

**SERVICE INFORMATION**

Bulletin Nbr: 440-2220  
 Date:.....Februari 2000  
 Market: US, CA

**Common automatic transmission faults**

**Cars affected**

Saab 9-3, M98-99 with automatic transmission.

**Background**

1. DTC P1830 generated, (transmission shifting function faulty).

**Symptom:** The CHECK GEARBOX lamp comes on when braking heavily while turning right. The CHECK GEARBOX lamp comes on when starting from cold at temperatures lower than -20°.

**Cause:** DTC P1830 is generated when the difference between the normal gear ratio of the input and output shafts exceeds 10% (gearbox slip). This usually happens when the transmission fluid level is too low. The fluid pump is therefore drawing in air, which results in the pressure in the system being too low.

2. DTC P0741 generated, (lock-up function faulty). Only applies to cars with the Motronic engine management system.

**Symptom:** CHECK GEARBOX lamp comes on and transmission goes into "limp-home" mode.

**Cause:** The ignition coil in cars with the Motronic engine management system can produce high voltage surges in the wiring harness. The Motronic control module interprets the voltage surge as changes in the engine speed. The cause of the voltage surges can be insufficient conductivity in the cable, bad grounding of the gearbox to the body or bad grounding of the Motronic control module to the body. Normal fault criteria for the DTCs are that the difference between the engine speed and input speed in the gearbox is greater than 100 rpm for 10 seconds.

3. DTC P0705 generated (Gear selector position sensor, faulty signal).

**Symptom:** CHECK GEARBOX lamp comes on and transmission goes to "limp-home" mode. The fault arises intermittently in extremely cold or extremely hot temperatures.

**Cause:** The transmission control module receives a 12V signal from the four contacts in the gear selector position sensor. At least 2 contacts are active in all gear positions. If the control module does not receive a 12V signal from 2 of the contacts, a DTC will be generated. The DTC is generated if the fault is present for longer than 0.5 seconds. This applies to M98. For M99, the DTC is not generated until after 5 seconds.

**Parts required**

Dexron III, Mineral based fluid ATF fluid Texaco Texamatic US TL 1863, EU7045.

**Diagnostic procedure**

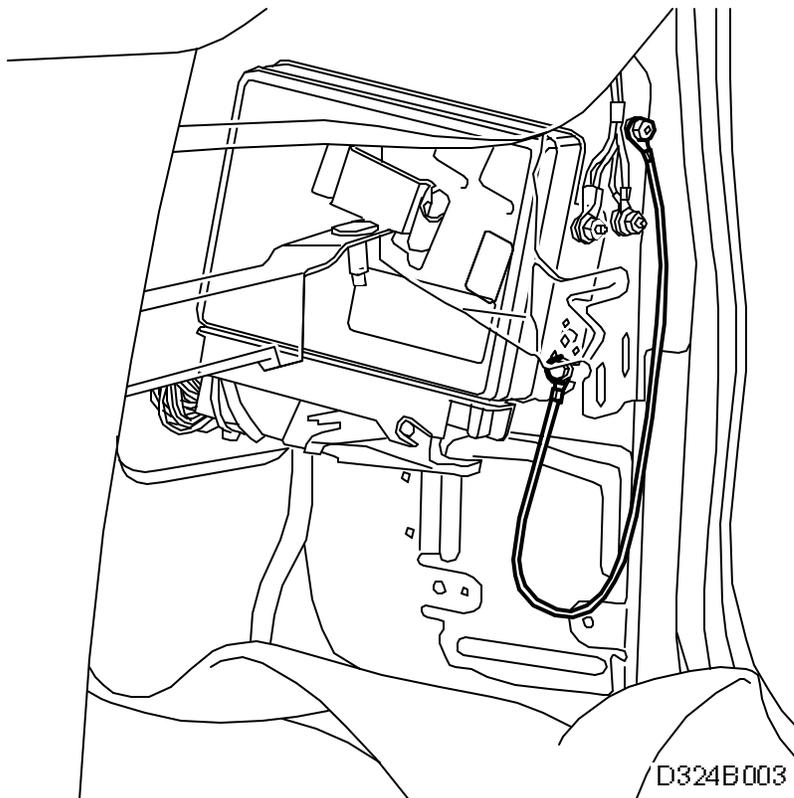
1. **DTC P1830**

Check using Tech2, Read value in TCM, the transmission fluid level at normal operating temperature (80°C). The fluid level should be at MAX. If necessary, top up with mineral-based Dexron III transmission fluid. See WIS, Transmission, Automatic transmission, Fault diagnosis, diagnostic trouble codes, P1830 for other fault diagnosis for this DTC. Clear fault codes after carrying out procedure.

