

K - SENSOR RANGE CHARTS

Article Text

1996 Volkswagen Golf
For Volkswagen Technical Site
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Thursday, August 19, 1999 11:39PM

ARTICLE BEGINNING

1996 ENGINE PERFORMANCE Volkswagen Sensor Operating Range Charts

Cabrio, Golf III, GTI, Jetta III, Passat

INTRODUCTION

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

NOTE: Unless stated otherwise in test procedure, perform all resistance and voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance.

CLOSED THROTTLE POSITION (CTP) SWITCH RESISTANCE TABLE

| AA | | |
|--|-----------------|------------------------|
| Terminals | Ohms | Ohms |
| No. | Closed Throttle | Slightly Open Throttle |
| 4 & 6 | 0 | Infinite (Open) |
| AA | | |

CRANKSHAFT POSITION (CKP) SENSOR RESISTANCE TABLE

| AA | | |
|--|----------|--------|
| Terminals No. | | Ohms |
| 1 & 2 | Approx. | 1000 |
| 1 & 3 | Infinite | (Open) |
| 2 & 3 | Infinite | (Open) |
| AA | | |

EGR TEMPERATURE SENSOR RESISTANCE TEST TABLE

| AA | | |
|--|-----------------|------|
| Temperature °F (°C) | | Ohms |
| 122 (50) | 500,000-600,000 | |
| 257 (125) | 35,000-40,000 | |
| 392 (200) | 4500-6500 | |
| AA | | |

ECT SENSOR RESISTANCE TABLE

| AA | | |
|--|-----------|------|
| Temperature °F (°C) | | Ohms |
| 86 (30) | 1500-2000 | |
| 104 (40) | 1000-1500 | |
| 122 (50) | 800-1000 | |
| 140 (60) | 500-700 | |

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| | | |
|--|-------|----------|
| 158 (70) | | 375- 500 |
| 176 (80) | | 275- 375 |
| 194 (90) | | 225- 275 |
| AA | | |

ENGINE SPEED (RPM) SENSOR RESISTANCE TABLE

AA

Terminals No. Ohms

| | | |
|--|-------|-----------------|
| 1 & 2 | | Approx. 1 |
| 1 & 3 | | Infinite (Open) |
| 2 & 3 | | Infinite (Open) |
| AA | | |

HEATED OXYGEN SENSOR (HO2S) VOLTAGE TABLE

AA

Condition (1) Volts

| | | |
|------|-------|-------------|
| Lean | | Approx. 0.2 |
| Rich | | Approx. 0.7 |

(1) - Measured between connector terminal and ground.

AA

INTAKE AIR (IAT) SENSOR RESISTANCE TABLE

AA

Temperature °F (°C) Ohms

| | | |
|--|-------|------------|
| 86 (30) | | 1500- 2000 |
| 104 (40) | | 1000- 1500 |
| 122 (50) | | 800- 1000 |
| 140 (60) | | 500- 700 |
| 158 (70) | | 375- 500 |
| 176 (80) | | 275- 375 |
| 194 (90) | | 225- 275 |
| AA | | |

MASS AIRFLOW (MAF) SENSOR TEST TABLE

AA

Condition (1) Volts

| | | |
|-------------------|-------|------------------------------|
| Key On Engine Off | | About 0.3- 1.1 |
| Engine Running | | (2) 1.5 Minimum- 3.4 Maximum |

(1) - Backprobe connector terminals No. 1 and 2.

(2) - Continuously vary engine speed between idle and
4000 RPM

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THROTTLE POSITION (TP) SENSOR RESISTANCE TABLE

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Terminals Ohms Ohms

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| No. | At Idle | Wide Open Throttle |
|-------------|-----------------|--------------------|
| 1 & 2 | 1500-2600 | N/A |
| 2 & 3 | 750-1300 | (1) 3600 Maximum |

(1) - Resistance should gradually increase as throttle is opened.

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END OF ARTICLE