

Maintenance

Audi A8 1994 ►

Edition 07.2012



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Maintenance

Heading

1. Notes on servicing
2. Delivery Inspection
3. LongLife Service
4. Oil Change Service
5. Inspection Service
6. Contact corrosion
7. Description of work
8. Type plate, vehicle identification number
9. Lifting the vehicle
10. Tow-starting/towing



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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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1 Notes on servicing

(Edition 07.2012)

The order of the individual servicing operations is optimised as a result of long-standing experience. It is therefore essential to comply with the stated order to avoid unnecessary delays.

The order in which operations are described here is based on that specified for the Inspection Service, which is the type of service performed most frequently.

Please inform the customer if any faults or defects which need repairing are identified during an Inspection Service.

1.1 Overview of engines

1.1.1 Petrol engines

Engine code	AEJ	AAH	ACK	ALG	APR	AQD
Exhaust emissions standard			EU II	EU II + D3	EU II	EU II + D3
Number of cylinders	6	6	6	6	6	6
Valves per cylinder	2	2	5	5	5	5
Capacity ltr.	2,8	2,8	2,8	2,8	2,8	2,8
Power output kW at rpm	120 5400	128 5000	142 6000	142 6000	142 6000	142 6000
Torque Nm at rpm	235 3000	250 3000	280 3200	280 3200	280 3200	280 3200
Bore Ø mm	82,5	82,5	82,5	82,5	82,5	82,5
Stroke mm	86,4	86,4	86,4	86,4	86,4	86,4
Compression ratio	9,2	10,3	10,6	10,6	10,6	10,1
Fuel injection / ignition	Multi Point Injection	Multi Point Injection	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic
RON min.	88 (unleaded or leaded)	95 (unleaded)	95 ¹⁾ (unleaded)	95 ¹⁾ (unleaded)	98 ²⁾ (unleaded)	98 ²⁾ (unleaded)
Hydraulic valve clearance compensation	X	X	X	X	X	X
Self-diagnosis	X	X	X	X	X	X
Catalytic converter	-	X	X	X	X	X
Electric throttle	-	-	-	-	X	X
Lambda control	X	X	X	X	X	X
Exhaust gas recirculation	-	-	-	-	-	-
Air-shrouded injectors	-	-	-	-	-	-
Secondary air system	-	-	-	X	-	X



Engine code	AEJ	AAH	ACK	ALG	APR	AQD
Turbocharger	-	-	-	-	-	-
Exhaust emissions test after 3, 5, 7, 9...years	X	X	X	X	X	X

1) Unleaded RON 91 can also be used, but will result in a slight loss of power.

2) Unleaded RON 95 can also be used, but will result in a slight loss of power.

Engine code	AEW	AKJ	AQG	AKC	AGH	ABZ	AKG
Exhaust emissions standard	EU II	EU II + D3	EU II + D3	EU IV		EU II	EU II + D3
Number of cylinders	8	8	8	8	8	8	8
Valves per cylinder	4	4	5	5	4	4	4
Capacity ltr.	3,7	3,7	3,7	3,7	4,2	4,2	4,2
Power output kW at rpm	169 5500	169 5500	191 6000	191 6000	213 6000	220 6000	220 6000
Torque Nm at rpm	315 2700	315 2700	350 3200	350 3200	380 3500	400 3300	400 3300
Bore \varnothing mm	84,5	84,5	84,5	84,5	84,5	84,5	84,5
Stroke mm	86,4	86,4	82,4	82,4	93,0	93,0	93,0
Compression ratio	10,8	10,6	11,0	10,8	10,8	10,8	10,8
Fuel injection / ignition	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic
RON min.	98 ³⁾ (unleaded)	98 ³⁾ (unleaded)	98 ³⁾ (unleaded)	98 ³⁾ (unleaded)	88 (unleaded or leaded)	98 ³⁾ (unleaded)	98 ³⁾ (unleaded)
Hydraulic valve clearance compensation	X	X	X	X	X	X	X
Self-diagnosis	X	X	X	X	X	X	X
Catalytic converter	X	X	X	X	-	X	X
Electric throttle	-	-	X	X	-	-	-
Lambda control	X	X	X	X	X	X	X
Air-shrouded injectors	-	X	-	-	-	-	X
Secondary air system	-	-	X	X	-	-	-

Engine code	AEW	AKJ	AQG	AKC	AGH	ABZ	AKG
Exhaust gas recirculation	-	-	-	-	-	-	-
Turbo-charger	-	-	-	-	-	-	-
Exhaust emissions test after 3, 5, 7, 9...years	X	X	X	X	X	X	X

3) Unleaded RON 95 can also be used, but will result in a slight loss of power.

Engine code	AHC	AKH	ARU	AQF	AQH	AUW
Exhaust emissions standard	EU II	EU II + D3	EU II + D3	EU II + D3	EU IV	EU IV
Number of cylinders	8	8	8	8	8	8
Valves per cylinder	4	4	5	5	5	5
Capacity ltr.	4,2	4,2	4,2	4,2	4,2	4,2
Power kW at rpm	250 6600	250 6600	175 5000	228 6000	264 7000	228 6200
Torque Nm at rpm	410 3500	410 3500	410 3300	410 3300	430 3500	410 3300
Bore Ø mm	84,5	84,5	84,5	84,5	84,5	84,5
Stroke mm	93,0	93,0	93,0	93,0	93,0	93,5
Compression ratio	11,6	11,3	11,0	11,0	11,0	10,5
Fuel injection / ignition	Bosch Motronic					
RON min.	98 ⁴⁾ (unleaded)					
Hydraulic valve clearance compensation	X ⁵⁾	X ⁵⁾	X	X	X	X
Self-diagnosis	X	X	X	X	X	X
Catalytic converter	X	X	X	X	X	X
Electric throttle	-	-	X	X	X	X
Lambda control	X	X	X	X	X	X
Air-shrouded injectors	-	X	-	-	-	-
Secondary air system	-	-	X	X	X	X

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Engine code	AHC	AKH	ARU	AQF	AQH	AUW
Exhaust gas recirculation	-	-	-	-	-	-
Turbocharger	-	-	-	-	-	-
Exhaust emissions test after 3, 5, 7, 9...years	X	X	X	X	X	X

4) Unleaded RON 95 can also be used, but will result in a slight loss of power.

5) Mechanical valve clearance compensation on inlet side

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Engine code	AVN	AVP	AZC
Exhaust emissions standard	EU IV	EU III	EU III + D4
Number of cylinders	8	8	12
Valves per cylinder	5	5	4
Capacity ltr.	4,2	4,2	6,0
Power output kW at rpm	175 4200	265 7000	309 6000
Torque Nm at rpm	410 3300	420 3400	550 3500...4750
Bore \varnothing mm	84,5	84,5	84
Stroke mm	93,5	93,5	90,3
Compression ratio	10.5	11,6	10,75
Fuel injection / ignition	Bosch Motronic	Bosch Motronic	Bosch Motronic
RON min.	98 ⁶⁾ (unleaded)	98 ⁶⁾ (unleaded)	98 ⁶⁾ (unleaded)
Hydraulic valve clearance compensation	X	X	X
Self-diagnosis	X	X	X
Catalytic converter	X	X	X
Electric throttle	X	X	X
Lambda control	X	X	X
Air-shrouded injectors	-	-	-
Secondary air system	X	X	X
Exhaust gas recirculation	-	-	-
Turbocharger	-	-	-
Exhaust emissions test after 3, 5, 7, 9...years	X	X	X

6) Unleaded RON 95 can also be used, but will result in a slight loss of power.

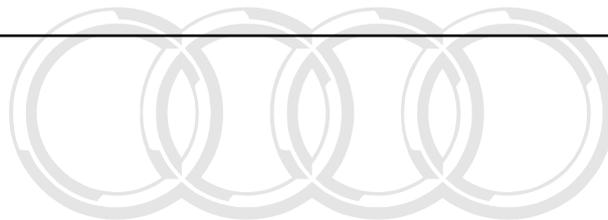
1.1.2 Diesel engines

Engine code	AFB	AKN	AKE	AKF
Exhaust emissions standard	EU II	EU II + D3	EU III	EU III
Number of cylinders	6	6	6	8

Engine code	AFB	AKN	AKE	AKF
Valves per cylinder	4	4	4	4
Capacity ltr.	2,5	2,5	2,5	3,3
Power output kW at rpm	110 4000	110 4000	132 4000	165 4000
Torque Nm at rpm	310 1500...3200	310 1500...3200	370 1500...2500	480 1800...3000
Bore Ø mm	78,3	78,3	78,3	78,3
Stroke mm	86,4	86,4	86,4	86,4
Compression ratio	19,5	19,5	19,5	18,0
Fuel injection / ignition	Diesel (direct injection)	Diesel (direct injection)	Diesel (direct injection)	Diesel (direct injection)
CN min.	45	45	45	45
Hydraulic valve clearance compensation	X	X	X	X
Self-diagnosis	X	X	X	X
Electric throttle	X	X	X	X
Catalytic converter	Oxidizing catalytic converter	Oxidizing catalytic converter	Oxidizing catalytic converter	Oxidizing catalytic converter
Lambda control	-	-	-	-
Exhaust gas recirculation	X	X	X	X
Turbocharger	X	X	X	X
Exhaust emissions test after 3, 5, 7, 9...years	X	X	X	X



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2 Delivery Inspection

2.1 Delivery Inspection

The entry on the sticker stating whether LongLife Service or Inspection Service applies depends on the country of delivery ⇒ [page 7](#) .

– Complete the sticker accordingly:

For vehicles with LongLife Service ⇒ [page 8](#)

For vehicles with Inspection Service ⇒ [page 10](#)

Audi

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3 LongLife Service

Audi A8 from chassis number 4DYN 000 181 (vehicles from year 2000 onwards -Y-)

 **Note**

The LongLife Service is activated at the factory for all vehicles delivered to the countries listed below.

- ◆ Belgium
- ◆ Denmark
- ◆ Germany
- ◆ Finland
- ◆ France
- ◆ Gibraltar
- ◆ Greece
- ◆ Great Britain
- ◆ Ireland
- ◆ Iceland
- ◆ Italy
- ◆ Canary Islands
- ◆ Luxembourg
- ◆ Malta
- ◆ Netherlands
- ◆ Norway
- ◆ Austria
- ◆ Portugal
- ◆ Sweden
- ◆ Switzerland/Liechtenstein
- ◆ Spain/Andorra
- ◆ Cyprus
- ◆ Japan (since August 2002)
- ◆ Czech Republic (since 2003)



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3.1 Extended servicing intervals

 **Note**

- ◆ *Vehicles with petrol engine/ turbocharged petrol engine: max. 30,000 km (19,000 miles) or max. 2 years, oil grade 2*
- ◆ *Vehicles with 6-cyl. diesel engine: max. 35,000 km or max. 2 years, oil grade 3*
- ◆ *The LongLife Service is not available for vehicles with 3.3 ltr. V8 TDI engine.*

The oil grade must be entered in the instrument cluster.



LongLife engine oil

New VW standard (specially developed, resistant to ageing) according to specification:

-VW 503 00- Petrol engines / turbocharged petrol engines

-VW 503 01- Petrol engines / turbocharged petrol engines (6.0 ltr. W12 engine)

-VW 506 00- Diesel engines



Note

- ◆ *Vehicles with LongLife Service are already factory-filled with engine oil as follows: VW standard -503 00- for petrol engines/turbocharged petrol engines, -503 01- for petrol engines/turbocharged petrol engines (6.0 ltr. W12), or -506 00- for diesel engines. The conditions for the LongLife Service with a maximum service interval of 2 years will only be met if this new engine oil is used at oil change and when topping up.*
- ◆ *For vehicles with petrol engines and LongLife Service (with the exception of the 6.0 litre W12 engines) it is also possible to use oils complying with -VW 500 00-, -501 01- or -502 00-, and for vehicles with diesel engines and LongLife Service it is also possible to use engine oils complying with -VW 505 00- or -505 01-. The Inspection Service will then apply. The service interval display must be programmed to 15,000 km (9,000 miles) / 12 months (oil grade 1).*
- ◆ *Oil conforming with VW standard -503 01- must be used in all cases for 6.0 ltr. W12 engines (i.e. even when the fixed-interval Inspection Service is applicable).*

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3.2 LongLife Service



Note

Vehicles from model year 2000 onwards with LongLife Service are already factory-filled with the new engine oil as follows: VW standard -503 00- for petrol engines/turbocharged petrol engines, -503 01- for petrol engines/turbocharged petrol engines (6.0 ltr. W12), or -506 00- for diesel engines. If vehicles are not filled with one of these oils at the first service, the service intervals listed under Inspection Service apply.

3.2.1 LongLife Service (service sticker)

- On the sticker please tick the box: Next Service as shown in service interval display.
- Brake fluid Service: 24 months from current date.



Note

Note oil type used and entry of oil grade in instrument cluster.

Service Anzeige beachten!			
Nächster Service Termin			
nach Anzeige	<input checked="" type="checkbox"/>		
oder			
Monat	_____	Jahr	_____
bei	_____	km	
je nachdem, was zuerst eintritt.			
Nächster Bremsflüssigkeits Service			
Monat	08	Jahr	2001
Hilfe rund um die Uhr 0800-283 44 45 33			
			A02-0255

4 Oil Change Service



Note

Use engine oil complying with VW standard -503 01- for 6.0 ltr. W12 engines at Oil Change Service.

4.1 Oil Change Service (service sticker)

Oil change service every 15,000 km (9,000 miles) or 12 months.
 Inspection service every 30,000 km (19,000 miles).

- Month and year: 12 months from current date. Also enter mileage.
- Brake fluid Service: 24 months from current date.



Note

Note oil type used and entry of oil grade in instrument cluster.

Attach completed sticker to left of dash panel, on inside of door or on door post on driver's side of the vehicle (B-pillar).



The image shows a service sticker with the following text:

Service Anzeige beachten! 

Nächster Service Termin

nach Anzeige
 oder

Monat: 08 Jahr: 2000

bei 15000 km
 je nachdem, was zuerst eintritt.

Nächster Bremsflüssigkeits Service

Monat: 08 Jahr: 2001

Hilfe rund um die Uhr
 0800-283 44 45 33

A02-0257

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5 Inspection Service



Note

Use engine oil complying with VW standard -503 01- for 6.0 ltr. W12 engines at Inspection Service.

5.1 Inspection Service (service sticker)

Oil change service every 15,000 km (9,000 miles) or 12 months.

Inspection service every 30,000 km (19,000 miles).

- Month and year: 12 months from current date. Also enter mileage.
- Brake fluid Service: 24 months from current date.



Note

Note oil type used and entry of oil grade in instrument cluster.

Attach completed sticker to left of dash panel, on inside of door or on door post on driver's side of the vehicle (B-pillar).

Service Anzeige beachten!

Nächster Service Termin

nach Anzeige oder

Monat: 08 Jahr: 2000

bei 15000 km je nachdem, was zuerst eintritt.

Nächster Bremsflüssigkeits Service

Monat: 08 Jahr: 2001

Hilfe rund um die Uhr
0800-283 44 45 33

A02-0257

6 Contact corrosion

Contact corrosion can occur if unsuitable fasteners (bolts, nuts, washers etc.) are used.

For this reason, all fasteners used on the vehicle are treated with a special surface coating. These fasteners can be recognised by their greenish colour.

In addition, all rubber and plastic parts and all adhesives are made of non-electrically conductive materials.

Always install new parts if you are not sure whether a part can be re-used.



WARNING

- ◆ *Only use Genuine Audi A8 parts!*
- ◆ *Accessories have to be approved by AUDI AG!*
- ◆ *Damage caused by contact corrosion is not covered by warranty!*

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7 Description of work

7.1 Fuses supplied with the vehicle: installing

Installing fuses supplied in ashtray

- Check whether fuses have been installed. Install fuses if necessary (supplied in ashtray):

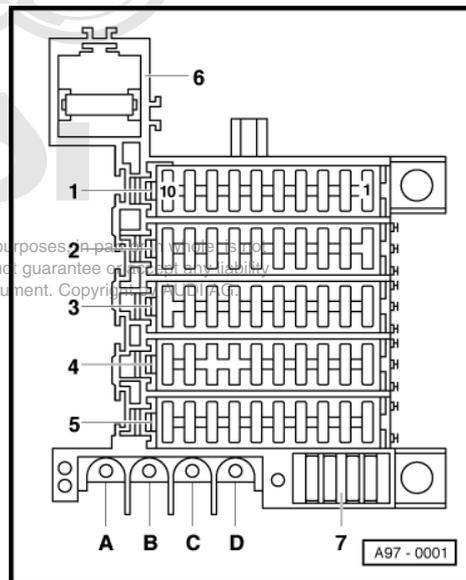
Fuse holder (front passenger's side)

- Unscrew knurled screw, remove floor mat and detach side trim.

Sicherungsträger 3 (Fuse carrier 3) - fuse no. 4 (10A)

Sicherungsträger 5 (Fuse carrier 5) - fuse no. 3 (5A)

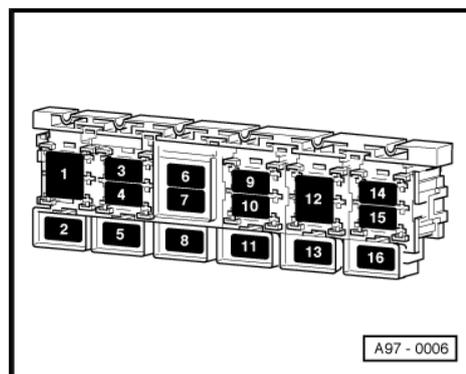
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Relay and fuse holder in luggage compartment (right-side)

- Turn quick-release fastener on underside of cover in luggage compartment (right-side) $\frac{1}{4}$ turn clockwise and detach cover.

Steckplatz 6 (Position 6) - fuse (15A) or (20A) - depending on equipment (navigation system screen, BOSE sound system)



7.2 Switches, electrical equipment, displays and other driver-operated controls: checking operation

- The following components must be checked:
 - ◆ Lighting, headlights, fog lights, turn signals, hazard warning lights, rear lights, rear fog light, reversing lights, brake lights, parking light function
 - ◆ Interior lights and reading lights (automatic switch-off function for interior lights), glove box lighting, ashtray light, luggage compartment lighting, ignition key light
 - ◆ Warning buzzer indicating that lights and/or radio have been left on
 - ◆ All switches on console
 - ◆ Driver Information System (DIS)

- ◆ Instrument cluster including all displays, counters, lights and illumination
- ◆ Dual-tone horn
- ◆ Windscreen wiper/washer system, headlight washer system
- ◆ Cigarette lighter
- ◆ Electric exterior mirrors (heated, adjustable, retractable)
- ◆ Electric window regulators
- ◆ Sliding/tilting sunroof (electric)
- ◆ Sun blind
- ◆ Central locking, remote control (radio-operated), convenience close function
- ◆ Electrically adjustable seats, headrests and steering wheel; seat belt height adjustment function
- ◆ Heated front and rear seats, heated steering wheel
- ◆ Radio

7.3 Windscreen wiper/washer system and headlight washer system: checking jet settings and operation

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If the functional check shows that the wiper blades judder or make noises, check wiper blade setting angle → [page 15](#).

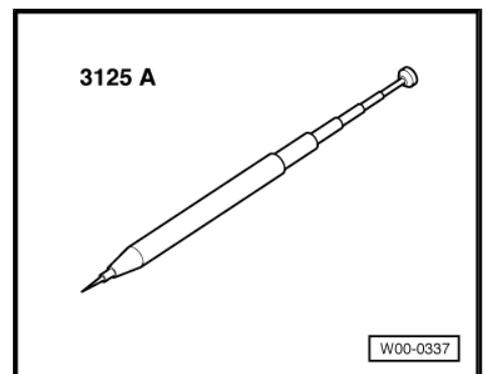
7.3.1 Headlight washer system: checking jet settings

The headlight washer jets are set by the manufacturer and therefore do not need to be adjusted.

7.3.2 Windscreen wiper/washer system: checking jet settings, adjusting jets if necessary

Special tools and workshop equipment required

- ◆ Washer jet adjusting tool -3125 A- with needle -3125/5-



**Note**

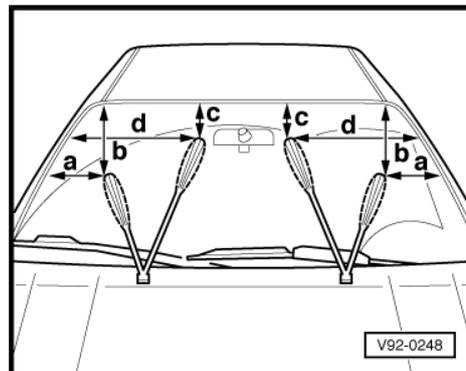
Never use pins or other sharp objects as these will damage the water channels in the jet.

Windscreen washer jet settings

- Mark the four points on the glass using a water-soluble marker pen.

Setting dimensions:

- ◆ Distance a = 150 mm
- ◆ Distance b = 340 mm
- ◆ Distance c = 120 mm
- ◆ Distance d = 590 mm

**Note**

The setting dimensions refer to the distance from the outer edges of the windscreen.

- Use the special tool -3125 A- to aim the individual jets at the points marked.

**Note**

If the jet of water is irregular or cannot be adjusted to the specified setting, renew the spray jet (repair measure).

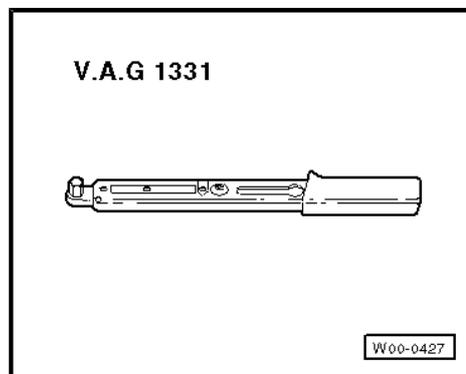
7.4 Wiper blades: checking park position and checking for damage

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7.4.1 Park position for windscreen wiper blades

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- Switch windscreen wipers on and off and let them return to their park position.

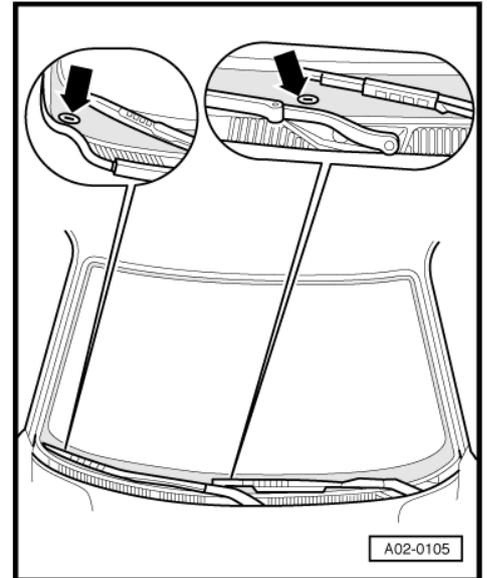
- Check that the wiper blades are in the correct positions marked on the windscreen -arrows-.

 **Note**

- ◆ *If the marking on the passenger's side is not visible, align the wiper blade with the end of the trim moulding.*
- ◆ *The layout is symmetrically opposite for right-hand drive vehicles.*
- If necessary, loosen the wiper arm, align and tighten securing nut.
- Actuate touch-wipe switch and check settings.

Tightening torque	Nm
Wiper arms to wiper shafts	16

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7.4.2 Setting angle of wiper blades

 **Note**

Only check the setting angle if the wiper blades judder or make noises.

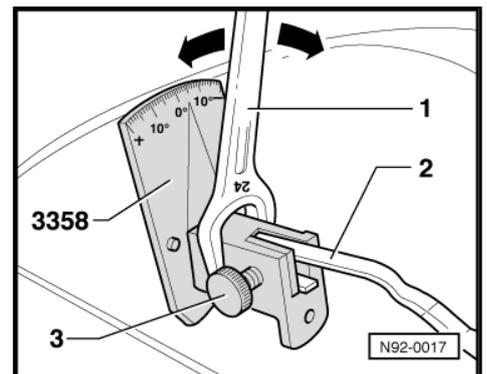
Special tools and workshop equipment required

- ◆ Wiper arm setting tool -3358-
- Switch windscreen wipers on and off and let them return to their park position.
- Remove wiper blade.
- Insert wiper arm -2- into wiper arm setting tool -3358- and secure with locking screw -3-.
- Compare angle indicated to value specified in table.

Setting angle (specifications)	
Driver's side	- 4°
Passenger's side	- 6°
Tolerance	± 2°

 **WARNING**

- ◆ *On the Audi A8 the wiper arm settings may be checked but not adjusted using wiper arm setting tool -3358- .*
- ◆ *If any adjustments are made the alignment between the wiper blade carrier and the retainer hooks will be lost and this may cause the wiper blades to stick.*
- ◆ *If specified values are not attained, fit new wiper arms.*



7.5 Electric windows: checking positions

The electric window regulators "forget" their current positions and the automatic open/close function when the battery is disconnected.

Activate the automatic open/close function as follows:

- Switch on ignition.
- Close the windows all the way to their top positions using the window switches.
- Then operate all window switches again for at least one second in the "close" direction to activate the automatic one-touch function.
- Press switch to open window. The side window should move all the way down automatically.

7.6 Clock: setting

The clock can be set using the two adjuster buttons at the bottom left of the instrument cluster:

- Press both buttons at the same time and hold until the display starts to flash.
- Press the left button to set the hours.
- Press the right button to set the minutes.



Note

To advance the display more quickly, press and hold the relevant button.

About 15 seconds after the adjuster buttons are released, the display will stop flashing and the setting procedure is completed.

7.6.1 Radio-controlled clock



Note

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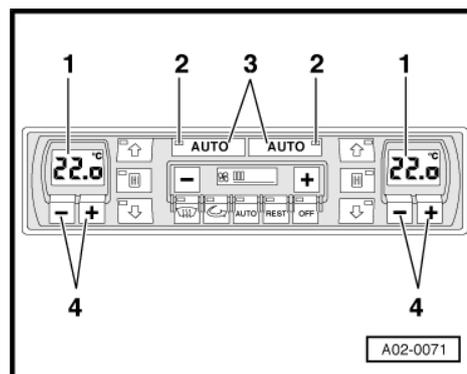
If the radio-controlled clock receives a valid radio signal it will automatically switch to the operating mode "radio-controlled quartz clock". The signal reception symbol (radio tower with radio waves) will then be shown in the display. If the clock does not receive a valid signal it will automatically switch to the "quartz clock" mode after three days; the signal reception symbol will then disappear.

7.7 Air conditioner: checking operation and setting temperature to 22 °C

- Check all air conditioner functions ⇒ Owner's Manual
- Check whether the two display areas -1- have been set to 22 °C.

If necessary, adjust the temperature setting as follows:

- Press buttons -3- for automatic mode. Indicator lamps -2- will light up.
- Press buttons -4- to set the temperature to "22 °C".



7.8 Radio / Navigation System Plus (chorus, concert, symphony): deactivating transport mode

Transport mode for the aforementioned radios was activated on vehicles built from week 18 onwards (gradual introduction).

The calendar week in which the vehicle was built is shown in the seven-digit production control number on the data sticker (see end of line -2-). The first two digits of the production control number -arrow- indicate the week.

Transport mode may have been activated in "dash panel insert 17" and "Radio 56".

- To deactivate the transport mode (e.g. in "dash panel insert 17") follow the instructions shown below.

To deactivate the transport mode in "Radio 56" follow the same procedure.

- Connect vehicle diagnostic, testing and information system - VAS 5051- => [page 35](#) .
- Switch on ignition.

Indicated on display:

Selecting operating mode:

- Press button for "vehicle self-diagnosis" on display -arrow-.



Note

If the displays do not coincide with those reproduced in this work sequence, please refer to => Operating instructions for vehicle diagnostic, testing and information System -VAS 5051- .

Indicated on display:

Selecting vehicle system:

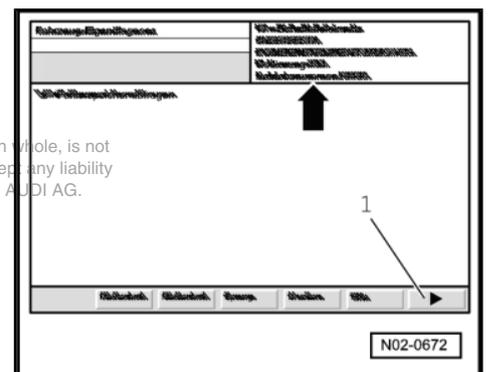
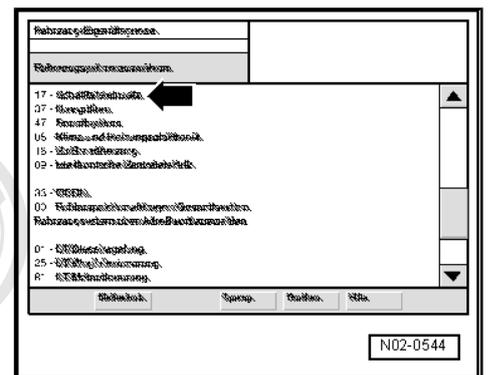
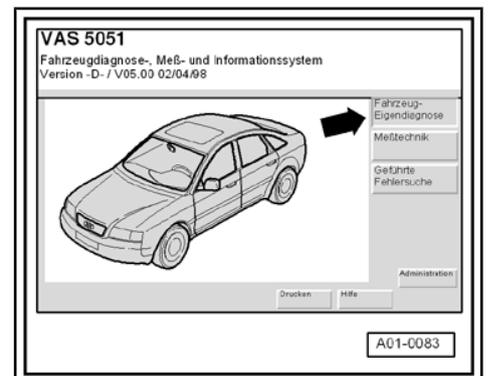
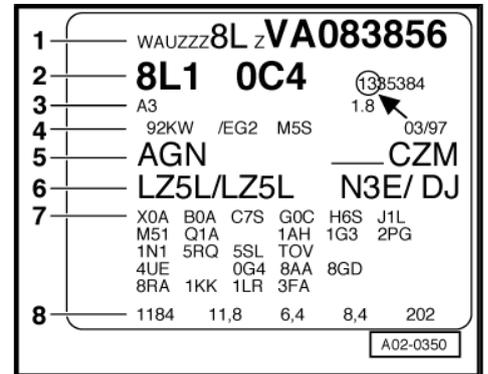
- Press "17 - Dash panel insert" on display -arrow-.

Indicated on display:

The control unit identification and coding are displayed -arrow-.

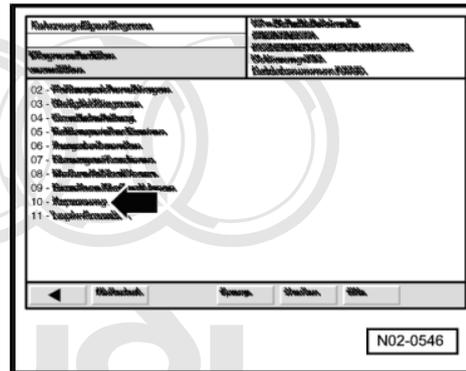
- Press  button -1- on the display.

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Indicated on display:

- Press "10 - Adaption" on display -arrow-

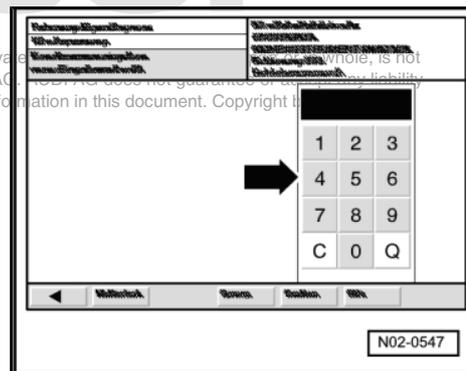


Indicated on display:

- On the number block of the display -arrow- press key **Q** twice.

The transport mode is activated or deactivated in "adaption channel 99".

- Press **Q** key on display number block to confirm entry.



Note

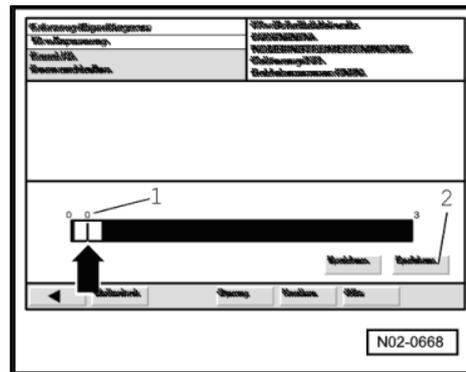
- ◆ "0" transport mode off
- ◆ "1" transport mode on

Indicated on display:

- Move the cursor -arrow- on the display to the left until "0" is displayed above the scroll bar -1-.

0 - Transport mode off

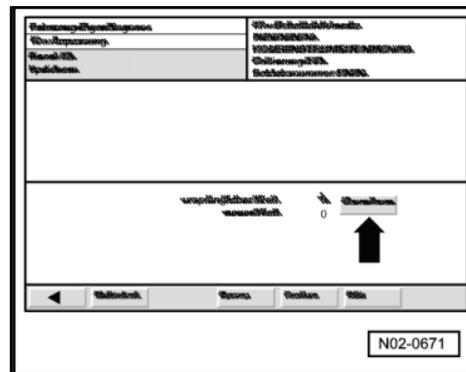
- Press **Save** button -2- on the display.



Indicated on display:

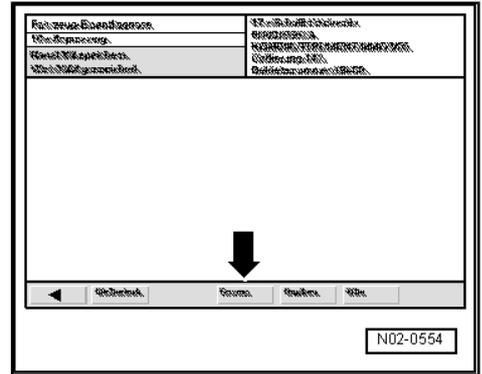
- Press **Transfer** button on display -arrow-

Ending output



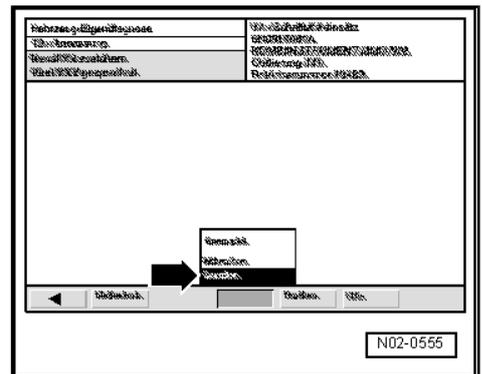
Indicated on display:

- Press **Go to** button on display -arrow-



Indicated on display:

- Press **Exit** button on display -arrow-
- Press **Exit** button in the Exit menu.
- Switch off ignition.



 **Note**

The -VAS 5051- must remain connected for various checks and for carrying out the exhaust emissions test (if required).

7.9 Radio or Navigation System Plus: activating anti-theft coding by entering fixed code number

The radio units are supplied with a fixed code. This means that each radio unit with anti-theft coding is programmed with its own code number. The fixed code is not activated by the factory.

The security coding of the ready-to-use unit is only activated by entering the fixed code.

- ◆ “gamma”, “delta” radios ⇒ [page 19](#)
- ◆ “chorus”, “concert”, “symphony” radios ⇒ [page 19](#)
- ◆ Navigation System Plus ⇒ [page 20](#)

Activate the fixed code as follows: commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability for errors or omissions in this document. Copyright by AUDI AG.

- Switch on radio or navigation unit.

“gamma”, “delta” radios:

- Press buttons **DX** and **FM** simultaneously until “1000” appears in the digital display. Release the buttons.
- Use radio station buttons **1** to **4** to enter the code number which appears on the adhesive radio code card. Button **1** is used to enter the first digit of the code number, button **2** for the second digit, and so on.
- Then press buttons **DX** and **FM** simultaneously again and hold down until “SAFE” appears on the frequency display. Release the buttons. After a brief delay a frequency will appear automatically.

“chorus”, “concert”, “symphony” radios:

- Press buttons **TP** and **RDS** simultaneously until “1000” appears in the digital display. Release the buttons.

New radio generation (model year 02)

- Press buttons **RDS** and **SCAN** simultaneously until “1000” appears in the digital display. Release the buttons.

All radios:

- Use radio station buttons **1** to **4** to enter the code number which appears on the adhesive radio code card. Button **1** is used to enter the first digit of the code number, button **2** for the second digit, and so on.
- Then press buttons **TP** and **RDS** simultaneously again and hold down until “SAFE” appears on the frequency display. (New radio generation: press buttons **RDS** and **SCAN**.) Release the buttons. After a brief delay a frequency will appear automatically.

Navigation System Plus:

- Press the buttons **NAVIGATION** and **DISPLAY** simultaneously and keep pressed until the code input mask appears. Release the buttons.
- Turn the rotary pushbutton to highlight the digits of the code number one after the other and confirm each digit by pressing the rotary pushbutton. The digits are entered in the 4 number zones below. The code number is attached to the device information card (operating instructions).
- Use the rotary pushbutton to highlight the “OK” option and confirm by pressing the button. Once input has been successfully completed the unit will switch to its normal operating status.