2. **DTC P0741**

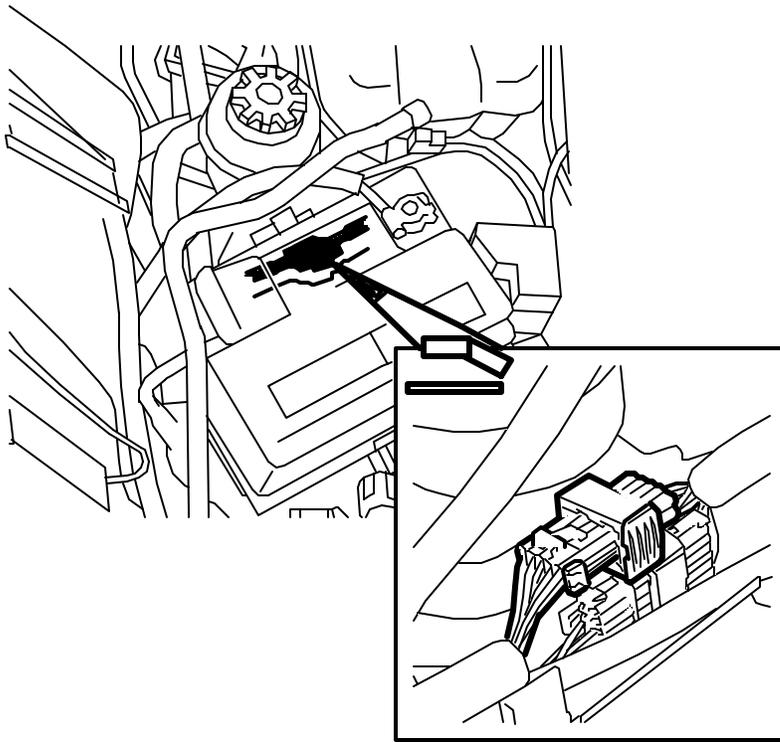
Check using Tech 2, Read value TCM, if the signal for the idling speed varies between 900 and 1600 rpm, observe the curve on the diagnostic tool display. If there is a variation, improve the grounding to the Motronic control module and gearbox. The control module is grounded to the holder that is attached to the bodywork. The holder is painted, which can be the cause of the bad grounding.

In order to improve the grounding, proceed as follows: Make a ground cable 2.5 mm<sup>2</sup>, approx. 20 cm long. Connect the cable between the nut in the corner of the control module and the A-pillar grounding point G34P, put on a serrated lock washer. See illustration. Clear DTC.



3. **DTC P0705**

- The connectors H10-1 and H10-3 are located under the battery tray, which means they are more exposed to corrosion. Clean using electronic cleaning fluid part no. 30 09 461 and then spray with Kontakt 61, part no. 30 04 520.



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- Change to a new gear selector position sensor, see WIS, Transmission, Automatic transmission, Adjustment/replacement, Gear selector position sensor.

**Warranty/Time information**

**Procedure 1 - DTC P1830**

Object code: 44000

Fault/Reason code: 76

Location code: 09

Warranty Type: 01

Repair/Action code: 08

Labour Operation: 12410 = 0.4 h

**Procedure 2 - DTC P0741**

Object code: 44531

Fault/Reason code: 631

Location code: 09

Warranty Type: 01

Repair/Action code: 05

Labour Operation: 12410 = 0.4 h

Additional time for extra ground cable: 0.2 h

**Procedure 3 - DTC P0705**

Object code: 36439

Fault/Reason code: 63

Location code: 09

Warranty Type: 01

Repair/Action code: 01

Labour Operation: 12410 = 0.4 h

36439 = 0.6 h