Mini Mania Inc., on the web:

Limited technical information for the MSR is available online at:

www.new.minimania.com/msrtech.htm

Any product-related questions or comments should be directed to Mini Mania Inc. directly.

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 unauthorized 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 buyer tampered with the unit.

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-transferable.

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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.

Table of Contents

| General Information | 2 |
| Locating Diagnostic Connectors | 3 |
| Tool face panel description | 4 |
| Directions | 5 |
| Using the MSR | 5 |
| Function Reference | 5 |
| Reading DTCs (diagnostic trouble codes) | 5 |
| Resetting Check-Engine and Service Engine Soon | 5 |
| Clearing DTCs (diagnostic trouble codes) | 5 |
| Resetting Service Lights | 5 |
| How to read the codes and use the code tables | 6 |
| Code Table for Mini Cooper | 7 |
| Code Table for Mini Cooper S | 10 |
| Appendix | 13 |
| Troubleshooting information | 15 |
| Glossary (terms and abbreviations) | 15 |
| Tech support | 16 |
| Warranty | 16 |
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.

Function Reference

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 tool will attempt to read the fault codes. If there are no faults it will display “-”. If it finds faults, it will display the first fault 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 “-” (starting point.)

MIL Reset: (Prelays “Check Engine” or “Service Engine Soon”)
- When you have selected CE in this display, you are now ready to reset the MIL. (“Malfunction indicator lamp” Pressing GO will execute the reset. When finished it will return to “-”. 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.)

Oil Service Reset: When you have selected OL in the display, you are now ready to reset the “oil change” 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 “-”. SI indicator will indicate a successful reset when finished. (See page 14 for troubleshooting)

Inspection Reset: When you have selected “IN” in the display, you are now ready to reset the “Inspection” light. Pressing GO will execute the reset. During the reset procedure the display will count from 0 to 9. When finished the display will return to “-”. 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 ___ __ ___ ___ ___ (P000) pressed, which then displays the next code.

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 “-”

After reading a code with the MSR, locate the correct code table for your Mini Cooper or Mini Cooper S (pages 7 through 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 generators 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, the Internet, etc. Note: Unfortunately, we are not equipped to answer your questions about codes, diagnostics, or Mini problems or offer repair service. We apologize for any inconvenience this may cause.

Mini Cooper

<table>
<thead>
<tr>
<th>Code</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>P000</td>
<td>HO2S Heater Control Circuit (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P001</td>
<td>HO2S Heater Control Circuit Low (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P002</td>
<td>HO2S Heater Control Circuit High (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P005</td>
<td>HO2S Heater Control Circuit (Bank 1 Sensor 2)</td>
</tr>
<tr>
<td>P007</td>
<td>HO2S Heater Control Circuit Low (Bank 1 Sensor 2)</td>
</tr>
<tr>
<td>P008</td>
<td>HO2S Heater Control Circuit High (Bank 1 Sensor 2)</td>
</tr>
<tr>
<td>P003</td>
<td>HO2S Heater Resistance (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P004</td>
<td>HO2S Heater Resistance (Bank 1 Sensor 2)</td>
</tr>
<tr>
<td>P010</td>
<td>Manifold Absolute Pressure/Barometric Pressure Circuit (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P011</td>
<td>Intake Air Temperature Sensor Circuit Low</td>
</tr>
<tr>
<td>P012</td>
<td>Intake Air Temperature Sensor Circuit High</td>
</tr>
<tr>
<td>P013</td>
<td>Intake Air Temperature Sensor Circuit (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P014</td>
<td>Intake Air Temperature Sensor Circuit (Bank 1 Sensor 2)</td>
</tr>
<tr>
<td>P015</td>
<td>Engine Coolant Temperature Circuit Performance</td>
</tr>
<tr>
<td>P016</td>
<td>Engine Coolant Temperature Circuit Low</td>
</tr>
<tr>
<td>P017</td>
<td>Engine Coolant Temperature Circuit High</td>
</tr>
<tr>
<td>P018</td>
<td>Engine Coolant Temperature Circuit Interim</td>
</tr>
<tr>
<td>P019</td>
<td>Throttle Pedal Position</td>
</tr>
<tr>
<td>P020</td>
<td>Sensor/Switch ‘A’ Circuit Low</td>
</tr>
<tr>
<td>P021</td>
<td>Sensor/Switch ‘A’ Circuit High</td>
</tr>
</tbody>
</table>