7.10 Test equipment: connecting

7.10.1 Connecting fault reader -V.A.G 1551-

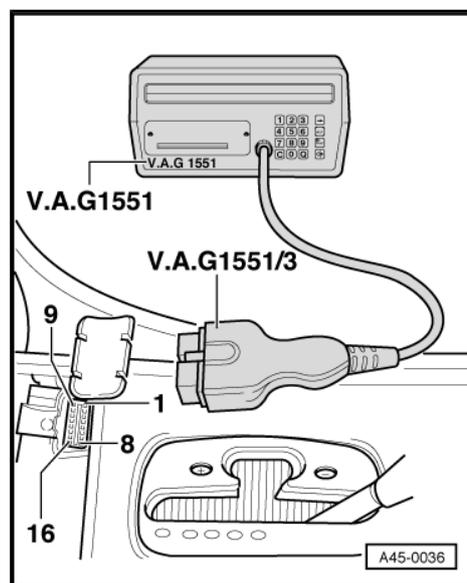
- Apply the handbrake.
- On vehicles with automatic gearbox move selector lever into position “P”.
- Release and remove ashtray insert in centre console (front).
- Unclip cover for connector socket in bottom part of ashtray housing.
- Connect fault reader -V.A.G 1551- with lead -V.A.G 1551/3- (ignition must be switched off).
- Switch on printer with **PRINT** button (indicator lamp in button lights up).

Indicated on display:⁷⁾

V.A.G - SELF-DIAGNOSIS	HELP
1 - Rapid data transfer	

V.A.G - SELF-DIAGNOSIS	HELP
2 - Flash code output	

7) appears alternately

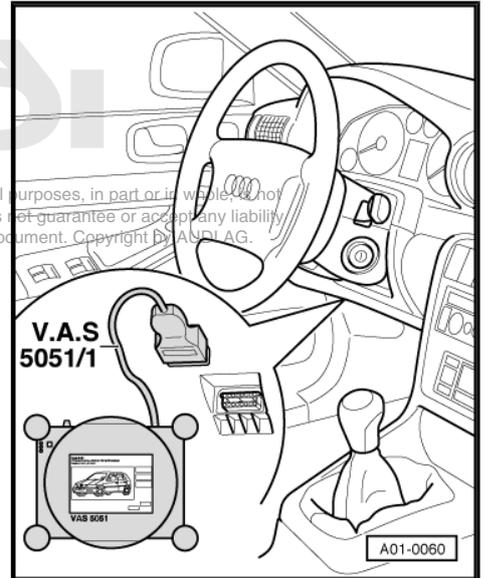


7.10.2 Connecting vehicle diagnostic, testing and information system -VAS 5051-

- Apply handbrake.
- Automatic gearbox: move selector lever to position "P".
- Manual gearbox: gear lever in neutral.

With ignition switched off, connect -VAS 5051- as follows:

- With ignition switched off connect -VAS 5051- using adapter lead -VAS 5051/1- .



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7.11 Self-diagnosis: interrogating fault memory with fault reader -V.A.G 1551-

Connect fault reader -V.A.G 1551- ⇒ [page 20](#) .

or

Connect vehicle diagnostic, testing and information system -VAS 5051- ⇒ [page 21](#) .

7.11.1 Interrogating fault memory:

- Enter "1" for "Rapid data transfer".
- Start engine and run at idling speed.
- Briefly press brake pedal once.
- Enter "00" for address word "Automatic test sequence" and confirm entry with  key. The -V.A.G 1551- sends all known address words one after the other.

When a control unit responds stating its identification the display will show the number of stored faults or "No fault recognised".

Any system faults that are stored will be displayed one after the other and printed out. The -V.A.G 1551- will then transmit the next address word.

The automatic test sequence is completed when the following is indicated on the display:⁸⁾

V.A.G - SELF-DIAGNOSIS	HELP
1 - Rapid data transfer	

V.A.G - SELF-DIAGNOSIS	HELP
2 - Flash code output	

8) appears alternately

- Switch off ignition.



If faults have been stored these must be rectified. The fault log is required for the repair work.

The -V.A.G 1551- must remain connected for resetting the service interval display and carrying out the exhaust emissions test (if required).

7.12 Instrument cluster: setting the language

When a car is delivered to the customer, the multifunction monitor display can be set to any of the following languages as required:

- ◆ German
- ◆ English
- ◆ French
- ◆ Italian
- ◆ Spanish
- ◆ Portuguese

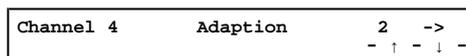


Cars are delivered by the factory with the multifunction monitor set to German.

- To change the language proceed as follows:
- Connect -V.A.G 1551- => [page 20](#).
- Switch on ignition.
- Enter "1" for "Rapid data transfer".
- Enter "17" to select the address word "Dash panel insert" and confirm entry with key.
- Press key twice to continue.
- Enter "10" to select the function "Adaption" and confirm entry with key.
- Enter "04" to select "Adaption channel 04" and confirm entry with key.

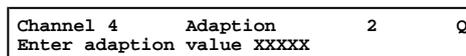
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Indicated on display:



- Press key to continue.

Indicated on display:



- Select desired language according to the following table.

Language version	Code
German	00001
English	00002
French	00003
Italian	00004
Spanish	00005
Portuguese	00006



Note

- ◆ The first four digits must be "0".
- ◆ If an incorrect value is entered the function "Adaption" will be terminated automatically and must be restarted!

Example:

- Example: Enter "00001" to set the language to "German".

Indicated on display:

```
Channel 4      Adaption      2      Q
Enter adaption value 00001
```

- Confirm entry with  key.

Indicated on display:

```
Channel 4      Adaption      1      Q
- ↑ - ↓ -
```

- Confirm entry with  key.

Indicated on display:

```
Channel 4      Adaption      1      Q
Store changed value?
```

- Confirm entry with  key.

Indicated on display:

```
Channel 4      Adaption      1      ->
Changed value is stored
```

- Complete adaption of language version by pressing  key.

Indicated on display:

```
Rapid data transfer      HELP
Select function XX
```

7.13 Service interval display: resetting

When the ignition is switched on (without starting the engine) the trip recorder display will indicate the next service due.

If no service is due the message "In 0" may appear in the display on some models shortly after the ignition is switched on. The display disappears when the engine is started.

When a service is due, the corresponding message will start flashing in the trip recorder display once the ignition is switched on. Depending on the data level of the dash panel insert, the display will continue flashing for up to 60 seconds after the engine has been started.

Display	Type of service due
In 0	No service is due
OIL	Oil Change Service
In 1	Inspection Service
In 2	Inspection Service with additional work

The service interval display will appear 1,000 km or 10 days before the next service is due.

The service interval display must be reset as part of the Delivery Inspection and also after each Oil Change or Inspection Service using fault reader -V.A.G 1551- .

- Connect -V.A.G 1551- => [page 20](#) .
- Switch on ignition.

Indicated on display:⁹⁾

```
V.A.G - SELF-DIAGNOSIS      HELP
1 - Rapid data transfer
```

```
V.A.G - SELF-DIAGNOSIS      HELP
2 - Flash code output
```

9) appears alternately

- Enter "1" for "Rapid data transfer".

**Indicated on display:**

- Enter "17" to select the address word "Dash panel insert" and confirm entry with key.

Rapid data transfer	HELP
Enter address word XX	

Indicated on display (example):

- Check data level of dash panel insert and reset service interval display accordingly:
- ◆ Vehicles > 1994 and dash panel insert with data level up to D07 => [page 24](#)
- ◆ Vehicles 1995 > and dash panel insert with data level from D08 => [page 26](#)

4D0919033F D2 COMBI-INSTR. D08	->
Coding 00183	WSC 12345

7.13.1 Resetting service interval display: vehicles > 1994 and dash panel insert with data level up to D07

- Press key to continue.
- Enter "10" to select the function "Adaption" and confirm entry with key.

Indicated on display:

Adaption	Q
Enter channel no. XX	

- Enter the required adaption channel according to the following table.

Type of service due	Service to be cancelled	Adaption channel	Code to be entered for dash panel insert with data level up to D07
Delivery Inspection	OIL	05	15000
	In 1 (mileage)	06	30000
	In 1 (time)	07	00365
	In 2	08	00730
OIL	OIL	05	15000
	In 1	05	15000
In 1	OIL	05	15000
	In 1 (mileage)	06	30000
	In 1 (time)	07	00365
In 2	OIL	05	15000
	In 1 (mileage)	06	30000
	In 1 (time)	07	00365
	In 2	08	00730

Resetting service interval display in adaption channel 05 (OIL):

- Enter "05" to select "Adaption channel 05" and confirm entry with key.

The figure displayed indicates the number of kilometres remaining until the OIL Service is due (e.g. "100" for 100 km).

Channel 5	Adaption	100	->
		(-1	3-)

- Press key.

Indicated on display:

Channel 5	Adaption	100	Q
Enter adaption value XXXXX			

- Enter "15000" for "15,000 km until next OIL service" and confirm with key.

 **Note**

Always enter the distance in kilometres even for vehicles that are calibrated for miles.

Indicated on display:

Channel 5	Adaption	15000	
Q			(-1 3-)

- Confirm entry with  key.

Indicated on display:

Channel 5	Adaption	15000	
Q			
Store changed value?			

- Confirm entry with  key.

Indicated on display:

Channel 5	Adaption	15000	-
>			
Changed value is stored			

- Press  key to complete resetting procedure for service interval display in "adaption channel 05".

Resetting service interval display in adaption channel 06 (In 1):

- Enter "06" to select "Adaption channel 06" and confirm entry with  key.

The figure displayed indicates the number of kilometres remaining until the Inspection Service 1 is due (e.g. 100 for 100 km).

Channel 6	Adaption	100	->
			(-1 3-)

- Press  key.

Indicated on display:

Channel 6	Adaption	100	Q
Enter adaption value XXXXX			

- Enter "30000" for "30,000 km until next Inspection Service 1" and confirm with  key.

 **Note**

Always enter the distance in kilometres even for vehicles that are calibrated for miles.

Indicated on display:

Channel 6	Adaption	30000	
Q			(-1 3-)

- Confirm entry with  key.

Indicated on display:

Channel 6	Adaption	30000	
Q			
Store changed value?			

- Confirm entry with  key.

Indicated on display:

Channel 6	Adaption	30000	-
>			
Changed value is stored			

- Press  key to complete resetting procedure for service interval display in "adaption channel 06".

Resetting service interval display in adaption channel 07 (In 1):

- Enter "07" to select "Adaption channel 07" and confirm entry with  key.

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The figure displayed indicates the number of days remaining until the Inspection Service 1 is due (e.g. "10" for 10 days).

- Press key.

Indicated on display:

Channel 7	Adaption	10	->
		(-1	3-)

- Enter "00365" for "365 days until next Inspection Service 1" and confirm with key.

Indicated on display:

Channel 7	Adaption	10	Q
Enter adaption value XXXXX			

- Confirm entry with key.

Indicated on display:

Channel 7	Adaption	365	Q
		(-1	3-)

- Confirm entry with key.

Indicated on display:

Channel 7	Adaption	365	Q
Store changed value?			

- Press key to complete resetting procedure for service interval display in "adaption channel 07".

Resetting service interval display in adaption channel 08 (In 2):

- Enter "08" to select "Adaption channel 08" and confirm entry with key.

The figure displayed indicates the number of days remaining until the Inspection Service 2 is due (e.g. "137" for 137 days).

- Press key.

Indicated on display:

Channel 8	Adaption	137	->
		(-1	3-)

- Enter "00730" for "730 days until next Inspection Service 2" and confirm with key.

Indicated on display:

Channel 8	Adaption	137	Q
Enter adaption value XXXXX			

- Confirm entry with key.

Indicated on display:

Channel 8	Adaption	730	Q
		(-1	3-)

- Confirm entry with key.

Indicated on display:

Channel 8	Adaption	730	Q
Store changed value?			

- Press key to complete resetting procedure for service interval display in "adaption channel 08".

7.13.2 Resetting service interval display: vehicles 1995 > and dash panel insert with data level from D08

- Press key to continue.
- Enter "10" to select the function "Adaption" and confirm entry with key.

Indicated on display:

Adaption			Q
Enter channel no. XX			

- Enter the required adaption channel according to the following table.

Type of service due	Service to be cancelled	Adaption channel	Code to be entered for dash panel insert with data level from D08
Delivery Inspection	OIL	05	00015
	In 1 (mileage)	06	00030
	In 1 (time)	07	00036
	In 2	08	00073
OIL	OIL	05	00015
In 1	OIL	05	00015
	In 1 (mileage)	06	00030
	In 1 (time)	07	00036
In 2	OIL	05	00015
	In 1 (mileage)	06	00030
	In 1 (time)	07	00036
	In 2	08	00073

Resetting service interval display in adaption channel 05 (OIL):

- Enter “05” to select “Adaption channel 05” and confirm entry with  key.

Indicated on display:

Channel 5	Adaption	1	->
		(-1	3-)

The figure displayed indicates the number of kilometres remaining until the OIL Service is due (e.g. “1” for 1000 km).

- Press  key.

Indicated on display:

Channel 5	Adaption	1	
Enter adaption value XXXXX			

- Enter “00015” for “15,000 km until next OIL service” and confirm with  key.

 **Note**

Always enter the distance in kilometres even for vehicles that are calibrated for miles.

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Indicated on display:

Channel 5	Adaption	15	
		(-1	3-)

- Confirm entry with  key.

Indicated on display:

Channel 5	Adaption	15	
Store changed value?			

- Confirm entry with  key.

Indicated on display:

Channel 5	Adaption	15	->
Changed value is stored			

- Press  key to complete resetting procedure for service interval display in “adaption channel 05”.

Resetting service interval display in adaption channel 06 (In 1):

- Enter “06” to select “Adaption channel 06” and confirm entry with  key.

**Indicated on display:**

Channel 6	Adaption	1	->
		(-1	3-)

The figure displayed indicates the number of kilometres remaining until the Inspection Service 1 is due (e.g. "1" for 1000 km).

- Press key.

Indicated on display:

Channel 6	Adaption	1	Q
Enter adaption value XXXXX			

- Enter "00030" for "30,000 km until next Inspection Service 1" and confirm with key.

**Note**

Always enter the distance in kilometres even for vehicles that are calibrated for miles.

Indicated on display:

Channel 6	Adaption	30	Q
		(-1	3-)

- Confirm entry with key.

Indicated on display:

Channel 6	Adaption	30	Q
Store changed value?			

- Confirm entry with key.

Indicated on display:

Channel 6	Adaption	30	->
Changed value is stored			

- Press key to complete resetting procedure for service interval display in "adaption channel 06".

Resetting service interval display in adaption channel 07 (In 1):

- Enter "07" to select "Adaption channel 07" and confirm entry with key.

Indicated on display:

Channel 7	Adaption	1	->
		(-1	3-)

The figure displayed indicates the number of days remaining until the Inspection Service 1 is due (e.g. "1" for 10 days).

- Press key.

Indicated on display:

Channel 7	Adaption	1	Q
Enter adaption value XXXXX			

- Enter "0036" for "365 days until next Inspection Service 1" and confirm with key.

Indicated on display:

Channel 7	Adaption	36	Q
		(-1	3-)

- Confirm entry with key.

Indicated on display:

Channel 7	Adaption	36	Q
Store changed value?			

- Confirm entry with key.

Indicated on display:

Channel 7	Adaption	36	->
Changed value is stored			

- Press key to complete resetting procedure for service interval display in "adaption channel 07".

Resetting service interval display in adaption channel 08 (In 2):

- Enter "08" to select "Adaption channel 08" and confirm entry with  key.

Indicated on display:

Channel 8	Adaption	12	->
		(-1	3-)

The figure displayed indicates the number of days remaining until the Inspection Service 2 is due (e.g. "12" for 120 days).

- Press  key.

Indicated on display:

Channel 8	Adaption	12	Q
Enter adaption value XXXXX			

- Enter "00073" for "730 days until next Inspection Service 2" and confirm with  key.

Indicated on display:

Channel 8	Adaption	73	Q
		(-1	3-)

- Confirm entry with  key.

Indicated on display:

Channel 8	Adaption	73	Q
Store changed value?			

- Confirm entry with  key.

Indicated on display:

Channel 8	Adaption	73	->
Changed value is stored			

- Press  key to complete resetting procedure for service interval display in "adaption channel 08".

7.14 Service interval display: resetting Long-Life Service as from model year 2000 > -Y-

Resetting service interval display after completing a service for Audi A8 as from chassis number 4DYN 000 181

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Resetting service interval display with fault reader -V.A.G 1551- [=> page 29](#)

Resetting service interval display with Vehicle diagnostic, testing and information system -VAS 5051- [=> page 35](#)

 **Note**

If resetting is performed without -V.A.G 1551- or -VAS 5051-, this will automatically set fixed intervals for servicing.

7.14.1 Resetting service interval display with fault reader -V.A.G 1551-

- Connect -V.A.G 1551- [=> page 20](#) .

Indicated on display:

Rapid data transfer	HELP
Select function XX	

- Press keys  and  and confirm entry with key .

Indicated on display:

Rapid data transfer	Q
10 - Adaption	

- Confirm entry with  key.



Indicated on display:

- Press keys [0] and [2].
- Confirm entry with [Q] key.

```
Adaption
Enter channel no. XX
```



Note

- ◆ The service interval display serves to remind the driver that a service is due. It is shown in the centre display.
- ◆ The service reminder will first appear 1 month or 2,000 km before the next service is due. The display changes at intervals of 100 km. Example: after covering a total mileage of 28,700 km the display will show "SERVICE IN 1300 km".
- ◆ The remaining mileage to the service can be called up via the menu in the centre display by pressing the clock reset button once.
- ◆ Once a service is due, an appropriate text message will be shown in the centre display for about 5 seconds when the ignition is switched on. It is displayed after the automatic gear-box info and after entering a destination in the navigation system (if applicable). Display shows: "SERVICE"

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Indicated on display:

```
Channel 2      Adaption      1  ->
              (-1      3-)
```

The service setting is displayed

1 - means that Service is active, i.e. the instrument cluster display shows "SERVICE!".



Note

The service interval display must only be reset by direct numerical input.

- Press [0] key.

Indicated on display:

```
Channel 2      Adaption      1
Enter adaption value XXXXX
```

The Service is reset by entering the following adaption values:

Adaption value	Service setting
00000	Resetting

- Use the keypad to enter the correct adaption value -00000- to delete the service.
- Press key [0] five times.

Indicated on display:

```
Channel 2      Adaption      1      0
Enter adaption value      00000
```

- Confirm entry with [Q] key.

Indicated on display:

```
Channel 2      Adaption      0      0
              (-1      3-)
```

0 - means that the Service has been reset, i.e. the instrument cluster display will show "SERVICE IN 15000 km" once the entry has been confirmed with the [Q] key.

 **Note**

The service interval display will initially show the starting value of 15,000 km. The conversion to the higher mileage (e.g. up to 35,000 km for 6-cyl. diesel engines) only takes place when the vehicle is driven.

- Confirm entry with  key.

Indicated on display:

Channel 2	Adaption	0	
Store changed value?			

- Confirm entry with  key.

Indicated on display:

Channel 2	Adaption	0	->
Changed value is stored			

- Press  key to complete resetting of service interval display.

 **Note**

After resetting the service interval display the following channels and adaption values must be checked and/or changed (according to the engine version fitted in the vehicle) => [page 31](#).

7.14.2 Checking or changing adaption values

After resetting the service interval display the following channels and adaption values must be checked or changed (according to the engine version fitted in the vehicle).

Table of channels and adaption values

Channel 42 (min. mileage)	15,000 km
Channel 43 (max. mileage), petrol engines	30,000 km
Channel 43 (max. mileage), 6-cyl. diesel engines	35,000 km
Channel 44 (max. time interval to next due service)	730 days
Channel 45 (oil grade for max. mileage of 30,000 km)	2
Channel 45 (oil grade for max. mileage of 35,000 km)	3

Procedure for correction of adaption values:

- ◆ Channel 42 (min. mileage) => [page 31](#)
- ◆ Channel 43 (max. mileage) => [page 32](#)
- ◆ Channel 44 (max. time interval to next due service) => [page 33](#)
- ◆ Channel 45 (oil grade for max. mileage) => [page 34](#)

Minimum mileage

This function specifies a minimum mileage (shown in km) for the service interval display in the instrument cluster.

Indicated on display:

Rapid data transfer Select function XX	HELP
---	------

- Press keys  and  and confirm entry with key .

Indicated on display:

- Confirm entry with  key.

Rapid data transfer 10 - Adaption	Q
--------------------------------------	---

Indicated on display:

- Press keys  and .
- Confirm entry with  key.

Adaption Enter channel no. XX

Indicated on the display:

Channel 42	Adaption	15	->
min. val. oil in 1,000 km		(-1	3-)

The display shows the **minimum mileage in km before the next service is due** (in this example: 15 = 15,000 km). ...uses, in part or in whole, is not guaranteed. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

 **Note**

- ◆ *The required value can only be entered in steps of 1000 km. Accordingly, the readout on the display will also only show steps of 1000 km.*
- ◆ *When using the keypad on the fault reader, only direct numerical input is possible!*
- ◆ *If an incorrect value is entered the function "Adaption" will be terminated automatically and must be restarted!*

Maximum mileage

This function specifies a maximum mileage (shown in km) for the service interval display in the instrument cluster.

Indicated on display:

- Press keys  and  and confirm entry with key .

Rapid data transfer Select function XX	HELP
---	------

Indicated on display:

- Confirm entry with  key.

Rapid data transfer 10 - Adaption	Q
--------------------------------------	---

Indicated on display:

- Press keys  and .
- Confirm entry with  key.

Adaption Enter channel no. XX

Indicated on the display:

Channel 43	Adaption	30	->
max. val. oil in 1,000 km		(-1	3-)

The display shows the **maximum mileage in km before the next service is due** (in this example: 30 = 30000 km).

 **Note**

- ◆ *The value entered for the correct engine version must correspond with the value specified in the table ⇒ [page 31](#) .*
- ◆ *The required value can only be entered in steps of 1000 km. Accordingly, the readout on the display will also only show steps of 1000 km.*
- ◆ *When using the keypad on the fault reader, only direct numerical input is possible!*
- ◆ *If an incorrect value is entered the function "Adaption" will be terminated automatically and must be restarted!*

– Press  key.

Indicated on display:

Channel 43	Adaption	30	
Enter adaption value XXXXX			

– Enter input value via keypad, filling in first digits with "0".

Input value: e.g. "35,000 km"

Use keypad to enter "00035"

Indicated on display:

Channel 43	Adaption	30	Q
Enter adaption value 00035			

– Confirm entry with  key.

Indicated on display:

Channel 43	Adaption	35	Q
max. val. oil in 1,000 km (-1 3-)			

– Confirm entry with  key.

Indicated on display:

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Channel 43	Adaption	35	Q
Store changed value?			

– Confirm entry with  key.

Indicated on display:

Channel 43	Adaption	35	->
Changed value is stored			

– Press  key to end adaption of maximum mileage.

Maximum time interval

This function specifies a maximum interval (shown in days) for the service interval display in the instrument cluster.

Indicated on display:

Rapid data transfer	HELP
Select function XX	

– Press keys  and  and confirm entry with key .

Indicated on display:

Rapid data transfer	Q
10 - Adaption	

– Confirm entry with  key.

Indicated on display:

Adaption
Enter channel no. XX

– Press keys  and .

– Confirm entry with  key.

Indicated on the display:

Channel 44	Adaption	365	-
>			
max. val. Insp. in 1 days		(-1	3-)

Indicated on display: maximum interval in days before the next service is due (in this example: 365 = 365 days).

**Note**

- ◆ *The value entered for the correct engine version must correspond with the value specified in the table => page 31.*
- ◆ *The specification must be entered in days. Accordingly, the display will also only show the figure in days.*
- ◆ *When using the keypad on the fault reader, only direct numerical input is possible!*
- ◆ *If an incorrect value is entered the function "Adaption" will be terminated automatically and must be restarted!*

– Press key.

Indicated on display:

Channel 44	Adaption	365	
Enter adaption value XXXXX			

– Enter input value via keypad, filling in first digits with "0"

Input value: e.g. "730 days"

Use keypad to enter "00730"

Indicated on display:

Channel 44	Adaption	365	Q
Enter adaption value		00730	

– Confirm entry with key.

Indicated on display:

Channel 44	Adaption	730	Q
max. val. Insp. in 1 days		(-1	3-)

– Confirm entry with key.

Indicated on display:

Channel 44	Adaption	730	Q
Store changed value?			

– Confirm entry with key.

Indicated on display:

Channel 44	Adaption	730	-
>	Changed value is stored		

– Press key to end adaption of maximum time interval.

Adaption of oil grade**Indicated on display:**

Rapid data transfer		HELP
Select function XX		

– Press keys and and confirm entry with key .

Indicated on display:

Rapid data transfer		Q
10 - Adaption		

– Confirm entry with key.

Indicated on display:

Adaption	
Enter channel no. XX	

– Press keys and .

– Confirm entry with key.

 **Note**

- ◆ *The oil used for the vehicle has to be adapted after each Service.*
- ◆ *Settings for the adaption value range from 1-4. Each value from 1-4 is linked with a max. mileage (channel 43) and max. time interval (channel 44).*
- ◆ *The value entered for the correct engine version must correspond with the value specified in the table => [page 31](#).*

Indicated on display:

Channel 45	Adaption	1	->
Oil grade		(-1	3-)

- Press  key.

Indicated on display:

Channel 45	Adaption	1	
Enter adaption value XXXXX			

- Enter input value via keypad, filling in first digits with "0".

Input value: e.g. "2"

Use keypad to enter "00002"

Indicated on display:

Channel 45	Adaption	1	Q
Enter adaption value 00002			

- Confirm entry with  key.

Indicated on display:

Channel 45	Adaption	2	Q
Oil grade		(-1	3-)

- Confirm entry with  key.

Indicated on display:

Channel 45	Adaption	2	Q
Store changed value?			

- Confirm entry with  key.

Indicated on display:

Channel 45	Adaption	2	->
Changed value is stored			

- Press  key to complete adaption of oil grade.

7.14.3 Resetting the service interval display (VAS 5051)

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Special tools and workshop equipment required

- ◆ Vehicle diagnostic, testing and information system -VAS 5051-
- ◆ Adapter lead -VAS 5051/1-

Connect vehicle diagnostic, testing and information system - VAS 5051- => [page 21](#) .

- Switch on ignition.

Indicated on display:

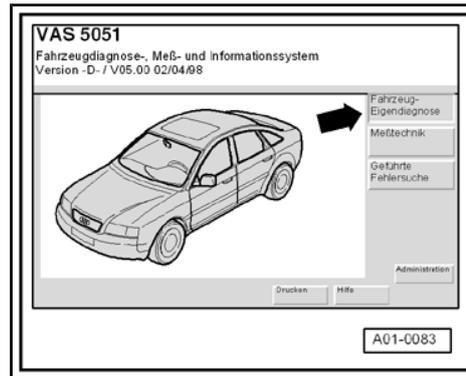
Selecting operating mode:

- Press button for “vehicle self-diagnosis” on display -arrow-.



Note

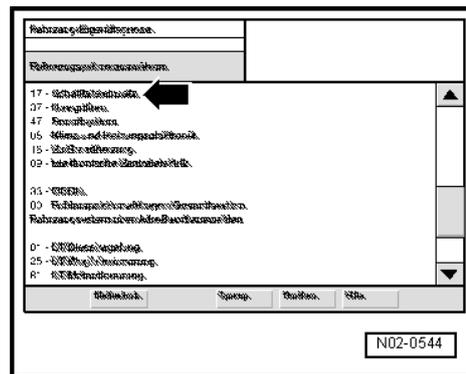
If the displays do not coincide with those reproduced in this work sequence, please refer to ⇒ Operating instructions for vehicle diagnostic, testing and information System -VAS 5051- .



Indicated on display:

Selecting vehicle system:

- Press “17 - Dash panel insert” on display -arrow-.

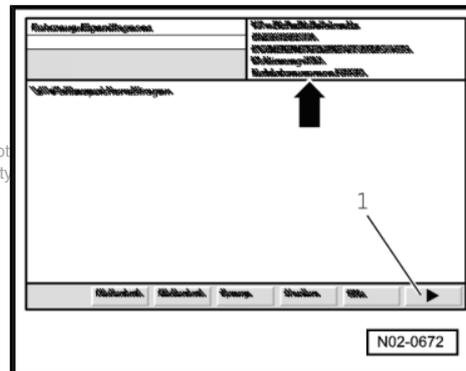


Indicated on display:

The control unit identification and coding are displayed -arrow-.

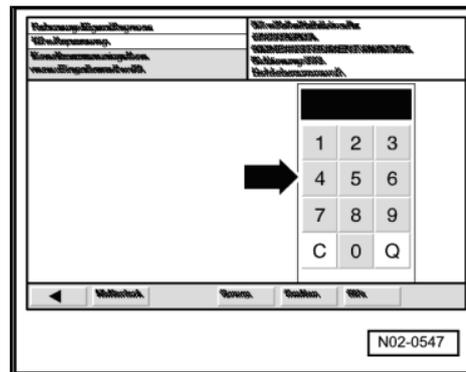
- Press  button -1- on the display.

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Indicated on display:

- Press “10 - Adaption” on display -arrow-.

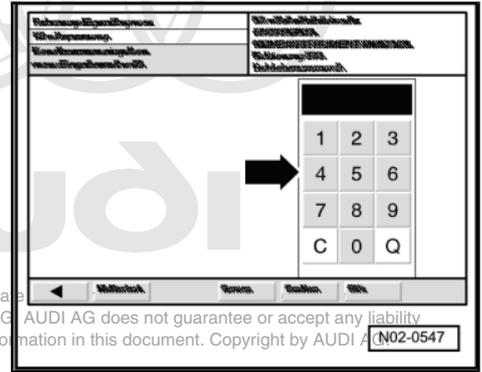


Indicated on display:

- Press keys **0** and **2** on display number block -arrow-.

The service interval display is reset via adaption channel "02".

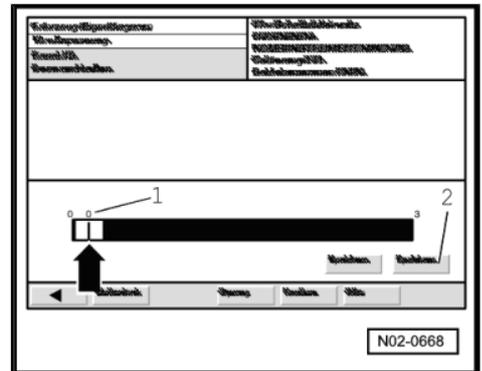
- Press **Q** key on display number block to confirm entry.



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Indicated on display:

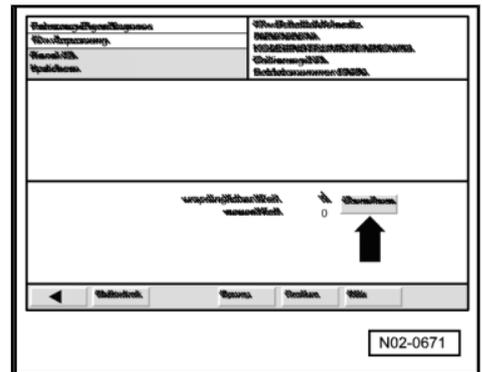
- Move the cursor -arrow- on the display to the left until "0" is displayed above the scroll bar -1-.
- Press **Save** button -2- on the display.



Indicated on display:

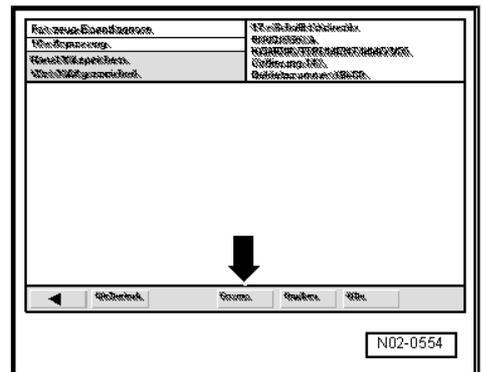
- Press "Transfer" button on display -arrow-.

Ending output



Indicated on display:

- Press "Go to" button on display -arrow-.



Indicated on display:

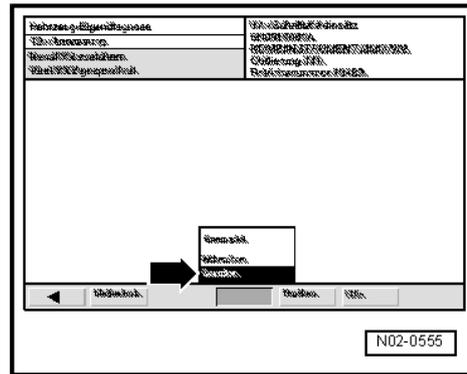
- Press **Exit** button on display -arrow-.
- Press **Exit** button in the Exit menu.
- Switch off ignition and detach diagnostic connector.

 **Note**

The -VAS 5051- must remain connected for checking the adaption values => [page 38](#) and for carrying out the exhaust emissions test (if required).

- Switch on ignition.

After switching on the ignition, the mileage display in the instrument cluster will no longer indicate that a service is due.



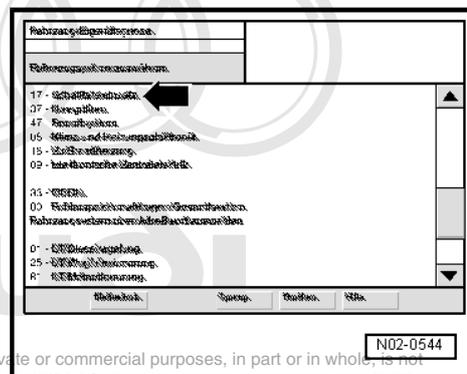
7.14.4 Checking or changing adaption values

- Connect -VAS 5051- => [page 35](#) .

Indicated on display:

Selecting vehicle system:

- Press "17 - Dash panel insert" on display -arrow-.

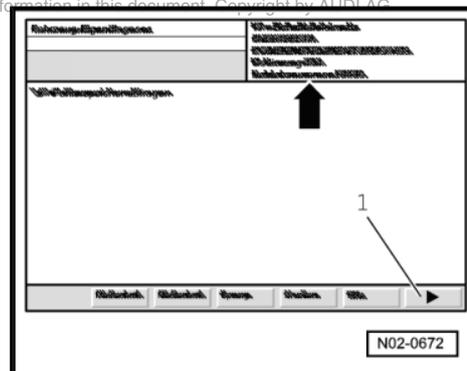


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Indicated on display:

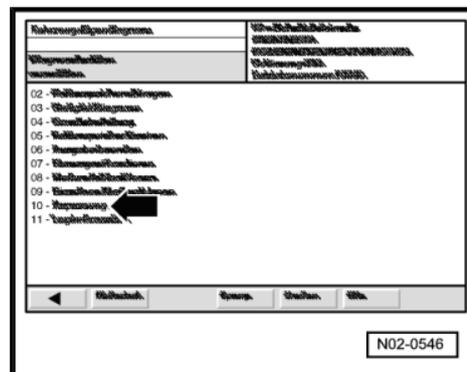
The control unit identification and coding are displayed -arrow-.

- Press **>** button -1- on the display.



Indicated on display:

- Press "10 - Adaption" on display -arrow-.

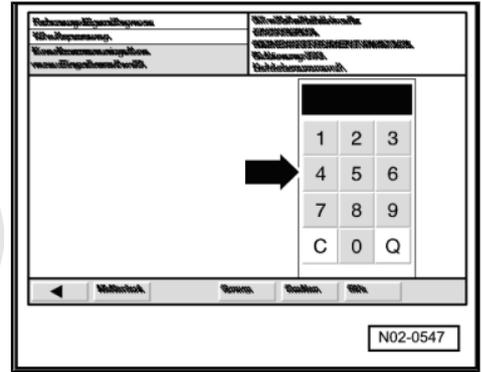


Indicated on display:

- Press keys **4** and **5** on display number block -arrow-.

“Adaption channel 45” is used to adapt the instrument cluster to the oil grade.

- Press **Q** key on display number block to confirm entry.



Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value “2” is displayed above the scroll bar -1-.

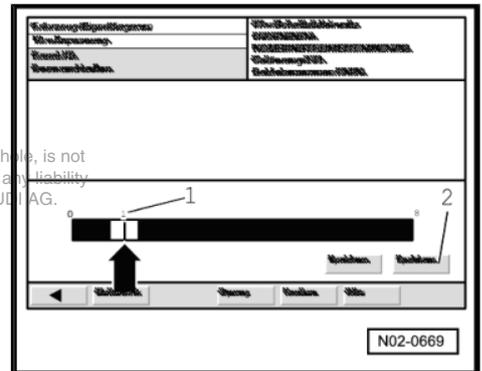


Note

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The adaption value in the top line indicates the current status of the service interval display:

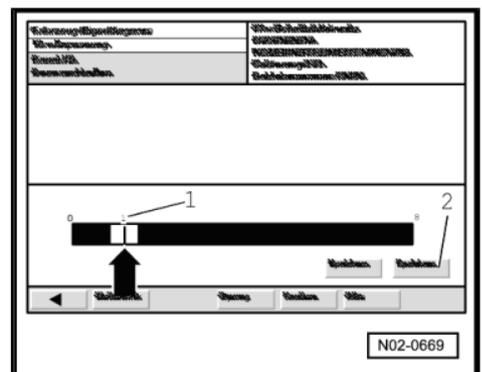
Channel 45 (oil grade for petrol engines: max. mileage of 30,000 km)	2
Channel 45 (oil grade for 6-cylinder diesel engines: max. mileage of 35,000 km)	3



Note

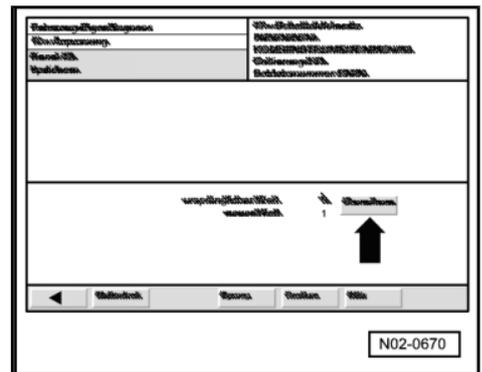
Encode flexible service interval (LongLife Service) on dash panel insert. For petrol engines enter adaption value “2”, for 6-cyl. diesel engines enter adaption value “3”.

