

Diagnosis - Diagnostic Trouble Code (DTC) Memory

Preparation for DTC Readout

1. Connect impulse counter scan tool or Hand-Held Tester (HHT) to data link connector (X11/4) according to connection diagram (see section 0).

Note:

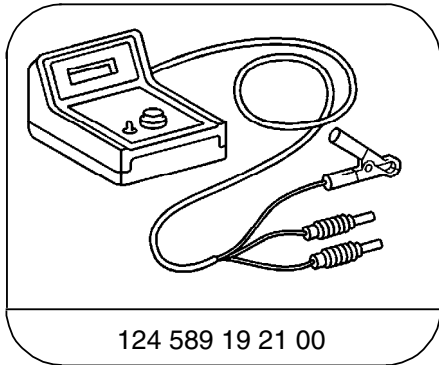
Connect yellow wire from impulse counter scan tool to:

- | | |
|---|----------|
| ASR/SPS or ETS/SPS control module (N47-1, N47-2): | socket 6 |
| EA/CC/ISC control module (N4/1): | socket 7 |
| Base module (N16/1) | socket 8 |
| Engine control module (N3/4): | socket 4 |

- | | |
|---|-----------|
| LH-SFI or right LH-SFI control module (N3/1, N3/3): | socket 4 |
| Left LH-SFI control module (N3/2) | socket 5 |
| DI or right DI control module (N1/3, N1/5) | socket 17 |
| Left DI control module (N1/4) | socket 18 |

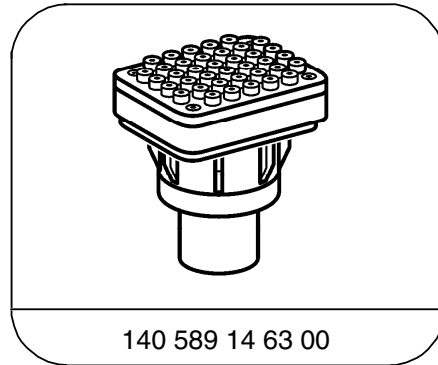
2. Ignition: **ON**
3. Read out DTC memory for control modules.

Special Tools



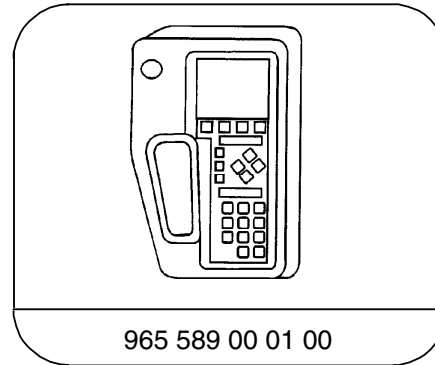
124 589 19 21 00

Pulse counter



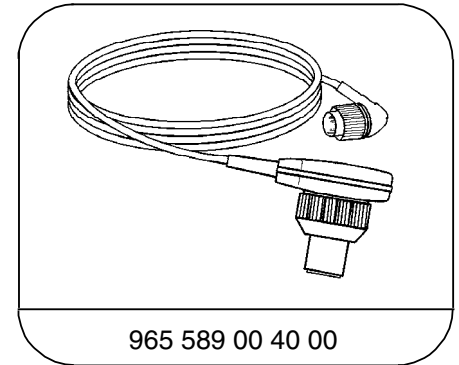
140 589 14 63 00

Adapter



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 ¹⁾
1	No fault in system	In case of complaint: 23 (entire test), Check shorting pins as per D.D. topic 42A94091
2	ASR/SPS (N47-1) or ETS/SPS (N47-2) control module	Replace control module.
3	Left front axle VSS sensor (L6/1), open circuit	23 ⇒ 13.0
4	Right front axle VSS sensor (L6/2), open circuit	23 ⇒ 15.0
5	Left rear axle VSS sensor (L6/3), open circuit	23 ⇒ 17.0
6	Right rear axle VSS sensor (L6/4), open circuit	23 ⇒ 19.0
7	Left front axle VSS sensor (L6/1), implausible ²⁾	23 ⇒ 13.0
8	Right front axle VSS sensor (L6/2), implausible ²⁾	23 ⇒ 15.0
9	Left rear axle VSS sensor (L6/3), implausible ²⁾	23 ⇒ 17.0
10	Right rear axle VSS sensor (L6/4), implausible ²⁾	23 ⇒ 19.0
11	VSS (L6/1, L6/2, L6/3, L6/4), implausible ²⁾	23 ⇒ 13.0, 15.0, 17.0, 19.0 Visually inspect.
12	ASR/ETS/ESP hydraulic unit, solenoid valve relay (A7/3k1)	23 ⇒ 8.0
13	ASR/ETS/ESP hydraulic unit, left front axle solenoid valve (hold) (A7/3y6)	23 ⇒ 21.0
14	ASR/ETS/ESP hydraulic unit, left front axle solenoid valve (release) (A7/3y7)	23 ⇒ 22.0

¹⁾ Observe Preparation for Test, see 22.

