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Technical Bulletin

Subject: **Driver's Side Airbag, On Board Diagnostic (OBD)**

Group: **01**

Number: **00-02**

Model(s): **All**

2000 ►

Date: **Apr. 24, 2000**

Supersedes T.B. group 01 number 99-20 dated Dec. 8, 1999

Black revision bars indicate additions or changes to superseded document.

Service

Additional diagnostic procedures and a new special service tool have been established to prevent unnecessary replacement of airbag components. In addition, certain airbag wiring harness terminals and connectors can now be repaired using VAS 1978 Wire Harness Repair Kit. Follow all diagnostic procedures in this bulletin and Repair Manual before beginning repair.

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CAUTION!
ALWAYS review and follow all CAUTIONS and WARNINGS in the Repair Manual regarding Airbags!

Airbag On Board Diagnostic(OBD)

For diagnosis using the VAS 5051, see VAS 5051 Tester.

For additional VAG 1551 information, see Repair Manual, *Body On Board Diagnostic (OBD)*, Repair Group 01.

Rapid Data Transfer	HELP
Enter address word XX	

◀ Indicated on display

Note:

With the address word 00 the automatic test sequence is carried out i.e., the DTC memories of all systems in the vehicle capable of On Board Diagnostic (OBD) are checked via the rapid data transfer.

Press buttons -1- and -5- to insert “Airbag” address word 15.

Rapid Data Transfer	Q
15 - Airbag	

◀ Indicated on display

– Press -Q- button to confirm input.

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1J0 909 608 D AIRBAG VW 3-S V03→
Coding 0068 WSC12345

- ◀ Indicated on display
- See parts catalog for latest control module version.
 - Press → button.

Rapid Data Transfer Q
Select function XX

- ◀ Indicated on display
- Press buttons -0- and -2- to select "Check DTC Memory" function 02.

Rapid Data Transfer Q
02 – Check DTC Memory

- ◀ Indicated on display
- Press -Q- button to confirm input.

X DTC Recognized

- ◀ Indicated on display (number of DTCs recognized)

Stored DTCs are displayed and printed out one after the other.

Eliminate DTCs by referencing DTC table.
See page 4.

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Airbag Diagnostic Trouble Code (DTC) Table

VAG 1551 Scan Tool Display	Possible cause	Corrective Action
00588 Driver-side airbag igniter -N95- Resistance value too large Resistance value too small Short circuit to B+ Short circuit to Ground (GND)	Improper or damaged connection Faulty wiring or connections	<ul style="list-style-type: none"> - Check connections for proper seating at spiral spring connectors. - Check terminals in harness connector for proper seating. - Connect and fully seat connector. - Make sure connector tabs are fully depressed. - If damaged or deformed, replace adapter harness.
	Driver-side airbag igniter -N95- faulty Airbag spiral spring/return spring with slip ring -F138- faulty	<ul style="list-style-type: none"> - Check terminals and connectors for damage. - Read Measuring Value Block. See page 5.
65535 Control module malfunctioning	Electrical interference as a result of external sources, poor Ground (GND) connections or positive connections to control module -J234-	<ul style="list-style-type: none"> - Test wiring and connections to control module according to wiring diagram¹⁾
	Control module -J234- faulty	<ul style="list-style-type: none"> - Replace control module.¹⁾

¹⁾ Replace control module only if DTC 65535 is displayed or vehicle has been involved in an accident.

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Measuring value block, reading

WARNING!

Check wiring via visual inspection only. Do not check continuity or resistance of airbag igniter circuits.

Only check wiring with ignition switched off.

Rapid data transfer HELP
Select function XX

◀ Indicated on display. If VAG 1551 is still in another function:
- Press buttons -0- and -6- to select "End Output" function.

Rapid data transfer HELP
06 – End output

◀ Indicated on display:
- Press -Q- button to confirm entry.

Rapid Data Transfer HELP
Enter address word XX

◀ Indicated on display
- Press buttons -1- and -5- to insert "Airbag" address word 15.

Rapid Data Transfer Q
15 - Airbag

◀ Indicated on display
- Press -Q- button to confirm input.

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Coding 0068 WSC12345

◀ Indicated on display
- See parts catalog for latest control module version.
- Press → button.

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Rapid data transfer	HELP
Select function XX	

- ◀ Indicated on display.
- Press buttons -0- and -8- to select "Read Measuring Value Block" function.

Rapid data transfer	Q
08 – Read measured value block	

- ◀ Indicated on display
- Press -Q- button to confirm entry.

