FAULT FINDING FOR AUTO-CHECK SYSTEM

Contents

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LIST OF SYMBOLS

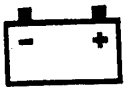
Note: When running through display check for the Auto-check system, yellow and red lights should come on. If not, check the relevant bulbs.

Fault displays – 1st priority (red lights)		**Fault remedy – see page**
	Coolant temperature too high/ coolant level too low	2/9
	Engine oil pressure too low	2/11, 2/12
	Brake and hydraulic system defective	2/7, 2/8

Fault displays – 2nd priority (yellow lights)		
OK	all functions tested OK	2/6
	Windscreen washer fluid reservoir empty	2/6
	Bulb failure: dipped headlights/tail lights	2/13
	Brake pads worn	2/10
BREMS LICHT	Brake lights defective	2/14

Fault displays – 2nd priority
(yellow lights)

fault remedy – see page



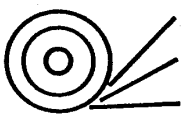
Battery voltage
too high/too low

2/6

Fuel tantk emty

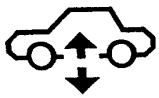
2/10

Airbag*



Traction control
system (ASR)*

Engine malfunctions*



Gas suspension damping*

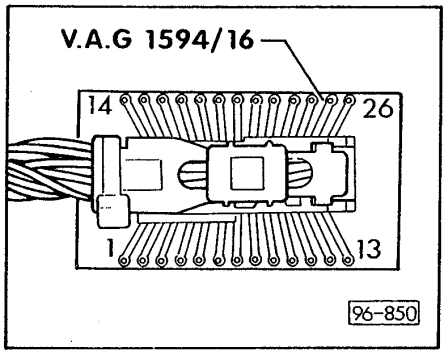
* not functional on 88 model year vehicles, will be discontinued from 89 model year

Notes:

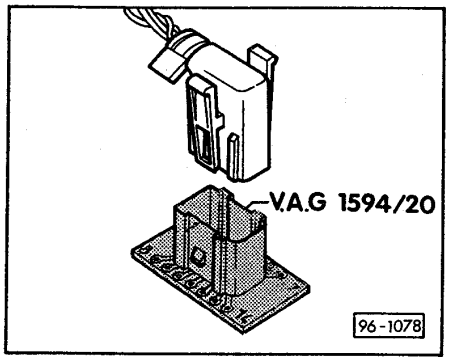
- The specified values given refer to readings obtained by multimeter V.A.G 1526.
- Use auxiliary test set V.A.G 1594 when testing at 26-pin connectors and 14-pin connector.
- If all specified values are obtained, the control unit (printed circuit board with cover) or the display unit for the auto-check system is defective and must be renewed.

Test conditions:

- Check coding OK (see page 2/4)
- Fuses 26 and 14 intact
- Battery condition OK
- All connectors disconnected from dash panel insert
- When fault finding always test at 26-pin connector with test adapter V.A.G 1594/16 connected and at 14-pin connector with test adapter V.A.G 1594/20 connected.



◀ Test adapter V.A.G 1594/16 attached to 26-pin connector (brown or black)



◀ Test adapter V.A.G 1594/20 connected to 14-pin connector (black)

Attention:
The functionally essential speed signal can be suppressed by faults in other systems. See Fault finding programme No. 12

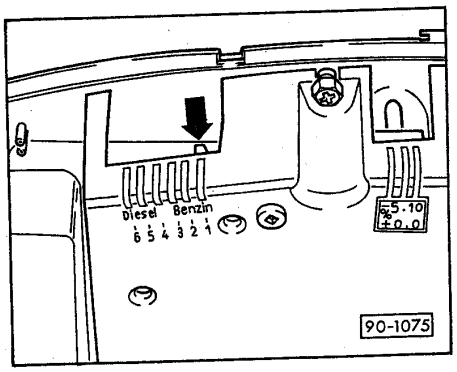
CODING

on 4-cylinder engines:

Contact 24 of brown 26-pin connector on dash panel insert not used

on 5-cylinder engines:

Contact 24 of brown 26-pin connector on dash panel insert connected to earth



◀ 6-position switch on dash panel insert

Position 1: German-speaking countries /petrol
Position 2: USA/petrol
Position 3: all other countries (not German-speaking countries or USA /petrol
Position 4: German-speaking countries /diesel
Position 5: USA /diesel
Position 6: all other countries (not German-speaking countries or USA /diesel

Check coding:

Press check button on dash panel insert and switch on ignition. The relevant code appears in the display unit of the auto-check system:
First number: number of cylinders
Second number: switch position (1–6)

e.g.: 51 = 5 cylinder engine, German-speaking country, petrol

FAULT FINDING CHART **Page**

Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Power supply Connect voltmeter to contact 11 and contact 26 of black 26-pin connector	Switch on ignition	12 volts	– If specified reading is not obtained, repair break in wiring using current flow diagram
Display unit lighting Connect voltmeter to contact 15 and contact 10 of black 26-pin connector	Switch on side lights	12 volts	– If specified reading is not obtained, repair break in wiring using current flow diagram
Warning contact for windscreen washer fluid and headlight washer system Connect ohmmeter to contact 11 of 14-pin connector and to contact 11 of brown 26-pin connector	Fill up fluid	∞ ohm	– If specified reading is not obtained, disconnect connector from warning contact for windscreen washer fluid or headlight washer system – Repeat measurement – If specified reading is still not obtained, repair short to earth using current flow diagram. – If specified reading is obtained, renew warning contact for windscreen washer fluid or headlight washer system.

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Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Check warning contacts for brake fluid level and hydraulic fluid level Connect ohmmeter to contact 11 and contact 3 of brown 26-pin connector	Fill reservoir up to max. mark Run engine briefly and switch off ignition	∞ ohm	– If specified reading is not obtained, disconnect connectors from warning contacts for brake and hydraulic fluid levels and from warning switch for hydraulic brake servo – Repeat measurement – If specified reading is still not obtained, repair short to earth using current flow diagram – Bridge over wiring at disconnected connectors – Specified reading: approx. 0 ohm – If specified reading is not obtained, repair break in wiring using current flow diagram – If specified reading is obtained, renew defective warning contacts

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Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Warning switch for hydraulic brake servo Connect ohmmeter to contact 10 of 14-pin connector and contact 11 of brown 26-pin connector	Disconnect connector from warning switch	∞ ohm	– If specified reading is not obtained, repair short to earth
	Bridge over connector using auxiliary lead	0 ohm	– If specified reading is not obtained, repair break in wiring using current flow diagram
	Reconnect connector to warning switch for hydraulic brake servo – depress brake pedal approx. 20 times	0 ohm	– If specified reading is not obtained, renew warning switch for hydraulic brake servo

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Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Coolant temperature warning switch or electronic thermo switch and switch for display "coolant level too low" Connect ohmmeter to contact 4 and contact 11 of brown 26-pin connector		∞ ohm	– If specified reading is not obtained, disconnect connector from switch for display "coolant level too low" – Repeat measurement – If specified reading is obtained, renew defective switch for display "coolant level too low". – If specified reading is still not obtained, disconnect connector for coolant temperature warning switch or electronic thermo switch – Repeat measurement – If specified reading is obtained, renew coolant temperature warning switch or electronic thermo switch – If specified reading is not obtained, repair short to earth using current flow diagram

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Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Fuel gauge Connect ohmmeter to contact 3 and contact 26 of black 26-pin connector		Tank full approx. 40 ohm Tank empty approx. 283 ohm Depending on level of fuel in tank: 35–300 ohm	– If specified reading is not obtained, repair break in wiring using current flow diagram
Brake monitor (brake pad wear) Connect ohmmeter to contact 10 and contact 11 of brown 26-pin connector		0 ohm	– If specified reading is not obtained, repair break in wiring using current flow diagram; otherwise brake pads are worn

