

Output Diagnostic Test Mode (DTM) (function 03)

Note:

- ◆ *Output Diagnostic Test Mode (DTM) is only possible with engine idle and ignition switched on.*
- ◆ *The electric Fuel Pump (FP) runs during all of output Diagnostic Test Mode (DTM).*
- ◆ *In output Diagnostic Test Mode (DTM), individual actuators (with the exception of the fuel injectors) are activated for approximately 1 minute unless the next actuator is selected earlier by pressing the → button.*
- ◆ *Actuators are checked either acoustically or by touch.*
- ◆ *Output Diagnostic Test Mode (DTM) is aborted if engine is started or an RPM signal is recognized.*
- ◆ *Before re-initiating output Diagnostic Test Mode (DTM), engine must be started and the ignition must be switched off and on again.*

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Output Diagnostic Test Mode (DTM) activates the following components in the specified sequence:

Activation sequence	
1	Evaporative Emission (EVAP) canister purge regulator valve -N80-
2	Secondary Air Injection (AIR) solenoid valve -N112-
3	Secondary Air Injection (AIR) pump relay - J299-
4	Wastegate bypass regulator valve -N75-
5	Leak Detection Pump (LDP) tank ventilation system
6	Recirculating valve for turbocharger -N249-
7	Cylinder 1 fuel injector -N30-
8	Cylinder 3 fuel injector -N32-
9	Cylinder 4 fuel injector -N33-
10	Cylinder 2 fuel injector -N31-

Test requirement:

- Fuses for engine electronics OK

⇒ *Electrical Wiring Diagrams, Troubleshooting & Component Locations*

Test sequence

- Connect VAS5051 tester or VAG1551 scan tool and select control module for engine electronics using "address word" 01 ⇒ [Page 01-10](#) . Ignition must remain switched on.

Rapid data transfer HELP
Select function XX



When indicated on display

- Press buttons -0- and -3- to select "output Diagnostic Test Mode" and press -Q- button to confirm input.

Rapid data transfer Q
03 - Output Diagnostic Test Mode



Indicated on display

Activating the EVAP canister purge regulator valve (tank ventilation valve)

- Confirm input using -Q- button.

Note:

The Fuel Pump (FP) relay must trigger, the Fuel Pump (FP) must run, flowing noise at fuel pressure regulator is clearly audible. If Fuel Pump (FP) does not run, check activation ⇒ [Page 24-56](#) .

Output Diagnostic Test Mode (DTM) →

Evap. canister purge regulator valve



Indicated on display:(or, indicated: tank ventilation valve -N80-)

- ◆ This valve is activated for approx. 1 minute (clicks), unless →button is pressed first to switch to the next actuator.

If valve is not activated (does not click):

- Check Evaporative Emission (EVAP) canister purge regulator valve - N80- ⇒ [Page 24-107](#) .

Activating the Secondary Air Injection (AIR) solenoid valve

- Press →button.

Output Diagnostic Test Mode (DTM) →

Secondary Air Injection solenoid valve



Indicated on display

- ◆ This valve is activated for approx. 1 minute (clicks), unless →button is pressed first to switch to the next actuator.

If valve is not activated (does not click):

- Check Secondary Air Injection (AIR) solenoid valve -N112-:

⇒ [Repair Manual, 1.8 Liter 4-Cyl. 5V Turbo Engine Mechanical, Engine Code\(s\): AEB, ATW, Repair Group 26; Checking Secondary Air Injection \(AIR\) system](#)

Activating the Secondary Air Injection (AIR) pump relay

- Press → button.

Output Diagnostic Test Mode (DTM) →
Secondary Air Injection pump relay



Indicated on display

- ◆ The Secondary Air Injection (AIR) pump relay -J299- (in 3-socket relay carrier in the E-box, at left in the plenum chamber , position 2) switches the Secondary Air Injection (AIR) pump motor -V101- on for approx. 1 minute and off in intervals unless the next actuator is selected first by pressing the → button.