Read measured value block
Input display group number XXX

- ◀ Indicated on display
- Press buttons -0-, -0- and -1- to select display group 001 and confirm entry with -Q- button.

Read measured value block	1	→	
1	2	3	4

- ◀ Indicated on display (1–4 = Display Fields)
- Explanation of individual display fields on display is found in evaluation of display group numbers.
- If displayed values in all display zones are "Correct":
- Press → button.

Note:

To change to another display group, proceed as follows:

Display Group	VAG 1551	VAG 1552
Higher	Press button -3-	Press ↑ button
Lower	Press button -1-	Press ↓ button
Skip	Press button -C-	Press button -C-

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Note:

Check DTC memory after completing the "Read Measuring Value Block" function 08.

For additional information, see Repair Manual, *Body On Board Diagnostic (OBD)*, Repair Group 01.

Display group 001

Display group 001						
Read Measuring Value Block 1				→	◀ Indicated on display	
xxxx	xxx	xxx	xxxx			
1	2	3	4	◀ Display zones	Specification	Evaluation
				Right seat belt tensioner igniter -N154-	Correct	See Page 8
				Left seat belt tensioner igniter -N153-	Correct	
				Passenger's side airbag igniter 1 -N131-	Correct	
				Driver's side airbag igniter -N95-	Correct	

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Evaluating display group 001

Display field	Designation	Display contents	Corrective action
1	Driver's side airbag igniter -N95-	Correct	- No faults present.
		Trig. Ground Trig. positive	- Visual check of wiring. - Watch display and check connectors of appropriate current circuit for correct engagement and tight fit. - If display changes to "Correct", erase DTC memory.
		Too low	- Pull igniter connector off airbag unit Display changes to "too high": - Visual check of wiring. Repair as necessary using VAS 1978 Repair Kit. - Fit airbag igniter connector onto igniter #1 on VAS 5056. Display changes to "correct": - Replace airbag unit. Display remains on "too low": - Disconnect top connector on spiral spring/return spring with slip ring from adapter harness. Display changes to "too high": - Replace spiral spring/return spring with slip ring. Display remains on "too low": - Repair short circuit as necessary using VAS 1978 Repair Kit or replace wiring harness ¹⁾ .

¹⁾ Prior to main wiring harness replacement, see Technical Bulletin Group 97 number 99-04 dated Aug. 25, 1999.

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Display field	Designation	Display contents	Corrective action
1	Driver's side airbag igniter -N95-	Too high	<ul style="list-style-type: none"> - Pull igniter connector off airbag unit. - Fit airbag igniter connector onto inert igniter #1 on VAS 5056. <p>Display changes to "correct":</p> <ul style="list-style-type: none"> - Replace airbag unit. <p>Display remains on "too high":</p> <ul style="list-style-type: none"> - Disconnect adapter harness from top connector of spiral spring/return spring with slip ring. - Connect spiral spring/return spring with slip ring to inert igniter #2 on VAS 5056. <p>Display changes to "correct":</p> <ul style="list-style-type: none"> - Replace adapter harness. <p>Display remains on "too high":</p> <ul style="list-style-type: none"> - Disconnect driver's circuit wiring harness from bottom connector of spiral spring/return spring with slip ring. - Connect driver's circuit wiring harness to inert igniter #2 on VAS 5056. <p>Display changes to "correct":</p> <ul style="list-style-type: none"> - Replace spiral spring/return spring with slip ring. <p>Display remains on "too high":</p> <ul style="list-style-type: none"> - Press button on VAS 5056. <p>Display changes to "too high":</p> <ul style="list-style-type: none"> - Repair as necessary using VAS 1978 Repair Kit or replace wiring harness¹⁾.

¹⁾ Prior to main wiring harness replacement, see Technical Bulletin Group 97 number 99-04 dated Aug. 25, 1999.

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Evaluating display group 001

Display field	Designation	Display contents	Corrective action
2	Passenger's side airbag igniter 1 -N131-	Correct	- No faults present.
		Trig. Ground Trig. Positive Too low	- Visual check of wiring. - Watch display and check connectors of appropriate current circuit for correct engagement and tight fit. - If display changes to "Correct", erase DTC memory. - Separate connector between wiring harness and adapter cable to airbag unit. Display changes to "too high": - Replace airbag unit. Display remains on "too low": - Repair as necessary using VAS 1978 Repair Kit or replace wiring harness ¹⁾ .
		Too high	- Connect passenger's circuit wiring harness to inert igniter #2 on VAS 5056. - Press button on VAS 5056 to simulate short circuit. Display changes to "too low": - Replace airbag unit. Display remains on "too high": - Repair as necessary using VAS 1978 Repair Kit or replace wiring harness ¹⁾ .

