

Diagnosis - Diagnostic Trouble Code (DTC) Memory

WARNING!

Life threatening injuries possible if following protective measures are not followed.

CAUTION!

Risk of severe injury, due to uneven placement of lift arms/lift arm supports, as well as the support and lifting of vehicle components, there is the possibility of the vehicle slipping while on the lift.

CAUTION!

Danger of vehicle toppling off of lift due to irregular weight distribution after the removal of components and axles.

Protective measures:

- Center vehicle (fore, aft and across) properly on both sides of the lift columns.
- When supporting components while the vehicle is on a lift, ensure that the vehicle is not lifted from the lift arms, therefore secure vehicle to the lift arms as well.
- Ensure that the lift arm supports are even and parallel to each other when lifting the vehicle.

Protective measures continued:

- Prior to lift vehicle completely (wheels still in contact with floor), ensure that the lift arm supports are correctly placed onto the vehicle contact points.
- Prior to removing the axles or components from the vehicle while on the lift, secure the vehicle to the lift arms or place sand bags inside the vehicle to ensure proper weight distribution to prevent toppling of the vehicle from the lift.
- Basically obey all the rules/guide lines regarding the lifting of vehicles as stated in the operator's manual by the lift manufacturer.

Preparation for Test:

1. Review section 12, 21, 22, 23



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 BAS solenoid valves. See HHT menu.

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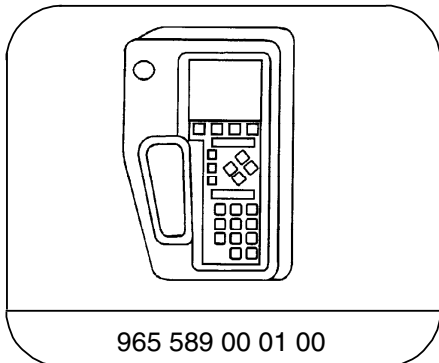
Preparation for DTC Readout

1. Review 11, 13, 20, 21, 23
2. Connect Star Diagnosis (Model 170 only), readout DTC memory,
3. For model 202, connect Hand-Held Tester (HHT) to data link connector (X11/4) according to connection diagram (review and see section 0) and read out DTC memory.
3. Ignition: **ON**



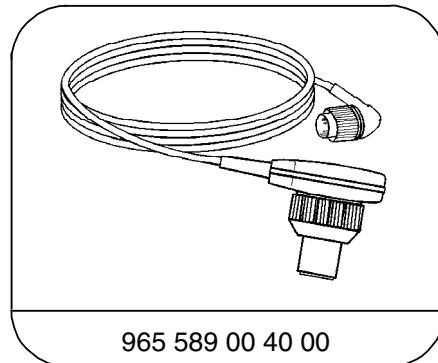
This section also applies to M.Y 2000 vehicles where ESP is standard.
 This section also applies to M.Y. 1999 vehicles where ESP was an **option**.
 The BAS control module is integrated into the ESP control module.
 Read out DTC memory for the BAS, ETS, ME and ETC systems.

Special Tools



965 589 00 01 00

Hand-Held-Tester



965 589 00 40 00

Test cable




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 BAS solenoid valves.
 See HHT menu.

Replacement/swap of ABS Lateral Acceleration Sensor (B43) and /or Rotating Speed Sensor (B45):


The Driving Test must be performed, see 11

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| DTC  | | Possible cause | Test step/Remedy ¹⁾ |
|--|---------|---|---|
| – | | No fault in system | In case of complaint: 23 (entire test). |
| ┌ 1000 | ESP/BAS | ESP/BAS control module (N47-5) or plausibility of ESP brake pressure sensors 1/2, (N34/1, N34/2) (perform control module adaption after replacing parts) | N47-5 23 ⇒ 4.0 |
| ┌ 1010 | ESP/BAS | Battery voltage too low | 23 ⇒ 1.0 |
| ┌ 1012 | ESP/BAS | Battery voltage too high | 23 ⇒ 1.0 |
| ┌ 1020 | ESP | CAN communication overall faulty, faulty protocol | 23 ⇒ 31.0 |
| ┌ 1022 | BAS | CAN communication with engine control module (ME-SFI) (N3/10) interrupted. | Check version coding (vehicle and engine code), Read out DTC's from (N3/10) |
| ┌ 1024 | ESP | CAN communication with transmission control module (N15/3) interrupted. | Check version coding, Read out DTC's from (N15/3). 23 ⇒ 13.0 |
| ┌ 1025 | BAS | CAN communication with BAS control module (N47-5) not possible due to ABS, vehicle version, wheel speed, or brake stop lamp signal not available. If there are other DTC stored in memory other then ┌ 1025, these are to be checked first since ┌ 1025 can be set due wheel speed signal missing. | 23 ⇒ 13.0 |
| ┌ 1031 | ESP | CAN communication with engine control module (ME-SFI) (N3/10) interrupted. | Check version coding, Read out DTC's from (N3/10), 23 ⇒ 13.0 |

¹⁾ Observe Preparation for Test, see 22.