If the Secondary Air Injection (AIR) pump motor does not start up in intervals:

- Check Secondary Air Injection (AIR) pump relay -J299-:

⇒ [Repair Manual, 1.8 Liter 4-Cyl. 5V Turbo Engine Mechanical, Engine Code\(s\): AEB, ATW, Repair Group 26; Checking Secondary Air Injection \(AIR\) system](#)

Activating wastegate bypass regulator valve -N75-

- Press → button.

Output Diagnostic Test Mode (DTM) →
Wastegate bypass regulator valve -N75-



Indicated on display

- ◆ This valve is activated for approx. 1 minute (clicks), unless → button is pressed first to switch to the next actuator.

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If valve is not activated (does not click):

⇒ [Repair Manual, 1.8 Liter 4-Cyl. 5V Turbo Engine Mechanical, Engine Code\(s\): AEB, ATW, Repair Group 21, Charge air system with turbocharger](#)

Turbocharger boost pressure recirculation valve, activating

- Press → button.



Indicated on display

◆ This valve is activated for approx. 1 minute (clicks), unless → button is pressed first to switch to the next actuator.

If valve is not activated (does not click):

⇒ [Repair Manual, 1.8 Liter 4-Cyl. 5V Turbo Engine Mechanical, Engine Code\(s\): AEB, ATW, Repair Group 21, Charge air system with turbocharger](#)

Activating Leak Detection Pump (diagnostic pump for tank ventilation system)

- Press → button.



Indicated on display

Output Diagnostic Test Mode (DTM) →
Recirculating valve for turbocharger -N249-

Output Diagnostic Test Mode (DTM) →

Leak Detection Pump tank vent. system

- ◆ The change-over valve in the LDP is activated for approximately 1 minute (clicks), unless → button is pressed first to switch to the next actuator.

Note:

The click can be heard by listening near the rear left wheelhousing.

If valve is not activated (does not click):

⇒ [Repair Manual, Fuel Supply System, Repair Group 20; components of the EVAP canister system, servicing; Leak Detection Pump \(LDP\) - V144-, checking.](#)

Activating fuel injectors

Note:

Fuel injectors are activated according to ignition sequence: Cyl. 1, Cyl. 3, Cyl 4, Cyl. 2.

- Press → button.

⬅ Indicated on display

- Press → button.

⬅ Indicated on display

◆ Fuel injector must click 5 times after → button is pressed.

If injector does not click:

- Check fuel injectors ⇒ [Page 24-38](#) .

- Press → button.

Output Diagnostic Test Mode (DTM) →

Cylinder 1 fuel injector -N30-

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Cylinder 1 fuel injector -N30-

Output Diagnostic Test Mode (DTM) →
Cylinder 3 fuel injector -N32-

◀ Indicated on display

Output Diagnostic Test Mode (DTM) →
Cylinder 3 fuel injector -N32-

- Press →button.
- ↩ Indicated on display
 - ◆ Fuel injector must click 5 times after →button is pressed.
- If injector does not click:
 - Check fuel injectors ⇒ [Page 24-38](#) .
 - Press →button.

Output Diagnostic Test Mode (DTM) →
Cylinder 4 fuel injector -N33-

- ↩ Indicated on display
 - Press →button.
- ↩ Indicated on display
 - ◆ Fuel injector must click 5 times after →button is pressed.

Output Diagnostic Test Mode (DTM) →
Cylinder 4 fuel injector -N33-

- If injector does not click:
 - Check fuel injectors ⇒ [Page 24-38](#) .
 - Press →button.

Output Diagnostic Test Mode (DTM) →
Cylinder 2 fuel injector -N31-

- ↩ Indicated on display
 - Press →button.

Output Diagnostic Test Mode (DTM) →
Cylinder 2 fuel injector -N31-

← Indicated on display

- ◆ Fuel injector must click 5 times after →button is pressed.

If injector does not click:

- Check fuel injectors ⇒ [Page 24-38](#) .
- Press →button after activation of last fuel injector (cylinder 2).

Output Diagnostic Test Mode (DTM) →
DONE

← Indicated on display

- Press →button.

Rapid data transfer HELP
Select function XX

← Indicated on display (function selection)

Note:

Before re-initiating output Diagnostic Test Mode (DTM), engine must be started and the ignition must be switched off and on again.