¹⁾ Prior to main wiring harness replacement, see Technical Bulletin Group 97 number 99-04 dated Aug. 25, 1999.



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Evaluating display group 001

Display field	Designation	Display contents	Corrective action
3	Left seat belt tensioner igniter -N153- ¹⁾	Correct	- No faults present.
		Too high Too low Trig. Ground Trig. Positive	- Visual check of wiring. - Watch display and check connectors of appropriate current circuit for correct engagement and tight fit. - If display changes to "Correct," erase DTC memory. - Replace seat belt tensioner
4	Right seat belt tensioner igniter -N154- ¹⁾	Correct	- No faults present.
		Too high Too low Trig. Ground Trig. Positive	- Visual check of wiring. - Watch display and check connectors of appropriate current circuit for correct engagement and tight fit. - If display changes to "Correct," erase DTC memory. - Replace seat belt tensioner

¹⁾ Only valid for vehicles with electric belt tensioners, the display is not relevant for vehicles with mechanical belt tensioners.

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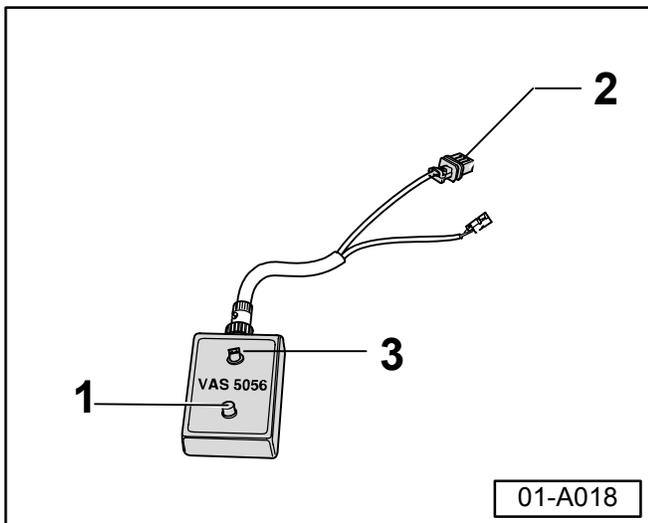
VAS 5056 test box

It is possible to use VAS 5056 in conjunction with VAG 1551/1552 or VAS 5051 to diagnose airbag system faults.

WARNING!

**Check wiring via visual inspection only.
Do not check continuity or resistance of
airbag igniter circuits.
Only check wiring with ignition switched
off.**

VAS 5056 test box, components



- 1 - Button
 - Used to simulate short circuit in harness through connectors.
- 2 - Adapter harness (VAS 5056/2) with connectors for inert igniter #2.
 - Used to connect inert igniter #2 to airbag harness
- 3 - Igniter connector on inert igniter #1.
 - Used to simulate correct resistance of igniter at airbag or seat belt.

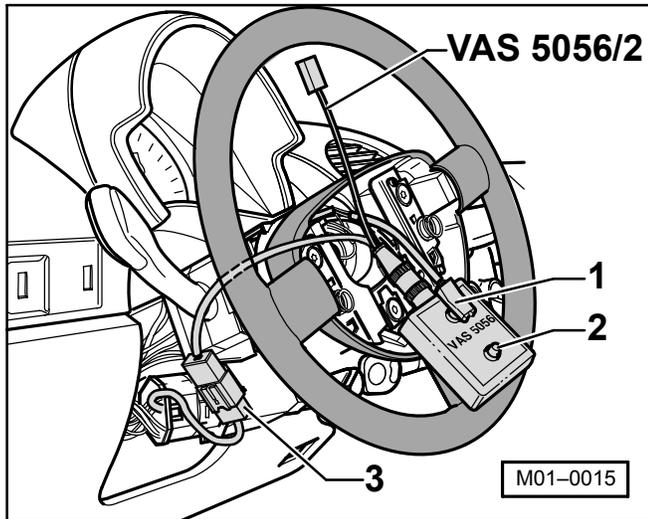
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Airbag, connecting test box to driver's airbag components, example

- Remove driver-side airbag and steering column switch lower trim.
- ◀ - Connect airbag igniter connector -1- to inert igniter #1.
- View display. See Evaluating display group 001 for specific diagnostic instructions. If diagnosis is not completed, disconnect air bag igniter connector to inert igniter #1 and proceed to next step.
- Separate airbag wiring harness from airbag spiral spring/return spring with slip ring connector,
- Connect adapter harness with connectors for inert igniter #2 -3- (VAS 5056/2) to airbag harness. See Evaluating display group 001 for specific diagnostic instructions. If diagnosis is not completed, proceed to next step.
- Press button -2- to simulate short circuit in airbag harness through connectors. Repair as directed.