- Press **Save** button -2- on the display.



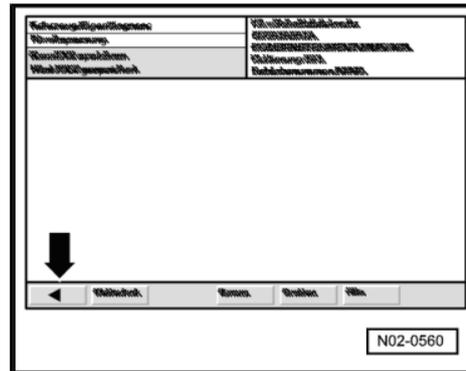
Indicated on display:

- Press **Transfer** button on display -arrow-.



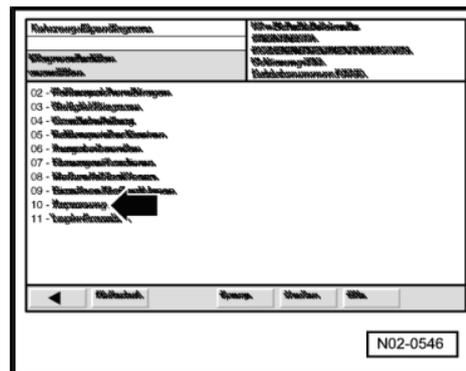
Indicated on display:

- Press  button on display -arrow-.



Indicated on display:

- Press "10 - Adaption" on display -arrow-.

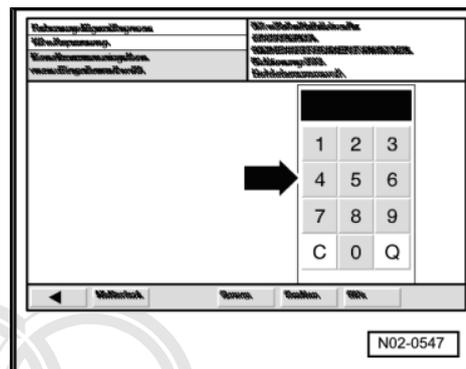


Indicated on display:

- Press keys  and  on display number block -arrow-.

"Adaption channel 44" is used to adapt the time interval which may elapse before the next service is due.

- Press  key on display number block to confirm entry.

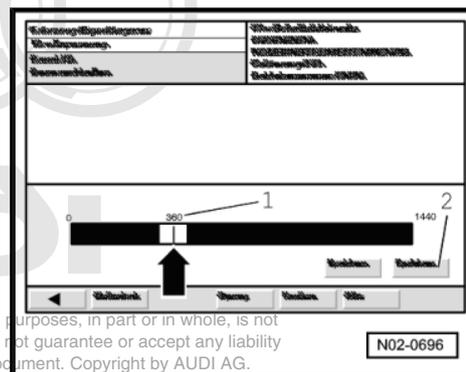


Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value "730" is displayed above the scroll bar -1-.

 **Note**

The adaption value displays the maximum time interval which may elapse before the next service is due.

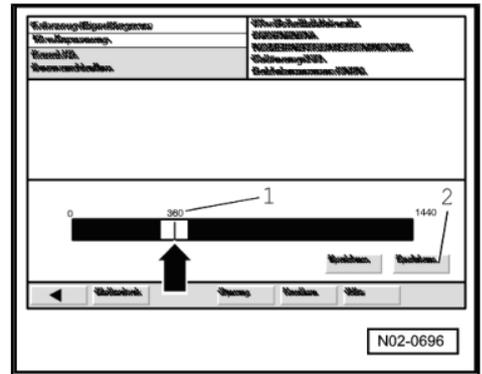


Channel 44 (max. time interval to next due service) 730 days

 **Note**

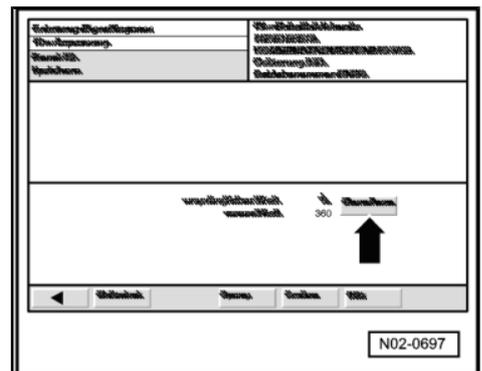
Encode flexible service interval (LongLife Service) on instrument cluster. Enter "adaption value 730".

- Press **Save** button -2- on the display.



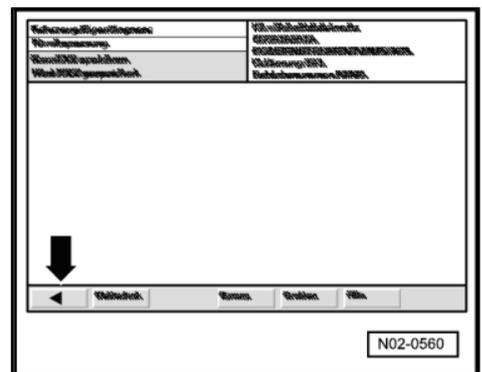
Indicated on display:

- Press **Transfer** button on display -arrow-.



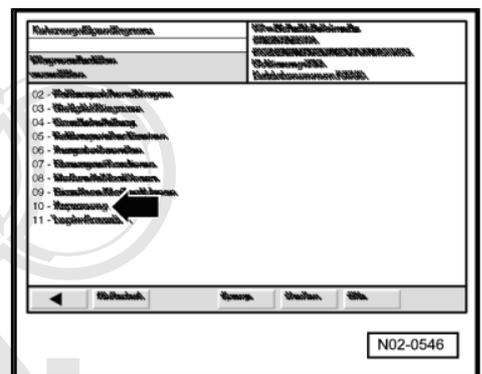
Indicated on display:

- Press **Left Arrow** button on display -arrow-.



Indicated on display:

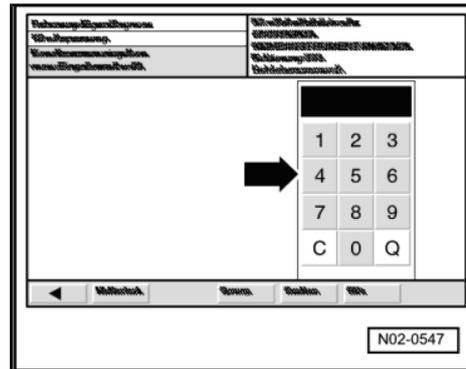
- Press "10 - Adaption" on display -arrow-.



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Indicated on display:

- Press keys **4** and **3** on display number block -arrow-.
- “Adaption channel 43” is used to adapt the maximum mileage which can be covered before the next service is due.
- Press **Q** key on display number block to confirm entry.



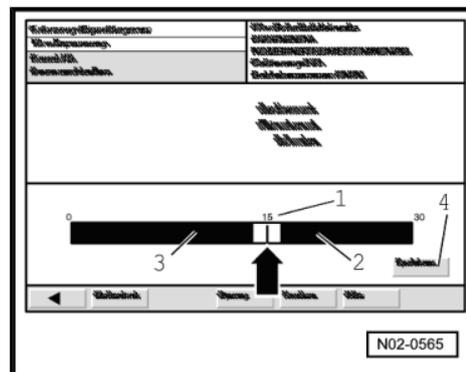
Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value “30” is displayed above the scroll bar -1-.



Note

- ◆ Briefly press the scroll bar -2- to the right of the cursor to increment the figure by one.
- ◆ Briefly press the scroll bar -3- to the left of the cursor to reduce the figure by one.
- ◆ The adaption value in the top line indicates the maximum mileage which can be covered before the next service is due.



Channel 43 (max. mileage), petrol engines	30,000 km
Channel 43 (max. mileage), 6-cyl. diesel engines	35,000 km

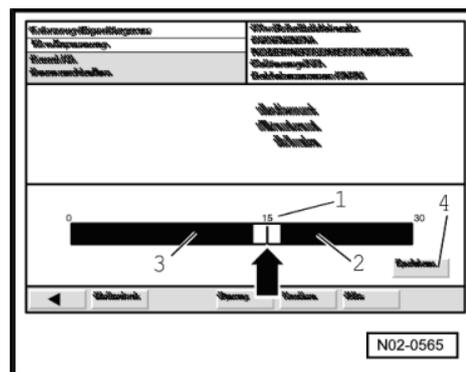


Note

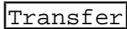
Encode flexible service interval (LongLife Service) on dash panel insert. For petrol engines enter adaption value “30”, for 6-cylinder diesel engines enter adaption value “35”

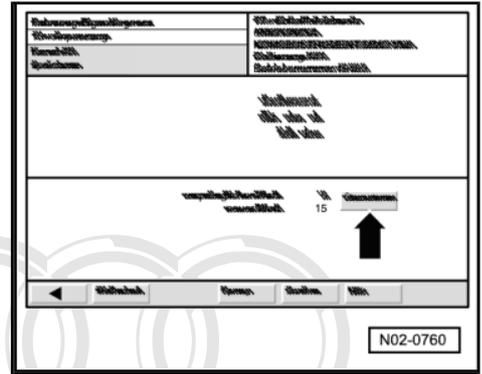
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- Press **Save** button -4- on the display.



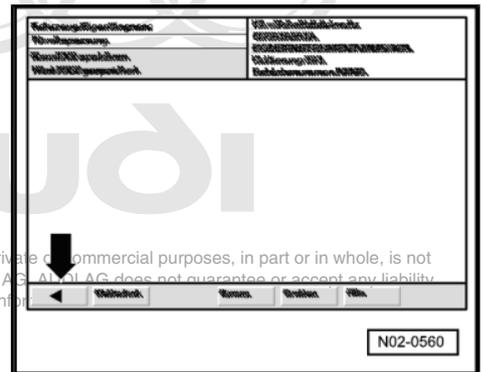
Indicated on display:

- Press  button on display -arrow-.



Indicated on display:

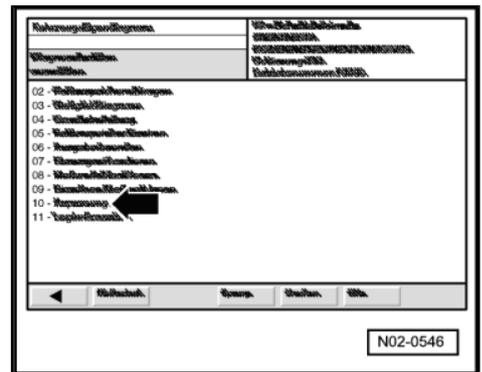
- Press  button on display -arrow-.



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Indicated on display:

- Press “10 - Adaption” on display -arrow-.

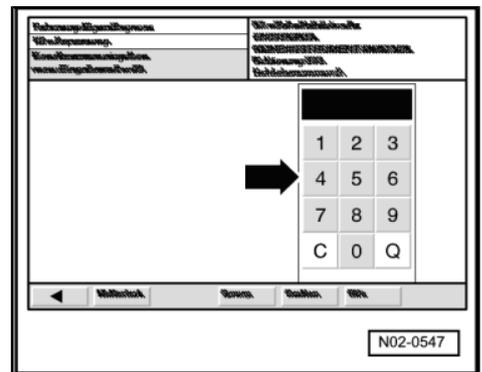


Indicated on display:

- Press keys  and  on display number block -arrow-.

“Adaption channel 42” is used to adapt the minimum mileage which can be covered before the next service is due.

- Press  key on display number block to confirm entry.

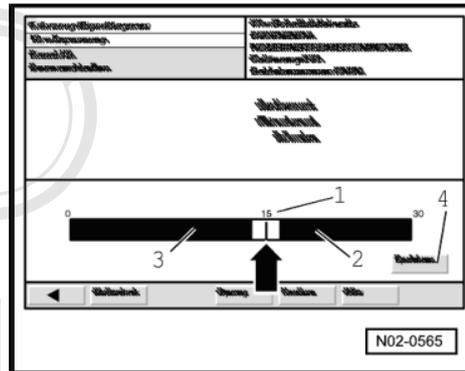


Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value "15" is displayed above the scroll bar -1-.

 **Note**

- ◆ Briefly press the scroll bar -2- to the right of the cursor to increment the figure by one.
- ◆ Briefly press the scroll bar -3- to the left of the cursor to reduce the figure by one.
- ◆ The adaption value in the top line indicates the minimum mileage before the next service is due.



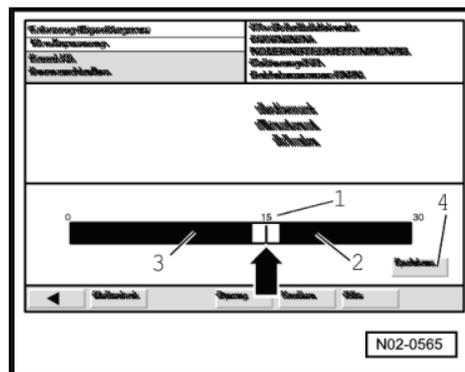
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Channel 42 (min. mileage)	15,000 km
---------------------------	-----------

 **Note**

Encode flexible service interval (LongLife Service) on instrument cluster. Enter "adaption value 15".

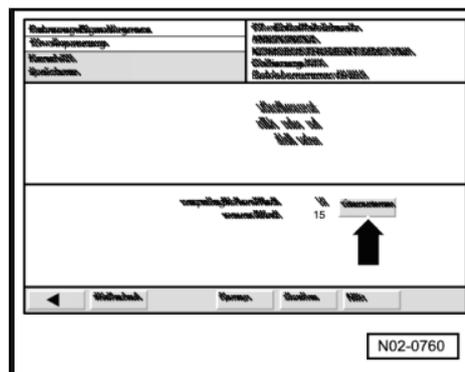
- Press **Save** button -4- on the display.



Indicated on display:

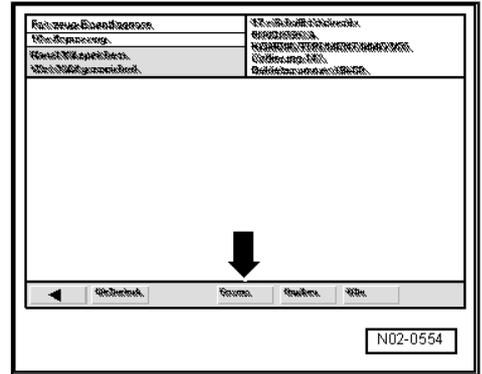
- Press **Transfer** button on display -arrow-.

Ending output



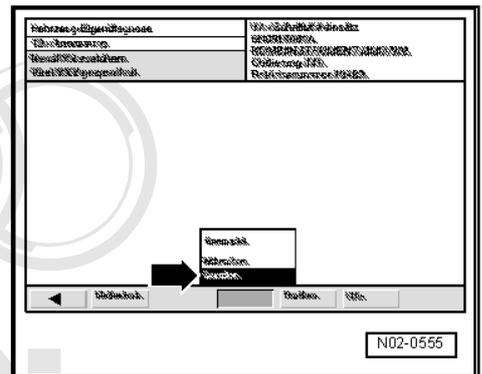
Indicated on display:

- Press **Go to** button on display -arrow-



Indicated on display:

- Press **Exit** button on display -arrow-
- Press **Exit** button in the Exit menu.
- Switch off ignition and detach diagnostic connector.



7.15 Service interval display: resetting Inspection Service (fixed interval) as from model year 2000 > -Y-

Resetting service interval display after completing a service for Audi A8 as from chassis number 4DYN 000 181

Resetting service interval display with fault reader -V.A.G 1551- [⇒ page 45](#)

Resetting service interval display with Vehicle diagnostic, testing and information system -VAS 5051- [⇒ page 47](#)

Resetting service interval display without using -V.A.G 1551- or -VAS 5051- [⇒ page 57](#)

7.15.1 Resetting service interval display with fault reader -V.A.G 1551-

- Connect -V.A.G 1551- [⇒ page 20](#) .

Indicated on display:

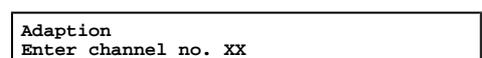
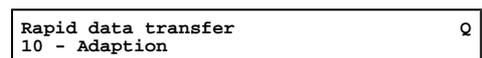
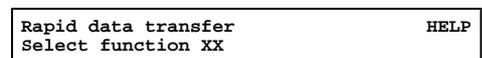
- Press keys **1** and **0** and confirm entry with key **Q**.

Indicated on display:

- Confirm entry with **Q** key.

Indicated on display:

- Press keys **0** and **2**.
- Confirm entry with **Q** key.





Note

- ◆ *The service interval display serves to remind the driver that a service is due. It is shown in the centre display.*
- ◆ *The service reminder will first appear 1 month or 2,000 km before the next service is due. The display changes at intervals of 100 km. Example: after covering a total mileage of 13,700 km the display will show "SERVICE IN 1300 km".*
- ◆ *The remaining mileage to the service can be called up via the menu in the centre display by pressing the clock reset button once.*
- ◆ *Once a service is due, an appropriate text message will be shown in the centre display for about 5 seconds when the ignition is switched on. It is displayed after the automatic gear-box info and after entering a destination in the navigation system (if applicable). Display shows: "SERVICE!".*

Indicated on display:

Channel 2	Adaption	1	->
		(-1	3-)

The service setting is displayed

1 - means that Service is active, i.e. the instrument cluster display shows "SERVICE!".



Note

The service interval display must only be reset by direct numerical input.

- Press key.

Indicated on display:

Channel 2	Adaption	1	
	Enter adaption value	XXXXX	

The Service is reset by entering the following adaption values:

Adaption value	Service setting
00000	Resetting

- Use the keypad to enter the correct adaption value -00000- to delete the service.

- Press key five times.

Indicated on display:

Channel 2	Adaption	1	Q
	Enter adaption value	00000	

- Confirm entry with key.

Indicated on display:

Channel 2	Adaption	0	Q
		(-1	3-)

0 - means that the Service has been reset, i.e. the instrument cluster display will show "SERVICE IN 15000 km" once the entry has been confirmed with the key.

- Confirm entry with key.

Indicated on display:

Channel 2	Adaption	0	Q
	Store changed value?		

- Confirm entry with key.

Indicated on display:

Channel 2	Adaption	0	->
Changed value is stored			

- Press  key to complete resetting of service interval display.

7.15.2 Checking or changing adaption values

After resetting the service interval display the following channels and adaption values must be checked or changed.

Table of channels and adaption values

Channel 42 (min. mileage)	15,000 km
Channel 43 (max. mileage)	15,000 km
Channel 44 (max. time interval to next due service)	365 days
Channel 45 (oil grade)	1

Procedure for correction of adaption values:

- ◆ Channel 42 (min. mileage) ⇒ [page 31](#)
- ◆ Channel 43 (max. mileage) ⇒ [page 32](#)
- ◆ Channel 44 (max. time interval to next due service) ⇒ [page 33](#)
- ◆ Channel 45 (oil grade for max. mileage) ⇒ [page 34](#)

7.15.3 Resetting service interval display with vehicle diagnostic, testing and information system -VAS 5051-

Special tools and workshop equipment required

- ◆ Vehicle diagnostic, testing and information system -VAS 5051-
- ◆ Adapter lead -VAS 5051/1-

Connect vehicle diagnostic, testing and information system -VAS 5051- ⇒ [page 21](#)

- Switch on ignition

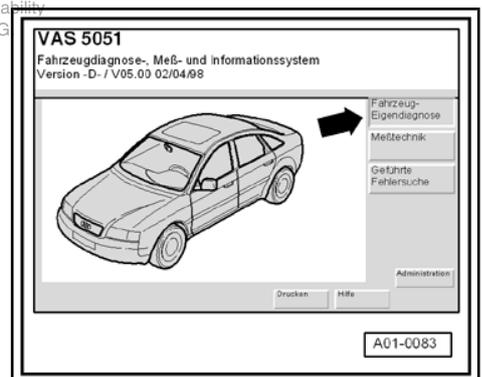
Indicated on display:

Selecting operating mode:

- Press button for “vehicle self-diagnosis” on display -arrow-.



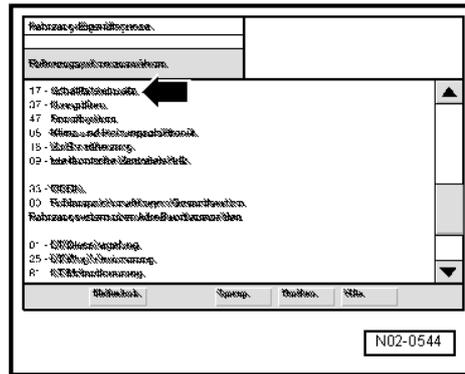
If the displays do not coincide with those reproduced in this work sequence, please refer to ⇒ Operating instructions for vehicle diagnostic, testing and information System -VAS 5051- .



Indicated on display:

Selecting vehicle system:

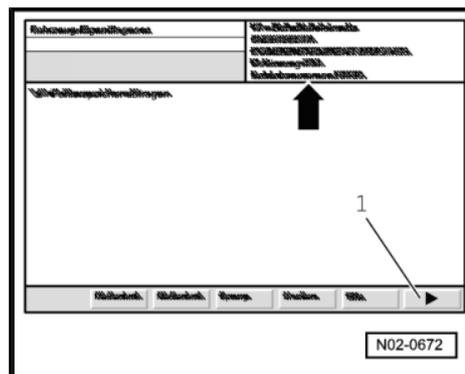
- Press “17 - Dash panel insert” on display -arrow-.



Indicated on display:

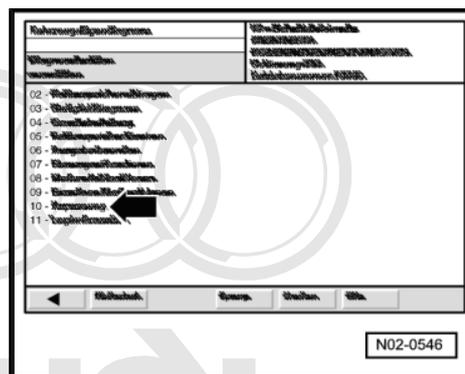
The control unit identification and coding are displayed -arrow-.

- Press  button -1- on the display.



Indicated on display:

- Press “10 - Adaption” on display -arrow-.

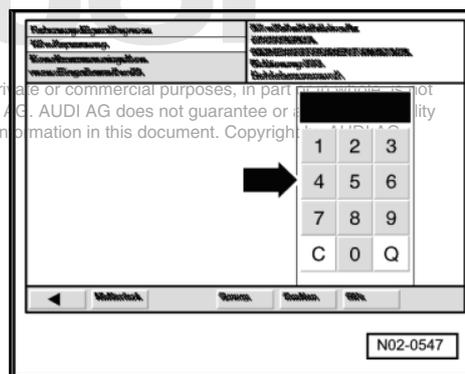


Indicated on display:

- Press keys  and  on display number block .

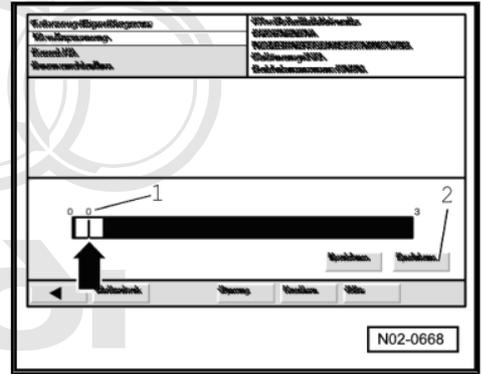
The service interval display is reset via “adaption channel 02”.

- Press  key on display number block to confirm entry.



Indicated on display:

- Move the cursor -arrow- on the display to the left until "0" is displayed above the scroll bar -1-.
- Press **Save** button -2- on the display.

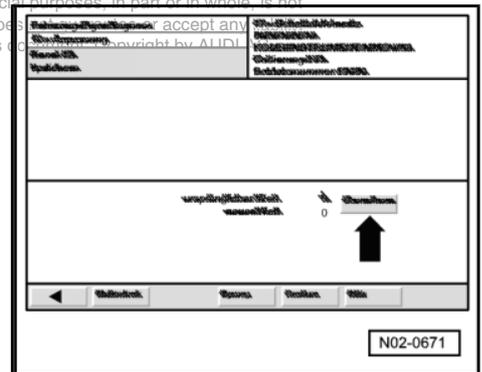


Indicated on display:

- Press **Transfer** button on display -arrow-.

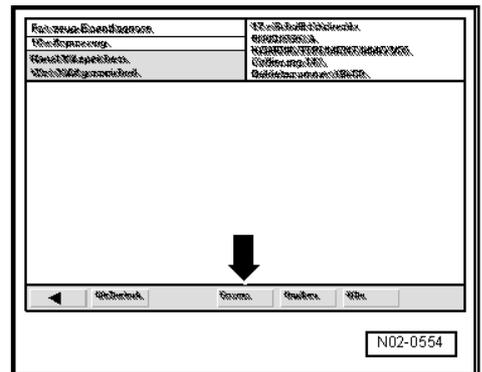
Ending output

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Indicated on display:

- Press **Go to** button on display -arrow-.



Indicated on display:

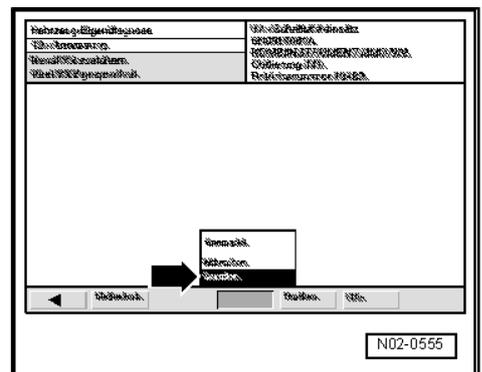
- Press **Exit** button on display -arrow-.
- Press **Exit** button in the Exit menu.
- Switch off ignition and detach diagnostic connector.

 **Note**

The -VAS 5051- must remain connected for checking the adaptation values => [page 50](#) and for carrying out the exhaust emissions test (if required).

- Switch on ignition.

After switching on the ignition, the mileage display in the instrument cluster will no longer indicate that a service is due.



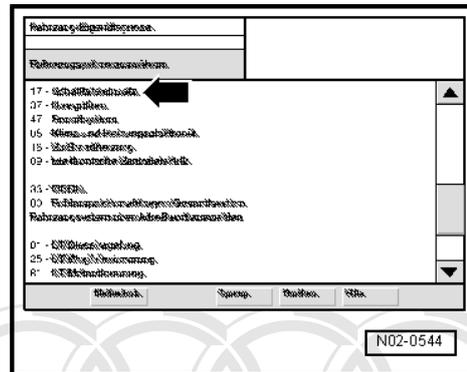
7.15.4 Checking or changing adaption values (-VAS 5051-)

- Connect -VAS 5051- ➔ [page 47](#) .

Indicated on display:

Selecting vehicle system:

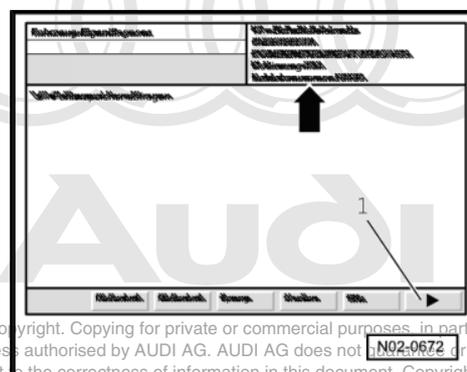
- Press “17 - Dash panel insert” on display -arrow-.



Indicated on display:

The control unit identification and coding are displayed -arrow-.

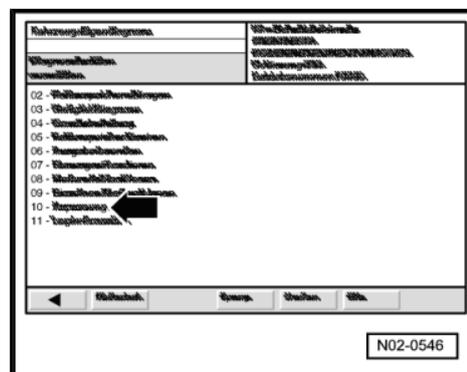
- Press  button -1- on the display.



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Indicated on display:

- Press “10 - Adaption” on display -arrow-.

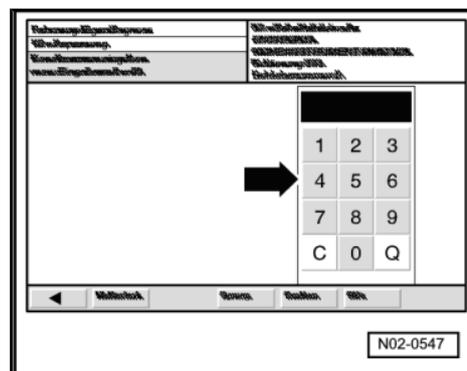


Indicated on display:

- Press keys  and  on display number block .

“Adaption channel 45” is used to adapt the instrument cluster to the oil grade.

- Press  key on display number block to confirm entry.



Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value "1" is displayed above the scroll bar -1-.

 **Note**

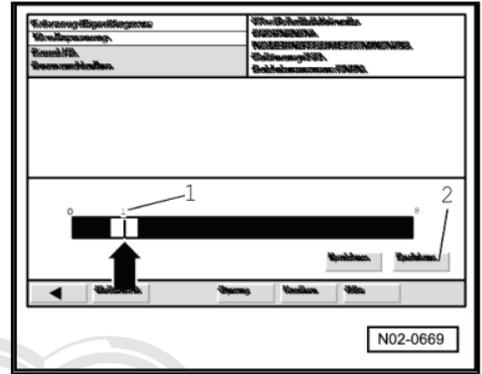
The adaption value in the top line indicates the current status of the service interval display:

Channel 45 (oil grade)	1
------------------------	---

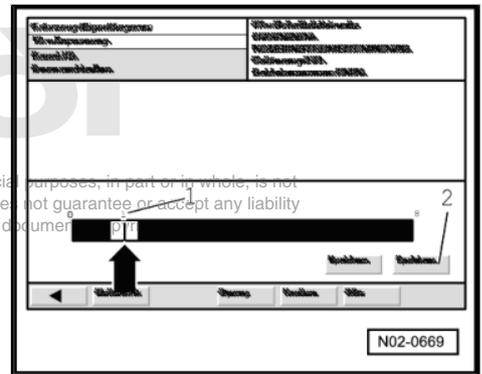
 **Note**

Encode non-flexible service interval (Inspection Service) on dash panel insert. Enter adaption value "1".

- Press **Save** button -2- on the display.

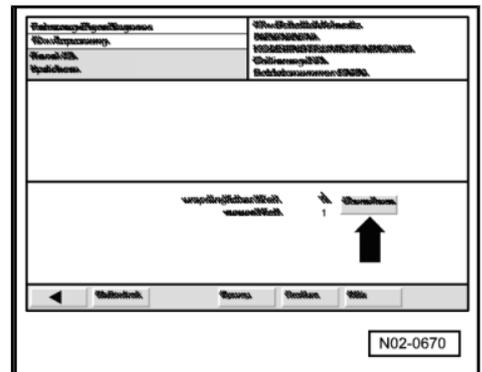


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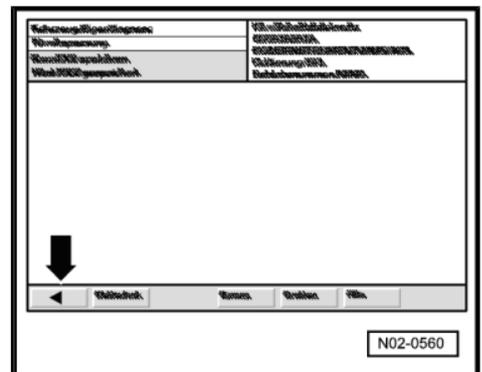
Indicated on display:

- Press **Transfer** button on display -arrow-.



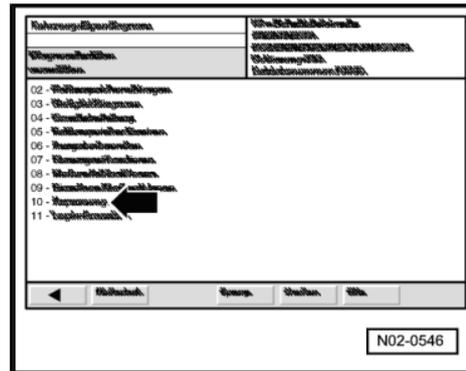
Indicated on display:

- Press **Back** button on display -arrow-.



Indicated on display:

- Press "10 - Adaption" on display -arrow-.

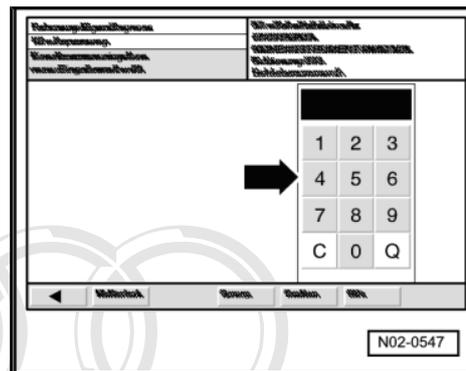


Indicated on display:

- Press keys [4] and [4] on display number block [arrow].

"Adaption channel 44" is used to adapt the time interval which may elapse before the next service is due.

- Press [Q] key on display number block to confirm entry.

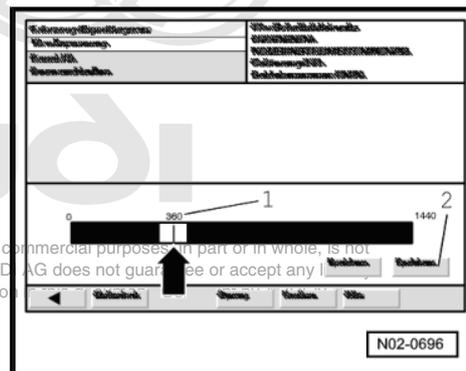


Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value "365" is displayed above the scroll bar -1-.



The adaption value displays the maximum time interval which may elapse before the next service is due.

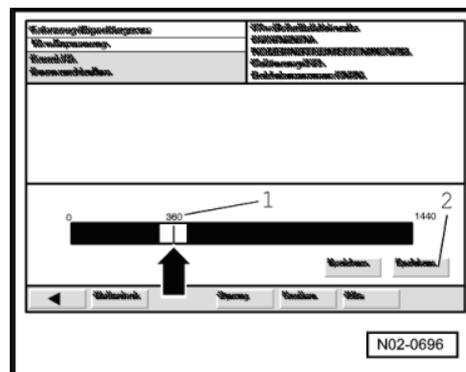


Channel 44 (max. time interval to next due service)	365 days
---	----------



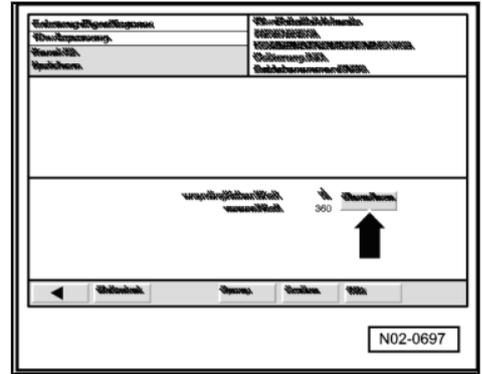
Encode non-flexible service interval (Inspection Service) on dash panel insert. Enter adaption value "365".

- Press [Save] button -2- on the display.



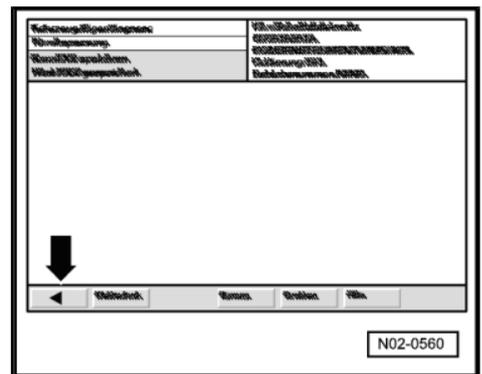
Indicated on display:

- Press  button on display -arrow-.



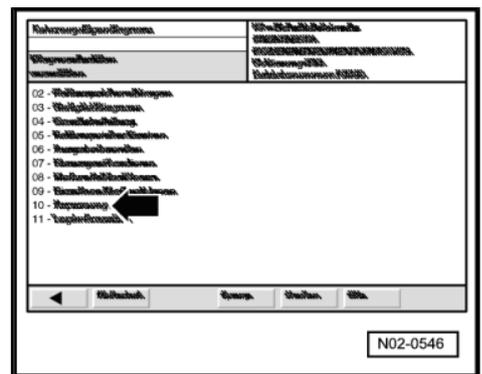
Indicated on display:

- Press  button on display -arrow-.



Indicated on display:

- Press "10 - Adaption" on display -arrow-.

