Diagnosis – Function Test

Preparation for DTC Readout

1. Connect Hand-Held Tester (HHT) to data link connector (X11/4) according to connection diagram (see section 0).
2. Ignition: **ON**
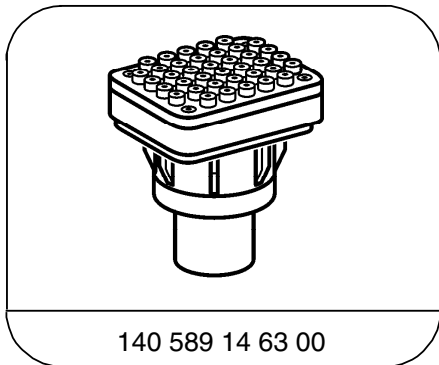3. Read out DTC memory for the BAS,ETS, ME and ETC systems.

⚠️

DTC readout is not possible using an impulse counter scan tool.

In case of complaint, and no fault is present in system, perform   23 in its entirety.

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It is important to read out the DTC's from the BAS system **first,** since the DTC's from the other systems are stored in BAS during the diagnostic process.

Special Tools
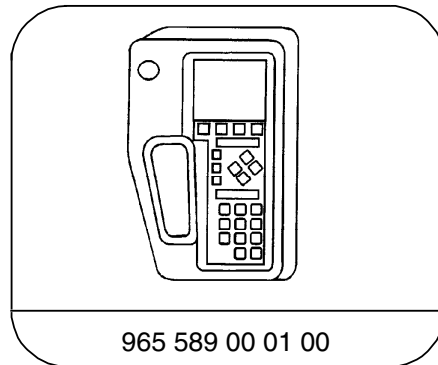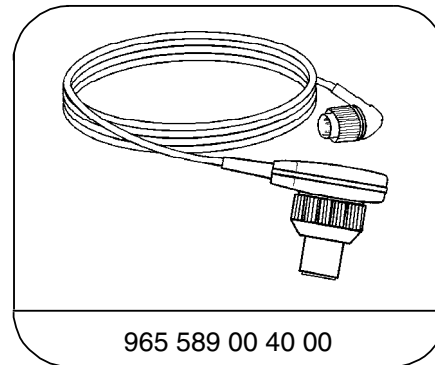
140 589 14 63 00	965 589 00 01 00	965 589 00 40 00
Adapter	Hand-Held-Tester	Test cable

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC 📟	Possible cause	Test step/Remedy [1]
C 1000	ESP/SPS control module (N47-5)	Replace control module.
C 1010	Battery voltage too low, circuit 87	23 ⇒ 1.0
C 1011	ASR/ETS/ESP hydraulic unit solenoid valve voltage supply, open/short circuit	23 ⇒ 2.0 23 ⇒ 22.0
C 1020	CAN communication faulty in general	23 ⇒ 30.0 Check version coding of ME control module, using HHT. Check version coding of ETC control module, using HHT.
C 1022	CAN communication with engine control module (ME-SFI, N30/10) or right engine control module (ME-SFI, N3/12), interrupted	23 ⇒ 30.0 Read out DTC (ME-SFI) memory, see DM, Engines, Vol. 4, section 9 12. Check version coding of ME control module, using HHT.
C 1023	CAN communication with left engine control module (ME-SFI, N3/11), interrupted	23 ⇒ 30.0 Read out DTC (ME-SFI) memory, see DM, Engines, Vol. 4, section 9 12. Check version coding of ME control module, using HHT.

[1]   Observe Preparation for Test, see   22.

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC 📟	Possible cause	Test step/Remedy [1]
⊏ 1024	CAN communication with transmission control module (N15/3), interrupted	Read out DTC (ETC [722.6]) memory , see DM, C&D, Vol. 1, section 2.3 12. Check version coding of ME control module, using HHT.
⊏ 1100	Left front axle VSS sensor (L6/1), open circuit Left front axle VSS sensor (L6/1), loose contact Left front axle VSS sensor (L6/1), implausible [2]	23 ⇒ 13.0
⊏ 1101	Right front axle VSS sensor (L6/2), open circuit Right front axle VSS sensor (L6/2), loose contact Right front axle VSS sensor (L6/2), implausible [2]	23 ⇒ 15.0
⊏ 1102	Left rear axle VSS sensor (L6/3), open circuit Left rear axle VSS sensor (L6/3), loose contact Left rear axle VSS sensor (L6/3), implausible [2]	23 ⇒ 17.0
⊏ 1103	Right rear axle VSS sensor (L6/4), open circuit Right rear axle VSS sensor (L6/4), loose contact Right rear axle VSS sensor (L6/4), implausible [2]	23 ⇒ 19.0
⊏ 1120	ESP yaw sensor (N64) signal wire, open/short circuit ESP yaw sensor (N64) reference wire, open/short circuit	23 ⇒ 28.0
⊏ 1140	Steering angle sensor (N49), open/short circuit Steering angle sensor (N49), initialization	23 ⇒ 29.0

[1]   Observe Preparation for Test, see   22.