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Airbag spiral spring/return spring with slip ring, installation

WARNING!

**Check wiring via visual inspection only.
Do not check continuity or resistance of
airbag igniter circuits.**

**Only check wiring with ignition switched
off.**

- Install airbag spiral spring/return spring with slip ring. See Repair Manual, *Body—Interior*, Repair Group 69; Airbag; Safety measures when working on airbag.
- Perform adjustment procedure. See below.

Airbag spiral spring/return spring with slip ring, adjustment

Perform following procedure when directed or when one of following symptoms occur:

Scratching or grinding noise is heard.

- Steering column switch/spiral spring is either misaligned right or left or positioned too high on steering column.

Clicking noise from steering wheel is heard.

- Steering column switch/spiral spring is positioned too low on steering column.

To adjust:

- Remove upper trim cover.
- ◀ - Loosen fastening screw -arrow-.



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- Special Tool JC2000A or JC2000B (ESP vehicles) spacer gage is used for this procedure.
- ◀ - Place spacer gage between spiral spring and steering wheel as shown -arrow-.
- Make sure gage is against lip of spiral spring.
- Adjust steering column switch/spiral spring up against spacer gage at steering wheel as necessary.
- Make sure steering column switch/spiral spring is level horizontally.
- Make sure steering column is centered in spiral spring through-hole.

Wire harness, repair

Note:

No other procedure or materials, other than those in VAS 1978, may be used for wire harness repairs, specifically soldering, wire nuts, generic repair kits, etc.

Always review Safety Precautions in VAS 1978 Instruction Manual prior to performing any wiring harness repairs.

CAUTION!

Shielded wiring for components, such as speed sensors or knock sensors, may not be repaired, but must ALWAYS be replaced.

DO NOT use solder wire when repairing a wiring harness.

Only use approved methods and materials if wiring harness repairs are required.

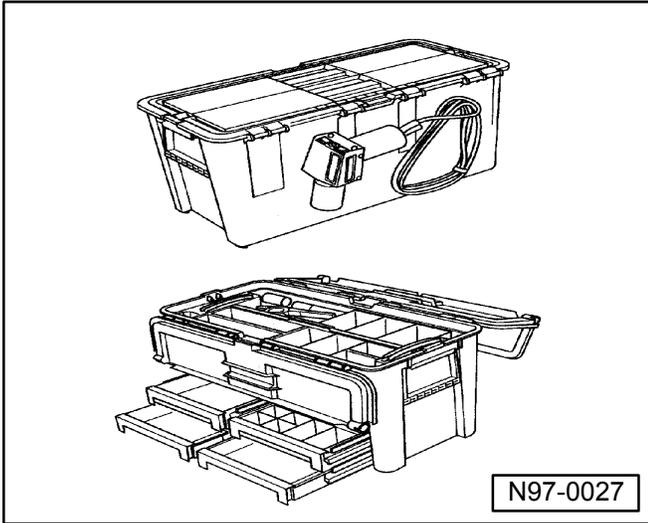
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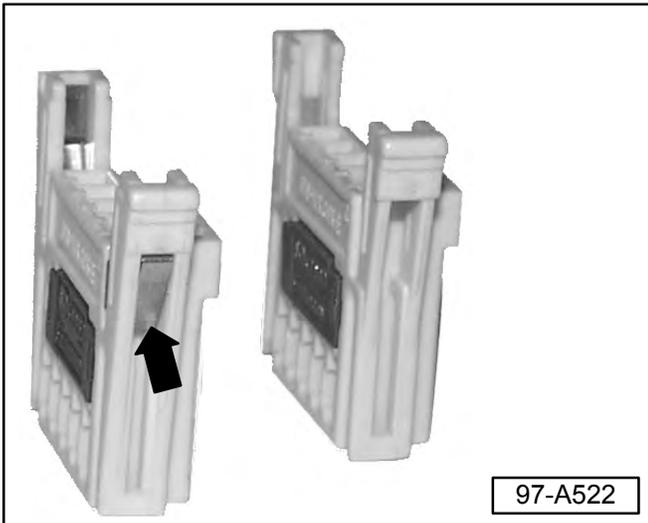


If wiring harness repairs are required:

- ◀ – Use only VAS 1978 Wire Harness Repair Kit.
- If wire harness cannot be repaired using this procedure and materials contained in VAS 1978, replace wire harness.

