

K - SENSOR RANGE CHARTS - GASOLINE

Article Text

1991 Volkswagen Vanagon
For Volkswagen Technical Site
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Saturday, March 18, 2000 09:18PM

ARTICLE BEGINNING

1990-91 ENGINE PERFORMANCE
Sensor Operating Range Charts

1990-91 Passat
1991 Cabriolet, Corrado, Fox, Golf GL, GTI, Jetta,
Jetta GLI, Vanagon

MODEL APPLICATION

NOTE: Information in this article applies to gasoline engine models only.

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.

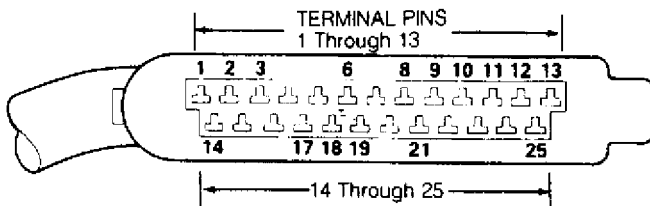


Fig. 1: Identifying Typical ECU Terminal Pin Connector
Courtesy of Volkswagen United States, Inc.

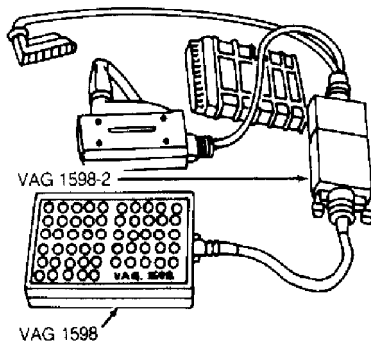


Fig. 2: Terminal Test Box (VAG 1598) & Adapter (VAG 1598-2)
Courtesy of Volkswagen United States, Inc.

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AIRFLOW SENSOR POTENTIOMETER RESISTANCE TEST TABLE

- (1) - Measure resistance between terminals No. 6 and 17.
- (2) - Measure resistance between terminals No. 17 and 21.
- (3) - Measure resistance between terminals No. 15 and 28.
- (4) - Measure resistance between terminals No. 13 and 15.
- (5) - Measure resistance between terminals No. 23 and 26.
- (6) - Measure resistance between terminals No. 26 and 35.
- (7) - Measure resistance between terminals No. 14 and 17.
- (8) - Measure resistance between terminals No. 17 and 18.

- (1) - Measure resistance between terminals No. 6 and 10.
- (2) - Measure resistance between terminals No. 11 and 28.
- (3) - Measure resistance between terminals No. 3 and 35.

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Temperature °F (°C) Ohms

68 (20)	2100-2900
176 (80)	270-390

(1) - Measure resistance between terminal No. 13 and ground.

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DIFFERENTIAL PRESSURE REGULATOR TEST TABLE

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Application	Between Terminals	Ohms
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1.8L No. 10 & 12 17.5-21.5
2.0L No. 4 & 5 15-20

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EGR TEMP. SENSOR RESISTANCE TEST TABLE (2.0L) (1)

AA

Temperature °F (°C)	Ohms
---------------------	------

122 (50) 500,000-600,000
257 (125) 35,000-40,000
392 (200) 4500-6500

(1) - Measure resistance between terminals No. 9 & 35.

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INTAKE AIR TEMPERATURE SENSOR RESISTANCE TEST TABLE

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Application	Temperature °F (°C)	Ohms
-------------	---------------------	------

Cabriolet, Corrado,		
Fox, Golf & Jetta (1) 32 (0) 5000-6500
	122 (50) 950-1000
	212 (100) 150-250
Vanagon (2) 68 (20) 2300-2700

(1) - On Cabriolet and Corrado (California), measure resistance between terminals No. 28 and 30. On all others, measure resistance between terminals No. 6 and 9.

(2) - Measure resistance between terminals No. 6 and 14.

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OIL TEMP. SENSOR RESISTANCE TEST TABLE (VANAGON) (1)

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Temperature °F (°C)	Ohms
---------------------	------

14 (10) 7000-11,600
68 (20) 2100-3100
176 (80) 270-390

(1) - Measure resistance between temp. sensor & ground.

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OXYGEN SENSOR RESISTANCE TEST TABLE

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Application	Condition	Ohms
Cabriolet, Fox & Golf GL (Fed.) (1)	Disconnect & Ground Harness Wire	0.5
	Reconnect Sensor	Open Circuit
Cabriolet, Fox & Golf GL (Calif.) (2) ..	Disconnect & Ground Harness Wire	1
	Reconnect Sensor	Open Circuit
Corrado (3)	Disconnect Sensor	1.5
	Reconnect Sensor	Open Circuit
GTI, Jetta GLI & Passat (Fed.) (4)	Disconnect Sensor & Ground GRN Wire	0
	Reconnect Sensor	Open Circuit
GTI, Jetta GLI & Passat(Calif.) (5)	Disconnect & Ground Harness Wire	1
	Reconnect Sensor	Open Circuit
Vanagon (6)	Disconnect & Ground Harness Wire	0
	Reconnect Sensor	Open Circuit

- (1) - Measure resistance between terminals No. 2 and 13.
- (2) - Measure resistance between terminals No. 2 and 8.
- (3) - Measure resistance between terminals No. 1 and 2.
- (4) - Measure resistance between terminals No. 7 and 35.
- (5) - Measure resistance between terminals No. 2 and 8.
- (6) - Measure resistance between terminals No. 5 and 7.

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THROTTLE POSITION SENSOR RESISTANCE TEST TABLE

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Application	Position	Ohms
Except Corrado (1) ...	Disconnect Potentiometer	1.5
Corrado (2)	Throttle Closed	0.5
	Off Full Throttle	Open Circuit
	Full Throttle	0.5

- (1) - Measure resistance between terminals No. 1 and 34.
- (2) - Measure resistance between terminals No. 6 and 11.

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VACUUM SENSOR RESISTANCE TEST TABLE (1)

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Condition	Ohms
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Move Sensor Plate Changing

(1) - Measure resistance between terminals No. 15 & 19.

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END OF ARTICLE