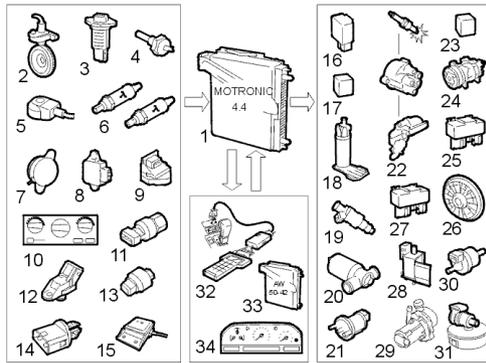


# Engine management system Motronic 4.4 for the B5254T engine

## General details



### 1. Motronic 4.4 Engine Control Module

Input signals:	Control functions:	Bi-directional signals:
2. Engine speed (RPM) sensor	16. System relay	32. Data Link Connector (DLC)
3. Mass air flow (MAF) sensor	17. Fuel pump (FP) relay	33. AW 50-42 transmission control module (TCM)
4. Engine coolant temperature (ECT) sensor	18. Fuel pump	34. Combined instrument panel
5. Knock sensors (KS) (x2)	19. Injectors (x5)	
6. Heated oxygen sensors (HO2S)	20. Idle air control (IAC) valve	
7. Camshaft position (CMP) sensor	21. Turbocharger (TC) control valve	
8. Throttle position (TP) sensor	22. Ignition discharge module (IDM) / ignition coil	
9. Accelerometer	23. Air conditioning (A/C) relay	
10. Climate control system	24. Air conditioning (A/C) compressor	
11. Air conditioning (A/C) pressure sensor	25. Engine cooling fan (FC) relay	
12. Atmospheric pressure sensor	26. Engine cooling fan (FC)	
13. Pressure switch (Pressostat)	27. Pulsed secondary air injection system (PAIR) pump relay	
14. Outside temperature sensor	28. Solenoid valve	
15. Fuel tank pressure sensor	Pulsed secondary air injection (PAIR) pump system	
	29. Air pump	
	30. Canister purge (CP) valve	
	31. EVAP canister shut-off valve	

The Motronic 4.4 for the B5254T has the following new features compared with the previous Motronic 4.4 system:

atmospheric pressure sensor

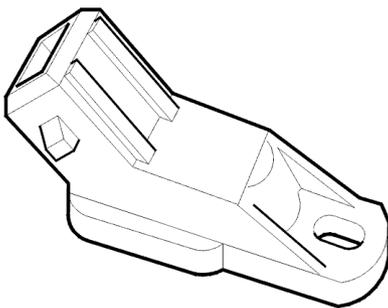
- \* atmospheric pressure sensor
- \* outside temperature sensor (USA / Canada only)
- \* the rear heated oxygen sensor (HO2S) has been moved to directly behind the first monolith in the three-way catalytic converter (TWC)
- \* improved evaporative emission (EVAP) system to ensure effective venting of the EVAP canister
- \* the "non-return" fuel system has been adapted for turbocharged engines and its pressure regulator has been moved to above the steering gear on the right-hand side. The hoses are routed differently

**The Motronic 4.4 is an electronic engine management system which controls:**

- \* fuel injection
- \* ignition
- \* idling speed
- \* turbocharger (TC) boost pressure
- \* engine cooling fan (FC)
- \* EVAP system
- \* Air conditioning (A/C) system
- \* Pulsed secondary air injection system (PAIR).

For further information about the Motronic 4.4 for the B5254T, [System overview](#) , Service Manual for the Motronic 4.4 engine management system 850 1997–.

**Atmospheric pressure sensor**



One of the new Motronic 4.4 sensors on the B5254T, is the atmospheric pressure sensor. The atmospheric pressure sensor is located by the right hood catch and provides information about air pressure to the engine control module (ECM). It provides the engine control module (ECM) with the car's height above sea level.

**The sensor signals affect the control of:**

- \* boost pressure at high altitude
- \* injection time when starting at high altitude.

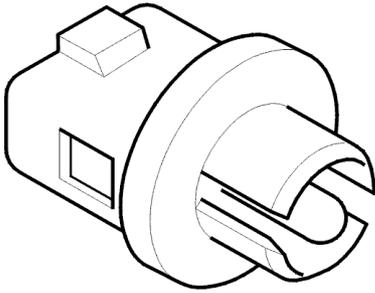
**At heights over 2400 m above sea level the following diagnostic functions are disabled:**

- \* leak diagnostic
- \* pulsed secondary air injection system (PAIR) diagnostic.

If the atmospheric pressure sensor signal is

missing or faulty, the engine control module (ECM) adopts a substitute value.

### **Outside temperature sensor (USA / Canada only)**



The other new sensor is the outside temperature sensor.

The outside temperature sensor is located under the bumper on the left-hand side on a double bracket together with the outside temperature sensor for the combined instrument panel. The outside temperature sensor supplies the engine control module (ECM) with a signal describing the outside temperature.

This signal is used to disable certain diagnostic functions when the temperature is below  $-7^{\circ}\text{C}$ .

#### **The diagnostic functions which are disabled are:**

- \* leak diagnostic
- \* pulsed secondary air injection system (PAIR) diagnostic
- \* misfire diagnostic during starting
- \* boost pressure control diagnostic.

If the outside temperature sensor signal is missing or faulty the engine control module (ECM) adopts a substitute value.