ENGINE PERFORMANCE 2.0 Liter - Generic Scan Tool - Engine Code(s): CCTA

Test-ID		Specified value	
		min.	max.
1	Rich to lean sensor barrier voltage	-	0.6241 V
2	Lean to rich sensor barrier voltage	-	0.6241 V
7	Minimum voltage at sensor for test cycle	-	0.450 V
8	Maximum voltage at sensor for test cycle	0.450 V	-
129	Sensor voltage lean	0	0.6241 V
130	Sensor voltage rich	0.6241 V	1.2998 V
131	Deceleration test	0 V	0.1599 V

If the specified values were obtained:

-- Switch ignition off. Fault is not active at this time. Check for poor connections, loose terminals and harness check.

If the specified values were Not obtained:

-- Remove the right vehicle floor cover -arrows-.



Fig. 44: Identifying Right Vehicle Floor Cover Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

Checking primary voltage

-- Disconnect the brown Oxygen Sensor Behind Three Way Catalytic Converter -G130- electrical harness

ENGINE PERFORMANCE 2.0 Liter - Generic Scan Tool - Engine Code(s): CCTA

connector -arrow-.



Fig. 45: Identifying Connector For Oxygen Sensor (O2S) Behind Three Way Catalytic Converter (TWC) G130 Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

-- Switch the ignition On.

-- Using a multimeter, check the Oxygen Sensor Behind Three Way Catalytic Converter -G130- electrical harness connector terminals 3 to 4 for voltage.



Fig. 46: Identifying Check Of Component Terminals 3 To 4 For Voltage Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

ENGINE PERFORMANCE 2.0 Liter - Generic Scan Tool - Engine Code(s): CCTA

Specified value: 0.400 to 0.500 Volts

-- Switch the ignition Off.

If the specified value was obtained:

-- Replace the Oxygen Sensor Behind Three Way Catalytic Converter -G130-. Refer to the Repair Information.

If the specified value was Not obtained:

Checking wiring

-- Remove the Engine Control Module (ECM) -J623-. Refer to the Repair Information.

-- Using a multimeter, check the Oxygen Sensor Behind Three Way Catalytic Converter -G130- electrical harness connector terminals to the Engine Control Module (ECM) -J623- electrical harness connector terminals for an open circuit according to the wiring diagram.



Fig. 47: Identifying 4-Pin Electrical Harness Connector & Terminals Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

Oxygen Sensor Behind Three Way Catalytic Converter -G130- electrical harness connector terminal	Engine Control Module (ECM) -J623- electrical connector T94 terminal
3	33
4	84

Specified value: 1.5 ohms Max.

ENGINE PERFORMANCE 2.0 Liter - Generic Scan Tool - Engine Code(s): CCTA

If the specified value was Not obtained:

- -- Check the wiring for an open, high resistance or short to ground.
- -- Check the electrical harness connector for damage, corrosion, loose or broken terminals.
- -- If necessary, repair the faulty wiring connection.

If the specified value was obtained:

- -- Replace the Engine Control Module (ECM) -J623-. Refer to the Repair Information.
- -- Install the right vehicle floor cover -arrows-.



Fig. 48: Identifying Right Vehicle Floor Cover Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

Final procedures

After the repair work, the following work steps must be performed in the following sequence:

- 1. Check the DTC memory. Refer to **<u>DIAGNOSTIC MODE 03 READ DTC MEMORY</u>**.
- 2. If necessary, erase the DTC memory. Refer to **DIAGNOSTIC MODE 04 ERASE DTC MEMORY**.
- 3. If the DTC memory was erased, generate readiness code. Refer to <u>READINESS CODE</u>.

OXYGEN SENSOR HEATER BEHIND CATALYTIC CONVERTER, CHECKING

NOTE: Vehicle must be raised before electrical harness connector for the Oxygen Sensor Behind Three Way Catalytic Converter -G130- is accessible.

ENGINE PERFORMANCE 2.0 Liter - Generic Scan Tool - Engine Code(s): CCTA

When servicing terminals in harness connector of Oxygen Sensor Behind Three Way Catalytic Converter -G130-, use only gold-plated terminals.

Special tools and workshop equipment required

- Multimeter.
- Wiring diagram.

Test requirements

• The Oxygen Sensor Behind Three Way Catalytic Converter -G130- fuse 21 in Fuse Panel B is OK.



Fig. 49: Identifying Fuses On E-Box In Engine Compartment, Left Side Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

- Battery voltage at least 12.5 volts.
- All electrical consumers such as, lights and rear window defroster, switched off.
- Vehicles with automatic transmission, shift selector lever into position "P" or "N".
- A/C switched off.
- Ground connections between engine/transmission/chassis OK.
- Ignition switched Off.

Test procedure

-- Perform a preliminary check to verify the customers complaint. Refer to **PRELIMINARY CHECK**

Start diagnosis

ENGINE PERFORMANCE 2.0 Liter - Generic Scan Tool - Engine Code(s): CCTA

-- Remove the right vehicle floor cover -arrows-.



Fig. 50: Identifying Right Vehicle Floor Cover Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

Checking internal resistance

-- Disconnect the Oxygen Sensor Behind Three Way Catalytic Converter -G130- electrical harness connector - arrow-.



Fig. 51: Identifying Connector For Oxygen Sensor (O2S) Behind Three Way Catalytic Converter (TWC) G130

Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

ENGINE PERFORMANCE 2.0 Liter - Generic Scan Tool - Engine Code(s): CCTA

-- Using a multimeter, check the Oxygen Sensor Behind Three Way Catalytic Converter -G130- electrical harness connector terminals 1 to 2 for resistance.



Fig. 52: Identifying Oxygen Sensor (O2S) Behind Three Way Catalytic Converter (TWC) G130 Electrical <u>Harness Connector Terminals</u> Courtesy of VOLKSWAGEN GROUP OF AMERICA, INC.

Specified value: 1.0 to 20.0 ohms (at approx. 20 °C)

If the specified value was Not obtained:

-- Replace the Oxygen Sensor Behind Three Way Catalytic Converter -G130-. Refer to the Repair Information.

If the specified value was obtained:

Checking voltage supply

-- Turn the ignition switch ON

-- Using a multimeter, check the Oxygen Sensor Behind Three Way Catalytic Converter -G130- electrical harness connector terminal 1 to engine ground.

Specified value: Battery voltage.

If the specified value was Not obtained:

- -- Check the wiring for an open, high resistance, short circuit to each other, or Ground.
- -- Check the electrical harness connector for damage, corrosion, loose or broken terminals.