Electronic Stability Program (ESP) - Diagnostic Trouble Code (DTC) Memory

Preparation for DTC Readout

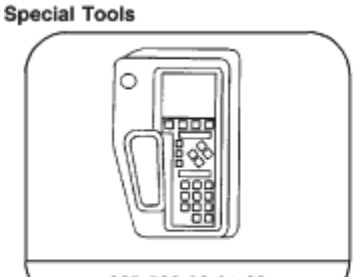
WARNING!
Life threatening injures possible due to vehicle slipping or toppling off while on lift.
Prior to lift vehicle completely (wheels still in contact with floor), ensure that the vehicle is centered within the lift columns and lift arm supports are correctly placed unto the vehicle contact points.

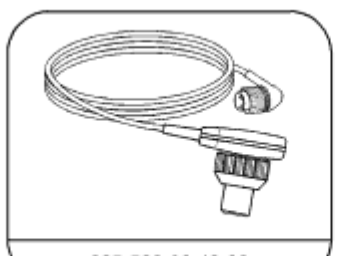
Control Module Adaption:
After the swap of the ESP/SPS/BAS or ESP/BAS control module (N47-5), it is important to perform the adaption procedure, since the control module must learn the values for the steering ratio. See HHT menu.
Additionally, after replacing either the ESP/SPS control module (N47-5) or the brake booster (A7/7), it is absolutely necessary to perform an adaption of the ESP/SPS control module (N47-5) as well.
The ESP/SPS control module (N47-5) has to learn the values for the BAS solenoid valve (A7/7y1), see HHT menu.
1. Review: ☐ **11**, ☐ **21**, ☐ **22**, ☐ **23** (connector connections).
2. Connect Hand-Held Tester (HHT) to data link connector (X11/4) according to connection diagram (see section 0) and read out DTC memory.
3. Ignition: **ON**

The BAS control module is integrated into the ESP control module.
Read out DTC memory for the BAS, ETS, ME and ETC systems.

The replacement or swap of the **ABS Lateral Acceleration sensor (B43)** and/or the **Rotating Speed Sensor for ESP (B45), requires** that a driving test is to be performed, see ☐ **11**

Special Tools


965 589 00 01 00
Hand-Held-Tester


965 589 00 40 00
Test cable

DTC	Possible cause	Test step/Remedy 1)
-	No fault in system	In case of complaint: ☐ **23** (entire test).
C1000 ESP/BAS	ESP/BAS control module (N47-5) 2)	N47-5
C1010 ESP/BAS	Battery voltage too low	☐ **23** ⇒ **1.0**
C1012 ESP/BAS	Battery voltage too high	☐ **23** ⇒ **1.0**
C1020 ESP	CAN communication overall faulty	Check version coding, ☐ **23** ⇒ **31.0**
C1022 ESP/BAS	CAN communication with engine control module (ME-SFI) (N3/10) interrupted.	Check version coding, Read out DTC's from (N3/10), ☐ **23** ⇒ **31.0**
C1024 ESP	CAN communication with transmission control module (N15/3) interrupted.	Read out DTC's from (N15/3).
C1025 BAS **C1029 ETS**	CAN communication with BAS control module (N47-5) interrupted 2).	N47-5
C1030 ESP	CAN communication with transfer case control module (N78) interrupted.	Read out DTC's from (N78).
C1032 ESP	CAN communication with instrument cluster (A1) interrupted.	Read-out DTC memory for instrument cluster (A1).
C1100 ESP	Left front axle VSS sensor (L6/1), open circuit Left front axle VSS sensor (L6/1), loose connection Left front axle VSS sensor (L6/1), implausible 2)	☐ **23** ⇒ **9.0**
C1101 ESP	Right front axle VSS sensor (L6/2), open circuit Right front axle VSS sensor (L6/2), loose connection Right front axle VSS sensor (L6/2), implausible 2)	☐ **23** ⇒ **10.0**