Sensors:

- Sensor/Switch ‘A’ Circuit: Use to check if the sensor is working correctly.
- Engine Coolant Temperature: Indicates the temperature of the engine coolant.
- Intake Air Temperature: Indicates the temperature of the air entering the engine.
- Throttle Pedal: Indicates the position of the throttle pedal.

Note: These codes are specific to the Mini Cooper/S and may not apply to other models. Always refer to a comprehensive repair manual for specific guidance.
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 flashing 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 want to consult repair documentation for the car (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 its intended purpose if the diagnostic bus is impaired by a malfunctioning control module. 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 will not reset the brake flashing light, the turn signal flashing light, or the hazard flasher light. To reset the brake flashing light, the turn signal flashing light, or the hazard flasher light, perform the steps outlined in the diagnostic procedure above.

Service Light reset fails: Some Minis will not reset prior to the illumination of the service light ("Service Due" or "Service Required") in all cases we advise you to wait for the service light to come on before attempting to 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.motorsinfo.com. Fees start at $20 per day.

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

Robert Bentley Publishing: 1-800-423-4596
Allstate: 1-800-853-3382
Chilton: 1-800-606-1214

Mitchells: 888-724-6742
Haynes: 1-800-442-9637


Glossary:
A/C = Air conditioner
ABS = Anti-lock Brake System
ASC = Skid control (see "intervention")
ADS = Aux Traction Position Motor
AHR = Active Rear Axle Kinematics
BLS = Brake Light Switch
CCI = Check Engine Light
CO = Carbon Monoxide
dDIE = Diesel Engine
Diagnosis: Where the MSR plugs into the car. See page 3
DIAG = Injector runner length tuning mechanism
DME = Engine ECU (Gasoline engine)
DSC = Dynamic Stability Control
DWA = Alarm system
E = Communication error: See "Flashing E below"
ECS = Electronic Automatic Transmission
EKT = Electrally heated catalytic converter
EMK = Electronic Module Body
EMR = Electronic Module Body
EVT = Variable torque transmission
EWS = Engine w/ rain (storm) system
Fault Code: a "code" stored in the DME memory indicating a past or present problem.
Fuel Trim = Adjustments to maintain proper air/fuel ratio (see Lambda Control)
Flash: (in MSR display) communication problem in the vehicle, please see page 13
GM = General Module
Intervention, MSR, ASC = intervention is when another control unit (e.g., skid control) requests a power/torque change from the DME. Code indicates DME assessed the request as being incorrect or too low. Lambda Control = Code means DME is unable to maintain the air/fuel ratio due to external factor (air leak, bad injector, etc.). (also see fuel trim)
LDP = Loss Diag Reason
Load Calculation Cross Check (HFM vs TRP): when actual air flow exceeds +25% of calculated air flow.
MDK = Motorized Throttle Valve
MLM = Malfunction Indicator Lamp, also called the "Check Engine" or "Service Engine Soon"
MLP = Multi-function Steering Wheel
MSR = Manual Transfer Traction
OMS = Off-road (see fuel trim)
PGW = Pedal Sensor Potentiometer
QF = Idle air mass (see fuel trim)
RSM = The scan/reset tool. Subject of this manual.
RAM = DME random access memory
ROM = DME program memory
SAE = Service Advisor
SMM = BMW Motorsport Sequential Gearbox
SRS = Airbag
TD = Tachometer Signal
TEV = Evap, fuel tank vent purge valve
TR = Time remaining
VANNCO = Adjustable Valve Train
ZAB = see ASC
ZBE = Central Body Electronics

For further definitions, please consult documentation for the vehicle.