²⁾ 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 ¹⁾
15	015	ASR/ETS/ESP hydraulic unit, right front axle solenoid valve (hold) (A7/3y8)	23 ⇒ 23.0
16	016	ASR/ETS/ESP hydraulic unit, right front axle solenoid valve (release) (A7/3y9)	23 ⇒ 24.0
17	017	ASR/ETS/ESP hydraulic unit, left rear axle solenoid valve (hold) (A7/3y10)	23 ⇒ 25.0
18	018	ASR/ETS/ESP hydraulic unit, left rear axle solenoid valve (release) (A7/3y11)	23 ⇒ 26.0
19	019	ASR/ETS/ESP hydraulic unit, right rear axle solenoid valve (hold) (A7/3y12)	23 ⇒ 27.0
20	020	ASR/ETS/ESP hydraulic unit, right rear axle solenoid valve (release) (A7/3y13)	23 ⇒ 28.0
21	021	ASR/ETS/ESP hydraulic unit, switchover/solenoid valve (A7/3y5)	23 ⇒ 30.0
22	022	ASR/ETS/ESP hydraulic unit, inlet solenoid valve (A7/3y15)	23 ⇒ 29.0
23	023	ASR only: ASR system pressure too low	ASR hydraulic unit (A7/3)
24	024	ASR/ETS/ESP hydraulic unit, high-pressure/return pump relay (A7/3k2)	23 ⇒ 9.0 High-pressure/return pump (A7/3m1)
27	027	Stop lamp switch (S9/1)	23 ⇒ 11.0
28	028	Battery voltage too low, circuit 87	23 ⇒ 1.0
29	029	ETS only: Circuit 30, voltage supply	23 ⇒ 2.0
30	030	ASR only: CAN data bus to EA/CC/ISC control module (N4/1) interrupted	23 ⇒ 35.0 Read out DTC, see DM, Engines, Vol. 3, sections 6.2 to 6.4 11.










¹⁾ Observe Preparation for Test, see 22.

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DTC 	Possible cause	Test step/Remedy ¹⁾
31 	ASR only: CAN communication with LH-SFI or left and right LH-SFI control modules (N3/1 or N3/2 and N3/3) faulty CAN communication with engine control module (N3/4) faulty	23 ⇒ 35.0, Read out DTC, see DM, Engines, Vol. 2, section 3.1 11, or 3.2 11 or 1.1 11.
32 	ASR only: CAN communication with DI or left and right DI control module (N1/3 or N1/4 and N1/5) faulty	23 ⇒ 35.0, Read out DTC, see DM, Engines, Vol. 2, section 5.2 or 5.3 11.
33 	ASR only: CAN communication faulty in general	23 ⇒ 35.0, Read out DTC, see DM, Engines, Vol. 3, sections 6.2 to 6.4 11 (ASR). Read out DTC, see DM, Engines, Vol. 2, sections 5.2 or 5.3 11 (DI). Read out DTC, see DM, Engines, Vol. 2, sections 3.1 or 3.2 11 (LH-SFI). Read out DTC, see DM, Engines, Vol. 2, section 1.1 11 (HFM-SFI). Read out DTC, see DM, Chassis & Drivetrain, Vol. 1, section 2.2 12 (ETC).

1) Observe Preparation for Test, see 22.

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DTC 	Possible cause	Test step/Remedy ¹⁾
34 	ETS only: Brakes overheated	Brakes were momentarily overloaded, erase DTC.
35 	Model 129.076, 140.04/05/07: Master brake cylinder switchover valve (Y61)	23 ⇒ 12.0
36 	Model 129.076, 140.04/05/07: ABS lateral accelration sensor (B24/2), open circuit	23 ⇒ 32.0
37 	Model 129.076, 140.04/05/07: ABS lateral accelration sensor (B24/2), implausible	23 ⇒ 32.0
38 	ETS only: ETS/SPS control module (N47-2) not coded	Input code data into control module with HHT.
39 	Model 140: ASR/SPS or ETS/SPS control module (N47-1 or N47-2)	Replace control module.
40 	Model 140: SPS P-valve (Y10)	23 ⇒ 31.0
41 	Model 140: ASR/SPS or ETS/SPS control module (N47-1 or N47-2)	Replace control module.

1) Observe Preparation for Test, see 22.