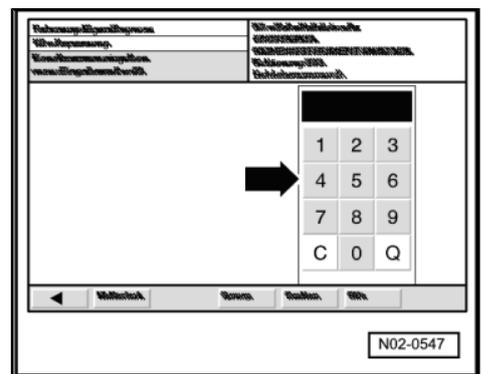


Indicated on display:

- Press keys  and  on display number block -arrow-.

"Adaption channel 43" is used to adapt the maximum mileage which can be covered before the next service is due.

- Press  key on display number block to confirm entry.



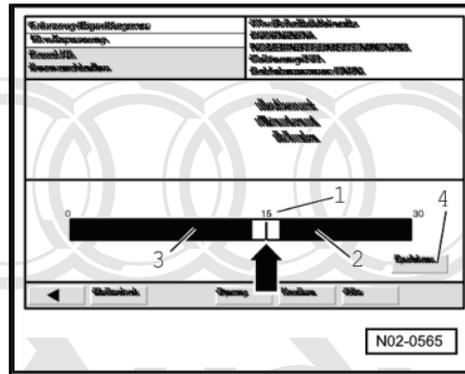
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Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value "15" is displayed above the scroll bar -1-.

 **Note**

- ◆ Briefly press the scroll bar -2- to the right of the cursor to increment the figure by one.
- ◆ Briefly press the scroll bar -3- to the left of the cursor to reduce the figure by one.
- ◆ The adaption value in the top line indicates the maximum mileage which can be covered before the next service is due.



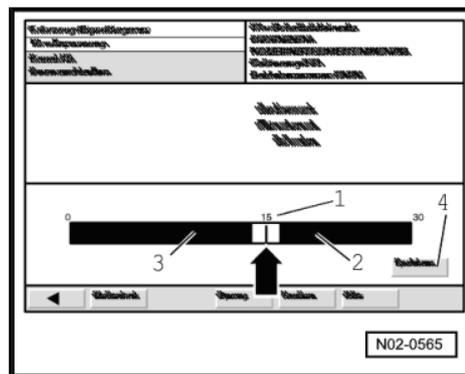
Channel 43 (max. mileage)	15,000 km
---------------------------	-----------

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 **Note**

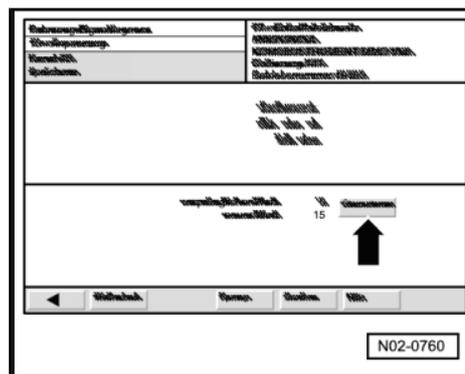
Encode non-flexible service interval (Inspection Service) on dash panel insert. Enter adaption value "15".

- Press **Save** button -4- on the display.



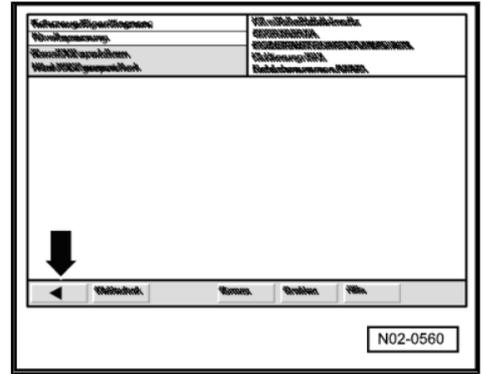
Indicated on display:

- Press **Transfer** button on display -arrow-.



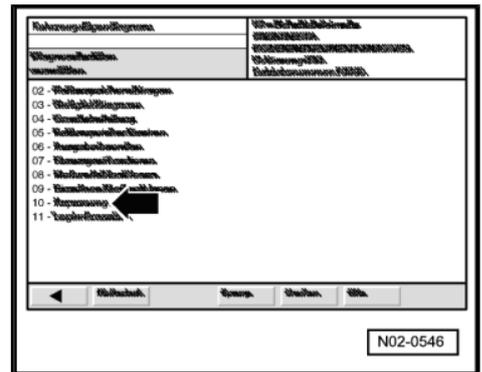
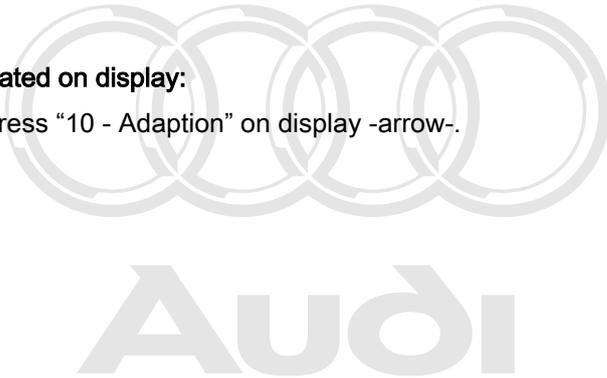
Indicated on display:

- Press  button on display -arrow-.



Indicated on display:

- Press “10 - Adaption” on display -arrow-.



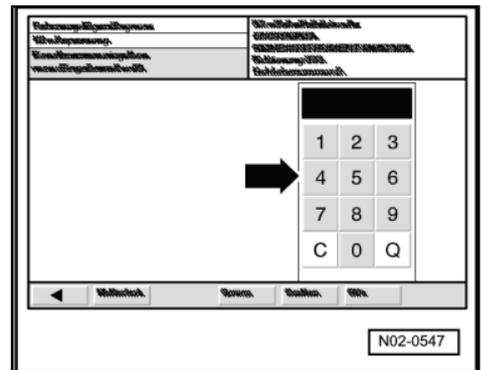
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Indicated on display:

- Press keys  and  on display number block -arrow-.

“Adaption channel 42” is used to adapt the minimum mileage which can be covered before the next service is due.

- Press  key on display number block to confirm entry.

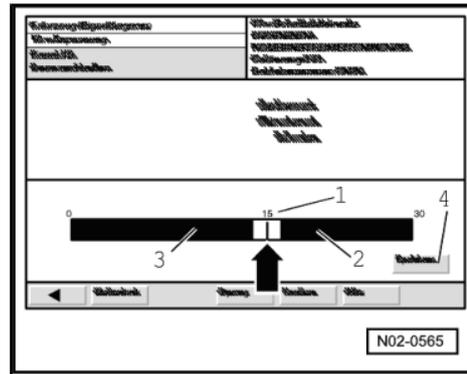


Indicated on display:

- Move the cursor -arrow- on the display to the left until adaption value "15" is displayed above the scroll bar -1-.

 **Note**

- ◆ Briefly press the scroll bar -2- to the right of the cursor to increment the figure by one.
- ◆ Briefly press the scroll bar -3- to the left of the cursor to reduce the figure by one.
- ◆ The adaption value in the top line indicates the minimum mileage before the next service is due.

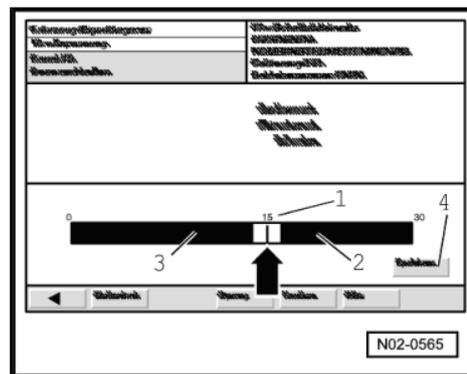


Channel 42 (min. mileage)	15,000 km
---------------------------	-----------

 **Note**

Encode non-flexible service interval (Inspection Service) on dash panel insert. Enter adaption value "15".

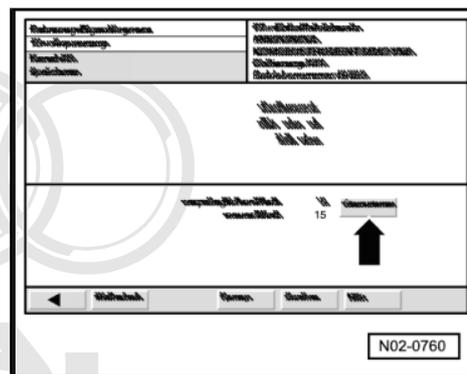
- Press **Save** button -4- on the display.



Indicated on display:

- Press **Transfer** button on display -arrow-.

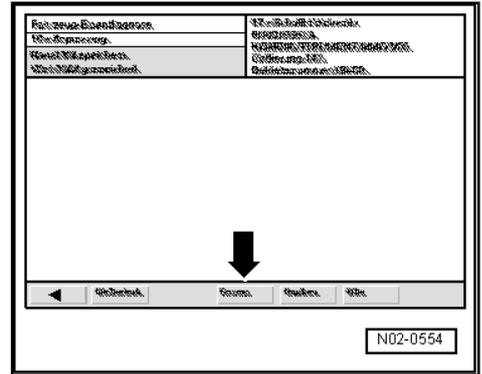
Ending output



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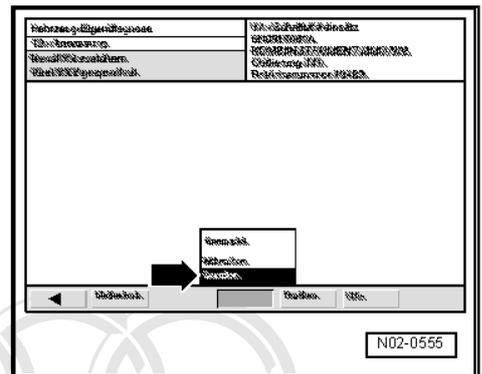
Indicated on display:

- Press **Go to** button on display -arrow-



Indicated on display:

- Press **Exit** button on display -arrow-
- Press **Exit** button in the Exit menu.
- Switch off ignition and detach diagnostic connector.



7.15.5 Resetting service interval display (after completing a Service) without the use of -V.A.G 1551- or -VAS 5051-

Caution

If resetting is performed without using -V.A.G 1551- or -VAS 5051-, this will automatically set fixed intervals for servicing.

The service interval display has to be reset after carrying out a Service.

The service interval display can be reset with the fault reader -V.A.G 1551-, using the function “Adaption” ⇒ [page 45](#).

The service interval display can also be reset as follows:

- Switch off ignition.
- Press the reset button for the trip recorder in the instrument cluster and at the same time switch on the ignition.

When you release the trip recorder button the display will show: “SERVICE IN ???? km” or “SERVICE!”.

- Keep the clock adjuster button in the instrument cluster pressed until the display is set back to “SERVICE IN ???? km” or “SERVICE!”.

The display will show: “SERVICE IN 15000 km”.

- Switch off ignition.

7.16 Door hinges with arresters, lock cylinder and bonnet arrester hook: lubricating

Special tools and workshop equipment required

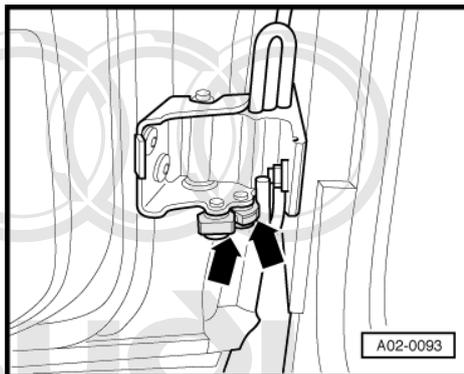
- ◆ Universal spray oil G 000 115 A2 for door hinges with arresters and bonnet arrester hook
- ◆ Spray-on grease G 052 778 A2 for lock cylinders

 **Note**

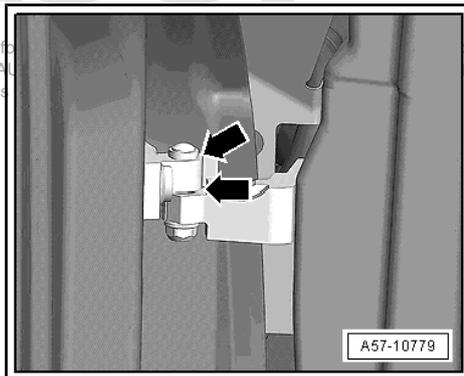
- ◆ *The vehicle must be at least at room temperature.*
- ◆ *Operate moving parts several times so that the lubricant is able to penetrate.*
- ◆ *Remove surplus lubricant with a cloth.*

Door arresters and door hinges

- Lubricate the door arresters at the points shown in the illustration -arrows- with universal spray oil G 000 115 A2.



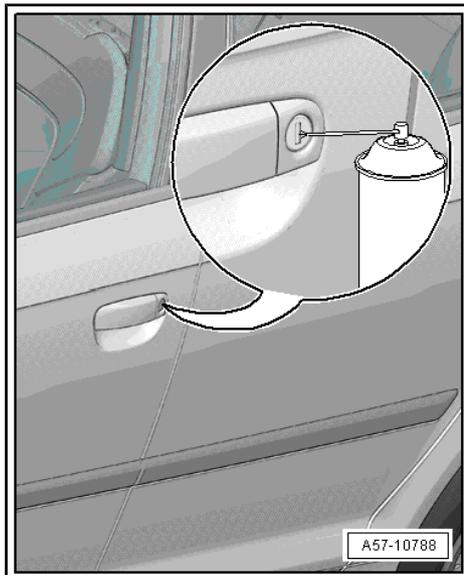
- Lubricate the door hinges at the points shown in the illustration -arrows- with universal spray oil G 000 115 A2.



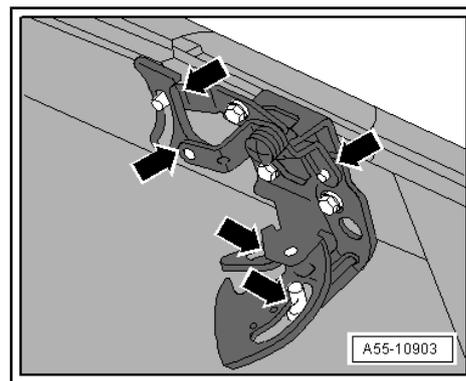
Lock cylinder

- Lubricate lock cylinder(s) with spray-on grease G 052 778 A2.

Bonnet arrester hook



- Lubricate bonnet arrester with universal spray oil G 000 115 A2 at points marked with -arrows-.



7.17 Sliding/tilting sunroof: cleaning and lubricating

Special tools and workshop equipment required

- ◆ Lubricating paste G 060 751 A2
- ◆ Krytox lubricating paste G 052 141 A2
- ◆ Cleaning solution D 009 401 04



Bend brush (commercially available, approx. 5 mm wide) by approx. 40° using workshop equipment.



Hold a cloth under the relevant part of the sunroof to protect the interior from dirt.

Cleaning and lubricating wind deflector seal

- Run glass sunroof panel to the rear until wind deflector is completely extended.



It is not necessary to remove the wind deflector.

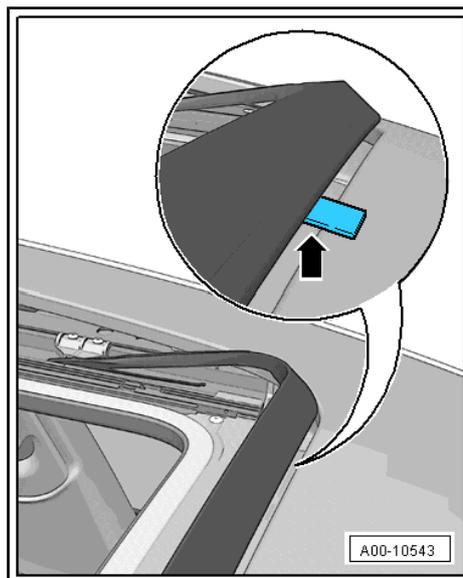
- Remove grease and dirt from cowl panel seal -arrow- using cleaning solution D 009 401 04 and a lint-free cloth.



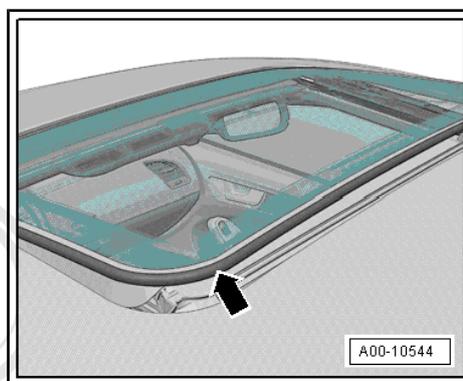
- Using a paintbrush (commercially available), thinly apply Krytox paste G 052 141 A2 to rubber lip from below -arrow-.
- Make sure that no white grease film remains visible after applying lubricant.
- Remove surplus Krytox paste from rubber lip with a lint-free cloth.

Cleaning and lubricating glass panel seal

- Tilt open glass sunroof.



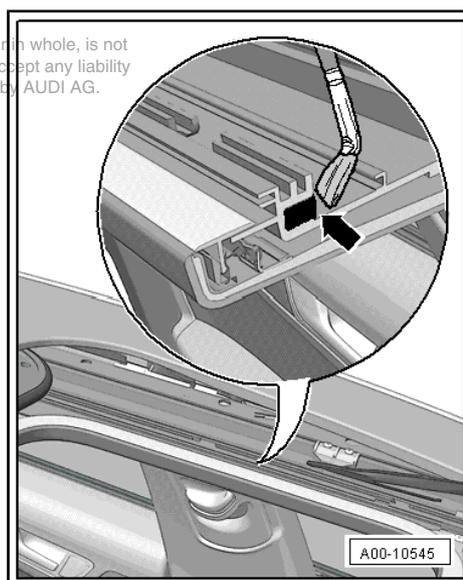
- Remove grease and dirt from glass panel seal -arrow- using cleaning solution D 009 401 04 and a lint-free cloth.
- Using a paintbrush (commercially available), apply a small amount of Krytox paste G 052 141 A2 as far as possible on glass panel seal -arrow-.
- Make sure that no white grease film remains visible after applying lubricant.
- Remove surplus Krytox paste from seal with a lint-free cloth.



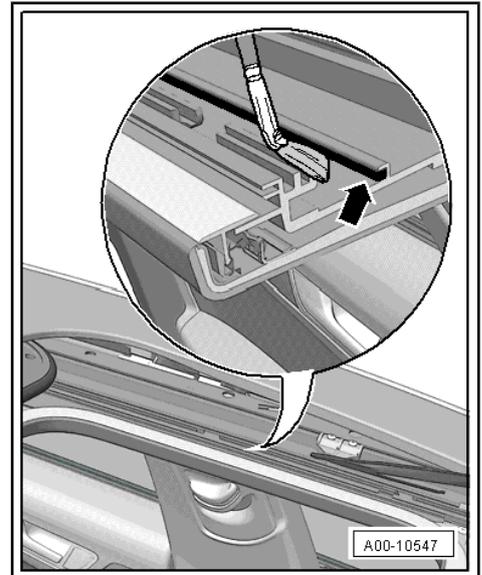
Cleaning and lubricating guide rail

- Open glass sunroof completely.
- Remove grease and dirt from guide rail with a lint-free cloth.
- If necessary, use a workshop vacuum cleaner to remove sand and fine dust from guide rail.
- Apply lubricant G 060 751 A2 to inside of guide rail -arrow- using a paintbrush (commercially available).

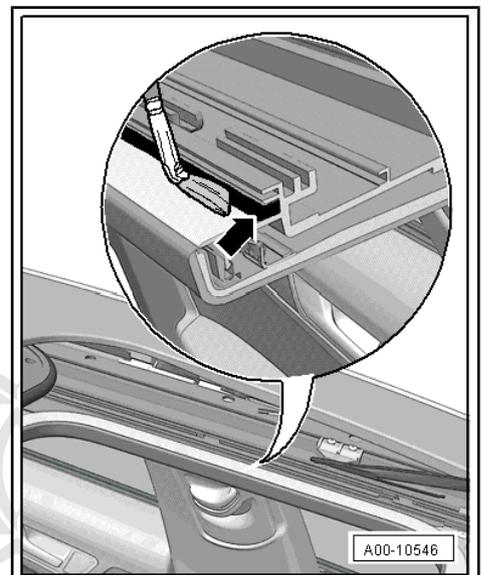
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- Apply lubricant G 060 751 A2 to outside of guide rail -arrow- using a paintbrush (commercially available).



- Apply lubricant G 060 751 A2 to side guide rail of sliding headliner -arrow- using a paintbrush (commercially available).
- Remove surplus lubricant on guide rails with a lint-free cloth.
- Repeat procedure on opposite side of vehicle.



7.18 Steps required before disconnecting battery



WARNING

Activate the service mode on the telematics control unit before disconnecting the battery.

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⇒ Vehicle diagnostic tester

 **Note**

- ◆ Obtain the anti-theft code for the radio/navigation unit before disconnecting the battery.
- ◆ When reconnecting the battery, please make sure that the vehicle equipment (radio/navigation system, clock, electric window regulators, engine) is activated as described in the Owner's Manual. Also remember to deactivate the service mode on the telematics control unit. ⇒ Vehicle diagnostic tester

7.19 Battery: checking electrolyte level

7.19.1 Vehicles without additional battery

The battery is located below the floor panel on the right of the luggage compartment.

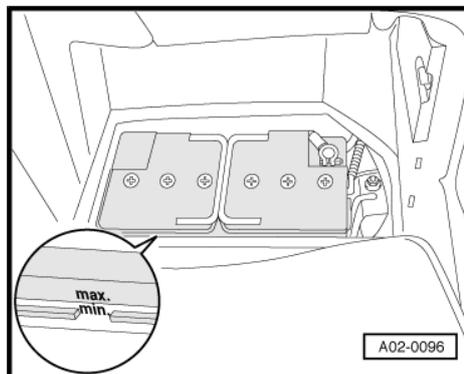
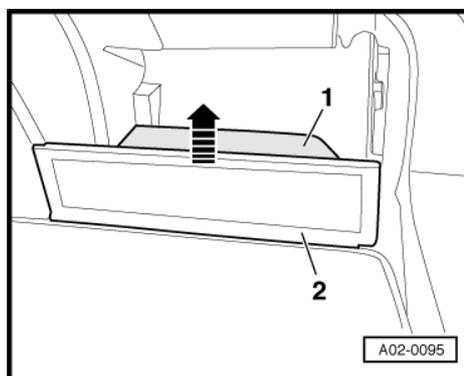
- Take out floor panel -1- (Velcro fastener).
- Pull off partition panel -2- upwards -arrow-.

Batteries without magic eye

- The electrolyte level must be between the MIN and MAX marks.

 **Note**

- ◆ A visual check of the battery is sufficient for batteries with clearly visible MIN and MAX marks.
- ◆ When performing a visual check, a bright hand-held torch helps to better see the electrolyte level as well as the MIN and MAX marks.
- ◆ If the electrolyte level is below the MIN marking, the battery must be renewed.



Battery with magic eye



WARNING

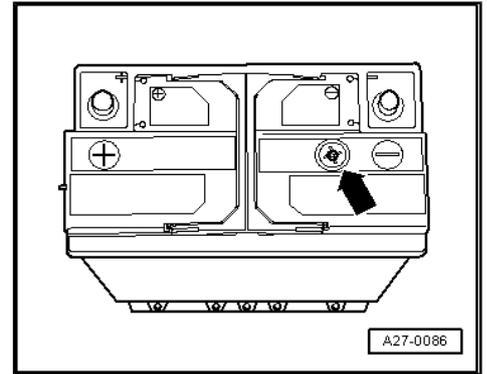
If the magic eye is colourless or the battery is more than 5 years old, the battery must be renewed. Do not attempt to jump-start the vehicle - risk of explosion!

The magic eye -arrow- indicates the fluid level and the charge level of the battery to be checked.

The magic eye is found in only one battery cell; the electrolyte level is therefore checked only for this battery cell.

During battery charging or vehicle operation, air bubbles can form underneath the magic eye which could falsify colour display.

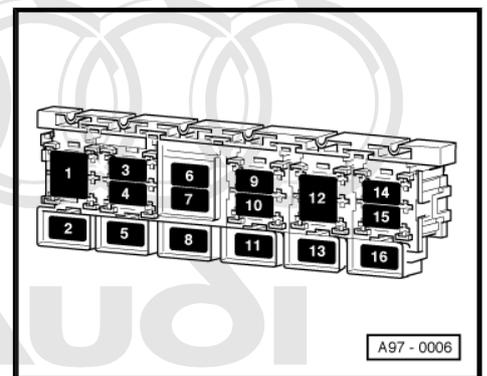
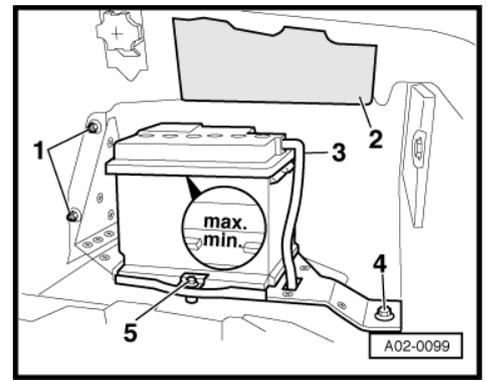
- Tap magic eye -arrow- lightly and carefully with the handle of a screwdriver to release any bubbles under magic eye.
- Read off battery electrolyte level according to colour display of magic eye.



7.19.2 Vehicles with additional battery

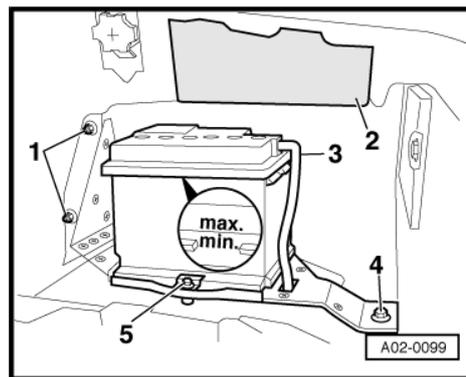
The additional battery is located behind the side trim on the right of the luggage compartment.

- Remove side trim on right side of luggage compartment.
- For access to main vehicle battery remove additional battery as follows.
- First slacken nut on battery earth strap and disconnect earth strap from battery terminal.
- Then slacken nut on battery positive cable (under cover for positive terminal) and disconnect positive cable from battery terminal.
- Insulate both disconnected terminal clamps.
- Turn quick-release fastener on underside of cover -2- 1/4 turn clockwise and detach cover.
- Pull out isolating relay at position 12 in fuse box.



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- Disconnect gas vent hose -3- at battery.
- Slacken bolt -5- on retainer plate for additional battery and take out additional battery.
- Detach mountings -1- and -4- of bracket for additional battery and take off bracket.
- Check electrolyte level of main vehicle battery.



Batteries without magic eye

The electrolyte level must be between the MIN and MAX marks.



Note

- ◆ *A visual check of the battery is sufficient for batteries with clearly visible MIN and MAX marks.*
- ◆ *When performing a visual check, a bright hand-held torch helps to better see the electrolyte level as well as the MIN and MAX marks.*
- ◆ *If the electrolyte level is below the MIN marking, the battery must be renewed.*

Battery with magic eye:



WARNING

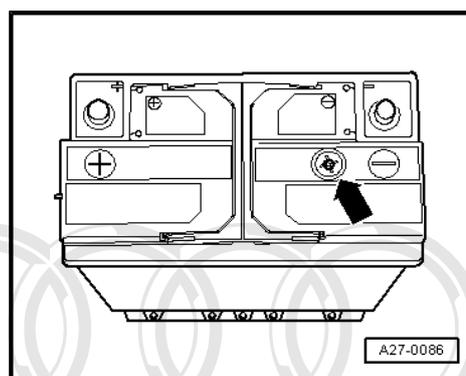
If the magic eye is colourless or the battery is more than 5 years old, the battery must be renewed. Do not attempt to jump-start the vehicle - risk of explosion!

The magic eye -arrow- indicates the fluid level and the charge level of the battery to be checked.

The magic eye is found in only one battery cell; the electrolyte level is therefore checked only for this battery cell.

During battery charging or vehicle operation, air bubbles can form underneath the magic eye which could falsify colour display.

- Tap magic eye -arrow- lightly and carefully with the handle of a screwdriver to release any bubbles under magic eye.
- Read off battery electrolyte level according to colour display of magic eye.



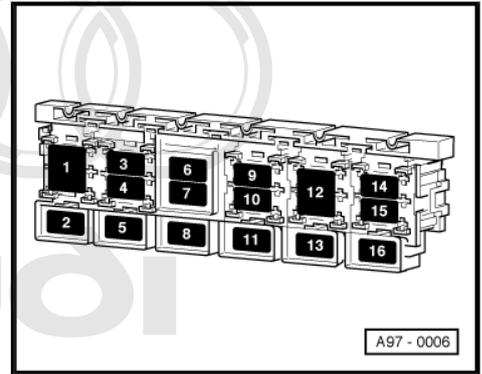
All batteries:

Installation is performed in reverse sequence; note the following:



- After connecting additional battery, re-fit isolating relay at position 12 in fuse box.

Tightening torque	Nm	
Battery terminal clamp to battery terminal		5
Battery mounting	M6	10
	M8	22

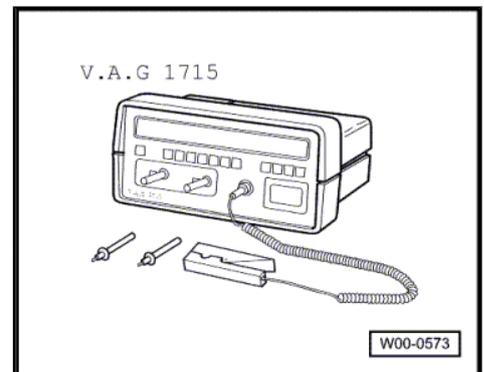


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7.20 Battery: checking "no load" voltage before starting the engine for the first time (only applies to stock vehicles)

Special tools and workshop equipment required

- ◆ Digital multimeter V.A.G 1715



or

- ◆ Hand-held multimeter V.A.G 1526 B



Note

- ◆ *The vehicle must not be driven or started with the battery that is to be tested for at least 2 hours before performing test.*
- ◆ *The battery must not be placed under load from connected electrical equipment for at least 2 hours before the test.*
- ◆ *The battery must not be charged for at least 2 hours before the test.*

Vehicles without additional battery:

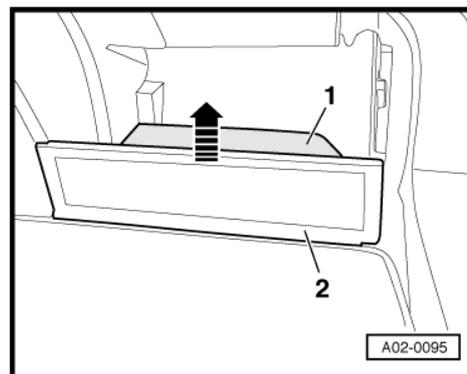
- Take out floor panel -1- (Velcro fastener).
- Pull off partition panel -2- upwards -arrow-.

Vehicles with additional battery:

- Remove additional battery ⇒ [page 63](#) .

All vehicles:

- Check voltage between battery terminals with the ignition switched off.
- If the tester indicates 12.5 V or more, the battery is OK.
- If the voltage is less than 12.5 V, locate the source of the problem (repair measure).

**Vehicles with additional battery:**

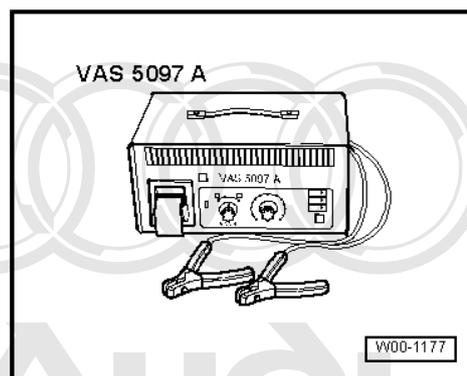
- Install additional battery ⇒ [page 64](#) .

7.21 Battery: performing load test

The battery load test provides information on the condition of the battery.

Special tools and workshop equipment required

- ◆ Battery tester -VAS 5097 A-

**Note**

It is not necessary to remove the battery when using battery tester -VAS 5097A-. The battery does not have to be disconnected.

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7.21.1 Carrying out load test

- Switch off ignition.
- Read operating instructions for battery tester.
- Connect the clamps of the test leads to battery terminals as described in operating instructions for the tester.

The clamps must make good contact with the battery terminals.

- As the load current differs depending on the battery, the current must be set on the tester according to battery capacity ⇒ Operating instructions for battery test equipment .
- Perform a battery load test as described in the operating instructions.

7.21.2 Evaluating results of load test

Display on battery tester	Delivery Inspection	Inspection Service, LongLife Service
Battery Very Good	Battery OK	Battery OK
Battery Good	Recharge battery ¹⁰⁾	Battery OK
Battery Not Good	Recharge battery ¹⁰⁾	Recharge battery ¹¹⁾
Battery Faulty	Renew battery	Renew battery ¹²⁾

10) Perform battery load test again after recharging the battery. If "Battery Good" or "Battery Not Good" is displayed again after recharging the battery renew the battery.

11) Perform battery load test again after recharging the battery. If "Battery Good" or "Battery Not Good" is displayed again after recharging the battery, renew the battery after consulting the customer.

12) Agree battery replacement with customer.



Before disconnecting the battery, please refer to [⇒ page 61](#).

Notes on battery load test:

The battery voltage will decrease during the test due to the high load (high current flow).

If a battery is in working order battery voltage will only drop to minimum voltage.

If the battery is defective or only insufficiently charged, battery voltage will very quickly drop below minimum voltage.

After carrying out the load test the voltage will remain at this low level for quite a while; voltage will only rise again slowly.

7.22 Battery: checking that battery cables are securely fitted

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



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Vehicles without additional battery:

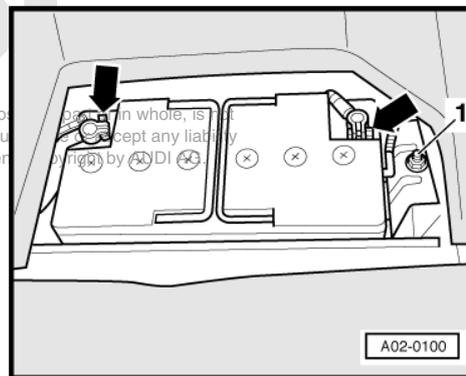
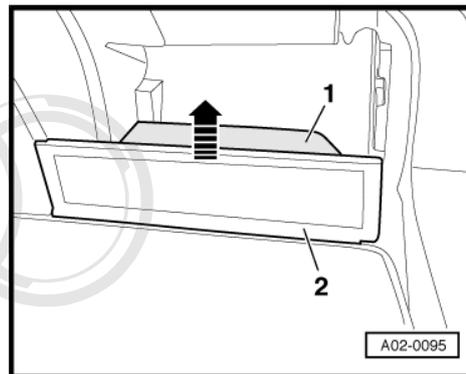
- Take out floor panel -1- (Velcro fastener).
- Pull off partition panel -2- upwards -arrow-.

Vehicles with additional battery:

- Remove additional battery ⇒ [page 63](#) .

All vehicles:

- Check that the battery terminal clamps are securely fitted on the vehicle battery. If necessary, tighten nuts -arrows-.



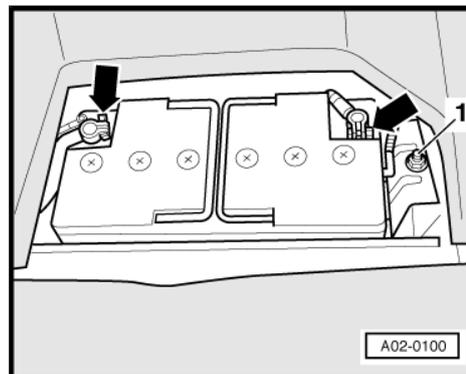
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If the battery terminal clamp on the positive terminal is not fitted securely, disconnect the battery earth strap from the battery negative terminal first to avoid possible accidents.

Note

Before disconnecting the battery, please refer to ⇒ [page 61](#) .

- Check that battery is securely seated. If necessary tighten securing nut -1- on retainer plate.



Tightening torque		Nm
Battery terminal clamp to battery terminal		5
Battery mounting	M6	10
	M8	22

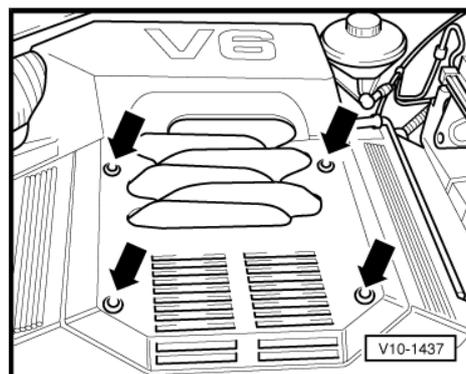
Vehicles with additional battery:

- Install additional battery ⇒ [page 64](#) .

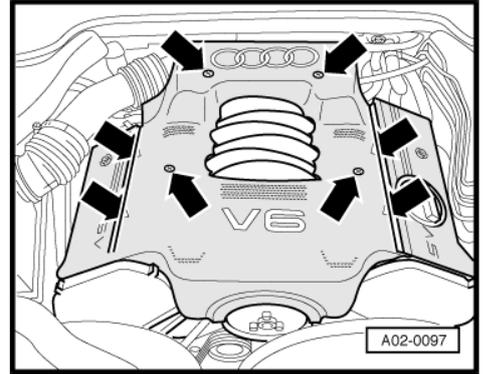
7.23 Engine cover panel: removing

- Slacken bolts/nuts -arrows- and remove engine cover panel (s).

