

## 9.2 Traction Systems (ASR, ETS)

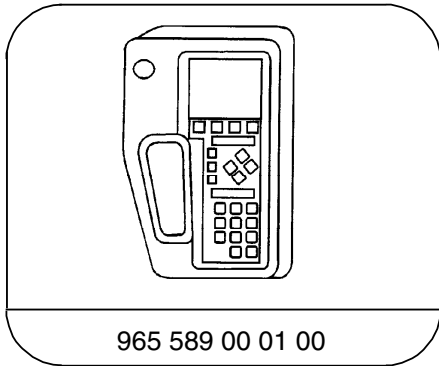
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### Diagnosis - Diagnostic Trouble Code (DTC) Memory

#### Preparation for DTC Readout

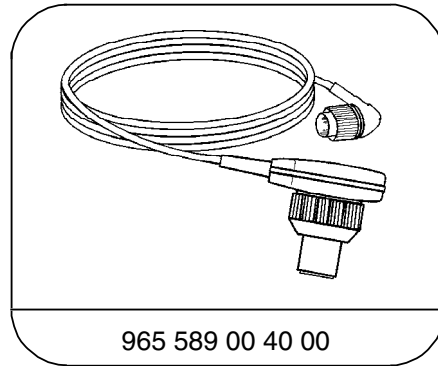
1. Connect Hand-Held Tester (HHT) to data link connector (X11/4) according to connection diagram (see section 0).
2. Ignition: **ON**
3. Read out DTC memory for control modules.

#### Special Tools



965 589 00 01 00

Hand-Held-Tester




965 589 00 40 00

Test cable

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DTC 	Possible cause	Test step/Remedy <sup>1)</sup>
–	No fault in system	In case of complaint: 23 (entire test)
002	ASR/SPS (N47-1) or ETS/SPS (N47-2) control module	Replace control module.
003	Left front axle VSS sensor (L6/1), open circuit	23 ⇒ 13.0
004	Right front axle VSS sensor (L6/2), open circuit	23 ⇒ 15.0
005	Left rear axle VSS sensor (L6/3), open circuit	23 ⇒ 17.0
006	Right rear axle VSS sensor (L6/4), open circuit	23 ⇒ 19.0
007	Left front axle VSS sensor (L6/1), implausible <sup>2)</sup>	23 ⇒ 13.0
008	Right front axle VSS sensor (L6/2), implausible <sup>2)</sup>	23 ⇒ 15.0
009	Left rear axle VSS sensor (L6/3), implausible <sup>2)</sup>	23 ⇒ 17.0
010	Right rear axle VSS sensor (L6/4), implausible <sup>2)</sup>	23 ⇒ 19.0
011	VSS (L6/1, L6/2, L6/3, L6/4), implausible <sup>2)</sup>	23 ⇒ 13.0, 15.0, 17.0, 19.0 Visually inspect.
012	ASR/ETS hydraulic unit, solenoid valve relay (A7/3k1)	23 ⇒ 8.0

<sup>1)</sup> Observe Preparation for Test, see 22.

<sup>2)</sup> Rotor with incorrect tooth count, dirt accumulation on or damaged rotor, incorrect rear axle ratio, wrong wheel or tire size.  
If DTC appears only after repair work, it was caused by applying the brakes or driving vehicle on a dynamometer, erase DTC.

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DTC 	Possible cause	Test step/Remedy <sup>1)</sup>
013	ASR/ETS hydraulic unit, left front axle solenoid valve (hold) (A7/3y6)	23 ⇒ 21.0
014	ASR/ETS hydraulic unit, left front axle solenoid valve (release) (A7/3y7)	23 ⇒ 22.0
015	ASR/ETS hydraulic unit, right front axle solenoid valve (hold) (A7/3y8)	23 ⇒ 23.0
016	ASR/ETS hydraulic unit, right front axle solenoid valve (release) (A7/3y9)	23 ⇒ 24.0
017	ASR/ETS hydraulic unit, left rear axle solenoid valve (hold) (A7/3y10)	23 ⇒ 25.0
018	ASR/ETS hydraulic unit, left rear axle solenoid valve (release) (A7/3y11)	23 ⇒ 26.0
019	ASR/ETS hydraulic unit, right rear axle solenoid valve (hold) (A7/3y12)	23 ⇒ 27.0
020	ASR/ETS hydraulic unit, right rear axle solenoid valve (release) (A7/3y13)	23 ⇒ 28.0
021	ASR/ETS hydraulic unit, switchover/solenoid valve (A7/3y5)	23 ⇒ 29.0
022	ASR/ETS hydraulic unit, inlet solenoid valve (A7/3y15)	23 ⇒ 30.0
023	<b>ASR only:</b> ASR system pressure too low	ASR hydraulic unit (A7/3)
024	ASR/ETS hydraulic unit, high-pressure/return pump relay (A7/3k2)	23 ⇒ 9.0 High-pressure/return pump (A7/3m1)
027	Stop lamp switch (S9/1)	23 ⇒ 11.0
028	Battery voltage too low, circuit 87	23 ⇒ 1.0

<sup>1)</sup> Observe Preparation for Test, see 22.

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DTC 	Possible cause	Test step/Remedy <sup>1)</sup>
029	<b>ETS only:</b> Circuit 30, voltage supply	23 ⇒ 2.0
030	<b>ASR only:</b> CAN communication with EA/CC/ISC control module (N4/1), faulty	23 ⇒ 33.0 Read out DTC (N4/1), see DM, Engines, Vol. 3, section 6.4 11.
031	<b>ASR only:</b> CAN communication with engine control module (N3/4), faulty	23 ⇒ 33.0, Read out DTC (N3/4), see DM, Engines, Vol. 2, section 1.1 11.
033	<b>ASR only:</b> CAN communication, faulty in general	23 ⇒ 33.0, Read out DTC (N4/1), see DM, Engines, Vol. 3, section 6.4 11 (ASR). Read out DTC (N3/4), see DM, Engines, Vol. 2, section 1.1 11 (HFM-SFI).
034	<b>ETS only:</b> Brakes overheated	Brakes were momentarily overloaded, erase DTC.
038	<b>ETS only:</b> ETS/SPS control module (N47/2) not coded	Input code data into control module with HHT.
039	<b>210 only:</b> ASR/ SPS (N47-1) or ETS/SPS (N47-2) control module	N47-1 or N47-2
041	<b>210 only:</b> ASR/ SPS (N47-1) or ETS/SPS (N47-2) control module	N47-1 or N47-2

<sup>1)</sup> Observe Preparation for Test, see 22.