Technical Service Bulletin

45 ABS warning light on with additional warning lights on (EPB / TPMS / EPC / MIL) - wire harness damage

45 14 08 2033412/3 February 11, 2014. Supersedes Technical Service Bulletin Group 45 number 13-07 dated September 25, 2013 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A4/S4	2009 - 2013	All	Not Applicable
A5/S5	2008 - 2013		
A5/S5 Cabriolet,	2010 - 2013		
Q5	2009 - 2013		

Condition

REVISION HISTORY		
Revision	**Date**	**Purpose**
3	-	Revised header data (Removed model year) Revised *Service* (Updated for clarity) Revised *Warranty* (Added TUs)
2	9/25/2013	Revised title Revised header data (Added customer codes and DTCs)
1	3/27/2013	Initial publication

- The customer may complain of one of the following conditions:
  - Steering wheel does not lock.
  - Various warning lights are on.
  - Steering feels stiffer than usual.
  - The engine cannot be switched off.
  - The ignition key cannot be removed.
- There are DTC entries present in the system (either static or sporadic):
  - DTCs with description “Brake control module - no signal/communication” are present in several control units.
  - **DTC 01316** (Brake control module - no signal/communication)
  - **DTC U012200** (ESP - no signal/communication)
  - **DTC U012100** (ABS control module - no communication)

- One or more of the following DTCs is stored in the ABS control module, J104 (address word 03):
  - **DTC 00290** (008 - ABS Wheel Speed Sensor, LR-G46, Incorrect signal)
  - **DTC 00290** (012 - ABS Wheel Speed Sensor, LR-G46, Electrical fault in circuit)
  - **DTC 0283** (008 – Left Front ABS Wheel Speed Sensor-G47, Incorrect signal)
  - **DTC 0283** (012 - Left Front ABS Wheel Speed Sensor-G47, Electrical fault in circuit)
- This condition does not result in any drivability concerns. The steering system is fully connected.

Technical Background

The insulation for the ABS wheel speed sensor is damaged in production. Over time, this can lead to corrosion on the wires and restricted functions with the ABS control module. Only the wires in the left bulkhead grommet (Figure 1) are affected.

Figure 1. *Left front fender is removed to show the left bulkhead grommet*

Production Solution

Improved installation procedure at the factory.

Service

There are two different types of service actions based on the two types of DTC entries that can be found in the system.

For vehicles with the DTC description "Brake Control Module - No signal/communication" present in several control units, proceed as follows:

1. Perform a voltage drop measurement on terminal 30 (supply voltage for ABS control unit) under load (as described below). For the pin assignment, see Elsa wiring diagram.

   Proposed voltage drop measurement (using an A4 as an example):

   - Verify the fuse (SC6) is good.
   - Disconnect T38a connector from ABS control unit.
   - Apply a load with a 21W rating (1.7 A = 21 W) between pin 7 (T38a) and chassis ground. This will allow a precise voltage drop measurement across the completed circuit.
   - Set the digital multi-meter to DC Volts (Direct Current Voltage)
   - Connect the black multi-meter lead to pin 7 (T38a) and connect the red measuring lead to fuse SC6 while keeping the fuse in the socket. This will measure the voltage drop in the wiring between the fuse and pin 7 (T38a).
   - If the voltage drop measures over 0.3 V, the wiring loom around the grommet must be checked (Figure 2).

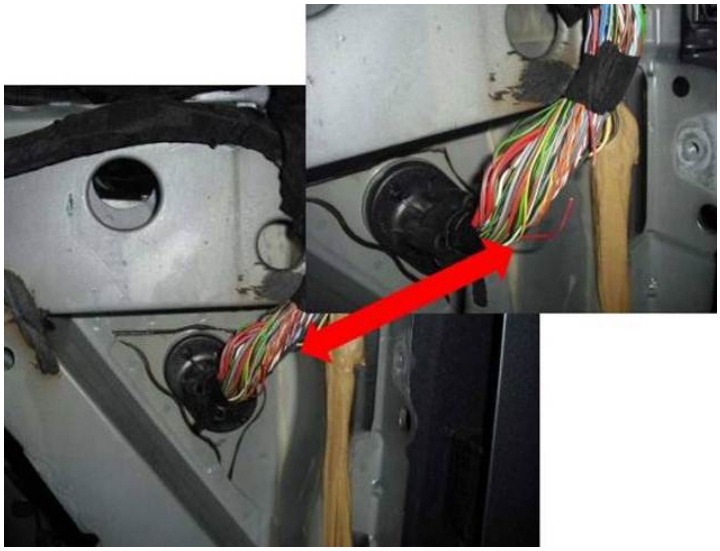

Figure 2. *Affected area of the left front wiring loom behind the fender*

Tip: For better access to all sections of the wiring loom, the wheel arch liner and the windscreen washing reservoir must be removed.