[2]   Rotor with incorrect tooth count, dirt accumulation on or damage to rotor, incorrect rear axle ratio, wrong wheel or tire size.
       If DTC appears only after repair work, it may be caused by applying the brakes or driving vehicle on a dynamometer, erase DTC.

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC	Possible cause	Test step/Remedy [1]
⊑ 1141	ESP brake pressure sensor (B34)	23 ⟹ 9.0 23 ⟹ 27.0
⊑ 1142	ABS lateral acceleration sensor (B24/2), open/short circuit	23 ⟹ 26.0
⊑ 1200	Stop lamp switch (4-pole) (S9/1), open/short circuit Stop lamp switch (4-pole) (S9/1), implausible	23 ⟹ 6.0
⊑ 1300	Left front axle solenoid valve (hold) (A7/3y6), open/short circuit	23 ⟹ 23.0
⊑ 1301	Left front axle solenoid valve (release) (A7/3y7), open/short circuit	23 ⟹ 23.0
⊑ 1302	Right front axle solenoid valve (hold) (A7/3y8), open/short circuit	23 ⟹ 23.0
⊑ 1303	Right front axle solenoid valve (release) (A7/3y9), open/short circuit	23 ⟹ 23.0
⊑ 1304	Left rear axle solenoid valve (hold) (A7/3y10), open/short circuit	23 ⟹ 23.0
⊑ 1305	Left rear axle solenoid valve (release) (A7/3y11), open/short circuit	23 ⟹ 23.0
⊑ 1306	Right rear axle solenoid valve (hold) (A7/3y12), open/short circuit	23 ⟹ 23.0
⊑ 1307	Right rear axle solenoid valve (release) (A7/3y13), open/short circuit	23 ⟹ 23.0
⊑ 1308	Front axle precharge solenoid valve (A7/3y16), open/short circuit	23 ⟹ 24.0
⊑ 1309	Rear axle precharge solenoid valve (A7/3y17), open/short circuit	23 ⟹ 24.0
⊑ 1310	Front axle switchover valve (A7/3y18), open/short circuit	23 ⟹ 24.0

[1]   Observe Preparation for Test, see   22.

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC	Possible cause	Test step/Remedy [1]
C 1311	Rear axle switchover valve (A7/3y19), open/short circuit	23 ⟹ 24.0
C 1312	Master brake cylinder switchover valve (Y61)	23 ⟹ 8.0
C 1313	ASR/ETS/ESP hydraulic unit, solenoid valve relay (A7/3k1)	Replace control module (N47-5)
C 1400	ASR/ESP charging pump (M15), open/short circuit	23 ⟹ 9.0
C 1401	ASR/ETS/ESP hydraulic unit, high-pressure/return pump (A7/3m1), open/short circuit ASR/ETS/ESP hydraulic unit, high-pressure/return pump (A7/3m1), does not turn off	23 ⟹ 10.0 23 ⟹ 11.0
C 1500	VSS (L6/1, L6/2, L6/3, L6/4) implausible [2]	23 ⟹ 13.0, 15.0, 17.0, 19.0
C 1501	SPS P-valve (Y10)	23 ⟹ 12.0
C 1503	Pressure transfer piston unit	Check condition of rear brake pads, Pressure transfer piston unit.

C 1504	System has turned off	Steering angle sensor (N49) not initialized
		  23 ⟹ 29.0
		Low voltage to ESP yaw rate sensor (N64)
		  23 ⟹ 28.0

[1]   Observe Preparation for Test, see   22.

[2]   Rotor with incorrect tooth count, dirt accumulation on or damage to rotor, incorrect rear axle ratio, wrong wheel or tire size.
       If DTC appears only after repair work, it may be caused by applying the brakes or driving vehicle on a dynamometer, erase DTC.