Note:

Main wire harness replacement requires contact with your OTS, see Technical Bulletin Group 97 number 99-04 dated Aug. 25, 1999



Airbag spiral spring/return spring with slip ring harness, connector repair

- ◀ A metal spring tensioner -arrow- has been added to help hold housing lock tabs in place.

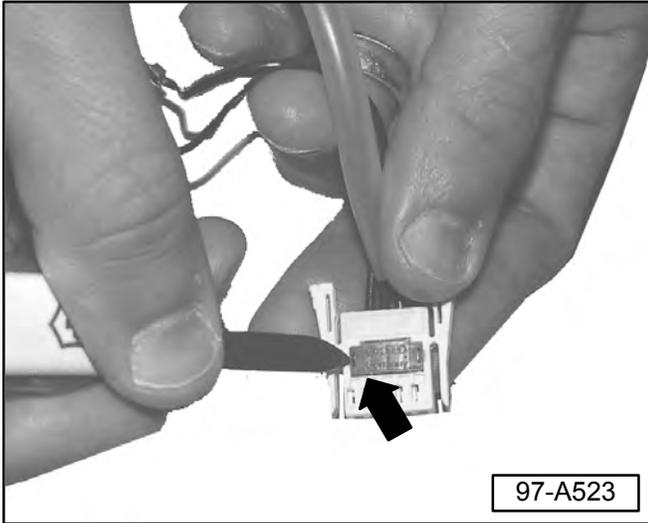
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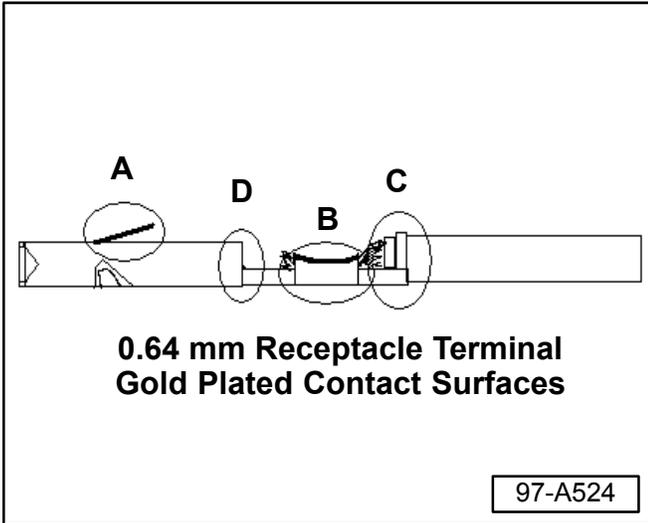
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- ◀ – Carefully pry violet secondary lock mechanism -arrow- away from connector housing using small screwdriver.
- Carefully pull terminals out of connector housing.
- To install into new connector, push terminal into appropriate socket as far as possible.
- Push violet secondary lock mechanism into connector housing until it snaps.
- Pull gently on terminals to ensure proper engagement.

Airbag spiral spring/return spring with slip ring harness, terminal inspection



- ◀ Replace terminal when one of following conditions occur:
 - Terminal is bent or unintentionally deformed.
 - Terminal is cracked or torn at crimped areas -B- and -C-.
 - Wire insulation has been drawn into core crimp -B-.
 - Material is cracked at transition bend -D-.
 - Terminal coating shows signs of moisture or "greasy" coating. Terminal surface should be bright and shiny.

Primary lock tab(s) -A- should be straight and stand away from the terminal.

Note:

During terminal extraction, primary lock tab(s) may have been pressed into terminal. Straighten using sharp edge to carefully lift tab.

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Airbag spiral spring/return spring with slip ring adapter harness, installing

- Connect all connectors making sure they are fully seated. Make sure harness is properly routed and fastened identically to original adapter harness.

Note:

On TDI vehicles, adapter harness may need to be rerouted to avoid damage/pinching from vibration damping weight. Fix routing as necessary and tape as necessary.

If damping weight continues to make contact with spiral spring connector, replace steering wheel.