Valve Train
ZAB = see ASC
ZKE = Central Body Electronics
For further definitions, please consult documentation for the vehicle.