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Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Oil pressure switch 0.3 bar Connect ohmmeter to contact 6 and contact 11 of brown 26-pin connector		0 ohm	– If specified reading is not obtained, disconnect wiring from oil pressure switch and connect to earth – Repeat measurement – Specified reading: 0 ohm – If specified reading is not obtained, repair break in wiring using current flow diagram – If specified reading is obtained when measurement is repeated, renew oil pressure switch
	Switch on ignition and run engine	∞ ohm	– If specified reading is not obtained, disconnect wiring from oil pressure switch – Repeat measurement – Specified reading: ∞ ohm – If specified reading is not obtained, repair short to earth using current flow diagram – If specified reading is obtained when measurement is repeated, renew oil pressure switch

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Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Oil pressure switch 1.8 bar (1.4 bar with diesel engine) Connect ohmmeter to contact 12 of 14-pin connector and contact 11 of brown 26-pin connector		∞ ohm	– If specified reading is not obtained, disconnect wiring from oil pressure switch – Repeat measurement – Specified reading: ∞ ohm – If specified reading is not obtained, repair short to earth using current flow diagram – If specified reading is obtained when measurement is repeated, renew oil pressure switch
	Switch on ignition and run engine	0 ohm	– If specified reading is not obtained, disconnect wiring from oil pressure switch and connect to earth – Repeat measurement – Specified reading: 0 ohm – If specified reading is not obtained, repair break in wiring using current flow diagram – If specified reading is obtained when measurement is repeated, renew oil pressure switch

Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Bulb monitoring device, front Dipped headlights Connect voltmeter to contact 1 on 14-pin connector and contact 11 on brown 36-pin connector	Switch on ignition and dipped headlights	less than 1.5 volts	– If specified reading is not obtained, repair break in wiring using current flow diagram – If the voltage obtained is higher than 3.5 volts, renew defective bulb, or disconnect black connector from rear bulb monitoring device – Repeat measurement – If specified reading is not obtained, renew front bulb monitoring device
Bulb monitoring device, rear Tail lights Connect voltmeter to conntact 1 of 14-pin connector and contact 11 of brown 26-pin connector	Reconnect black connector to bulb monitoring device, rear and switch on ignition and side lights	less than 1.5 volts	– If specified reading is not obtained, repair break in wiring using current flow diagram – If the voltage obtained is higher than 3.5 volts, renew defective bulb – Disconnect black connector from bulb monitoring device, rear and test between contacts 15 and 31 (power supply) – Specified reading: approx. 12 volts – Repeat measurement – If specified reading is still not obtained, renew bulb monitoring device, rear

Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Bulb monitoring device, rear Brake lights Connect voltmeter to contact 2 on 14-pin connector and contact 11 on brown 26-pin connector	Switch on ignition and dipped headlights	12 volts	– If specified reading is not obtained, repair break in wiring using current flow diagram
	Operate brake pedal	less than 1.5 volt	– If voltage obtained when operating brake pedal is higher than 3.5 volts, renew defective bulb – Disconnect black connector from bulb monitoring device, rear and test between contacts 15 and 31 (power supply) – Specified reading: 12 volts – Repeat measurement – If specified reading is still not obtained, renew bulb monitoring device, rear

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Test measurement at two 26-pin connectors and at 14-pin connector	Additional steps	Specified reading	Remedy
Rpm signal (on petrol engines) Connect voltmeter to contact 12 and contact 11 on brown 26-pin connector	Switch on ignition and run engine	depending on engine rpm: approx. 2–10 volts	– If specified reading is not obtained, repair break in wiring using current flow diagram
Rpm signal (on diesel engines) Connect voltmeter to contact 12 and contact 11 of brown 26-pin connector	Switch on ignition and run engine	depending on engine rpm: up to approx. 7 volts	– If specified reading is not obtained, repair break in wiring using current flow diagram or check alternator
Glow period signal (on diesel engines) Connect voltmeter to contact 5 of 14-pin connector and contact 11 of black 26-pin connector	Switch on ignition and operate glow system	battery voltage during glow period	– If specified reading is not obtained, repair break in wiring using current flow diagram or renew glow plug relay

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