## Diagnosis – Complaint Related Diagnostic Chart

| Complaint/Problem | Possible cause | Test step/Remedy [1] |
|---|---|---|
| Entire instrument cluster (A1) not functioning. | Power supply, Instrument cluster (A1) | 23 ⇒ 1.0 |
| Warning lamps/Indicator lamps are not functioning. | Power supply, Instrument cluster (A1) | 23 ⇒ 1.0 |
| Communication between HHT and instrument cluster not possible. | Wiring,<br>Instrument cluster (A1) | 23 ⇒ 2.0 |
| Warning lamps/Indicator lamps (brake fluid level, parking brake, brake pad wear, ABS, ETS, ASR, ESP) illuminate simultaneously and speedometer needle rests at the bottom stop. | Traction system control module (N47) | Diagnostic information in WIS |
| Tachometer needle, ECT needle remain at rest on the bottom stop. Engine oil low level warning lamp illuminates. | Injection control module (N3) | Diagnostic information in WIS |
| Warning lamps/Indicator lamps (brake fluid level, parking brake, brake pad wear, oil level, ABS, ETS, ASR, ESP) illuminate simultaneously and tachometer, speedometer, ECT gauge needle rests at the bottom stop. | CAN Bus disruption | 23 ⇒ 3.0<br>23 ⇒ 4.0 |
| Steering lock warning lamp (A1e40) illuminates continuously or not functioning | Wiring,<br>Steering lock switch (S97/1) | 23 ⇒ 5.0 |
| Engine coolant level (ECL) switch not functioning | Wiring,<br>ECL switch (S41) | 23 ⇒ 6.0 |

[1] Observe Preparation for Test, see 22.

## Diagnosis – Complaint Related Diagnostic Chart

**Note regarding diagnosis:**
To narrow the search for the possible fault, the diagnostic chart indicates how the warning lamps or indicators are activated and controlled by a particular system.
If the warning lamps or indicators display malfunction of more systems simultaneously, it is almost always evidence of a faulty CAN Bus.

Following warning lamps/indicators receive the information via CAN Bus from Traction systems control module (N47) (on vehicles with multi-functional Instrument Clusters additionally a message appears in the display field):

- Odometer, trip odometer
- Electronic speedometer
- Low brake fluid level/parking brake indicator
- Warning lamp brake pad wear
- ABS indicator
- ETS, ESP indicator
- Warning lamp ETS, ESP

**Note:**
**"Low-range"** indicator receives information via CAN Data-bus from the Transfer case control module (N78).

Following warning lamps/indicators receive the information via CAN Bus from Injection systems control module (N3) (on vehicles with multi-functional Instrument Clusters additionally a message appears in the display field):

- Tachometer
- Oil level warning lamp
- Coolant temperature
- Fuel reserve warning lamp (if a fuel system leak is detected or fuel filler cap is not tightly closed while engine is running the warning lamp [A1e4] will blink, not correcting the problem can cause the "check engine" lamp to illuminate)
- Flexible Service System (FSS)
  - Oil quality
  - Oil level
  - Oil temperature
  - Engine torque
  - Engine speed, coolant temperature

## Diagnosis – Complaint Related Diagnostic Chart

Instrument cluster receives direct information for the following warning lamps/indicators:

- Outside temperature display
- Fuel gauge
- Turn signal indicator left
- Turn signal indicator right
- High beam indicator
- Fuel reserve warning lamp
- SRS control and warning lamps
- Battery charging control/warning lamp
- Seat belt warning lamp
- Seat belt/rear seat back rest latch warning lamp
- Windshield washer fluid low level warning lamp
- Coolant low level warning lamp
- Turn signal audio device
- Seat belt warning buzzer
- Lights on warning buzzer
- Key in ignition warning buzzer
- Steering lock warning lamp