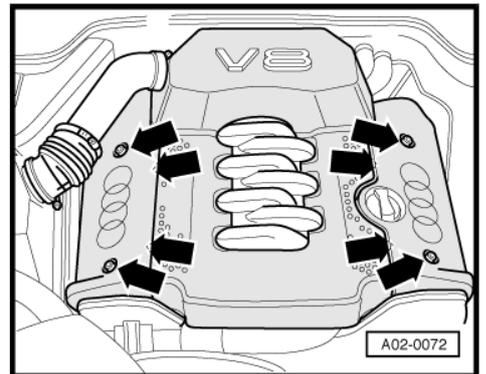
V6 2V petrol engine:



V6 5V petrol engines:

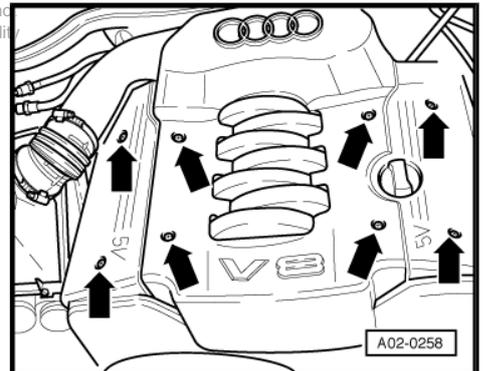


V8 2V petrol engines:

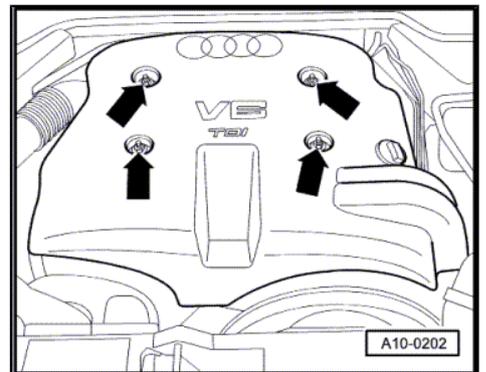


V8 5V petrol engines:

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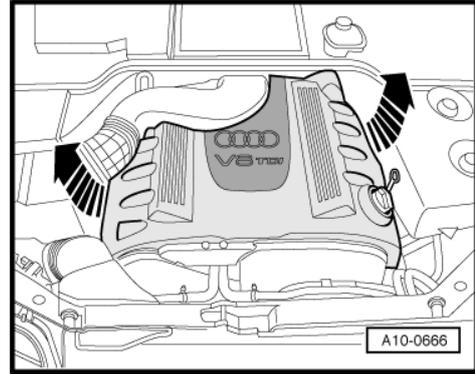
V6 TDI engines:





3.3 ltr. V8 TDI engine:

- Pull off engine cover -arrows-



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7.24 Engine (from above and below) and engine compartment: visual check for leaks and damage

Carry out visual check as follows:

- Remove engine cover panel ⇒ [page 68](#) .
- Check engine and engine compartment for leaks and damage.
- Check the pipes, hoses and connections of the following systems for leaks, chafing, porosity and brittleness.
 - ◆ Fuel system
 - ◆ Cooling and heating system
 - ◆ Brake system
- Perform a visual check of the same components from below with the vehicle raised on a lifting platform and the noise insulation removed.



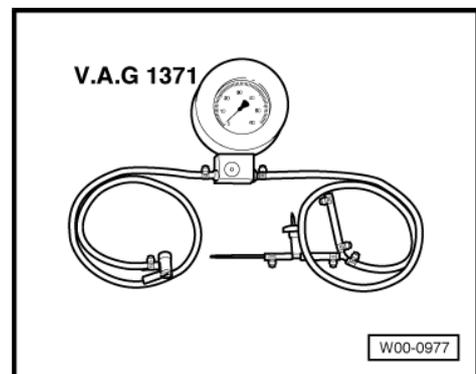
WARNING

Any faults found must be rectified (repair measure).

7.25 Crankcase pressure: checking (V6 TDI engine AFB, AKN)

Special tools and workshop equipment required

- ◆ Pressure gauge -VAG 1371-



 **Note**

The checking of the crankcase pressure is no longer performed on AFB engines from engine number "154 592" and on AKN engines from engine number "031 890".

The engine number is stamped onto the right inner side of the cylinder block between cylinder head and injection pump.

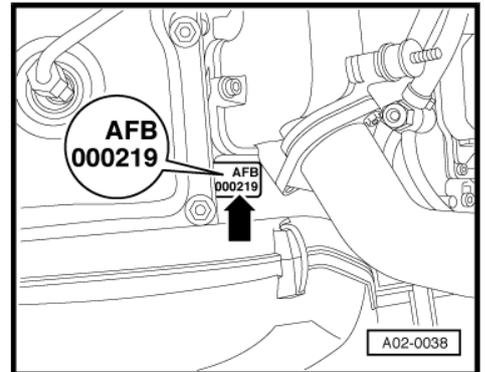
The crankcase pressure should be checked every 60,000 km (38,000 miles) or if oil leaks are visible.

 **Note**

The engine must be at operating temperature (above 80 °C)

- Pull out dipstick, connect pressure gauge -VAG 1371- to dipstick guide and let engine run at idling speed (for at least 3 minutes).

Repair measures are required if the crankcase pressure exceeds 5 mbar: renew oil separator ⇒ 6-cyl. diesel direct injection engines (TDI) mechanics (engine code AFB); Rep gr. 17 Oil filter bracket overview Illustration No. A17-0118, item 17 loosen both bolts, renew oil separator connection (component included in set of seals -059 103 464-).



7.26 Windscreen and headlight washer system: topping up with washer fluid

- Fill container up to top with washer fluid.

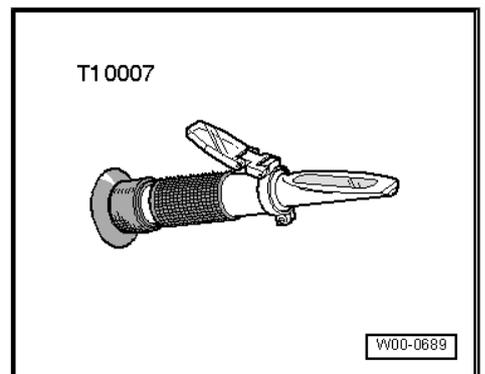
 **Note**

The washer fluid must always contain a pH-neutral window cleaning additive (antifreeze additive in winter).

7.27 Cooling system: checking antifreeze and topping up with coolant if necessary

Special tools and workshop equipment required

- ◆ Refractometer -T10007-



**Note**

- ◆ *The cooling system is filled all year round with with a mixture of water and antifreeze/corrosion protection agent.*
- ◆ *Coolant additive -G 011 A8 C- (green colour) is used up to vehicle ID No. "4DVN 000 815".*
- ◆ *From vehicle ID No. "4DVN 000 816" coolant additive -G 012 A8 D- (red colour) is used.*

**WARNING**

The two different coolant additives -G 011 A8 C- (green colour) and -G 012 A8 D- (red colour) must never be mixed. Mixing the two could result in serious damage to the engine.

**Note**

- ◆ *If the fluid in the expansion tank is of brownish colour, this means -G 012 A8 D- has been mixed with another type of coolant. If this should be the case, flush out the cooling system and change coolant. To flush the system, fill it with clean water and run the engine for about 2 minutes. This should remove most of the old coolant.*
- ◆ *-G 011 A8 C- or a coolant additive conforming to specification "TL VW 774 C" / -G 012 A8 D- or a coolant additive conforming to "TL VW 774 D" prevent frost and corrosion damage, stop scaling and, at the same time, raise the boiling point of the coolant. It is therefore essential to use the correct antifreeze and corrosion protection additive in the cooling system all year round.*

7.27.1 Checking coolant level and topping up with coolant if necessary

- Check coolant level on expansion tank while the engine is cold.

Delivery Inspection

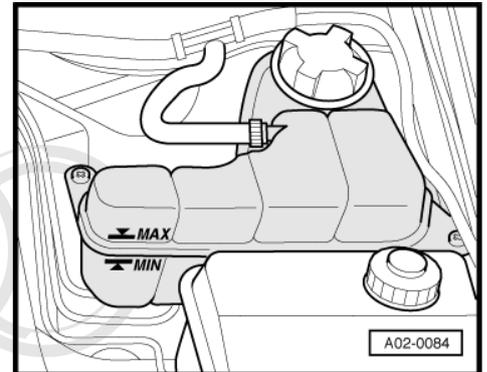
- Coolant level at MAX marking.

Inspection Service

- Coolant level between MIN and MAX markings.
- If coolant level is too low, add required amount (using correct mixture ratio).

Mixture ratio:

Frost protection to	Coolant additive	Water
-25 °C	approx. 40 %	approx. 60 %
-35 °C	approx. 50 %	approx. 50 %
-40 °C	approx. 60 %	approx. 40 %



Note

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- ◆ *Because of its high boiling point, the coolant improves engine reliability under heavy loads, particularly in countries with tropical climates.*
- ◆ *Antifreeze protection must be guaranteed to about -25 °C (in countries with an arctic climate to approx. -35 °C).*
- ◆ *The coolant concentration must not be reduced by adding water even in warmer seasons and in warmer countries. The coolant additive ratio must be at least 40 %.*
- ◆ *If greater antifreeze protection is required in very cold climates, the proportion of -G 011 A8 C- or -G 012 A8 D- can be increased, but only up to 60 % (this gives frost protection to about -40 °C). Beyond this concentration the antifreeze protection and also the cooling efficiency are reduced again.*

Checking antifreeze and topping up with coolant additive if necessary

- If antifreeze protection is insufficient, drain off the required quantity as specified in the antifreeze protection table ([=> page 73](#)) and add -G 011 A8 C- or a coolant additive conforming to specification “TL VW 774 C” / -G 012 A8 D- or a coolant additive conforming to “TL VW 774 D”.

Note

Observe disposal regulations.

7.27.2 Antifreeze protection table

Antifreeze protection to °C		Required quantity in litres	
Actual	Specified	6-cyl. engine	8-cyl. engine
0	- 25	5,0	5,0
	- 35	6,0	6,0
- 5	- 25	4,5	4,5

Antifreeze protection to °C		Required quantity in litres	
	- 35	5,5	5,5
-10	- 25	3,5	3,5
	- 35	4,5	4,5
-15	- 25	2,5	2,5
	- 35	3,5	3,5
- 20	- 25	1,5	1,5
	- 35	2,5	2,5
- 25	- 35	1,5	1,5
- 30	- 35	1,0	1,0
- 35	- 40	0,5	0,5

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- Check coolant additive concentration after road test.

7.28 Coolant -G11- : changing - vehicles with V8 petrol engine only

To prevent corrosion damage the coolant has to be changed at regular intervals on vehicles with V8 petrol engines up to vehicle ID No. 4DVN 000 815, if filled with coolant additive -G 011 A8 C- (green colour).

- Drain off coolant and fill system with fresh coolant ⇒ 8-cylinder engine, mechanics; Rep. gr. 19 ; Removing and installing parts of cooling system; Coolant pump



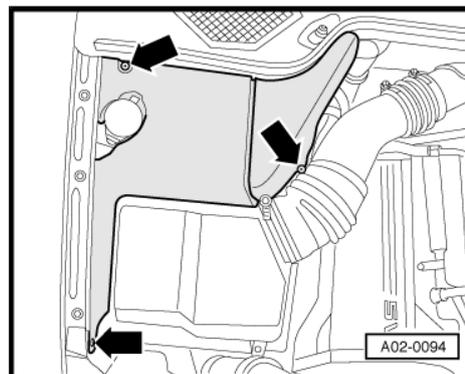
Note

- ◆ *Observe disposal regulations.*
- ◆ *When changing the coolant, it is also possible to use coolant additive -G 011 A8 C- (red colour) instead of coolant additive -G 012 A8 D- (green colour). Always observe the relevant instructions if you are changing over to the other type of coolant additive ⇒ 8-cylinder engine, mechanics; Rep. gr. 19 ; Removing and installing parts of cooling system; Coolant pump*
- ◆ *After switching over to coolant additive -G 012 A8 D- (red colour) it is no longer necessary to change the coolant (the system is then filled for life).*

7.29 Air cleaner housing and snow strainer: cleaning; renewing filter element

Renewing filter element (6.0 ltr. W12 engines) ⇒ [page 75](#)

- Remove cover on right side of engine compartment -arrows-.



- Remove air ducts -2- and -3-.
- Slacken bolts -arrows- and lift cover -1- slightly from air cleaner housing.
- Remove old filter element.

 **Note**

- ◆ *It might be easier to lift the cover for the air cleaner housing if the cover for the halogen headlights is removed first.*
- ◆ *Observe disposal regulations.*

- Check whether there is a strainer in the intake duct.

 **Note**

On several engine types the intake duct is fitted with a snow strainer. Be sure to remove and clean strainer.

Remove strainer.

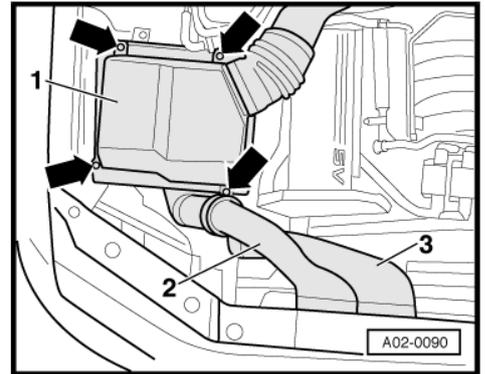
Tap against strainer and blow through with compressed air.

Install strainer.

- Clean filter housing and install new filter element.

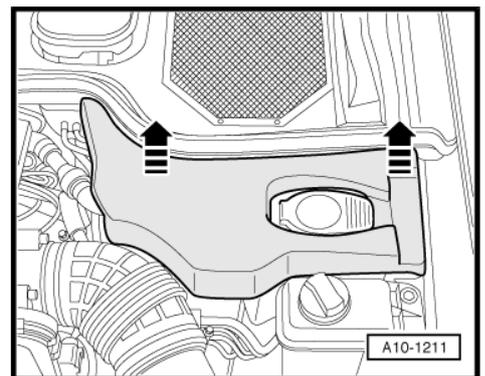
 **Note**

On vehicles with V6 5V petrol engines, first renew the spark plugs and fit the spark plug connectors before refitting the cover for air cleaner.



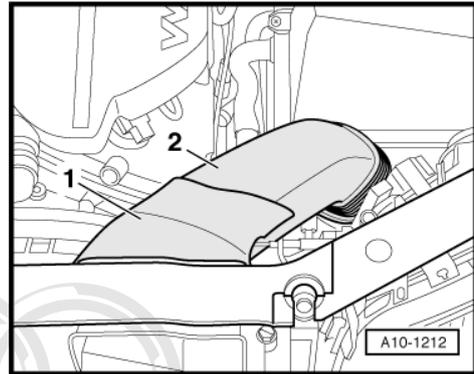
7.29.1 6.0 ltr. W12 engines

- Remove cover on left side of engine compartment -arrows-.



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- Unclip cover -1- for air duct on lock carrier on left side of engine compartment.
- Remove air duct -2-.



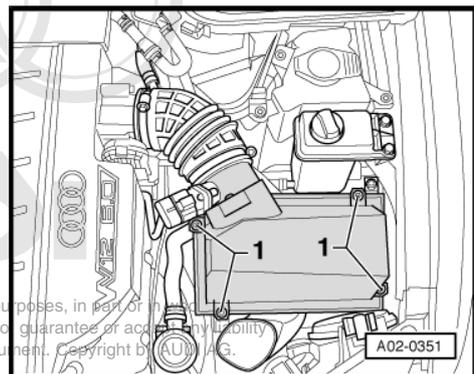
- Slacken bolts -1- and slightly lift cover off air cleaner housing.
- Remove old filter element.



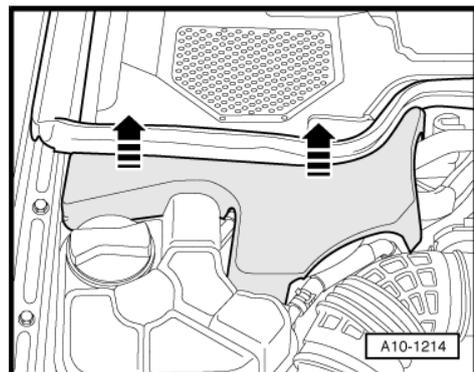
Note

- ◆ *It might be easier to lift the cover for the air cleaner housing if the cover for the halogen headlights is removed first.*
- ◆ *Observe disposal regulations.*

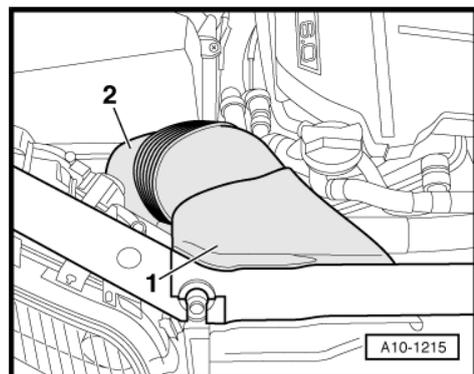
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- Remove cover on right side of engine compartment -arrows-.



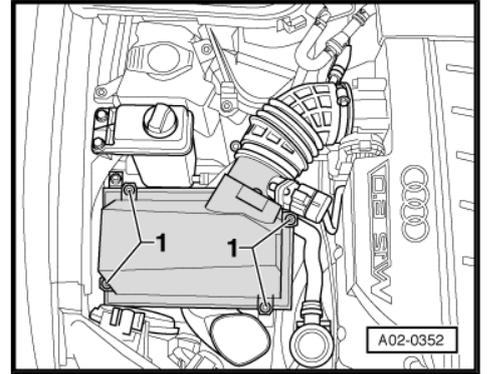
- Unclip cover -1- for air duct on lock carrier on right side of engine compartment.
- Remove air duct -2-.



- Slacken bolts -1- and slightly lift cover off air cleaner housing.
- Remove old filter element.

 **Note**

- ◆ *It might be easier to lift the cover for the air cleaner housing if the cover for the halogen headlights is removed first.*
- ◆ *Observe disposal regulations.*

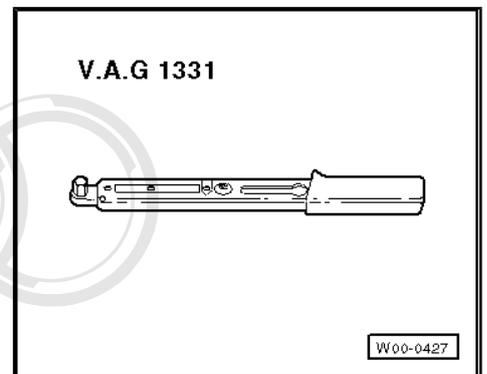


7.30 Spark plugs: renewing

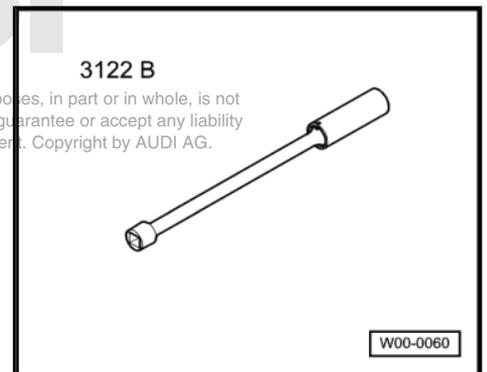
7.30.1 V6 petrol engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- ◆ Spark plug socket -3122 B-



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 **Note**

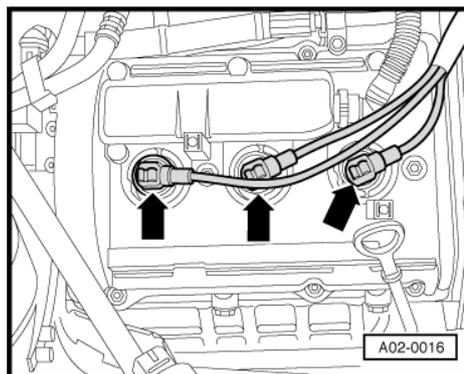
- ◆ *Spark plug designation ⇒ "Exhaust emissions test"*
- ◆ *Observe disposal regulations.*
- Remove air intake pipe between air cleaner and throttle valve unit.
- Remove engine cover panel ⇒ [page 68](#) .

- Pull off spark plug connectors -arrows-.
- Remove spark plugs using spark plug socket -3122 B- .

 **Note**

The illustration shows a V6 5V petrol engine.

- Install new spark plugs using spark plug socket.
- Check that ignition cables and spark plug connectors are correctly seated.

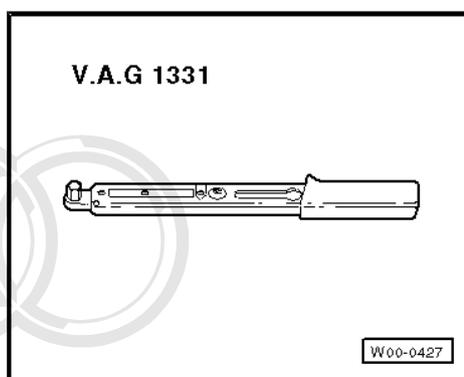


Tightening torque	Nm
Spark plugs in cylinder head	30

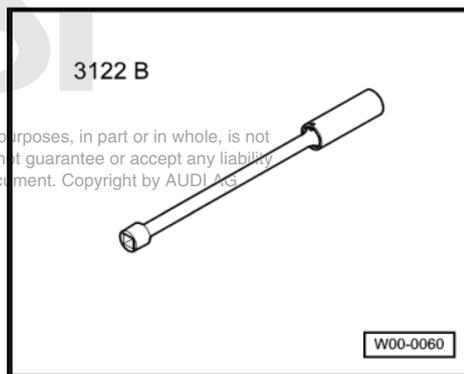
7.30.2 V8 2V petrol engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- ◆ Spark plug socket -3122 B-



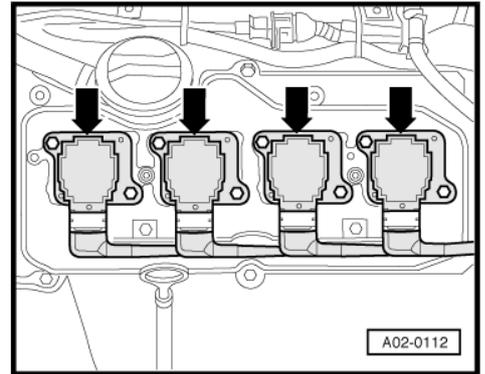
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 **Note**

- ◆ *Spark plug designation ⇒ "Exhaust emissions test"*
- ◆ *Observe disposal regulations.*
- Remove air intake pipe between air cleaner and throttle valve unit.
- Remove engine cover panels ⇒ [page 69](#) .
- With ignition switched off, lift retaining clips for ignition coil connectors and unplug connectors.

- Unscrew and remove the ignition coils -arrows-.
- Remove spark plugs using spark plug socket -3122 B- .
- Install new spark plugs using spark plug socket.
- Install ignition coils. Renew seals if damaged.
- Check that ignition cables and spark plug connectors are correctly seated.

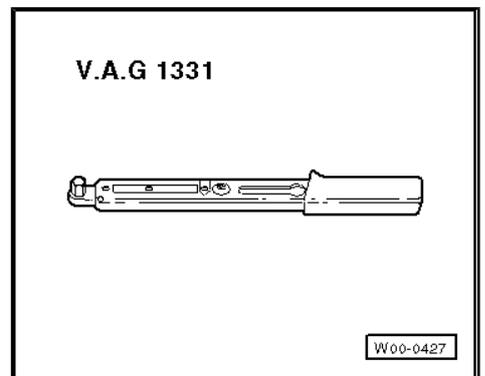
Tightening torques	
Ignition coils to cylinder head cover	10 Nm
Spark plugs in cylinder head	30 Nm



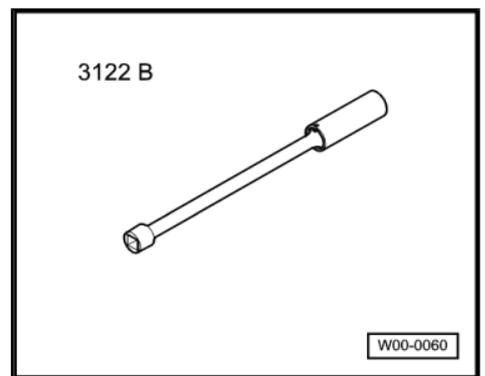
7.30.3 V8 5V petrol engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- ◆ Spark plug socket -3122 B-



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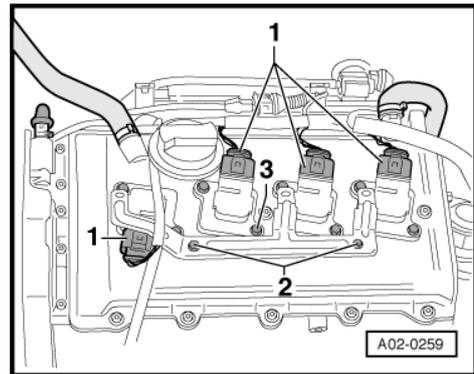


Note

- ◆ *Spark plug designation* ⇒ "Exhaust emissions test"
- ◆ *Observe disposal regulations.*
- Remove engine cover panel ⇒ [page 69](#) .

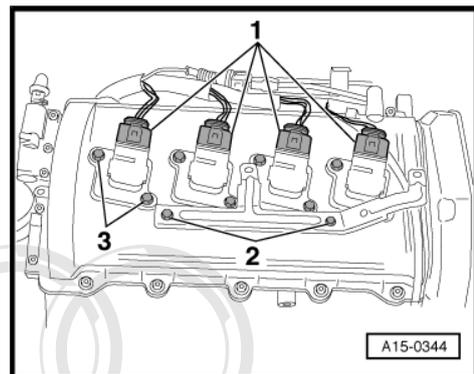
Cylinder bank (left-side)

- With ignition switched off, detach connectors -1- from ignition coils.
- Loosen bolts -2- and remove bracket.
- Loosen and remove bolts -3- on the four ignition coils.
- Remove spark plugs using spark plug socket -3122 B- .
- Install new spark plugs using spark plug socket.
- Install ignition coils. Renew seals if damaged.



Cylinder bank (right-side)

- With ignition switched off, detach connectors -1- from ignition coils.
- Loosen bolts -2- and remove bracket.
- Loosen and remove bolts -3- on the four ignition coils.
- Remove spark plugs using spark plug socket -3122B- .
- Install new spark plugs using spark plug socket.
- Install ignition coils. Renew seals if damaged.



Tightening torques	
Ignition coils to cylinder head cover	10 Nm
Spark plugs in cylinder head	30 Nm

7.30.4 6.0 ltr. W12 engines

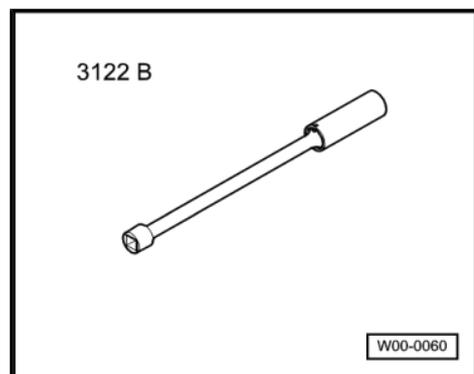
Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-

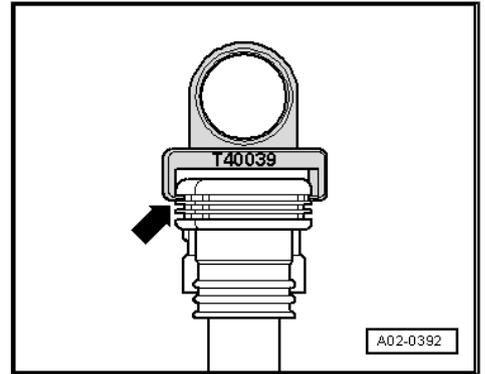
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- ◆ Spark plug socket -3122 B-



- ◆ Puller for pencil-type ignition coils -T40039-



WARNING

Position puller -T40039- on thick rib at the top of pencil-type ignition coils -arrow- and then pull ignition coils off spark plugs. Do not apply puller to lower ribs, as these could be damaged.

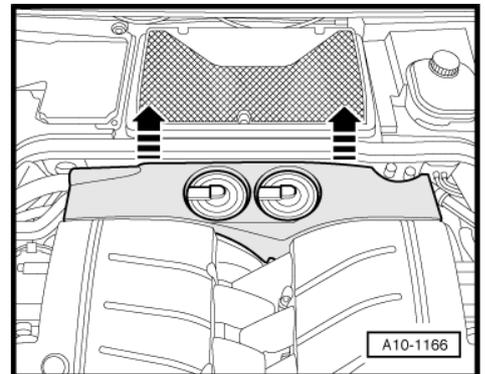


Note

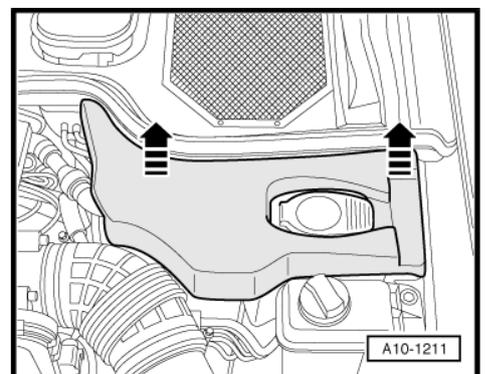
- ◆ Types of spark plugs ⇒ Electronic Service Information System ("ELSA"), maintenance table
- ◆ Observe disposal regulations.

Cylinder bank (left-side) (removing side section of intake manifold)

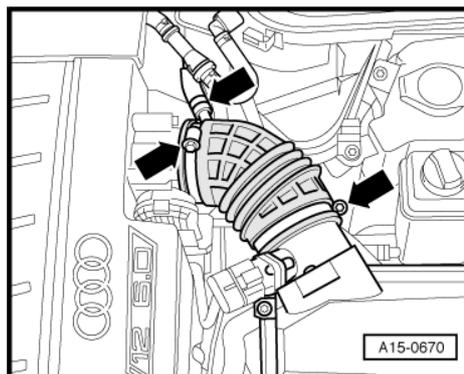
- Remove cover from behind intake manifold -arrows-.



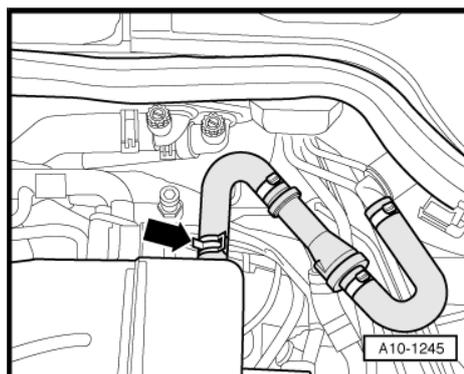
- Remove cover on left side of engine compartment -arrows-.



- Remove air hose (left-side) -arrows-.



- Remove vacuum hose -arrow- leading to brake servo at left section of intake manifold.



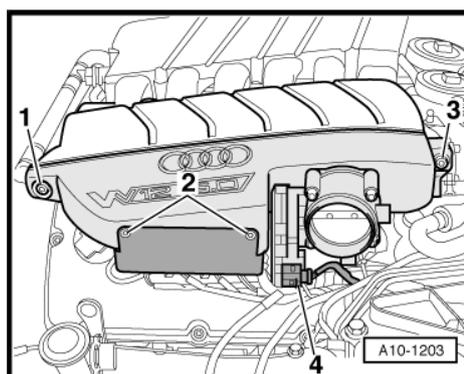
- Unplug electrical connector -4-.



Note

When loosening bolt -1- secure square nut, so that it does not fall out.

- Unscrew bolts -1- ... -3- and remove left side of intake manifold.

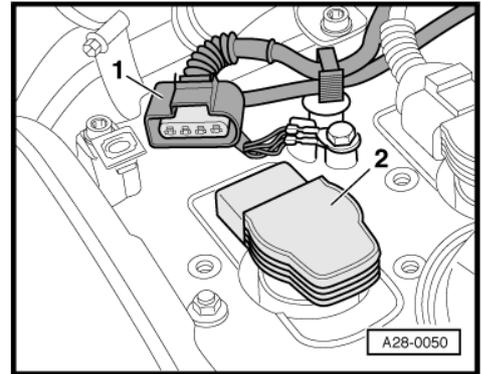


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- Push connector -1- towards pencil-type ignition coil, press catch down by hand and pull off connector.
- Use puller -T40039- to detach pencil-type ignition coils -2- from spark plugs.
- Remove spark plugs using spark plug socket -3122 B- .
- Install new spark plugs.

Tightening torque

Component	Nm
Spark plugs in cylinder head	30



 **Note**

Press pencil-type ignition coils into the openings provided on the cylinder head cover by hand.

Installing (side section of intake manifold)

Installation is performed in reverse sequence; note the following:

 **Note**

Renew seals.

Tightening torques

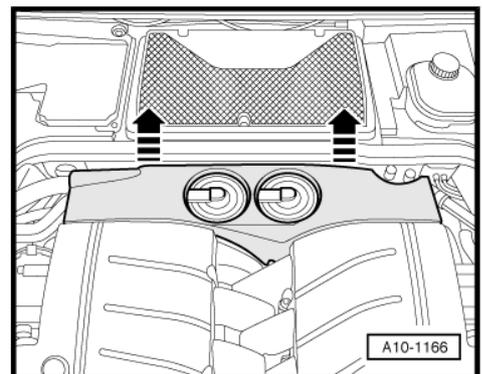
Component	Nm
Side section of intake manifold to top section of intake manifold	22 ¹³⁾
Bracket for electrical connectors to side section of intake manifold	8

13) No tolerance; keep exactly to specified tightening torque.

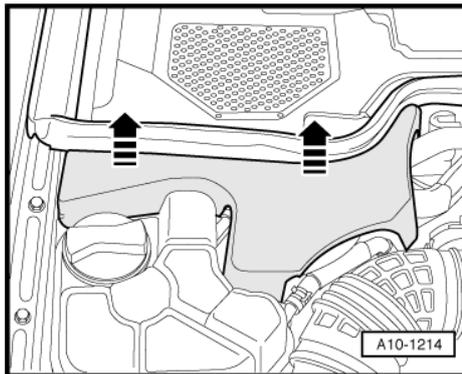
Cylinder bank (right-side) (removing side section of intake manifold)

- ~~Remove cover from behind intake manifold, arrows.~~

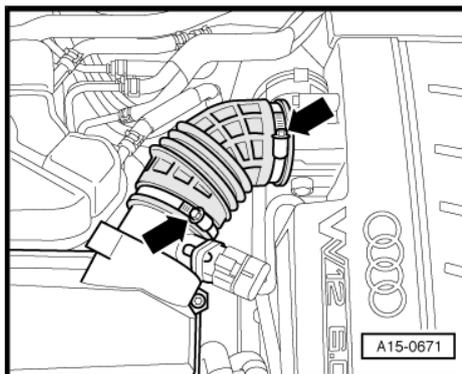
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- Remove cover on right side of engine compartment -arrows-.



- Remove air hose (right-side) -arrows-.
- Unscrew filler cap for oil filler connection.

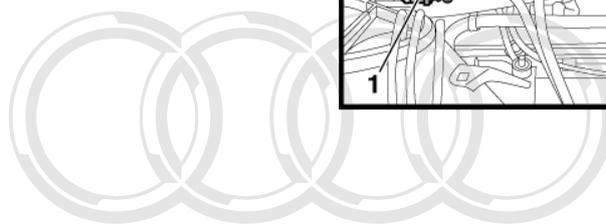
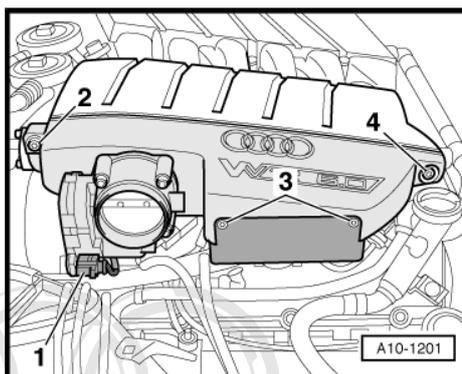


- Unplug electrical connector -1-.

 **Note**

When loosening bolt -4- secure square nut, so that it does not fall out.

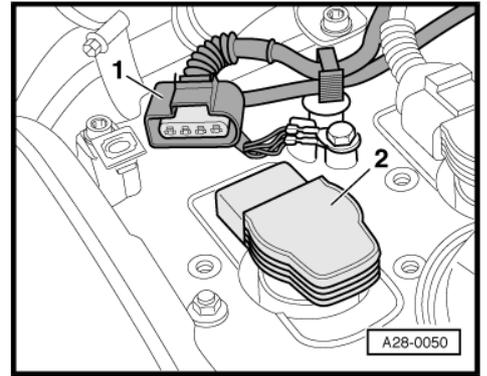
- Unscrew bolts -2- ... -4- and remove right side of intake manifold.