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| DTC  | Possible cause | Test step/Remedy ¹⁾ |
|--|--|--|
| C 1100 | 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⁾ | Readout HHT Actual values. |
| C 1101 | 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⁾ | Readout HHT Actual values. |
| C 1102 | 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⁾ | Readout HHT Actual values. |
| C 1103 | 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⁾ | Readout HHT Actual values. |
| C 1120 | ESP ESP yaw rate sensor (N64), open circuit/short circuit, Plausibility, offset. There is no fault with the component if the following plausibility was present after the vehicle was driven through a steep turning curve, vehicle collision, or vehicle spin-out on slippery road surfaces. | Readout HHT Actual values, 23 ⇒ 6.0 |
| C 1140 | ESP Steering angle sensor (N49), Initialization, open circuit/short circuit, plausibility, offset. With offset fault: check vehicle tracking and adjustment of the steering box. | Turn steering wheel from lock to lock stop, in order to perform initialization. 23 ⇒ 3.0 |

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⁾ |
|--|---|---|
| C 1141 | ESP ESP brake pressure sensor 1 (N34/1) or ESP brake pressure sensor 2 (N34/2) Open circuit/short circuit, implausible ²⁾ | Readout HHT Actual values, 23 ⇒ 4.0 |
| C 1142 | ESP ABS lateral acceleration sensor (B24/2), Voltage supply, Plausibility, offset There is no fault with the component if the following plausibility was present after the vehicle was driven through a steep turning curve, vehicle collision, or vehicle spin-out on slippery road surfaces. | Readout HHT Actual values, 23 ⇒ 5.0 |
| C 1149 | ESP Output voltage for: ABS lateral acceleration sensor (B24/2), ESP yaw rate sensor (N64), ESP brake pressure sensors 1/2, (N34/1, N34/2). | 23 ⇒ 5.0 23 ⇒ 6.0 23 ⇒ 4.0 |
| C 1200 | ESP Stop lamp switch (4-pole) (S9/1) Plausibility | 23 ⇒ 11.0 23 ⇒ 12.0 |
| C 1201 | BAS Release switch (BAS) (A7/7s1) Open circuit/short circuit | Readout HHT Actual values, Wiring, A7/7s1 |
| C 1202 | ESP/BAS Release switch (BAS) (A7/7s1) Plausibility, vacuum system of brake booster leaks. | Readout HHT Actual values, Wiring, A7/7s1 |
| C 1203 | BAS Release switch (BAS) (A7/7s1) Redundancy/switchover time | Readout HHT Actual values, Wiring, A7/7s1 |

¹⁾ Observe Preparation for Test, see 22.

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| DTC  | Possible cause | Test step/Remedy ¹⁾ |
|--|--|--|
| C 1204 | BRS Membrane travel sensor (BAS) (A7/7b1) Open circuit/short circuit | Readout HHT Actual values, 23 ⇒ 7.0 |
| C 1205 | BRS Membrane travel sensor (BAS) (A7/7b1) Plausibility | Readout HHT Actual values, 23 ⇒ 7.0 |
| C 1206 | BRS Membrane travel sensor (BAS) (A7/7b1) Membrane speed | Readout HHT Actual values, 23 ⇒ 7.0 |
| C 1207 | BRS Stop lamp switch (4-pole) (S9/1) Plausibility with membrane travel comparison | 23 ⇒ 11.0, 23 ⇒ 12.0 |
| C 1332 | BRS Solenoid valve (BAS) (A7/7y1), Open/short circuit, A7/7y1 sticks or vacuum is not present. Allow engine to run for a few minutes in order to build up a vacuum, should the fault not re-appear, erase the DTC. | 23 ⇒ 8.0 |
| C 1527 | ESP Implausible ESP control function (duration: > 15 seconds). There is not fault with the components, if no other DTC is present, erase DTC memory. | |
| C 1529 | ESP Pressurization of system via solenoid valve (A7/7y1) for BAS not possible. | 23 ⇒ 8.0 |

1) Observe Preparation for Test, see 22.