2. If damage is found, make notes of damage in repair order:
    - Measure the distance from the **grommet front side** (Figure 3, point 1) to the **point of damage point** (Figure 3, point 2). Include this measured distance in the repair order comments.

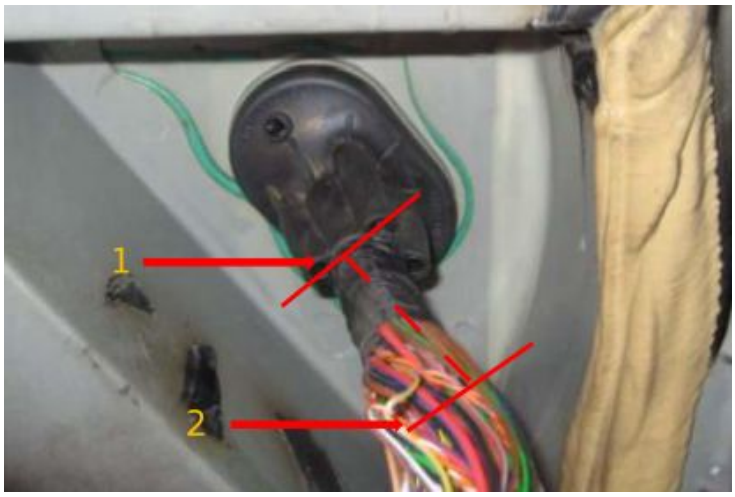

Figure 3. *Measuring point of damage in relation to the end of the grommet*

    - Note the grommet and original harness position from inside the passenger compartment (Figure 4).

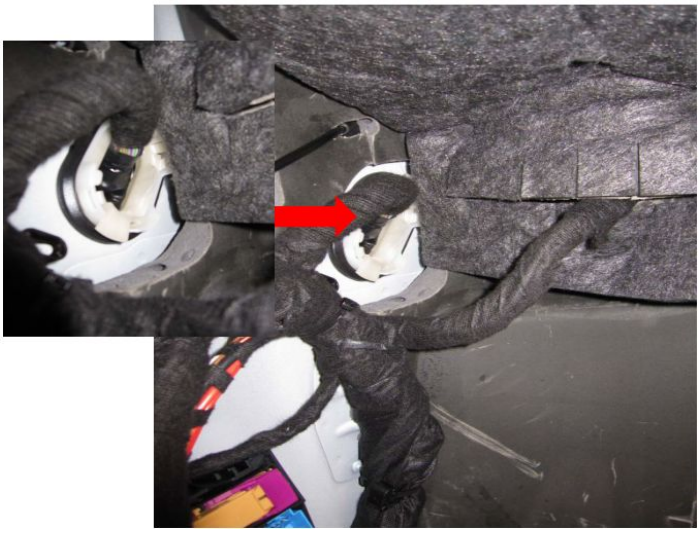

Figure 4. *Grommet position photo, taken from inside the passenger compartment.*

3. Repair the damaged cable in the wiring loom using the VAS1978B wiring harness repair kit.
4. Remove the sections of the individual cable where the copper wires are black or corroded.
5. Pull back the insulation for the complete wiring loom, for a distance of about 40 cm from the grommet towards the front of the vehicle, and inspect for additional damage or corrosion.

For vehicles with the DTC description "ABS Wheel Speed Sensor - Incorrect signal or Electrical fault in circuit" present in multiple control units, proceed as follows.

1. Perform the same measurements as above using the correct pin/fuse location listed in Elsa for the affected ABS wheel speed sensor.
2. Repair any damage found and ensure the black or corroded wires are removed.

Warranty

Claim Type:	Use applicable claim type. If vehicle is outside any warranty, this Technical Service Bulletin is informational only.		
Service Number:	9715		
Damage Code:	0015		
Labor Operations:	Check ABS control unit	4545 0199	30 TU
	Remove and install front wheel liner	6616 1900	40 TU
	Remove and install windscreen washer reservoir	9260 1951	50 TU
	Remove and install tray under dashboard	6818 1900	See Elsa
	Remove and install A pillar trim	7057 1905	See Elsa
	Check front left wiring loom on inside and outside	9715 0199	70 TU
	Repair wiring loom (note number of cables)	9709 41xx	See Elsa
Diagnostic Time:	GFF	0150 0000	Time stated on diagnostic protocol (MAX 80 TU)
	Road test prior to service procedure	0121 0002	10 TU
	Road test after service procedure	0121 0004	10 TU
	Technical diagnosis at dealer's discretion (Refer to Section 2.2.1.2 and Audi Warranty Online for DADP allowance details)		
Claim Comment:	As per TSB # 2033412/3		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

Required Parts and Tools

Tool Description	Quantity
VAS 1978B – Wiring Harness Repair Kit	1

Additional Information

All parts and service references provided in this TSB (2033412) are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.