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- Unplug connectors -1-.
- Push connector -1- towards pencil-type ignition coil, press catch down by hand and pull off connector.
- Use puller -T40039- to detach pencil-type ignition coils -2- from spark plugs.
- Remove spark plugs using spark plug socket -3122 B- .
- Install new spark plugs.



Tightening torque

Component	Nm
Spark plugs in cylinder head	30

 **Note**

Press pencil-type ignition coils into the openings provided on the cylinder head cover by hand.

Installing (side section of intake manifold)

Installation is performed in reverse sequence; note the following:

 **Note**

Renew seals.

Tightening torques

Component	Nm
Side section of intake manifold to top section of intake manifold	22 ¹⁴⁾
Bracket for electrical connectors to side section of intake manifold	8

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14) No tolerance; keep exactly to specified tightening torque.

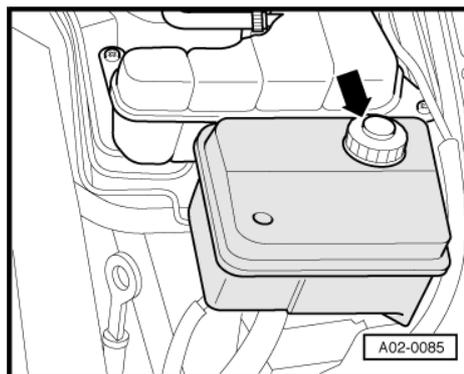
7.31 Hydraulic system: checking for leaks, checking hydraulic fluid level and topping up if necessary

 **Note**

On vehicles with self-levelling suspension, check the fluid level only when the vehicle is unladen.

- Fluid in cold condition:
 - Do not start engine but bring front wheels to straight-ahead position.
- Fluid at operating temperature (above approx. 50 °C):
 - Start engine and bring front wheels to straight-ahead position.

- Remove filler cap -arrow- with dipstick.
- Clean dipstick with a clean cloth.
- Screw cap on hand tight and unscrew again.



Check fluid level:

- Fluid in cold condition:

The fluid level must be in area of MIN. marking (up to 2 mm above or below marking).

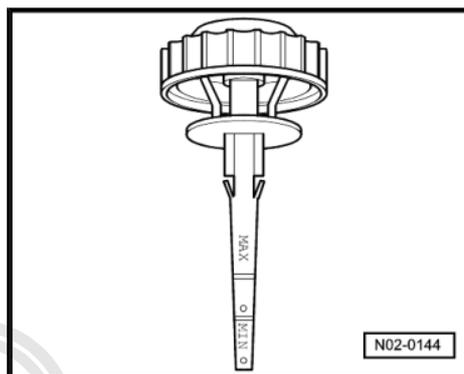
- Fluid at operating temperature (above approx. 50 °C):

Fluid level must be between MIN. and MAX. markings.



Note

- ◆ *The fluid level reading will only be accurate if the cap was screwed on properly before checking the dipstick.*
- ◆ *If the fluid level is above the area specified, the excess fluid must be extracted.*



WARNING

If the fluid level is below the area specified, the hydraulic system must be checked for leaks (repair measure). It is then not sufficient to merely top up the fluid.

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- If the hydraulic system is not leaking top up with fluid G 002 000- .
- Screw cap on hand tight.

7.32 Fuel filter: renewing (V6, V8 TDI engines)

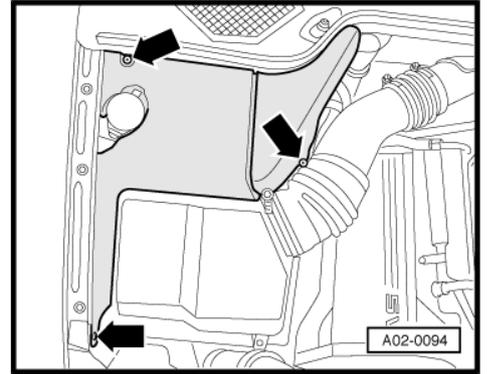


Note

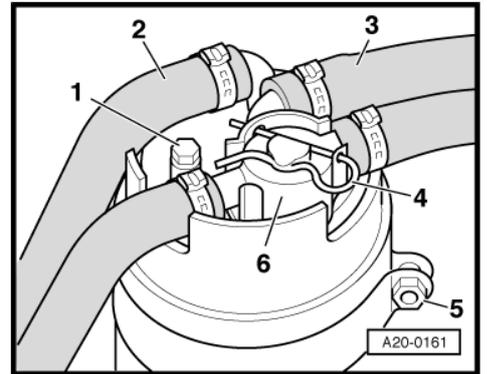
- ◆ *Please ensure that no diesel fuel makes contact with the coolant hoses. If necessary, clean hoses immediately.*
- ◆ *Observe disposal regulations.*

Removing

- Remove cover on right side of engine compartment -arrows-.



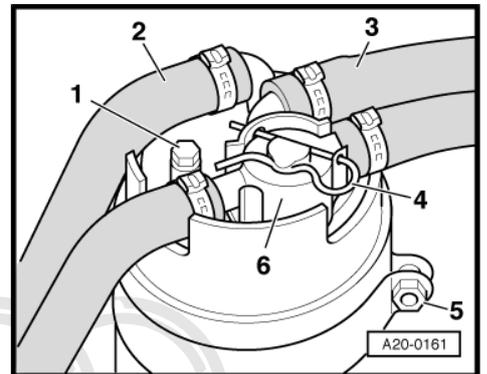
- Pull off retaining clip -4-.
- Remove regulating valve -6- with fuel lines attached.
- Disconnect fuel hoses from hose connections -2- and -3-.
- Loosen bolt for clamp -5- on bracket and take filter out of bracket.



Installing

- Fill new filter with clean diesel. This will enable the engine to start more quickly.

- Fit filter into bracket and tighten bolt for clamp -5-.
- When inserting regulating valve, take care not to damage O-ring in filter housing.
- Install regulating valve with fuel lines attached.
- Fit retaining clip -4-.
- Push fuel hoses onto hose connections -2- and -3- and secure hoses with hose clips.



Note

Flow direction is marked by arrows (do not interchange connections).

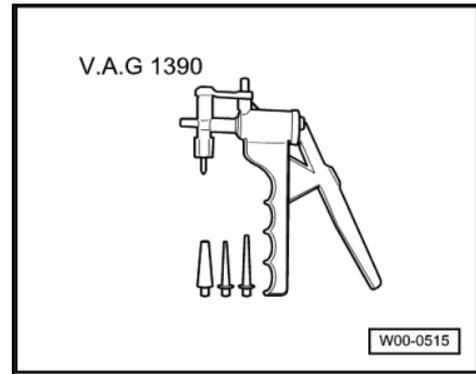
- Start engine and check fuel system for leaks (visual check).

7.33 Fuel filter: draining (V6 TDI engines)

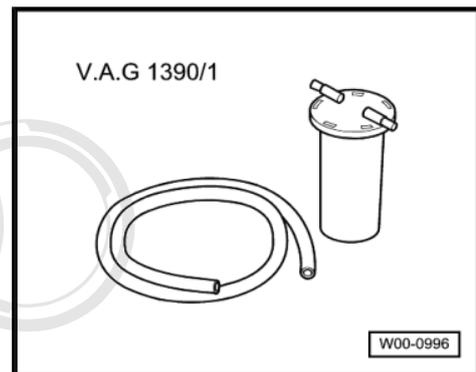
Special tools and workshop equipment required

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◆ Hand operated vacuum pump -V.A.G 1390-



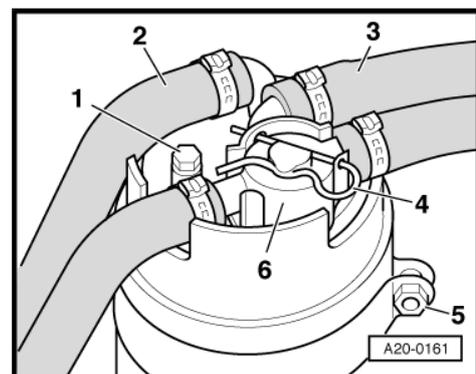
◆ Water drainage container -V.A.G 1390/1-



 Note

- ◆ *Please ensure that no diesel fuel makes contact with the coolant hoses. If necessary, clean hoses immediately.*
- ◆ *Observe disposal regulations.*

– Unscrew bleeder screw -1- on fuel filter, leaving bleeder hole open.



- Connect hand-operated vacuum pump -V.A.G 1390- with water drainage container -V.A.G 1390/1- to bleeder hole of fuel filter -arrow-.
- Operate hand-operated vacuum pump until approx. 100 cm³ of fluid has been extracted from the fuel filter.

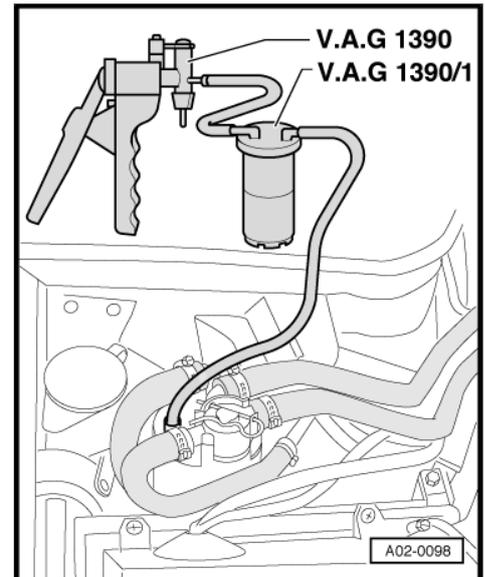


WARNING

Do not allow any fluid to enter the hand-operated vacuum pump.

- Screw in bleeder screw.
- Start engine and check fuel system for leaks (visual check).

Tightening torque	Nm
Bleeder screw	4



7.34 Dust and pollen filter: renewing

There is a dust and pollen filter under the bonnet on each side (left and right).

- Slightly press in the two quick release fasteners -A- on the retaining frame and turn them approx. 90°.
- Detach dust and pollen filter.

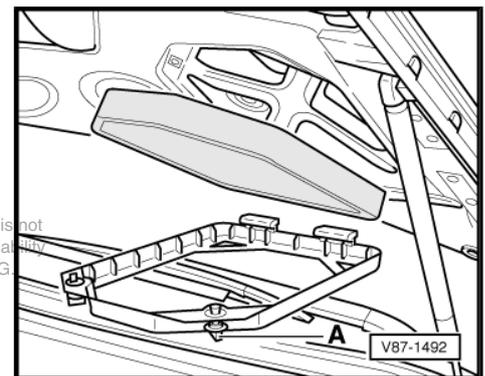


Note

Observe disposal regulations.

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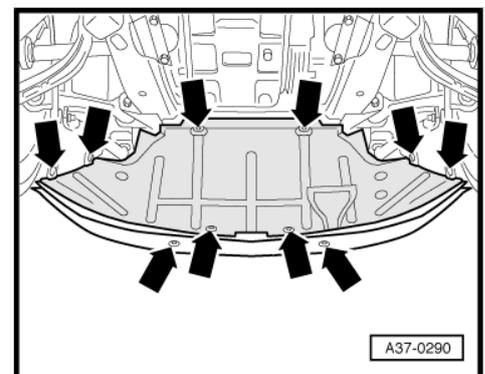
- Install new filter element.



7.35 Noise insulation: removing

- Unscrew bolts -arrows-.
- Pull noise insulation rearwards off bumper cover and take out.

V6, V8 and W12 petrol engines:



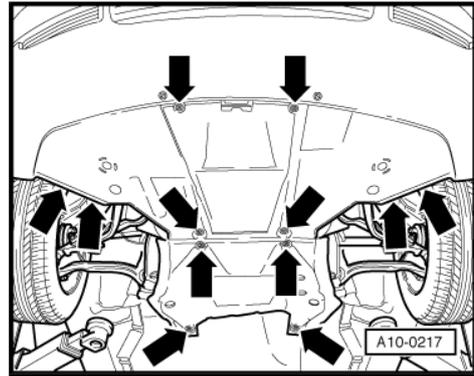
V6 TDI engines:

- Two-section noise insulation



Note

When installing, ensure that the noise insulation is pushed over the bumper cover at the front.



7.36 Poly V-belt: renewing, removing and installing poly V-belt

6-cylinder engine (2-valve):

⇒ 6-cylinder engine, mechanics; Rep. gr. 13 ; Dismantling and assembling engine

6-cylinder engine (5-valve):

⇒ 6-cylinder engine (5-valve); Rep. gr. 13 ; Crankshaft group; Dismantling and assembling engine

8-cylinder engine:

⇒ 8-cylinder engine, mechanics; Rep. gr. 13 ; Belt drive

12-cylinder engine:

⇒ 12-cylinder engine, mechanics; Rep. gr. 13 ; Dismantling and assembling engine

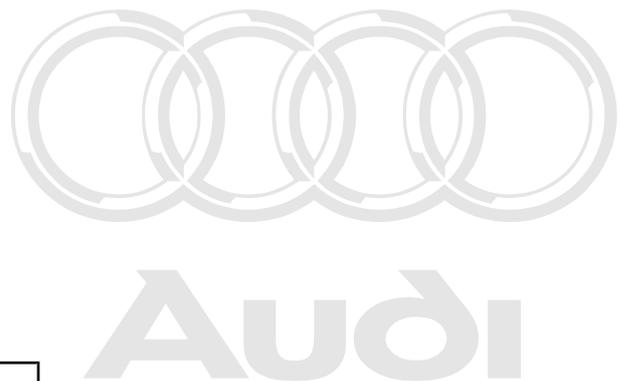
7.37 Toothed belt for camshaft drive: checking for damage (2.6 ltr. 2V engines only)

- Remove engine cover panel ⇒ [page 68](#) .
- Remove top cover of toothed belt.
- Check condition of toothed belt for:
 - ◆ Cracks, cross-sectional fractures
 - ◆ Layer separation (toothed belt body, cord strands)
 - ◆ Break-up on toothed belt body
 - ◆ Fraying of cord strands
 - ◆ Surface cracks (synthetic coating)
 - ◆ Traces of oil and grease



WARNING

Any faults found must be rectified (repair measure).



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7.38 Toothed belt for camshaft drive: checking for damage, checking tension (V6 TDI engines)

- Remove engine cover panel ⇒ [page 69](#) .
- Remove top cover of toothed belt.

- Check condition of toothed belt for:
 - ◆ Cracks, cross-sectional fractures
 - ◆ Layer separation (toothed belt body, cord strands)
 - ◆ Break-up on toothed belt body
 - ◆ Fraying of cord strands
 - ◆ Surface cracks (synthetic coating)
 - ◆ Traces of oil and grease

 **WARNING**
Any faults found must be rectified (repair measure).

 **Note**

The toothed belt is tensioned by an automatic tensioning roller.

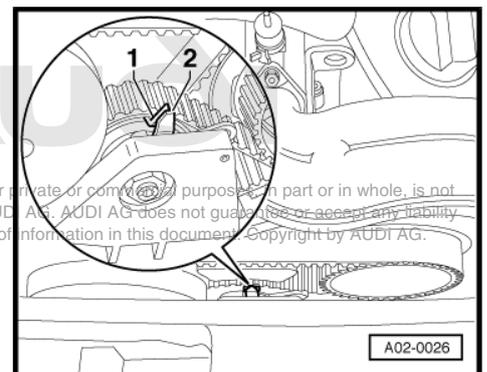
7.39 Toothed belt for injection pump: checking for damage, checking tension (V6 TDI engines), tensioning toothed belt

- Remove engine cover panel ⇒ [page 69](#) .
- Remove top cover of toothed belt.
- Check condition of toothed belt for:
 - ◆ Cracks, cross-sectional fractures
 - ◆ Layer separation (toothed belt body, cord strands)
 - ◆ Break-up on toothed belt body
 - ◆ Fraying of cord strands
 - ◆ Surface cracks (synthetic coating)
 - ◆ Traces of oil and grease

 **WARNING**
Any faults found must be rectified (repair measure).

- Check tension of toothed belt for injection pump.
 - The markings -1- and -2- must align.
- If the markings do not align, tension the toothed belt ⇒ 6-cyl. diesel direct injection engine (TDI), mechanics; Rep. gr. 13 ; Removing and installing poly V-belt; Removing and installing toothed belt

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7.40 Toothed belt: renewing

7.40.1 Toothed belt and tensioning roller: renewing (V6 5V petrol engines)

- Removing and installing toothed belt, renewing toothed belt tensioning roller ⇒ 6-cylinder engine (5-valve), mechanics; Rep. gr. 13 ; Dismantling and assembling engine
- Fill in toothed belt renewal sticker ⇒ [page 92](#)

7.40.2 Toothed belt: renewing (V8 petrol engines)

- ⇒ 8-cylinder engine, mechanics; Rep. gr. 13 ; Belt drive
- Fill in toothed belt renewal sticker ⇒ [page 92](#)

7.40.3 Toothed belt for camshaft drive and toothed belt for injection pump: renewing (V6 TDI engines)

- Removing and installing toothed belt for camshaft drive and toothed belt for injection pump ⇒ 6-cyl. diesel direct injection engine (TDI); Rep. gr. 13 ; Dismantling and assembling engine
- Dynamic check and adjustment of commencement of injection ⇒ TDI direct injection and glow plug system (6-cyl.); Rep. gr. 23 ; Servicing diesel direct injection system
- Fill in toothed belt renewal sticker ⇒ [page 92](#)

7.40.4 Toothed belt: renewing (3.3 ltr. V8 TDI engines)

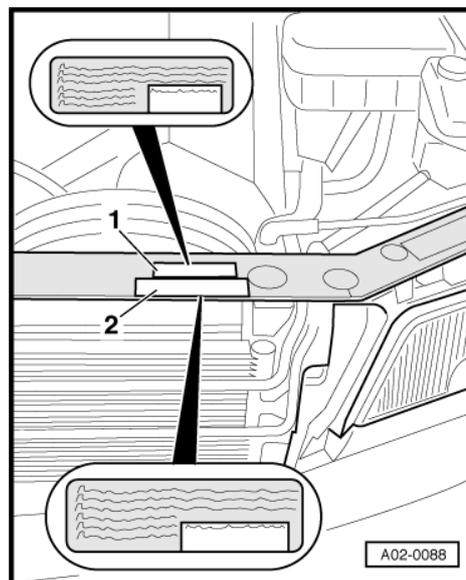
- ⇒ 8-cylinder TDI engine, mechanics; Rep. gr. 13 ; Dismantling and assembling engine
- Fill in toothed belt renewal sticker ⇒ [page 92](#)

7.40.5 Filling in toothed belt renewal sticker

- Fill in sticker for toothed belt renewal -1- on lock carrier; if necessary, attach a new sticker.



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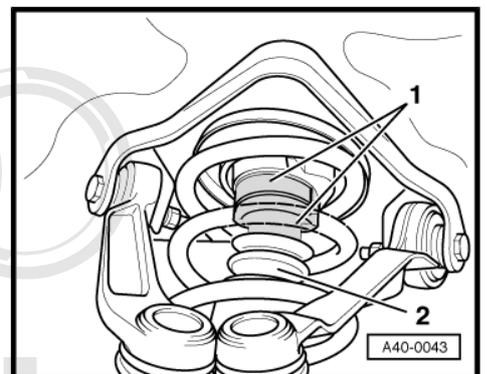
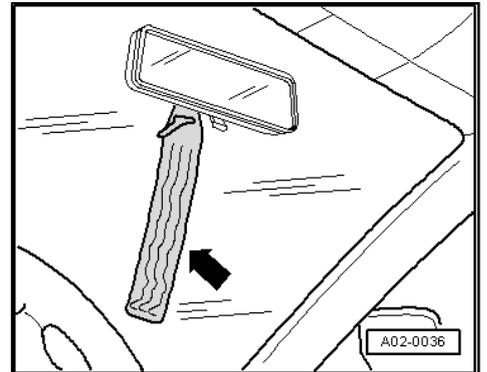
7.41 Transport locks: removing locking elements for front suspension struts

Some models are supplied with transport locks fitted on the front suspension struts. These vehicles are identified by a tag fixed to the mirror -arrow-.

- Relieve the load on the coil springs (e.g. by raising vehicle on a lifting platform).

Note

- ◆ *It is not necessary to remove the wheels.*
- ◆ *Ensure that surface of springs is not damaged.*
- Pull auxiliary spring -2- downwards.
- Remove locking elements -1- from the suspension struts (two on each suspension strut).
- Push auxiliary spring -2- upwards and engage in spring plate.



7.42 Positive junction box: checking

The positive junction box is located on the front longitudinal member (bottom right).

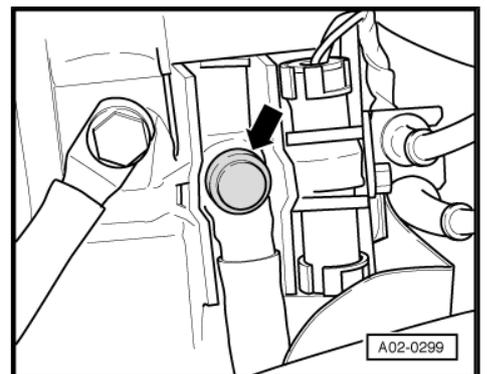
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- Remove cover.
- Check wiring terminals for corrosion damage -arrow-.

 **WARNING**

Any faults found must be rectified (repair measure).

For further details on repair measure see ⇒ Technical Service Handbook Chapter "4.7. 329" or refer to "Starting function, electrical faults".

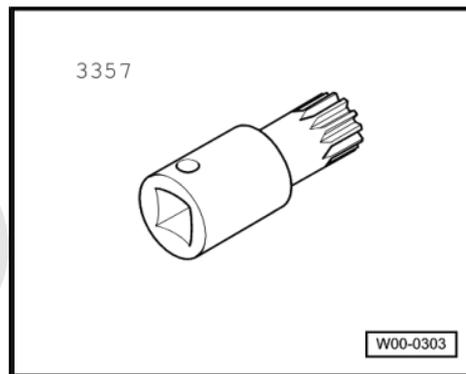
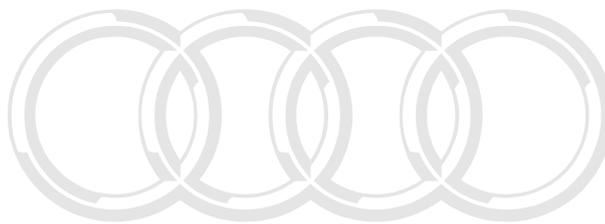


7.43 Manual gearbox/final drive: checking oil level, topping up with oil if necessary

7.43.1 5-speed manual gearbox 012, front wheel-drive

Special tools and workshop equipment required

- ◆ Special tool -3357-

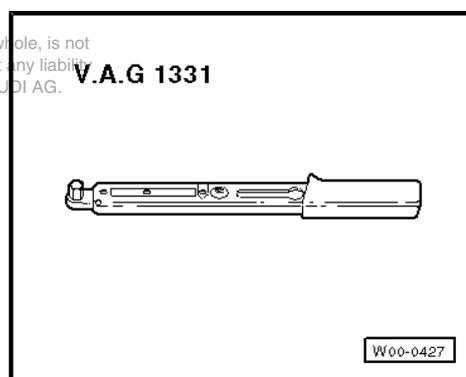


or

- ◆ Hexagon key 17 mm
- ◆ Torque wrench -V.A.G 1331-

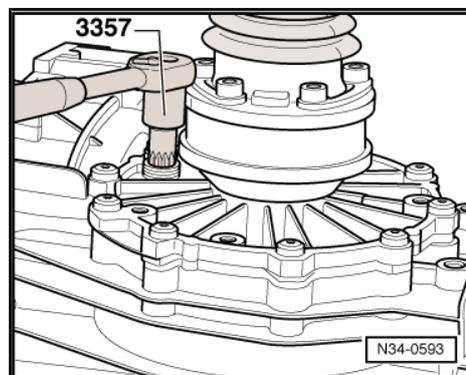
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Note

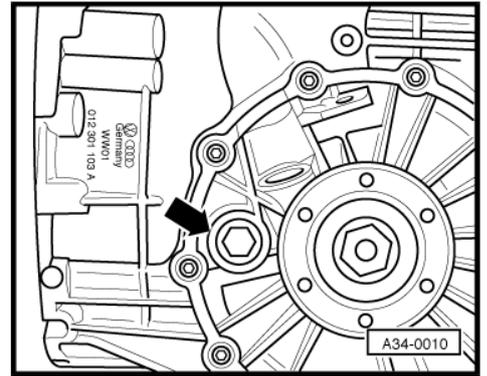
- ◆ *To check the gear oil the vehicle must be standing absolutely level. This work is best performed over an inspection pit or using a 4 -column lifting platform.*
- ◆ *The prescribed oil level must be adhered to exactly; the gearbox reacts very sensitively to overfilling.*
- ◆ *The oil filler plug is located on the left side of the gearbox, below the sender for the speedometer and may be concealed by the heat shield for the drive shaft.*
- ◆ *Depending on the version fitted, use either special tool -3357- or a 17 mm hexagon key to loosen the oil filler plug.*



- Remove oil filler plug to check gear oil -arrow-.
- Check oil level using a self-made tool, e.g. a piece of angled wire.
- Specification: oil level 7 mm below bottom lip of oil filler hole

 **WARNING**

If the oil level is below the range specified, the gearbox must be checked for leaks (repair measure). It is then not sufficient to merely top up the oil.



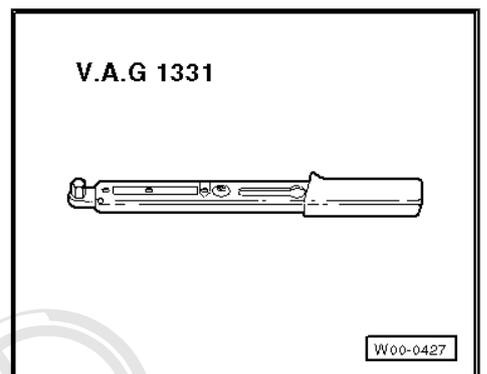
- If there are no leaks in gearbox, top up with gear oil "SAE 75 W 90" (synthetic oil) according to specification -G 052 911 A- .
- Install oil filler plug.

Tightening torque	Nm
Oil filler plug	25

7.43.2 6-speed manual gearbox 01E, front-wheel drive

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



Note

- ◆ *To check the gear oil the vehicle must be standing absolutely level. This work is best performed over an inspection pit or using a 4 -column lifting platform.*
- ◆ *The prescribed oil level must be adhered to exactly; the gearbox reacts very sensitively to overfilling.*

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- Remove oil filler plug -B- (in front of flange shaft) to check gear oil level.
- Specification: oil level up to lower edge of filler hole

**WARNING**

If the oil level is below the range specified, the gearbox must be checked for leaks (repair measure). It is then not sufficient to merely top up the oil.

- If there are no leaks in gearbox, top up with gear oil "SAE 75 W 90" (synthetic oil) according to specification -G 052 911 A- .
- Install oil filler plug.

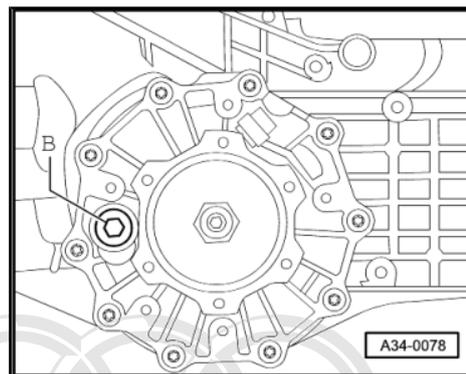
Tightening torque	Nm
Oil filler plug	40

7.43.3 5-speed manual gearbox 01A, four-wheel drive

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-

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**V.A.G 1331**

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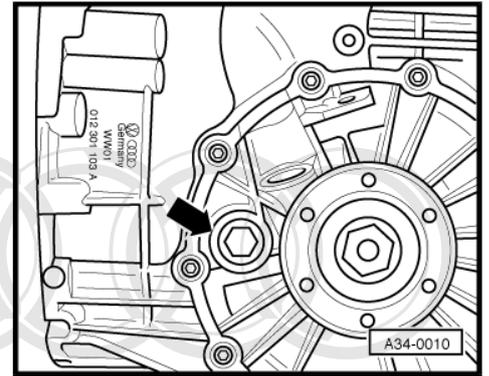
**Note**

The oil filler plug is located on the left side of the gearbox, below the sender for the speedometer and may be concealed by the heat shield for the drive shaft.

- Remove oil filler plug to check gear oil -arrow-.
- ◆ Specification: oil level up to lower edge of filler hole

 **WARNING**

If the oil level is below the range specified, the gearbox must be checked for leaks (repair measure). It is then not sufficient to merely top up the oil.



- If there are no leaks in gearbox, top up with gear oil “SAE 75 W 90” (synthetic oil) according to specification -G 052 911 A- .
- Install oil filler plug.

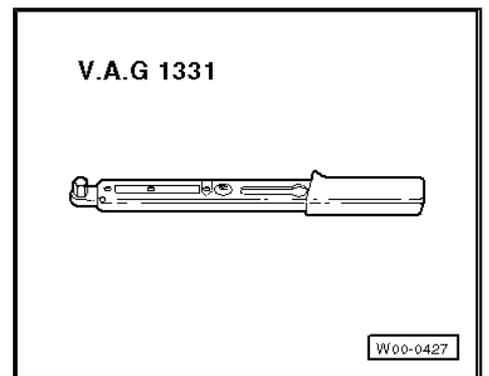
Tightening torque	Nm
Oil filler plug	25

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7.43.4 6-speed manual gearbox 01E, four-wheel drive

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



Note

- ◆ *To check the gear oil the vehicle must be standing absolutely level. This work is best performed over an inspection pit or using a 4 -column lifting platform.*
- ◆ *The prescribed oil level must be adhered to exactly; the gearbox reacts very sensitively to overfilling.*

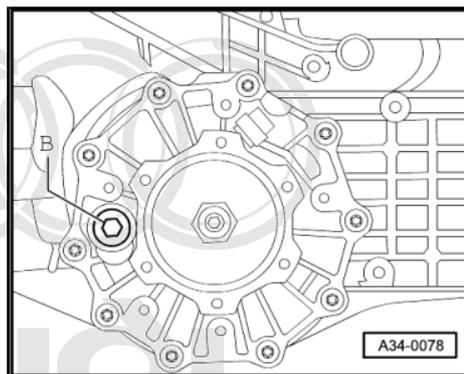


- Remove oil filler plug -B- (in front of flange shaft) to check gear oil level.
- Check oil level using a self-made tool, e.g. a piece of angled wire.
- Specification: oil level 1 mm below bottom lip of oil filler hole



WARNING

If the oil level is below the range specified, the gearbox must be checked for leaks (repair measure). It is then not sufficient to merely top up the oil.



- If there are no leaks in gearbox, top up with gear oil "SAE 75 W 90" (synthetic oil) according to specification -G 052 911 A- "".
- Install oil filler plug.

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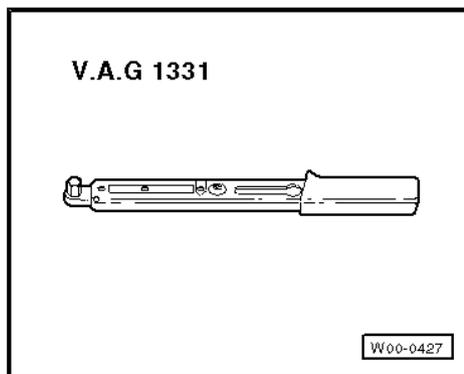
Tightening torque	Nm
Oil filler plug	40

7.44 Final drive (automatic gearbox): checking oil level, topping up with oil if necessary

7.44.1 Automatic gearbox 018, four-wheel drive

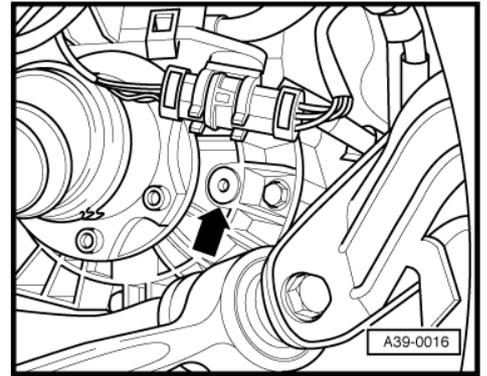
Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- Remove oil filler plug -arrow-.
- Specification: oil level up to lower edge of filler hole

	WARNING
<p><i>If the oil level is below the range specified, the final drive must be checked for leaks (repair measure). It is then not sufficient to merely top up the oil.</i></p>	



- If there are no leaks in final drive, top up with gear oil “SAE 75 W 90” (synthetic oil) according to specification -G 052 145-.
- Install oil filler plug.

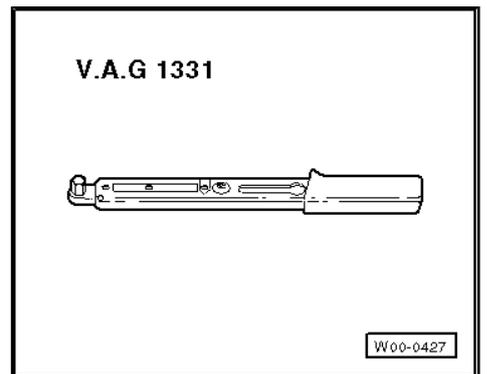
Tightening torque	Nm
Oil filler plug	45

- Fill in the sticker “final drive oil check” => [page 100](#) .

7.44.2 Automatic gearbox 01K, front-wheel drive and 01F, four-wheel drive

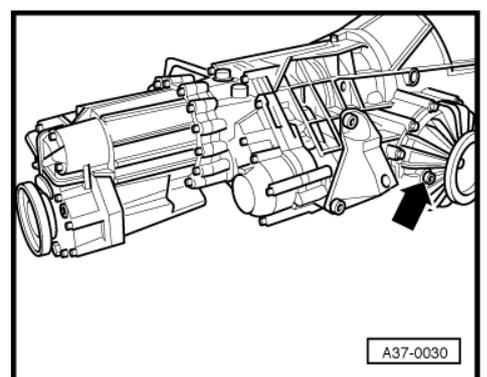
Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- Remove oil filler plug -arrow-.
- Specification: oil level up to lower edge of filler hole

	WARNING
<p><i>If the oil level is below the range specified, the final drive must be checked for leaks (repair measure). It is then not sufficient to merely top up the oil.</i></p>	



- If there are no leaks in final drive, top up with gear oil “SAE 75 W 90” (synthetic oil) according to specification -G 052 145-.
- Install oil filler plug.

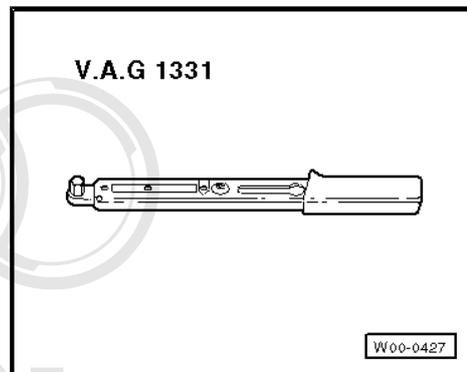
Tightening torque	Nm
Oil filler plug	45

- Fill in the sticker “final drive oil check” => [page 100](#) .

7.44.3 Automatic gearbox 01L and 01V, four-wheel drive

Special tools and workshop equipment required

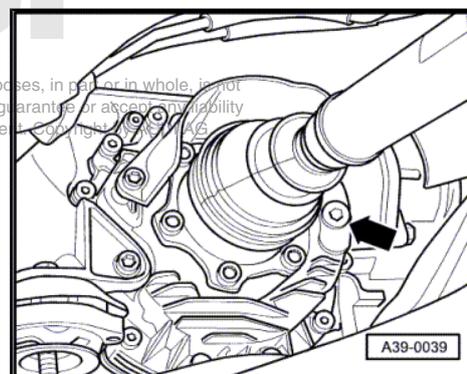
- ◆ Torque wrench -V.A.G 1331-



- Remove oil filler plug -arrow-.
- Specification: oil level up to lower edge of filler hole

 **WARNING**

If the oil level is below the range specified, the final drive must be checked for leaks (repair measure). It is then not sufficient to merely top up the oil.



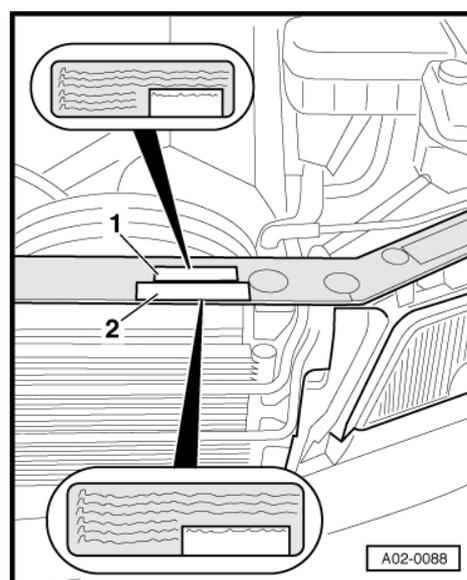
- If there are no leaks in final drive, top up with gear oil “SAE 75 W 90” (synthetic oil) according to specification -G 052 145-.
- Always renew O-ring for oil filler plug.
- Install oil filler plug.

Tightening torque	Nm
Oil filler plug	30

- Fill in the sticker “final drive oil check” ⇒ [page 100](#) .

7.44.4 Filling in sticker for final drive oil check

- Fill in sticker for final drive oil check -2- on lock carrier; if necessary, attach a new sticker.