C1102 ESP	Left rear axle VSS sensor (L6/3), open circuit Left rear axle VSS sensor (L6/3), loose connection Left rear axle VSS sensor (L6/3), implausible 2)	☐ **23** ⇒ **11.0**
C1103 ESP	Right rear axle VSS sensor (L6/4), open circuit Right rear axle VSS sensor (L6/4), loose connection Right rear axle VSS sensor (L6/4), implausible 2)	☐ **23** ⇒ **12.0**
C1120 ESP	Rotationing speed sensor for ESP (B45), Yaw Rate Wiring: Signal, open circuit/short circuit Wiring: Reference, open circuit/short circuit	☐ **23** ⇒ **28.0**
C1140 ESP	Steering angle sensor (N49), Initialization, open circuit/short circuit	Turn steering wheel from lock to lock stop, in order to perform intialization. ☐ **23** ⇒ **4.0**
C1141 ESP C1179,1172,1173 see DTB	ESP brake pressure sensor 1 (~~N34/1~~) or B34/1 ESP brake pressure sensor 2 (~~N34/2~~) B34/2 Open circuit/short circuit, implausible 2)	☐ **23** ⇒ **27.0**
C1142 ESP **C1145,85,86,87 see DTB**	ABS lateral acceleration sensor (B43) Open circuit/short circuit, voltage supply, implausible 2)	☐ **23** ⇒ **26.0**
C1200 ESP	Stop lamp switch (4-pole) (S9/1) Plausibility	☐ **23** ⇒ **6.0**
C1201 BAS	Release switch (BAS) (A7/7s1) Open circuit/short circuit	Readout HHT Actual values, Wiring, A7/7s1
C1202 BAS	Release switch (BAS) (A7/7s1) Plausibility	Readout HHT Actual values, Wiring, A7/7s1
C1203 BAS	Release switch (BAS) (A7/7s1) Redundency	Readout HHT Actual values, Wiring, A7/7s1
C1204 BAS	Membrane travel sensor (BAS) (A7/7b1) Open circuit/short circuit	Readout HHT Actual values, ☐ **23** ⇒ **29.0**
C1205 BAS	Membrane travel sensor (BAS) (A7/7b1) Plausibility	Readout HHT Actual values, ☐ **23** ⇒ **29.0**
C1206 BAS	Membrane travel sensor (BAS) (A7/7b1) Membrane speed	Readout HHT Actual values, ☐ **23** ⇒ **29.0**
C1207 BAS	Stop lamp switch (4-pole) (S9/1) Plausibility	☐ **23** ⇒ **6.0**
C1210 ESP	Brake fluid level switch (S11) open/short circuit	Readout HHT Actual values
C1300 ESP	Left front axle solenoid valve (hold) (A7/3y6), short/open circuit	☐ **23** ⇒ **14.0**
C1301 ESP	Left front axle solenoid valve (release) (A7/3y7), short/open circuit	☐ **23** ⇒ **15.0**
C1302 ESP	Right front axle solenoid valve (hold) (A7/3y8), short/open circuit	☐ **23** ⇒ **16.0**
C1303 ESP	Right front axle solenoid valve (release) (A7/3y9), short/open circuit	☐ **23** ⇒ **17.0**
C1304 ESP	Left rear axle solenoid valve (hold) (A7/3y10), short/open circuit	☐ **23** ⇒ **18.0**
C1305 ESP	Left rear axle solenoid valve (release) (A7/3y11), short/open circuit	☐ **23** ⇒ **19.0**
C1306 ESP	Right rear axle solenoid valve (hold) (A7/3y12), short/open circuit	☐ **23** ⇒ **20.0**
C1307 ESP	Right rear axle solenoid valve (release) (A7/3y13), short/open circuit	☐ **23** ⇒ **21.0**
C1314 ESP	Solenoid valves, voltage supply, open or short circuit of wiring	☐ **23** ⇒ **1.0**, **13.0**
C1316 ESP	Pressure circuit 1 switchover solenoid valve (A7/3y24), open/short circuit	☐ **23** ⇒ **24.0**
C1317 ESP	Pressure circuit 1 vacuum solenoid valve (A7/3y26), open/short circuit	☐ **23** ⇒ **22.0**
C1318 ESP	Pressure circuit 2 switchover solenoid valve (A7/3y25), open/short circuit	☐ **23** ⇒ **25.0**
C1319 ESP C1320 see pdf code	Pressure circuit 2 vacuum solenoid valve (A7/3y27), open/short circuit	☐ **23** ⇒ **23.0**

Brake lt. switch is internal in the booster 2003 and up ML's

C1332 BAS	Solenoid valve (BAS) (A7/7y1) 2), open/short circuit	☐ **23** ⇒ **30.0**
C1401	High pressure return pump (A7/3m1) short/open circuit, will not shut off, or shuts off too soon.	☐ **23** ⇒ **3.0**
C1511 BAS	BAS version coding improper.	Perform version coding using HHT.
C1512 ESP	Brakes overheated	Brakes were momentarily overloaded, erase DTC.
C1528 ESP	ESP stop lamp suppression (F1k6) 2)	☐ **23** ⇒ **5.0**
C1529 ESP	Pressurization of system via solenoid valve (A7/7y1) for BAS not possible 2).	Readout DTC for BAS control module, ☐ **23** ⇒ **30.0**

1) Observe Preparation for Test, see ☐ **22**.
2) After the swap of the ESP/SPS/BAS or ESP/BAS control module (N47-5), it is important to perform the adaption procedure.