

K - SENSOR RANGE CHARTS

Article Text

1992 Dodge Colt

For a a a a

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Saturday, April 27, 2002 05:52PM

ARTICLE BEGINNING

1992 ENGINE PERFORMANCE

Chrysler Motors/Mitsubishi Sensor Operating Range Charts

Chrysler Motors: Colt, Colt 200, Colt Vista, Ram-50, Stealth, Summit, Summit Wagon

Mitsubishi: Diamante, Eclipse, Expo/Expo LRV, Galant, Mirage, Montero, Pickup, Precis, 3000GT

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.

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.

AIRFLOW METER HERTZ TEST TABLE (1)

Condition	Hz
Diamante	
700 RPM	25-50
2000 RPM	65-105
Eclipse	
1.8L	
700 RPM	25-40
2000 RPM	67-88
2.0L	
750 RPM	25-50
2000 RPM	
Non-Turbo	70-90
Turbo	60-85
Expo/Expo LRV	
1.8L	
750 RPM	23-49
2000 RPM	51-91
2.4L	
750 RPM	34-60
2000 RPM	70-110
Galant	
SOHC	
750 RPM	25-50
2000 RPM	70-130
DOHC	
750 RPM	
Non-Turbo	25-50

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Turbo	30-50
2000 RPM	
Non-Turbo	60-90
Turbo	50-80
Mirage	
1.5L	
750 RPM	30-45
2000 RPM	80-110
1.6L	
750 RPM	27-33
2000 RPM	60-80
Montero	
700 RPM	27-48
2000 RPM	60-100
Pickup	
2.4L	
750 RPM	40-60
2000 RPM	85-105
3.0L	
700 RPM	25-45
2000 RPM	70-90
Precis	
750 RPM	27-33
2000 RPM	60-80
3000GT	
700 RPM	25-50
2000 RPM	70-100

(1) - Measure hertz frequency with Multi-Use Tester (MUT).

AIRFLOW METER VOLTAGE TEST TABLE

Condition	Volts
Colt, Colt 200, Ram-50 & Summit	
750-2000 RPM	2.2-3.2
Stealth	
700 RPM	0-1.0
3000 RPM	6.0-9.0

BAROMETRIC PRESSURE SENSOR VOLTAGE TEST TABLE

Altitude Ft. (m)	Volts
Colt, Colt 200, Colt Vista, Ram-50, Stealth, Summit, Summit Wagon, & 3000GT	
0 (0)	3.7-4.3
3937 (1200)	3.2-3.8

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BAROMETRIC PRESSURE SENSOR VACUUM TEST TABLE

Altitude Ft. (m)	In. Hg
Diamante, Eclipse, Expo/Expo LRV, Galant, Mirage, Montero, Pickup & Precis	
10 (0)	30
1969 (600)	28
3937 (1200)	26
5906 (1800)	24

COOLANT TEMPERATURE SENSOR RESISTANCE TABLE

Temperature °F (°C)	Ohms
Eclipse	
68 (20)	2200-2600
176 (80)	264-328
Galant, Mirage, Ram-50 2.4L & Pickup 2.4L	
32 (0)	5900
68 (20)	2500
104 (40)	2700
176 (80)	300
All Others	
32 (0)	5800
68 (20)	2400
104 (40)	1100
176 (80)	300

EGR TEMPERATURE SENSOR RESISTANCE TEST TABLE (1)(2)

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.

INTAKE AIR TEMPERATURE SENSOR RESISTANCE TABLE

Temperature °F (°C)	Ohms
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Precis		
32 (0)	5400-6600
68 (20)	2300-2970
176 (80)	310-430
All Others		
32 (0)	6000
68 (20)	2700
176 (80)	400

Motor Position Sensor

Measure sensor resistance between the specified terminals.

See MOTOR POSITION SENSOR TEST TERMINALS table. With sensor connector unplugged, resistance should be 4000-6000 ohms. With Idle Speed Control (ISC) motor activated (6 volts applied between ISC connector terminals No. 1 and 2), resistance should change smoothly between 4000 and 6000 ohms.

MOTOR POSITION SENSOR TEST TERMINALS TABLE

Condition	Terminals
Sensor Connector Unplugged	
Colt, Colt 200, Eclipse, Expo/Expo LRV, Galant SOHC, Mirage 1.5L, Pickup 2.4L, Ram-50 2.4L, Stealth & Summit	2 & 3
Precis	4 & 5
Ram-50 3.0L	1 & 4
ISC Motor Activated (1)	
Colt, Colt 200, Eclipse, Expo/Expo LRV, Galant SOHC, Mirage 1.5L, Pickup 2.4L, Ram-50 2.4L, Stealth & Summit	3 & 5
Precis	2 & 4
Ram-50 3.0L	3 & 5

(1) - Apply 6 volts between terminals No. 1 and 2 of ISC connector.

OXYGEN SENSOR VOLTAGE TEST TABLE (1)(2)

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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OXYGEN SENSOR HEATING ELEMENT RESISTANCE TEST TABLE (1)

Application (2)	(3) Ohms
Eclipse 2.0L, Galant & Mirage 1.6L	12
Montero, Pickup 3.0L, Ram-50 3.0L, Stealth & 3000GT	20

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- (1) - Information on other models is not available from manufacturer.
 - (2) - Measure between sensor terminals No. 3 and 4. Stealth and 3000GT turbo models have 2 oxygen sensors; measure between sensor terminals No. 2 and 4 on rear sensor.
 - (3) - Measure resistance with temperature at 68°F (20°C).
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Throttle Position Sensor (TPS)

Measure total and variable resistance between specified TPS connector terminals. See TPS TEST TERMINALS table. Total resistance should be 3500-6500 ohms. Variable resistance should change smoothly between 3500 and 6500 ohms as throttle valve is moved from closed to wide open throttle.

TPS TEST TERMINALS TABLE

Application	Terminals No.
Total Resistance	
Eclipse 1.8L	1 & 2
Eclipse 2.0L	2 & 3
All Others	1 & 4
Variable Resistance	
Eclipse 1.8L	2 & 3
Eclipse 2.0L	3 & 4
Colt Vista, Expo/Expo LRV, Montero, Pickup 3.0L, Precis, Ram-50 3.0L & Summit Wagon	1 & 3
All Others	2 & 4

VEHICLE SPEED SENSOR CONTINUITY TEST TABLE (1)

Application	(2) Continuity
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)

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.

END OF ARTICLE