7.45 Engine oil: draining or extracting, changing oil filter

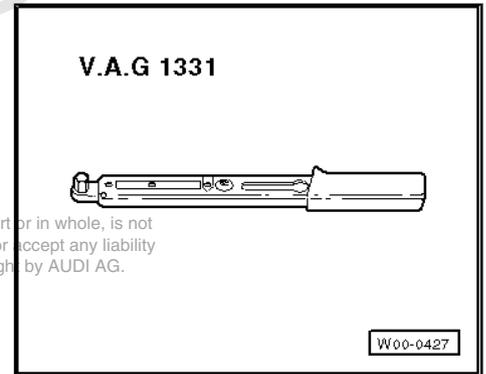
Observe notes at the end of the section ⇒ [page 107](#) .

- Remove noise insulation ⇒ [page 89](#) .

7.45.1 V6 petrol engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



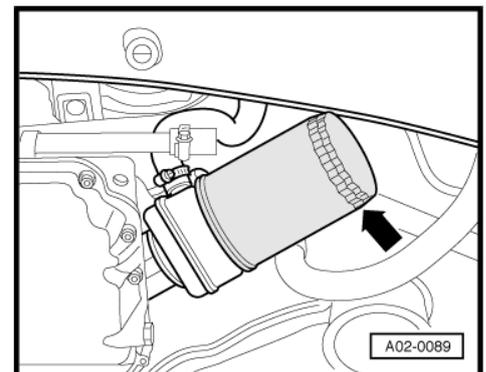
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- ◆ Strap wrench -Hazet 2171-1-
- ◆ Oil extraction probe -V.A.G 1307 A- or -V.A.G 1358 A-
- Loosen oil filter -arrow- using strap wrench and remove.
- Open oil drain plug / draw off engine oil.
- Clean sealing surface for oil filter at engine.
- Lightly lubricate rubber seal.
- Screw in new filter and tighten.

Note

Note the fitting instructions on the oil filter.

- Screw in oil drain plug with new seal.
- Fill up with engine oil, specifications ⇒ [page 114](#) .

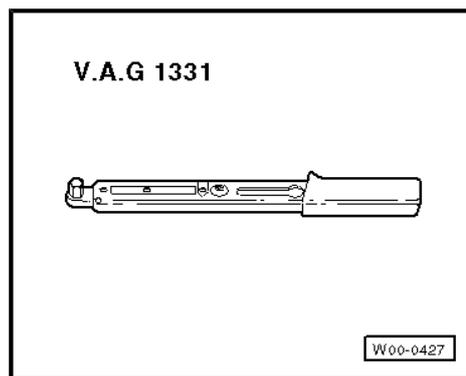


Tightening torque	Nm
Oil drain plug (V6 2V petrol engine)	40
Oil drain plug (V6 5V petrol engine)	30

7.45.2 V8 2V petrol engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-

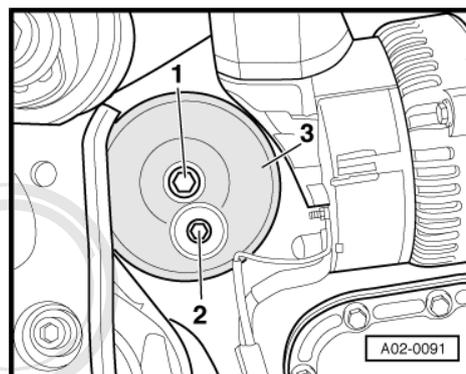


- ◆ Oil extraction probe -V.A.G 1307 A- or -V.A.G 1358 A-

 **Note**

The oil filter is located under the engine (rear right).

- Open oil drain plug / draw off engine oil.
- Open oil drain plug -2- at oil filter cover -3-.
- Unscrew central bolt -1- and remove oil filter cover -3-.
- Clean sealing surfaces on oil filter cover and on oil filter housing.

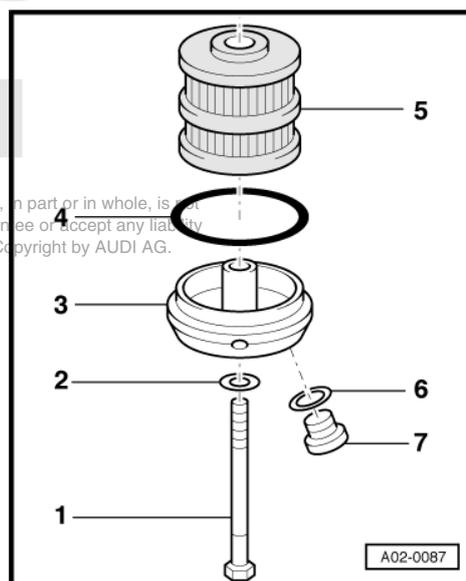


- Renew oil filter element -5-.

 **Note**

Observe disposal regulations.

- Lightly lubricate new O-ring -4-.
- Install oil filter cover -3- together with O-ring -4-, central bolt -1- and new seal -2-.
- Screw in oil drain plug -7- with new seal -6-.
- Fill up with engine oil, specifications ⇒ [page 114](#) .
- Please note the different oil specifications for the Audi S8 with V8 petrol engines AHC and AKH ⇒ [page 114](#) .

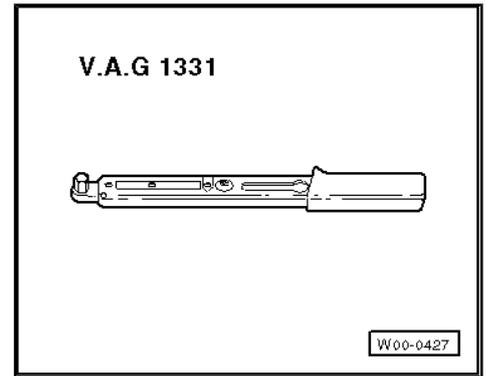


Tightening torque	Nm
Central bolt for oil filter cover	25
Oil drain plug to cover for oil filter housing	50
Oil drain plug to sump	35

7.45.3 V8 5V petrol engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- ◆ Oil extraction probe -V.A.G 1307 A- or -V.A.G 1358 A-

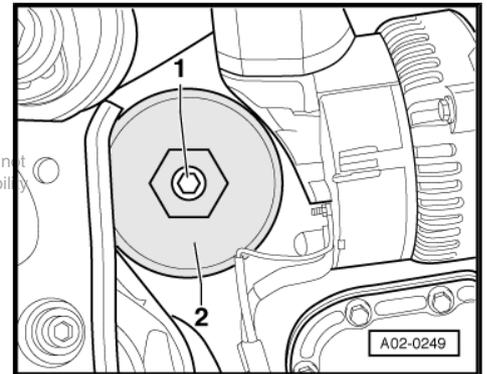


Note

The oil filter is located near the engine mounting (on right side).

- Open oil drain plug / draw off engine oil.
- Open oil drain plug -1- at oil filter cover -2-.
- Unscrew oil filter cover -2- (36 mm).
- Clean sealing surfaces on oil filter cover and on oil filter housing.

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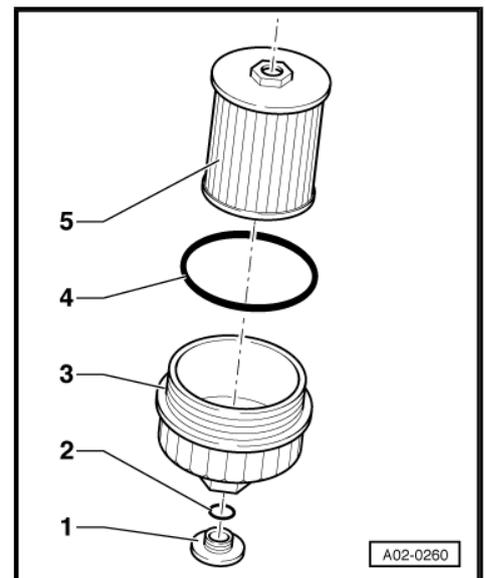
- Renew oil filter element -5-.



Note

Observe disposal regulations.

- Engage new oil filter element in oil filter cover.
- Lightly lubricate new O-ring -4-.
- Install oil filter cover -3- with O-ring -4-.
- Screw in oil drain plug -1- with new seal -2-.
- Fill up with engine oil, specifications => [page 114](#) .

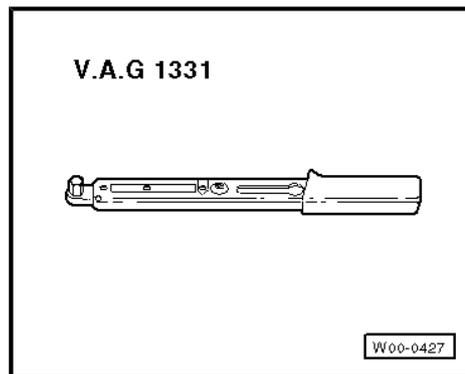


Tightening torque	Nm
Oil filter cover	25
Oil drain plug to cover for oil filter housing	10
Oil drain plug to sump	50

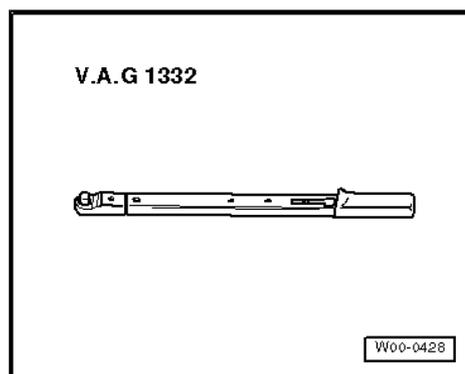
7.45.4 6.0 ltr W12 petrol engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-

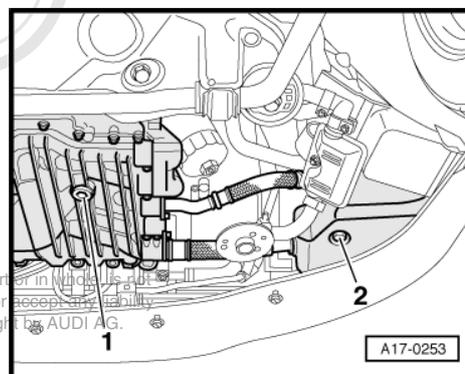


- ◆ Torque wrench -V.A.G 1332-



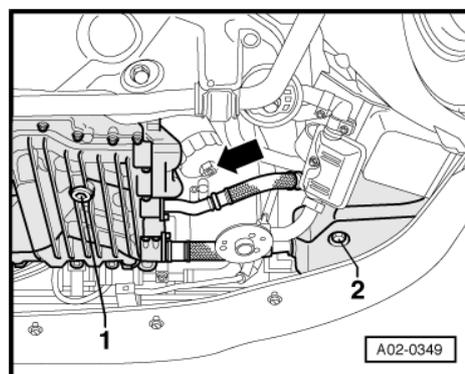
On W12 petrol engines it is not possible to extract oil (dry sump lubrication).

- Make sure vehicle is at operating temperature.
- Unscrew oil drain plugs -1- and -2-.
- Drain off engine oil from sump and oil reservoir completely.
- Screw in oil drain plugs with new seals.



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- Open oil drain plug -arrow- at oil filter cover.
- Unscrew oil filter cover (36 mm).
- Clean sealing surfaces on oil filter cover and on oil filter housing.



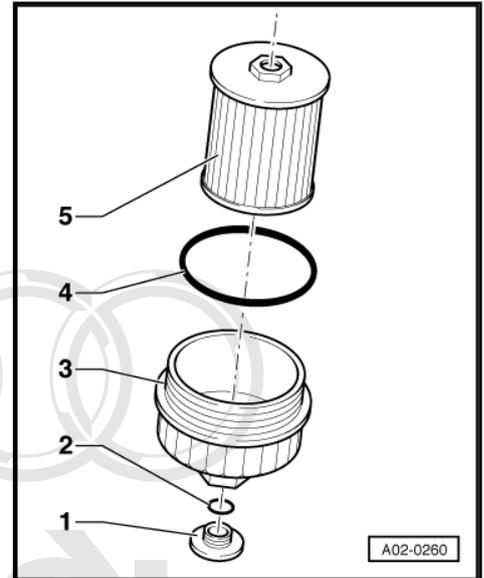
- Renew oil filter element -5-.

 **Note**

Observe disposal regulations.

- Engage new oil filter element in oil filter cover.
- Lightly lubricate new O-ring -4-.
- Install oil filter cover -3- with O-ring -4-.
- Screw in oil drain plug -1- with new seal -2-.

Tightening torque	Nm
Oil filter cover	25
Oil drain plug to cover for oil filter housing	10
Oil drain plug to engine	55
Oil drain plug to oil reservoir	25



- Fill up with engine oil, specifications => [page 113](#) .

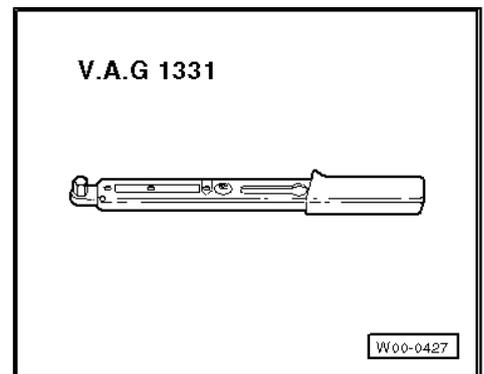
Observing oil level when checking => [page 117](#)

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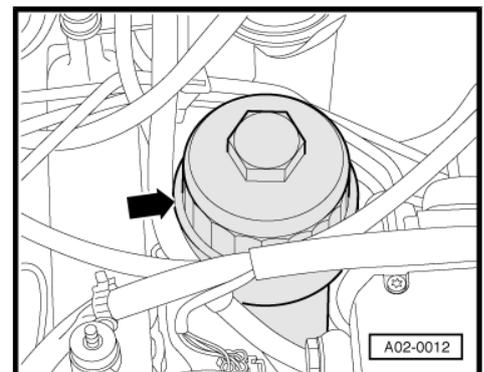
7.45.5 V6 TDI engines

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



- ◆ Oil extraction probe -V.A.G 1307 A- or -V.A.G 1358 A-
- Loosen sealing cap -arrow- with 32 mm ring spanner .



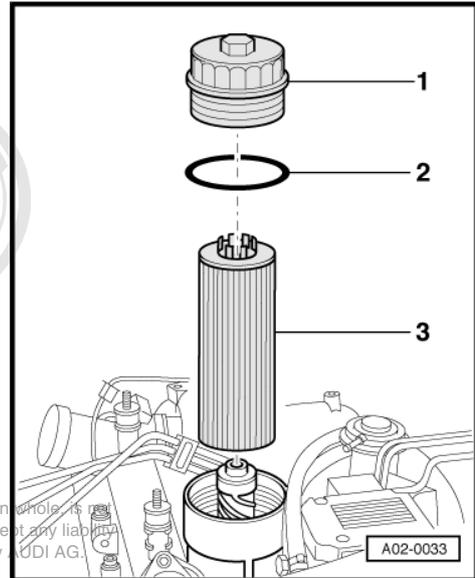
- Renew O-rings -2- and oil filter element -3-.

 **Note**

Observe disposal regulations.

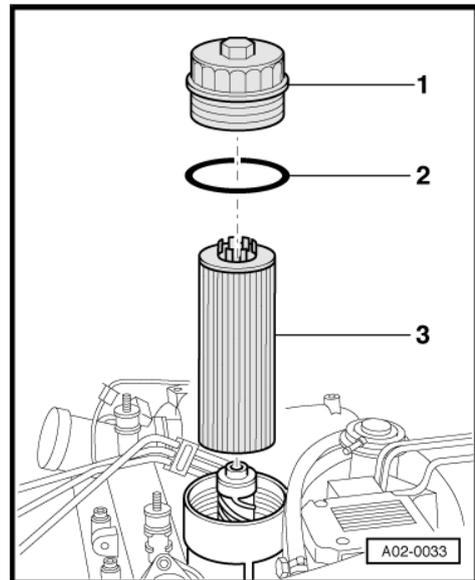
- Extract remaining oil from filter housing using oil extractor.
- Open oil drain plug / draw off engine oil.
- Screw in oil drain plug with new seal.
- Fill up with engine oil, specifications ⇒ [page 113](#) .
- Please observe the notes for turbocharged engines ⇒ [page 114](#) .

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- Tighten sealing cap -1- (32 mm).

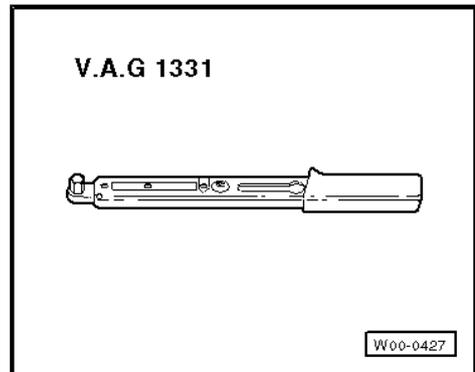
Tightening torque	Nm
Sealing cap for oil filter	25
Oil drain plug	25



7.45.6 3.3 ltr. V8 TDI engine

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-

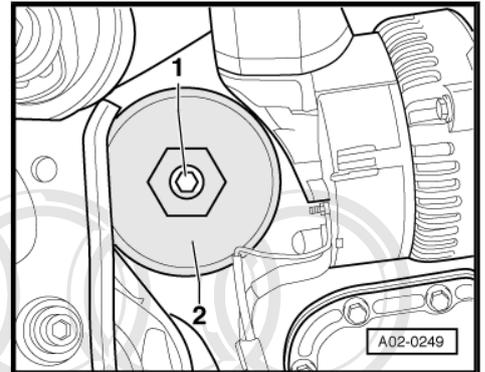


- ◆ Oil extraction probe -V.A.G 1307 A- or -V.A.G 1358 A-

 **Note**

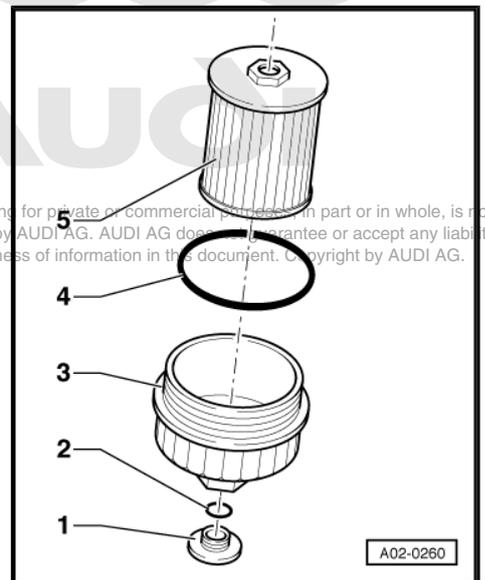
The oil filter is located near the engine mounting (on right side).

- Open oil drain plug / draw off engine oil.
- Unscrew oil drain plug -1- at oil filter cover -2-.
- Unscrew oil filter cover -2- (32 mm).



- Remove oil filter element -5-.
- Clean sealing surfaces on oil filter cover and on oil filter housing.
- Engage new oil filter element in oil filter cover.
- Lightly lubricate new O-ring -4-.
- Install oil filter cover -3- with O-ring -4-.
- Screw in oil drain plug -1- with new seal -2-.
- Fill up with engine oil, specifications => [page 114](#) .

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Tightening torque	Nm
Oil filter cover	25
Oil drain plug to cover for oil filter housing	10
Oil drain plug to sump	50

 **Note**

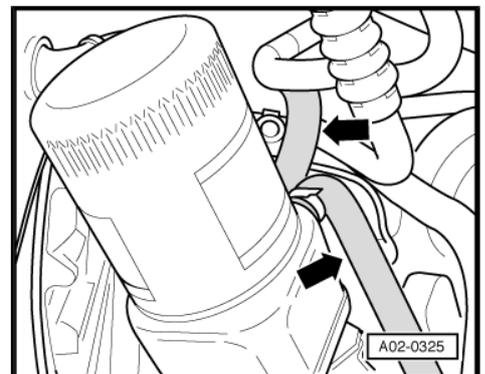
Observe disposal regulations.

7.45.7 Note for engines with oil cooler:

- Screw in new filter and tighten.

 **WARNING**

After renewing oil filter cartridge, check clearance of hoses from oil cooler to adjacent components -arrows-; if necessary correct oil cooler position.



7.46 Brake system: visual check for leaks and damage

- Check the following components for leaks and damage:
 - ◆ Brake master cylinder
 - ◆ Brake servo
 - ◆ ABS hydraulic unit
 - ◆ Brake calipers
- Ensure that brake hoses are not twisted.
- Make sure that brake hoses do not touch any components when steering is on full lock.
- Check brake hoses for porosity, blistering and brittleness.
- Check brake hoses and pipes for chafing.
- Check brake pipe connections and mountings for correct seating, leaks and corrosion.



WARNING

Any faults found must be rectified (repair measure).

7.47 Brake pads: checking thickness



WARNING

When brake pad thickness is down to 7 mm (including backplate) the brake pads have reached their wear limit and must be renewed (repair measure). The customer must be informed.

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Front disc brake pads:

- Determine thickness of outer pads by checking visually (with electric flashlight through cut-out in wheel).
- Determine thickness of inner pads by checking visually (with help of electric torch and mirror).

a - Pad thickness including backplate

Wear limit: 7 mm

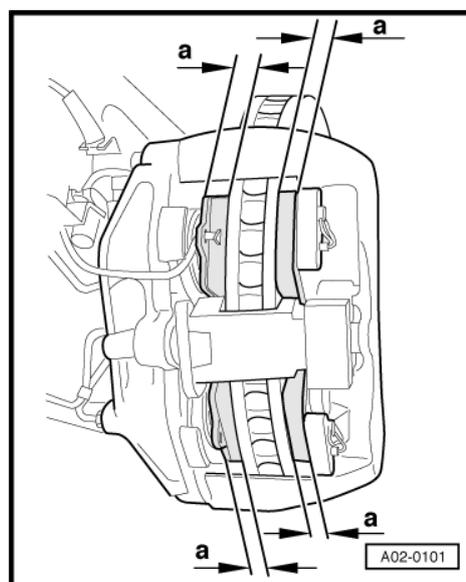


Note

- ◆ Remove front wheels if pads are not visible due to rim design.
- ◆ Before removing the wheels mark the position of each wheel relative to the brake disc. After checking brake pad thickness re-install wheels in the same position.

Rear disc brake pads:

- Determine thickness of outer pads by checking visually (with electric flashlight through cut-out in wheel).



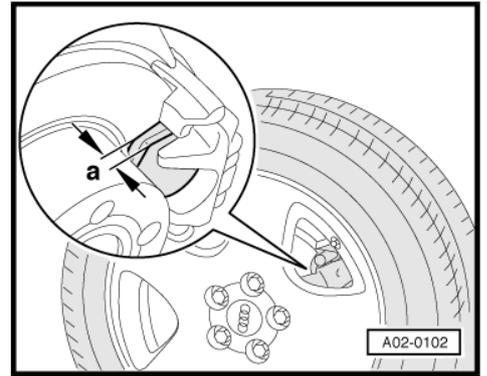
- Determine thickness of inner pads by checking visually (with help of electric torch and mirror).

a - Pad thickness including backplate

Wear limit: 7 mm

 **Note**

- ◆ Remove rear wheels if pads are not visible due to rim design.
- ◆ Before removing the wheels mark the position of each wheel relative to the brake disc. After checking brake pad thickness re-install wheels in the same position.
- ◆ When installing the front and rear wheels observe notes on wheel bolts => [page 112](#).



7.48 Underseal: visual check for damage

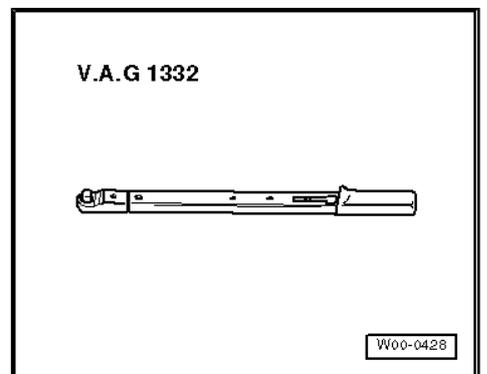
- When performing visual check, check underbody, wheel housings and side members.

 **WARNING**
 Any faults found must be rectified (repair measure).

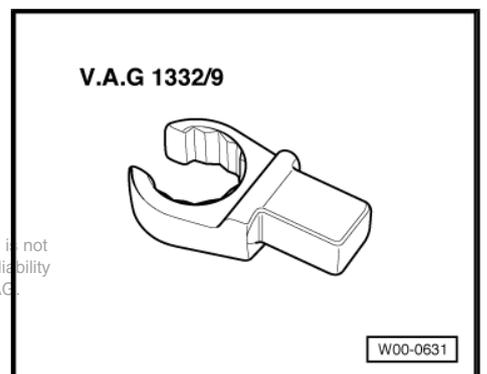
7.49 Track rod ball joints: checking play, security and boots

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1332-



- ◆ Tool insert -V.A.G 1332/9-

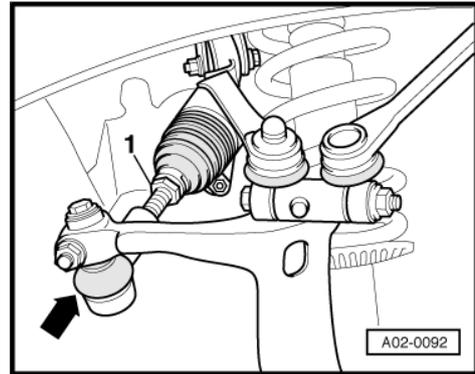


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 **Note**

The test must be carried out with vehicle raised on a lifting platform (wheels free to move).

- Check play by moving the track rods and wheels.
- There should be no play.
- Check that lock nut -1- is secure.
- Check that boots -arrow- are not damaged and are seated correctly.



Tightening torque	Nm
Lock nut	40

7.50 Tyres: checking condition, wear pattern, tread depth and correcting inflation pressures.

Checking tyres

 **Note**

- ◆ *In the interest of driving safety, only tyres of the same type and tread pattern should be fitted on a vehicle.*
- ◆ *On four-wheel drive vehicles tyres of the same type and tread pattern must be used. Otherwise the centre differential may be damaged.*

7.50.1 Delivery Inspection

- Check tyre tread surfaces and sidewalls for damage and remove any foreign bodies.

7.50.2 Inspection Service

- Check tyre tread surfaces and sidewalls for damage and remove any foreign bodies.
- Check tyres for scuffing, one-sided wear, porous sidewalls, cuts and fractures.



WARNING

Any defects must be reported to the customer.

7.50.3 Checking tyre wear pattern

- The wear pattern of the front tyres indicates, for example, whether the toe and camber have to be checked.
- ◆ Feathering on tread indicates incorrect toe setting.
- ◆ One-sided tread wear is usually due to incorrect camber.

 **Note**

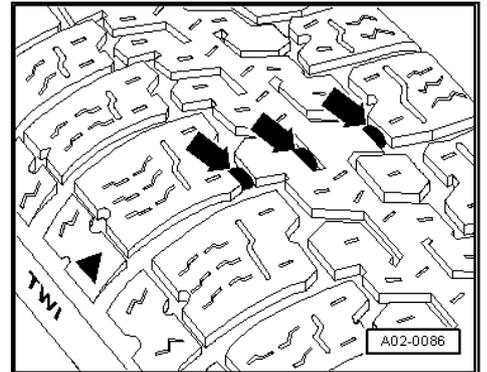
If the above types of wear are found, check wheel alignment to determine the cause (repair measure).

7.50.4 Checking tyre tread depth

- Minimum depth: 1.6 mm

 **Note**

- ◆ *This figure may vary for individual countries due to different legislation.*
- ◆ *The minimum tread depth is reached when the tyres have worn down level with the 1.6 mm high tread wear indicators -arrows- positioned at intervals around the tyre.*
- ◆ *If the tread depth is approaching the minimum permissible tread depth, the customer must be informed.*

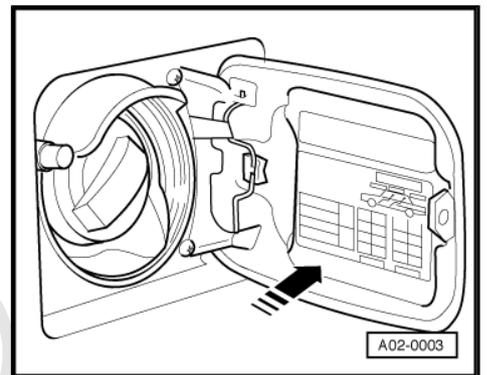


7.50.5 Inflating to correct pressures

The correct inflation pressures for summer tyres are listed on the sticker on the inside of the tank flap -arrow-.

 **Note**

- ◆ *Please note that the inflation pressures listed on the sticker apply to cold tyres. When the tyres are warm, the actual pressures will be higher, but must not be reduced.*
- ◆ *When using winter tyres, pressures should be increased by 0.2 bar.*



Spare wheel

- Spare wheel with standard-size tyre

Inflate to maximum tyre pressure specified for the vehicle.

- Temporary (compact) spare wheel

The correct inflation pressure is indicated on the sidewall.

 **Note**

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On vehicles with steel rims and wheel covers check the valve extensions for damage and dirt which could cause leaks. Renew if necessary.

7.51 Winter tyres (factory-fitted)

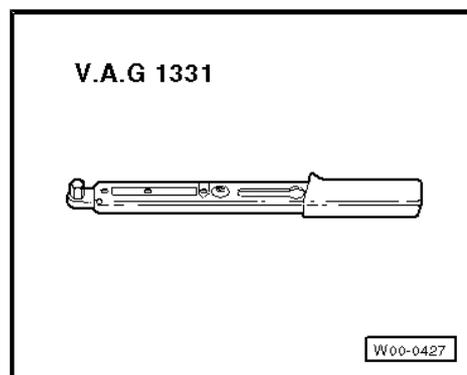
On vehicles supplied from the factory with winter tyres, check the inflation pressures as part of the Delivery Inspection.

The warning sticker indicating the maximum permissible speed for the tyres must be affixed in a position where it is immediately visible to the driver.

7.52 Wheel bolts: tightening to specified torque

Special tools and workshop equipment required

- ◆ Torque wrench -V.A.G 1331-



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Trim cap

- On light-alloy wheels with trim caps, insert a screwdriver in the recess provided and lever trim cap off rim.

Wheel bolts

The adapter for loosening and tightening anti-theft wheel bolts is included in vehicle tool kit.

Note

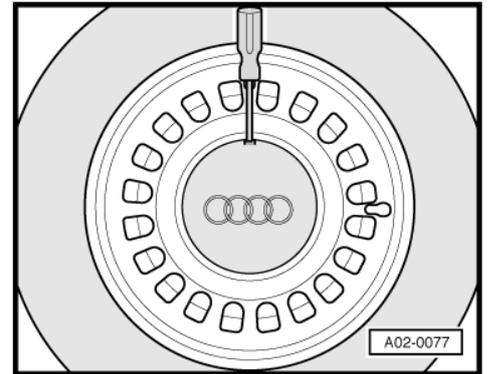
Ensure that wheel bolts are tightened in diagonal sequence to the following tightening torque:

Tightening torque	Nm
Wheel bolts	120

- Place adapter back in vehicle tool kit after completing work.

Fitting wheels correctly

- When fitting the wheels please observe the following rules to ensure that the wheels will remain securely fitted:
 - Always tighten the wheel bolts to the specified torque; excessive torque can distort the wheel bolt seats in the rim.
 - When fitting a wheel do not tighten the first wheel bolt immediately (e.g. with an impact wrench), as this would prevent the other bolts from centring the rim properly when they are screwed in. The rim could then come loose even though the bolts have been tightened to the specified torque.
 - Before fitting the wheels examine the seats of the wheel bolts and the contact surfaces between the rims and the hubs for rust and corrosion and clean it off these parts if necessary. Otherwise, after fitting the wheels, the clamping force of the wheel bolts may be impaired and the rims could come loose.



WARNING

- ◆ *If the points listed above are not observed the wheels can come loose and the wheel bolt seats can become distorted.*
- ◆ *This distortion may be so slight that it is not visible.*
- ◆ *Even this slight distortion of the wheel bolt seats can prevent the rims from being held firmly and will make them come loose repeatedly.*

7.53 Engine oil: filling up

The engine is filled with a high-quality multi-grade oil at the factory: this can be used all year round, except in extremely cold climates.

- At the Inspection Service and LongLife Service the 6.0 ltr. W12 engine must be filled with oil meeting VW standard -503 01- .

Viscosity grades for petrol engines (except for Audi S8 with V8 petrol engines) ⇒ [page 114](#)

Viscosity grades for Audi S8 ⇒ [page 114](#)

Viscosity grades for TDI engines ⇒ [page 115](#)

– Fill up with engine oil.

Capacities with filter change ⇒ ELSA maintenance table

Engines with turbocharger:

- When the engine oil and oil filter have been changed, it is important to note the following after starting the engine for the first time:
- The engine must only run at idling speed as long as the oil pressure warning lamp in dash panel is on. Do not rev up! If the engine is revved up the turbocharger can be damaged or fail completely.
- The full oil pressure is not attained until the warning lamp has gone out, only then can the engine be revved up.

All engines:

- Finally, check engine oil level ⇒ [page 116](#) .

7.53.1 Viscosity grades for petrol engines (except for Audi S8 with V8 petrol engines)

Select the viscosity grade of the oil according to the chart.

A - High-lubricity multi-grade oils, specification ⇒ [page 114](#)

B - Multi-grade oils, specification ⇒ [page 114](#)

A - LongLife high-lubricity multi-grade oils, specification ⇒ [page 115](#)



Note

The oil does not need changing for brief variations of outside temperature beyond the temperature ranges shown.

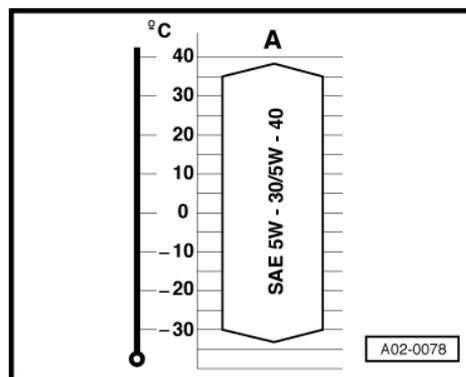
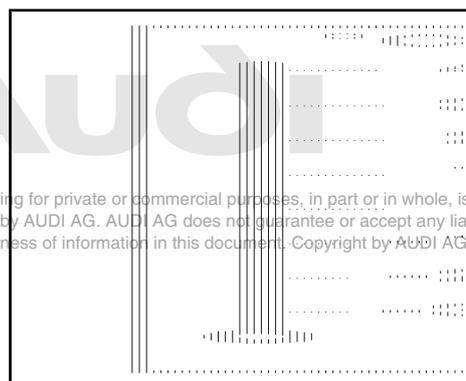
7.53.2 Viscosity grades for Audi S8 with V8 petrol engines

A - High-lubricity multi-grade oils, specification -VW 500 00- 15)

15) The date given after the VW specification must not be earlier than 10/97.

7.53.3 Oil specifications for petrol engines (except for Audi S8 with V8 petrol engines)

The specifications listed here must appear on the container - either singly or together with other specifications.



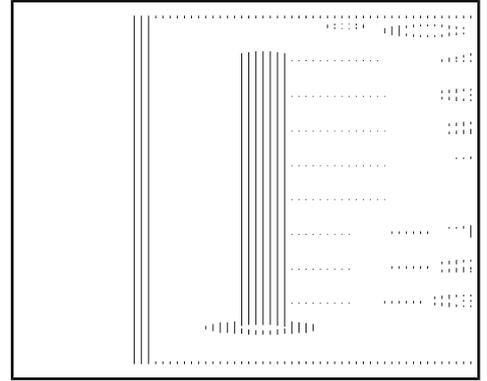
 **Note**

When topping up it is permissible to mix different types of oil.

Oil specifications

- A - High-lubricity multi-grade oils, specification -VW 500 00- ¹⁶⁾
- B - Multi-grade oils, specification -VW 501 01- ¹⁶⁾
- Multi-grade oils, specification API-SF ¹⁷⁾ or API-SG ¹⁷⁾

16) The date given after the VW specification must not be earlier than 10/97.
 17) These oils should only be used if the approved engine oils are not available.



7.53.4 Oil specifications for V6 TDI engines:

The specifications listed here must appear on the container - either singly or together with other specifications.

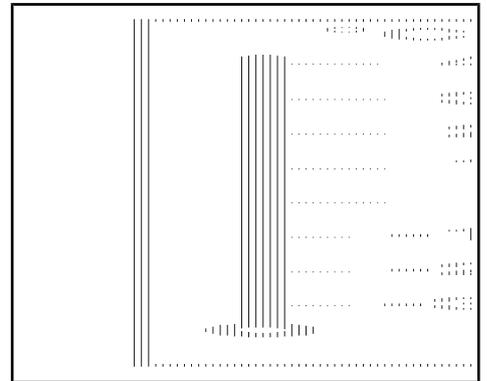
 **Note**

When topping up it is permissible to mix different types of oil.

Oil specifications

- A - High lubricity multi-grade oils, specification -VW 500 00- ¹⁸⁾ (only in combination with specification -VW 505 00-)
- B - Multi-grade oils, specification -VW 505 00- ¹⁸⁾ -VW 505 01- ¹⁸⁾
- Multi-grade oils, specification -VW 501 01- ¹⁸⁾ (only in combination with specification -VW 505 00-)
- Multi-grade oils, specification API-CD (should only be used for topping up if approved grades are not available)

18) The date given after the VW specification must not be earlier than 10/97.



