K - SENSOR RANGE CHARTS

1991 Mitsubishi Montero

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1991 ENGINE PERFORMANCE
Sensor Operating Range Charts

Chrysler Motors: Colt, Colt 200, Colt Vista,
Ram-50, Stealth, Summit,
Mitsubishi: Eclipse, Galant, Mirage, Montero,
Pickup, 3000GT
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INTRODUCTION

Sensor operating range information can help determine if a sensor is out of calibration. An out-of-calibration sensor may not set a trouble code, but it may cause driveability problems.

SENSOR OPERATING RANGE CHARTS

NOTE: Unless stated otherwise in test procedure, perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance. For connector and terminal identification, see L - WIRING DIAGRAMS article in the ENGINE PERFORMANCE Section.

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COOLANT TEMP SENSOR RESISTANCE TABLE (1)
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Temperature °F (°C)	Ohms
Galant, Montero 3.0L, & Pickup 3.0L	
32 (0)	5900
68 (20)	2500
104 (40)	2700
176 (80)	300
All Others	
32 (0)	5900
68 (20)	2500
104 (40)	1100
176 (80)	300

(1) - Measure resistance across disconnected sensor terminals.

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EGR TEMP SENSOR RESISTANCE TABLE (1) (2)
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Temperature °F (°C)	Ohms
122 (50)	60-83
212 (100)	11-14

(1) - Measure resistance across disconnected sensor terminals.
(2) - Specifications apply to all models except Montero.

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INTAKE AIR TEMP SENSOR RESISTANCE TABLE (1)
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Temperature °F (°C)	Ohms
32 (0)	6000

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68 (20)  .............................  2700
176 (80) .............................   400

(1) - On Stealth and 3000GT, measure resistance
      between terminals No. 5 and 6 of airflow
      sensor connector. On all other models measure
      resistance between terminals No. 4 and 6 of
      airflow sensor connector.
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MOTOR POSITION SENSOR RESISTANCE TEST TERMINALS TABLE

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Application               (1) Terminals    (2) Terminals

Colt Vista  ................  1-3  ...............  1-2
Colt, Colt 200, & Summit  ..  2-3  ...............  3-5

(1) - Measure resistance between terminals of motor
      position sensor connector.
(2) - Apply 6 volts between terminals No. 1 and 2 of
      idle speed control (ISC) connector. Check
      resistance between terminals of motor position
      sensor when ISC motor is activated.
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MOTOR POSITION SENSOR RESISTANCE TABLE (1)

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Condition                                        Ohms

Connector Unplugged  .......................  4000-6000
6 Volts Applied  ........  Resistance Changes Smoothly

(1) - See MOTOR POSITION SENSOR RESISTANCE
      TEST TERMINALS table for terminal positions.
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OXYGEN SENSOR VOLTAGE TABLE (1) (2)

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Application                       Volts

All Models
  Lean  ..............................  0.1
  Rich  ..............................  1.0

(1) - Measure between sensor terminal No. 1
      and ground or between terminals No. 1 and 2.
(2) - Test at normal operating temperature.
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O2 SENSOR HEATING ELEMENT RESISTANCE TABLE (1)

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Application (2)                   Temperature: °F (°C)    Ohms

Eclipse 2.0L Galant 2.0L, Mirage 1.6L  ......  68 (20)  ..........  12
Montero 3.0L, Pickup 3.0L & Ram-50 3.0L  ....  68 (20)  ..........  20
Stealth & 3000GT 3.0L (3)  .................  68 (20)  ..........  20

(1) - Measure between sensor terminals No. 3 and 4.
(2) - Information on other models not available from manufacturer.
(3) - Stealth and 3000GT turbo models have 2 oxygen sensors.
      Measure between sensor terminals No. 2 and 4 on rear sensor.
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THROTTLE POSITION SENSOR (TPS) RESISTANCE TABLE
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Application            (1) Terminal (Ground-Output)    Ohms
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Colt Vista
  Closed  ..................... 2-1 .......... 3500-6500
  Open  ..................... (2) 2-3 ....... 3500-6500
Eclipse 2.0L (VIN R&U)
  Closed  ..................... 2-3 .......... 3500-6500
  Open  ..................... (2) 3-4 ....... 3500-6500
Pickup & Ram-50 3.0L
  Closed  ..................... 1-4 .......... 3500-6500
  Open  ..................... (2) 2-3 ....... 3500-6500
Stealth & 3000GT
  Closed  ..................... 4-1 .......... 3500-6500
  Open  ..................... (2) 4-2 ....... 3500-6500
All Others
  Closed  ..................... 1-4 .......... 3500-6500
  Open  ..................... (2) 2-4 ....... 3500-6500

(1) - Measure across TPS terminals with connector disconnected.
(2) - Resistance should increase smoothly.
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VEHICLE SPEED SENSOR CONTINUITY TEST TABLE (1)
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Application                      (2) Continuity
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All Models  ............  4 Changes Per Revolution

(1) - Measure continuity at back of speedometer.
      See L - WIRING DIAGRAMS article in the
      ENGINE PERFORMANCE Section.
(2) - With ECU connector disconnected. Turn speedometer
      cable to cycle reed switch on and off.
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VEHICLE SPEED SENSOR VOLTAGE TEST TABLE (1)
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Application                      (2) Volts
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All Models
  Ignition switch OFF  ................ 1 Or Less
  Ignition switch ON  .................. 4.5-4.9

(1) - Measure voltage at back of speedometer. See
      L - WIRING DIAGRAMS article in the ENGINE
      PERFORMANCE Section.
(2) - With ECU connector disconnected. Turn speedometer
      cable to cycle reed switch on and off.
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