Diagnosis - Diagnostic Trouble Code (DTC) Memory
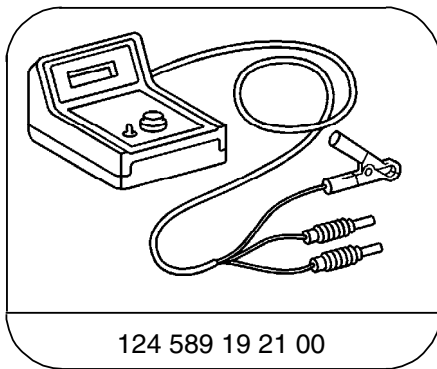
Preparation for DTC Readout

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

2. Ignition: **ON**
3. Read out DTC memory for control modules (N30/1, N4/1, N4/3).

Note:

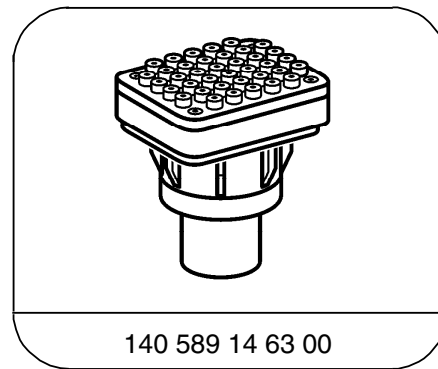Connect yellow wire from impulse counter scan tool to:

ABS/ASR control module (N30/1):	socket 6
EA/CC/ISC control module (N4/1):	socket 7
Engine control module (N3/4):	socket 4

Special Tools

124 589 19 21 00

Pulse counter

140 589 14 63 00

Adapter

Equipment

Hand-Held Tester (HHT)	See S.I. in groups 58 and 99.

Diagnosis - Diagnostic Trouble Code (DTC) Memory

Diagnostic trouble code (DTC)		Possible cause	Test step/Remedy [1]
1	—	No fault in system	In case of complaint: 23 and 33 (entire test)
2	002	ABS/ASR control module (N30/1)	Replace N30/1.
3	003	Left front axle VSS sensor (L6/1), open circuit	23 ⇒ 13.0
4	004	Right front axle VSS sensor (L6/2), open circuit	23 ⇒ 15.0
5	005	Left rear axle VSS sensor (L6/3), open circuit	23 ⇒ 17.0
6	006	Right rear axle VSS sensor (L6/4), open circuit	23 ⇒ 19.0
7	007	Left front axle VSS sensor (L6/1), implausible	23 ⇒ 13.0
8	008	Right front axle VSS sensor (L6/2), implausible	23 ⇒ 15.0
9	009	Left rear axle VSS sensor (L6/3), implausible	23 ⇒ 17.0
10	010	Right rear axle VSS sensor (L6/4), implausible	23 ⇒ 19.0
11	011	VSS (L6/1, L6/2, L6/3, L6/4), implausible [2]	23 ⇒ 13.0 23 ⇒ 15.0 23 ⇒ 17.0 23 ⇒ 19.0 Visually inspect.

[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.

Diagnosis - Diagnostic Trouble Code (DTC) Memory

Diagnostic trouble code (DTC)		Possible cause	Test step/Remedy [1]
12	012	ABS/ASR hydraulic unit, solenoid valve relay (A7/3k1)	23 $\Rightarrow$ 7.0
13	013	ABS/ASR hydraulic unit, left front axle solenoid valve (hold) (A7/3y6)	23 $\Rightarrow$ 21.0
14	014	ABS/ASR hydraulic unit, left front axle solenoid valve (release) (A7/3y7)	23 $\Rightarrow$ 22.0
15	015	ABS/ASR hydraulic unit, right front axle solenoid valve (hold) (A7/3y8)	23 $\Rightarrow$ 23.0
16	016	ABS/ASR hydraulic unit, right front axle solenoid valve (release) (A7/3y9)	23 $\Rightarrow$ 24.0
17	017	ABS/ASR hydraulic unit, left rear axle solenoid valve (hold) (A7/3y10)	23 $\Rightarrow$ 25.0
18	018	ABS/ASR hydraulic unit, left rear axle solenoid valve (release) (A7/3y11)	23 $\Rightarrow$ 26.0
19	019	ABS/ASR hydraulic unit, right rear axle solenoid valve (hold) (A7/3y12)	23 $\Rightarrow$ 27.0
20	020	ABS/ASR hydraulic unit, right rear axle solenoid valve (release) (A7/3y13)	23 $\Rightarrow$ 28.0
21	021	ABS/ASR hydraulic unit, switchover/solenoid valve (A7/3y5)	23 $\Rightarrow$ 29.0
22	022	ABS/ASR hydraulic unit, return solenoid valve (A7/3y14)	23 $\Rightarrow$ 30.0
23	023	ASR system pressure too low	23 $\Rightarrow$ 10.0, 33

[1]   Observe Preparation for Test, see   22.

Diagnosis - Diagnostic Trouble Code (DTC) Memory

Diagnostic trouble code (DTC)		Possible cause	Test step/Remedy [1]
24	024	ABS/ASR hydraulic unit, cycling module/high-pressure return pump (A7/3n1), ABS/ASR hydraulic unit, high-pressure/return pump (A7/3m1)	23 $\Rightarrow$ 8.0, 33
25	025	ASR charging pump relay module (K20)	Wiring, 23 $\Rightarrow$ 31.0, 33
26	026	Brake fluid level too low	23 $\Rightarrow$ 11.0, Check brake fluid level/ remedy cause.
27	027	Stop lamp switch (S9/1)	23 $\Rightarrow$ 9.0
28	028	Battery voltage too low	23 $\Rightarrow$ 1.0
30	030	CAN data bus to EA/CC/ISC control module (N4/1), interrupted	$\Rightarrow$ 32.0, Read out DTC memory for EA/CC/ISC control module (N4/1): see DM, Engines, Vol. 3, section 6.4 11.

[1]   Observe Preparation for Test, see   22.

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Diagnosis - Diagnostic Trouble Code (DTC) Memory

Diagnostic trouble code (DTC)		Possible cause	Test step/Remedy [1]
3I	03I	CAN data bus to Engine control module (N4/3), interrupted	⇒ 32.0, Read out DTC memory for engine control module (N3/4): see DM, Engines, Vol. 2, section 1.1, 11.
33	033	CAN data bus, interrupted	⇒ 32.0, Read out DTC memory for EA/CC/ISC control module (N4/1): see DM, Engines, Vol. 3, section 6.4, 11. Read out DTC memory for engine control module (N3/4): see DM, Engines, Vol. 2, section 1.1, 11.

[1]   Observe Preparation for Test, see   22.