7.53.5 Oil specifications for 3.3 ltr. V8 TDI engine

The specifications listed here must appear on the container - either singly or together with other specifications.

 **Note**

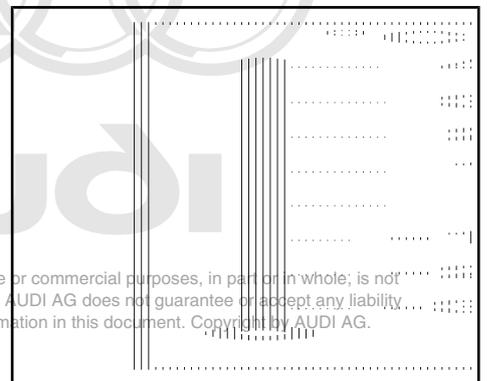
When topping up it is permissible to mix different types of oil.

Oil specifications

- B - Multi-grade oils, specification -VW 505 00- ¹⁹⁾ -VW 505 01- ¹⁹⁾

19) The date given after the VW specification must not be earlier than 10/97.

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7.53.6 LongLife oil specifications for vehicles with petrol engine

The specifications listed here must appear on the container - either singly or together with other specifications.

 **Note**

When topping up it is permissible to mix different types of oil.

Oil specifications

A - High-lubricity multi-grade oils, for flexible oil change intervals

New VW standard (specially developed, resistant to ageing) according to specification:

-VW 503 00- Petrol engines / turbocharged petrol engines

-VW 503 01- 6.0 ltr. W12 petrol engines

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7.53.7 LongLife oil specifications for vehicles with diesel engine

The specifications listed here must appear on the container - either singly or together with other specifications.

 **Note**

When topping up it is permissible to mix different types of oil.

Oil specifications

A - High-lubricity multi-grade oils, for flexible oil change intervals

New VW standard (specially developed, resistant to ageing) according to specification:

-VW 506 00- Diesel engines

7.54 Engine: checking oil level

 **Note**

- ◆ *Engine oil temperature at least 60 °C.*
- ◆ *Vehicle must be level (horizontal).*
- ◆ *Wait a few minutes after switching off the engine to allow the oil to flow back into the sump.*

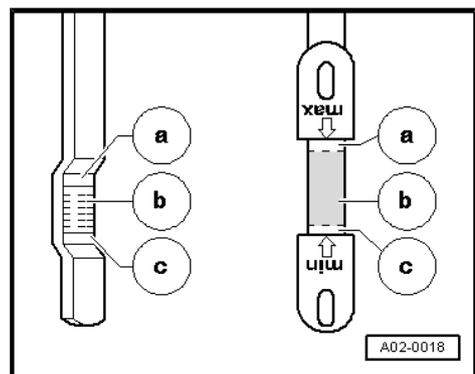
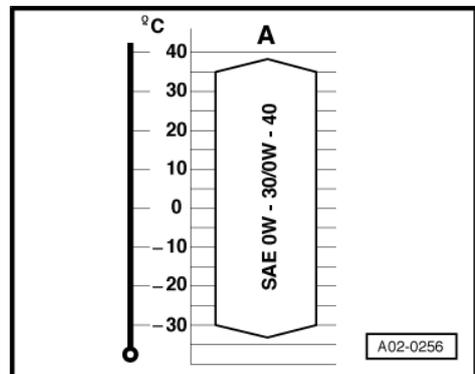
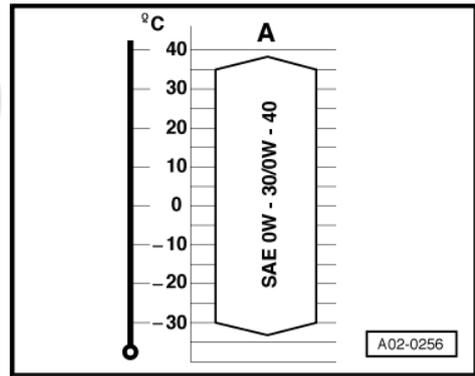
- Pull out dipstick, wipe with a clean cloth and insert again as far as it will go.
- Pull out dipstick again and read off oil level.

Markings on oil dipstick

- a - Oil must not be topped up.
- b - Oil can be topped up. The oil level may rise as far as area -a- after topping up.
- c - Oil must be topped up. The oil level is sufficient if it is somewhere in area -b- (grooved area) after topping up.

 **Note**

The oil level must not be above marking -a- on the dipstick.



7.54.1 Checking oil level (6.0 ltr. W12 engine)

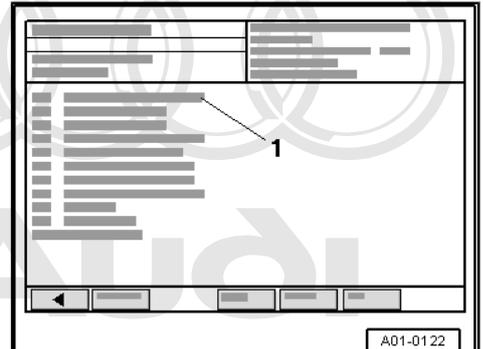
Unlike the other Audi models, this 12-cylinder engine has dry sump lubrication.

Check the oil level as follows:

- Other methods can lead to serious engine damage.
- Make sure vehicle is at operating temperature.
- Make sure vehicle is on a level surface.
- Connect vehicle diagnostic, testing and information system - VAS 5051- ⇒ [page 21](#) .
- Select vehicle system “ 01 - Engine electronics” from menu (engine should be idling).

Indicated on display:

- Select diagnostic function “08 - Read measured value block” from menu -1-.

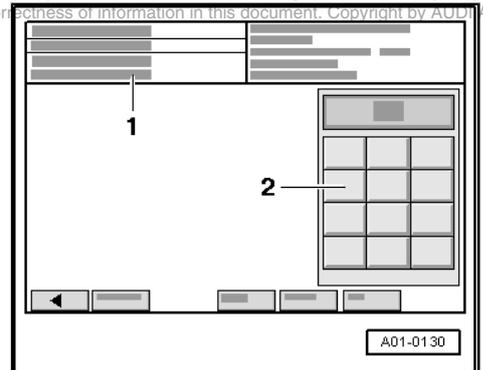


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Indicated on display:

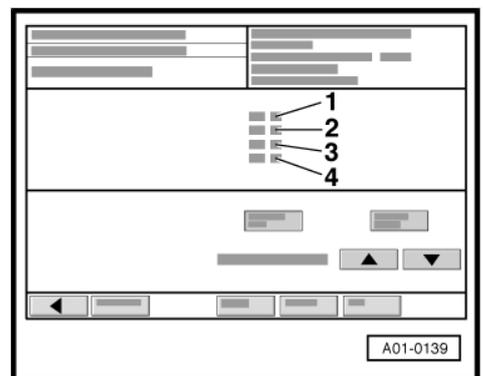
Enter display group -1-, max. input value = 255

- On the keypad -2- enter “134” for “display group number 134” and confirm entry with  key.



Indicated on display:

- Check readout in display zone -1-.
- Engine oil temperature at least 80 °C.
- Exit the function “08 - Read measured value block” by pressing the  key.
- Switch off ignition.





WARNING

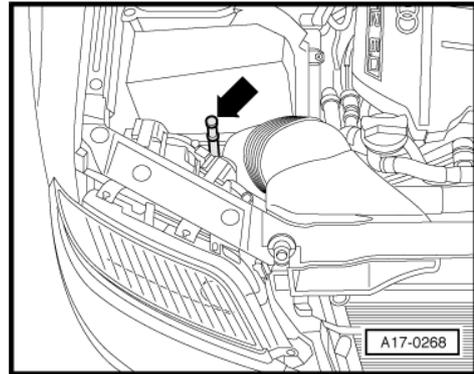
The oil level check must be completed within 2 minutes after switching off the ignition.

- Pull out dipstick -arrow-, wipe with a clean cloth and insert again as far as it will go.

 **Note**

A modified dipstick was phased in on vehicles built from calendar week 26 onwards ⇒ [page 118](#).

- Pull out dipstick again and read off oil level.



Markings on oil dipstick:

8 - Maximum level: oil level OK

7 - Top up approx. 0.3 ltr.

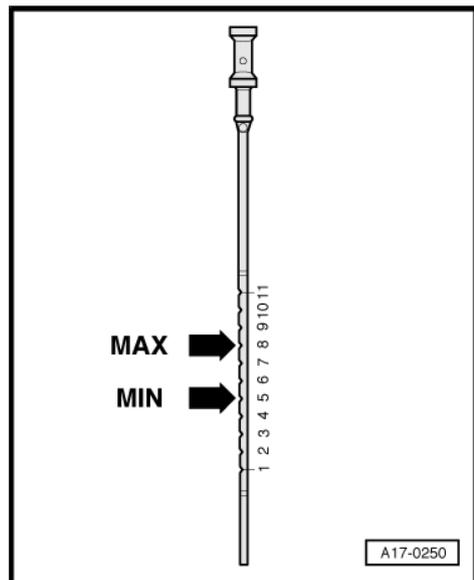
6 - Top up approx. 0.6 ltr.

5 - Minimum level: top up approx. 0.9 ltr.

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 **Note**

- ◆ Under the specified conditions described here the oil level must not be below the marking -5- or above the marking -8-.
- ◆ 1 notch on the dipstick is equivalent to approx. 0.3 ltr.



7.54.2 Oil dipstick (modified)

Markings on oil dipstick:

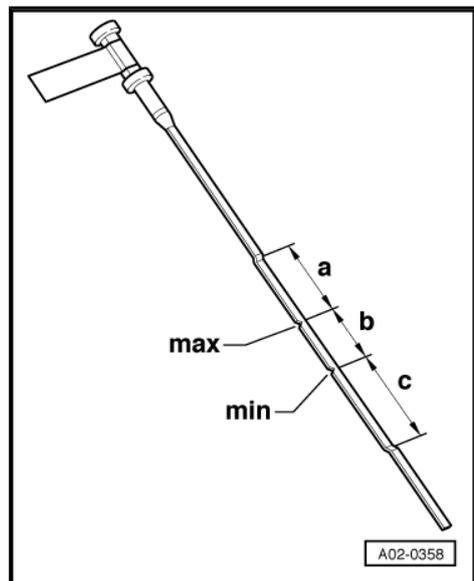
a - Oil must not be topped up.

b - Oil can be topped up. -max- marking must not be exceeded.

c - Oil must be topped up. The oil level is sufficient if it is somewhere in area -b- (between -min- and -max-) after topping up.

 **Note**

- ◆ Under the specified conditions described here the oil level must not be below the -min- marking or above the -max- marking.
- ◆ The amount of oil required to bring the level up from -min- to -max- is approx. 1.0 litre.



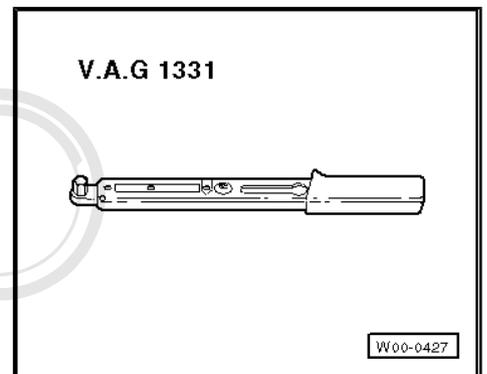
7.55 Automatic gearbox: changing ATF (only for automatic gearbox 018, 01K, 01F)

Note

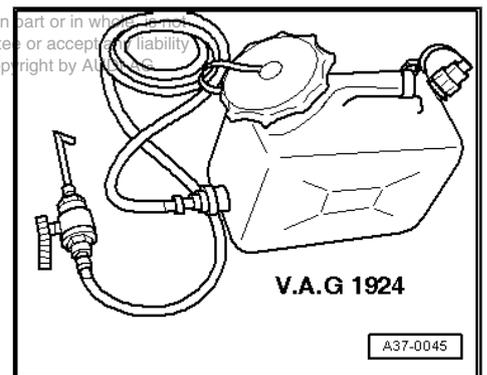
- ◆ Use only ATF with Part No. -G 052 162 A- (colourless/yellow). No additives may be used.
- ◆ The engine must not be started and the vehicle must not be towed if there is no ATF in the gearbox.
- ◆ ATF temperature must not be above 35 °C when starting to fill gearbox.
- ◆ Observe disposal regulations.

Special tools and workshop equipment required

- ◆
- ◆ Drip tray -V.A.G 1306-
- ◆ Torque wrench -V.A.G 1331-



- ◆ Fault reader -V.A.G 1551- with diagnosis lead -V.A.G 1551/3- (automatic gearbox 01K and 01F only)
- ◆ ATF filling unit -V.A.G 1924-



- ◆ Safety goggles

7.55.1 ATF: changing, automatic gearbox 01K, front-wheel drive and 01F, four-wheel drive

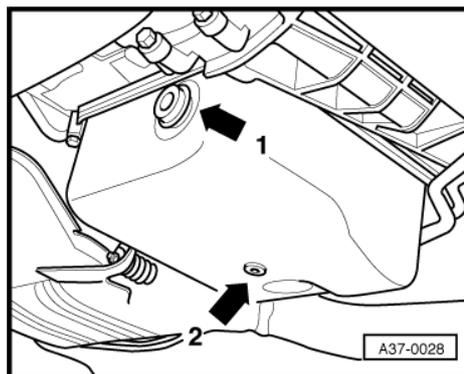
Draining ATF:

- Place drip tray -V.A.G 1306- under the gearbox.

- Unscrew ATF drain plug -arrow 2-
- Allow ATF to drain off.

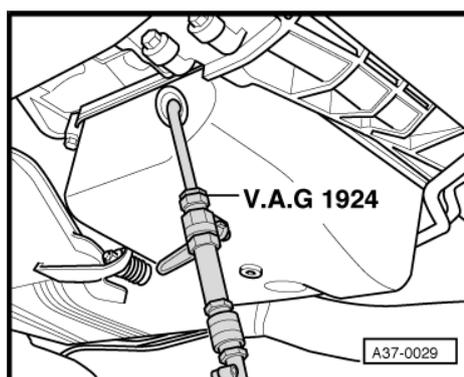
Filling up with ATF:

- Unscrew ATF filler plug -arrow 1-
- Fill up ATF container -V.A.G 1924- and attach container as high as possible on the vehicle (i.e. radiator grille).
- Fit new seal on ATF drain plug and screw in drain plug.



- Fill up with ATF to bottom lip of filler neck using ATF container -V.A.G 1924- .
- Start engine and run at idling speed.

 **WARNING**
Wear safety goggles.



- With engine running, fill up ATF once again to bottom lip of filler neck.
- Fit new seal on ATF filler plug and tighten filler plug hand-tight.
- With brake pedal depressed and engine idling, move selector lever through all positions. Wait for 2 ... 3 seconds in each position.
- Switch off ignition.
- Check ATF level => [page 120](#) .

 **Note**

Observe all notes and test requirements which are listed under "Checking ATF level".

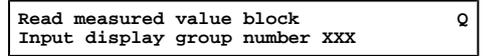
Tightening torque	Nm
ATF drain plug	40

7.55.2 ATF level: checking, automatic gearbox 01K, front-wheel drive and 01F, four-wheel drive

- Gearbox not in emergency running (backup) mode, ATF temperature not above approx. 30 °C.
- Vehicle must be level (horizontal).
- Selector lever in "P".
- Air conditioner and heating must be switched off.
- Connect fault reader -V.A.G 1551- => [page 20](#) .
- Start engine and run at idling speed.
- Enter "1" for "Rapid data transfer".
- Enter "02" to select the address word "Gearbox electronics" and confirm entry with  key.

- Press  key to continue.
- Enter "08" for the function "Read measured value block" and confirm with the  key.

Indicated on display:



- Enter "004" to select "Display group 004" and confirm entry with  key.

Indicated on display:



- Read off ATF temperature in display zone 4.

 **Note**

The ATF temperature must not be higher than approx. 30 °C.

- Unscrew ATF filler plug -arrow 1-.

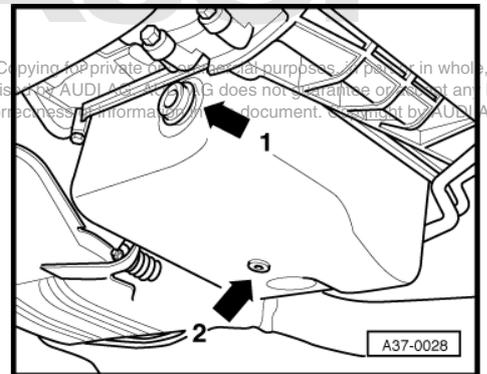
 **WARNING**
Wear safety goggles.

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- The ATF level is correct if a small amount of fluid still comes out at the ATF filler plug at a temperature between 35 °C and 40 °C ²⁰⁾ (the fluid level will rise as the temperature increases).

20) 50 °C for countries with hot climate.

- The fluid level is correct if ATF comes out of the filler hole.
- Tighten ATF filler plug -arrow 1-. This completes the ATF check.



Tightening torque	Nm
ATF filler plug	60

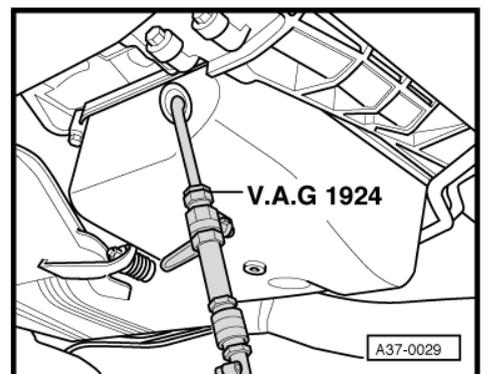
Topping up ATF

- If no ATF comes out at the filler hole (apart from the fluid in the overflow pipe), top up the ATF.
- Fill up with ATF to bottom lip of filler neck using -V.A.G 1924- .

 **Note**

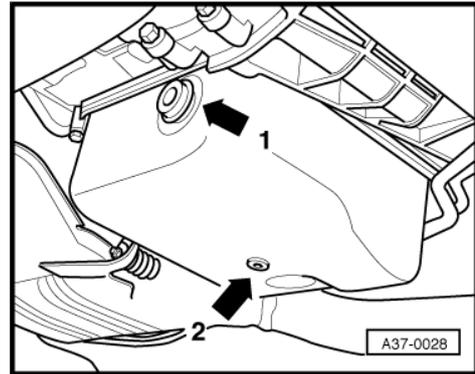
Use only ATF -G 052 162 A- (colourless/yellow). No additives may be used.

 **WARNING**
If the ATF level is too low or too high this will cause gearbox malfunctions.



- Tighten ATF filler plug -arrow 1-. This completes the ATF check.

Tightening torque	Nm
ATF filler plug	60



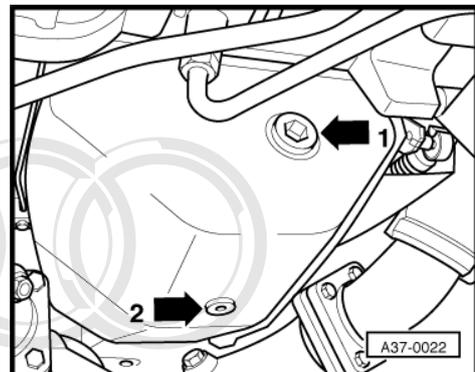
7.55.3 ATF: changing, automatic gearbox 018, four-wheel drive

Draining ATF

- Place drip tray -V.A.G 1306- under the gearbox.
- Unscrew ATF drain plug -arrow 2-.
- Allow ATF to drain off.

Filling up with ATF

- Unscrew ATF filler plug -arrow 1-.
- Fill up ATF container -V.A.G 1924- and attach container as high as possible on the vehicle (i.e. radiator grille).
- Fit new seal on ATF drain plug and screw in drain plug.



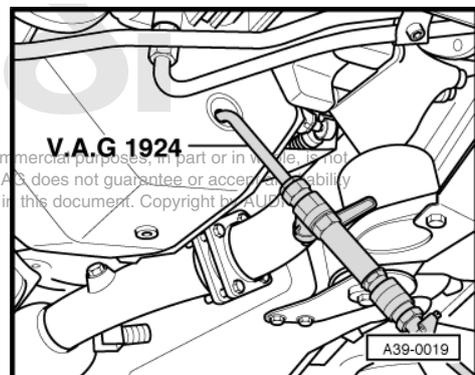
- Fill up with ATF to bottom lip of filler neck using -V.A.G 1924-.
- Start engine and run at idling speed.



WARNING

Wear safety goggles.

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- With engine running, fill up ATF once again to bottom lip of filler neck.
- Fit new seal on ATF filler plug and tighten filler plug hand-tight.
- With brake pedal depressed and engine idling, move selector lever through all positions. Wait for 2 ... 3 seconds in each position.
- Switch off ignition.
- Check ATF level => [page 123](#) .

 **Note**

Observe all notes and test requirements which are listed under "Checking ATF level".

Tightening torque	Nm
ATF drain plug	40

7.55.4 ATF level: checking, automatic gearbox 018, four-wheel drive

 **Note**

- ◆ *Gearbox not in emergency running (backup) mode, ATF temperature not above approx. 30 °C.*
- ◆ *Vehicle must be level (horizontal).*
- ◆ *Selector lever in "P".*
- ◆ *Air conditioner and heating must be switched off.*

– Start engine and run at idling speed.

 **Note**

The ATF temperature must not be higher than approx. 30 °C (gearbox oil pan is warm).

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– Unscrew ATF filler plug -arrow 1-.

 **WARNING**

Wear safety goggles.

- The ATF level is correct if a small amount of fluid still comes out at the ATF filler plug at a temperature between 35 °C and 40 °C ²¹⁾ (the fluid level will rise as the temperature increases).

21) 50 °C for countries with hot climate.

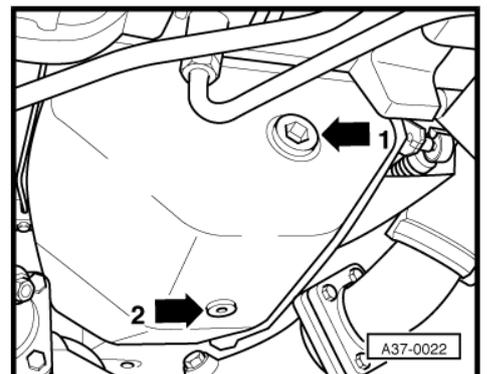
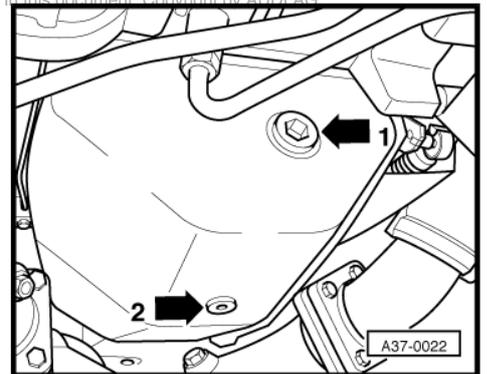
- The fluid level is correct if ATF comes out of the filler hole.

– Tighten ATF filler plug -arrow 1-. This completes the ATF check.

Tightening torque	Nm
ATF filler plug	60

Topping up ATF

- If no ATF comes out at the filler hole (apart from the fluid in the overflow pipe), top up the ATF.



- Fill up with ATF to bottom lip of filler neck using -V.A.G 1924- .

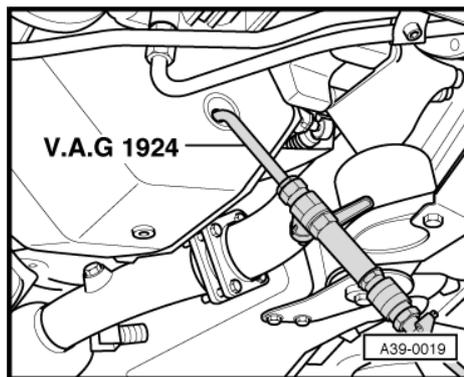
 **Note**

Use only ATF-G 052 162 A- (colourless/yellow). No additives may be used.



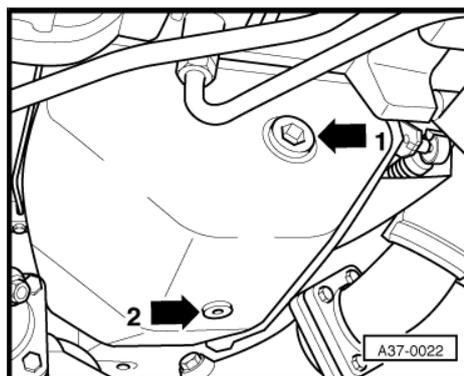
WARNING

If the ATF level is too low or too high this will cause gearbox malfunctions.



- Tighten ATF filler plug -arrow 1-. This completes the ATF check.

Tightening torque	Nm
ATF filler plug	60



7.56 Brake fluid level (depends on brake pad wear): checking

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Only use new genuine VW/Audi brake fluid in accordance with US standard "FMVSS 116 DOT 4".



WARNING

- ◆ *Brake fluid is poisonous. It also has caustic properties and must therefore not be allowed to come into contact with paintwork.*
- ◆ *Brake fluid is hygroscopic, i.e. it absorbs moisture from the surrounding air. It must therefore always be stored in air-tight containers.*

- Note the following:

Delivery Inspection

- ◆ The fluid level must be at the MAX mark.

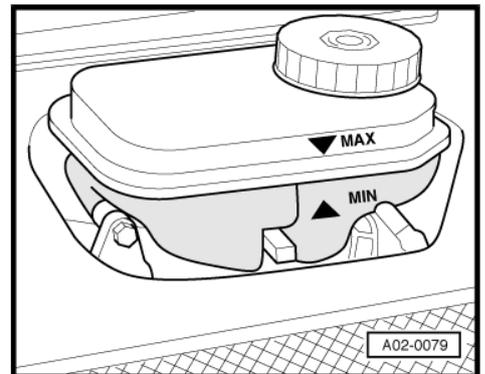
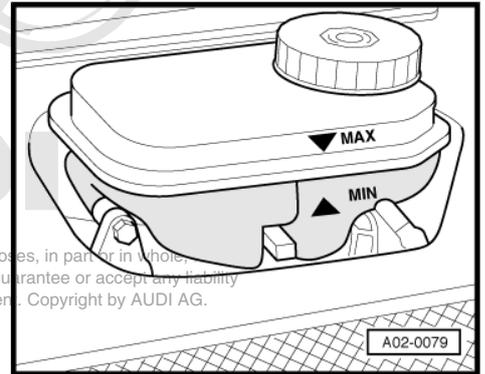
Note

The fluid level must not exceed the MAX marking, otherwise the fluid will overflow.

Inspection Service

When the vehicle is driven, the brake fluid level will drop slightly with use and as a result of the automatic adjustment of the brake pads.

- When checking the brake fluid level, always take into account the amount of wear on the brake pads:
- If the brake pads are new or a long way from reaching the wear limit, the fluid level should be between the MIN and MAX marks.
- If the brake fluid level is at or slightly above the MIN marking and the brake pads have almost reached the wear limit, topping up is not required.



WARNING

If the fluid level has fallen below the MIN mark, check the brake system (repair measure) before adding brake fluid.

7.57 Brake fluid: changing (every 2 years)

WARNING

- ◆ *Brake fluid must on no account come into contact with liquids containing mineral oils (oil, petrol, cleaning agents). Mineral oils damage the plugs and sleeves in the brake system.*
- ◆ *The brake fluid reservoir must always be adequately filled to ensure that no air can enter the brake system from the reservoir.*
- ◆ *Brake fluid is poisonous and must under no circumstances be sucked through a tube using the mouth. Because of its caustic properties it must also not come into contact with paintwork.*
- ◆ *Brake fluid is hygroscopic, i.e. it absorbs moisture from the surrounding air. It must therefore always be stored in airtight containers.*
- ◆ *Use plenty of water to rinse away any brake fluid spillage.*
- ◆ *Always observe the relevant environmental regulations for disposal.*

Only use new brake fluid -B 000 700 A- (corresponds to US standard FMVSS 116 DOT 4).



Changing the brake fluid with brake filling and bleeding equipment
-VW 1238/B- ⇒ [page 126](#)

Changing the brake fluid with brake filling and bleeding equipment
-V.A.G 1869- ⇒ [page 126](#)

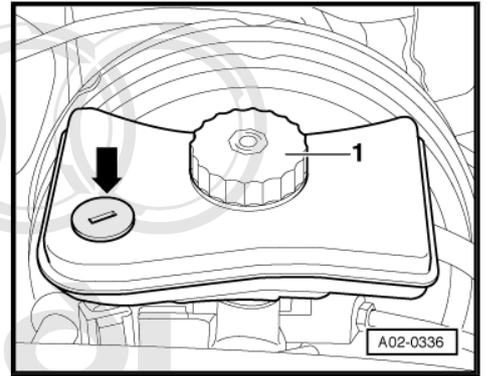
Changing the brake fluid with brake filling and bleeding equipment
-VAS 5234- ⇒ [page 128](#)

7.57.1 Changing the brake fluid with brake filling and bleeding equipment -VW 1238/B- or -V.A.G 1869-

Special tools and workshop equipment required

- ◆ Brake filling and bleeding equipment -VW 1238/
V.A.G 1238/1- or -V.A.G 1238/B-
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- ◆ Upgrade kit and extraction unit -V.A.G 1869/4-

- Unscrew cap -1- from brake fluid reservoir.
- Unscrew plug -arrow- from brake fluid reservoir.
- Connect the extraction hose of -V.A.G 1869/4- to pipe in brake fluid reservoir.
- Use extraction hose included in -V.A.G 1869/4- to extract as much brake fluid as possible.
- Remove the extraction hose.
- Screw the plug onto the brake fluid reservoir.



WARNING

Do not reuse the old brake fluid that has been extracted.

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- Connect -VW 1238/B- or -V.A.G 1869- , but do not switch on yet.

Vehicles with manual gearbox:

- Remove cap from bleeder screw on clutch slave cylinder.
- Open bleeder screw on clutch slave cylinder.
- Fit bleeder hose leading to brake fluid collector onto bleeder screw on clutch slave cylinder.
- Then switch on bleeder appliance and allow about 100 cm³ of brake fluid to drain out.
- Close bleeder screw and switch off bleeder appliance.
- Attach cap.

Continuation for all vehicles:

- Remove caps from bleeder screws.

Sequence for changing brake fluid in brake calipers:

- 1 - Front left-hand brake caliper
 - 2 - Front right-hand brake caliper
 - 3 - Rear left-hand brake caliper
 - 4 - Rear right-hand brake caliper
- Remove caps from bleeder screws.
 - Fit bleeder hose leading to brake fluid collector onto bleeder screw for relevant brake caliper.
 - Switch on bleeding equipment, open bleeder screw and allow about 200 cm³ of brake fluid to drain out.

Used brake fluid is pushed out of the system when new fluid is pumped in.

- Close bleeder screw.
- Perform the same procedure at the remaining bleeder screws.

Table - sequence for changing brake fluid / quantities

Front left	200 ml
Front right	200 ml
Rear left	200 ml
Rear right	200 ml
Total quantity ²²⁾	1,000 ml

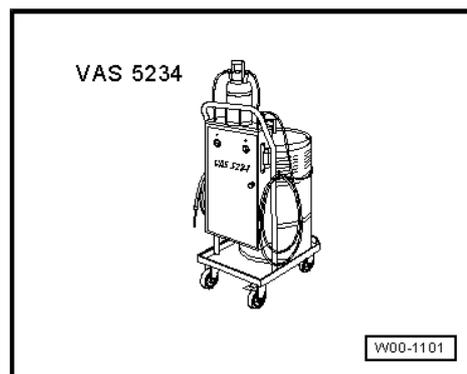
22) including brake fluid extracted from brake fluid reservoir and fluid changed in hydraulic clutch system

- Switch off bleeding equipment.
- Fit caps back on bleeder screws on brake calipers.
- Disconnect hose from brake fluid reservoir.
- Check pedal pressure and free travel (no more than $\frac{1}{3}$ of total pedal travel).
- During the final test drive, make sure that at least one ABS-controlled brake application is carried out (with noticeable pulsing of brake pedal).

7.57.2 Changing the brake fluid with brake filling and bleeding equipment -VAS 5234-

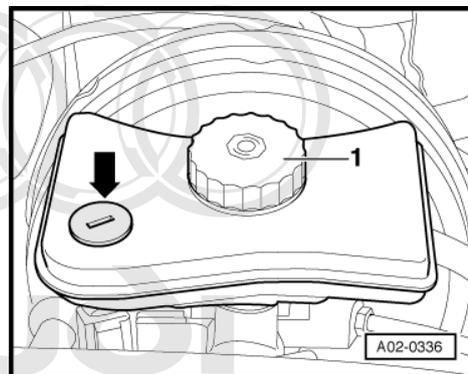
Special tools and workshop equipment required

- ◆ Brake filling and bleeding equipment -VAS 5234-



Observe operating instructions for -VAS 5234- !

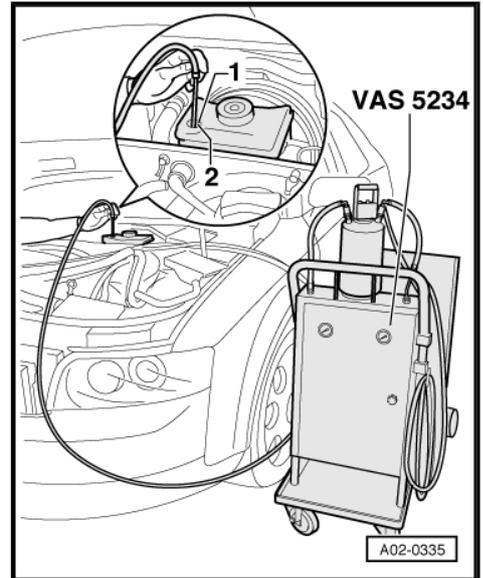
- Unscrew cap -1- from brake fluid reservoir.
- Unscrew plug -arrow- from brake fluid reservoir.



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- Connect the extraction hose of -VAS 5234- to pipe -1- in brake fluid reservoir.
- Use extraction hose included in -VAS 5234- to extract as much brake fluid as possible.
- Remove the extraction hose.
- Screw the plug onto the brake fluid reservoir.

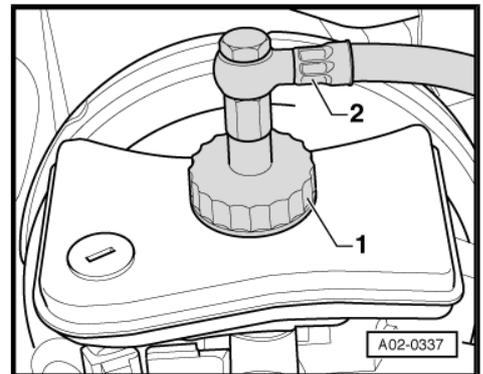
 **WARNING**
Do not reuse the old brake fluid that has been extracted.



- Connect adapter -1- to brake fluid reservoir.
- Connect filling hose -2- included with -VAS 5234- to adapter.

Vehicles with manual gearbox:

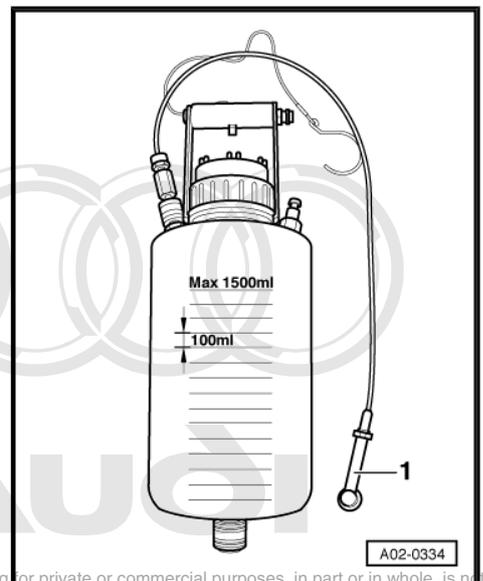
- Remove cap from bleeder screw on clutch slave cylinder.
- Fit bleeder hose -1- leading to brake fluid collector onto bleeder screw on clutch slave cylinder.
- Switch on bleeding equipment, open bleeder screw and allow about 100 cm³ of brake fluid to drain out.



- Close bleeder screw and fit cap back on.
- Switch off bleeding equipment.
- Repeatedly depress the clutch pedal.

Continuation for all vehicles:

- Remove caps from bleeder screws.



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- Connect bleeder hose -1- attached to collector bottle to bleeder screw (front left), switch on bleeder equipment, open bleeder screw and allow approx. 200 ml of brake fluid to flow out. Close bleeder screw.

Repeat the procedure on the other front side of the vehicle.

- Connect bleeder hose -1- attached to collector bottle to bleeder screw (rear left), open bleeder screw and allow approx. 200 ml of brake fluid to flow out. Close bleeder screw.

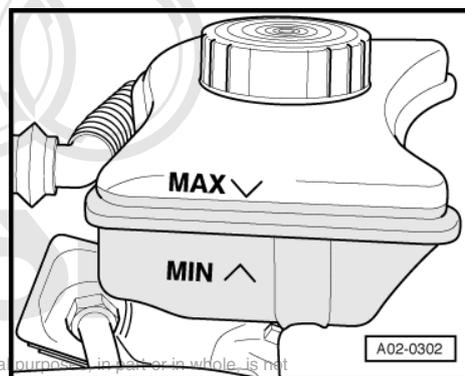
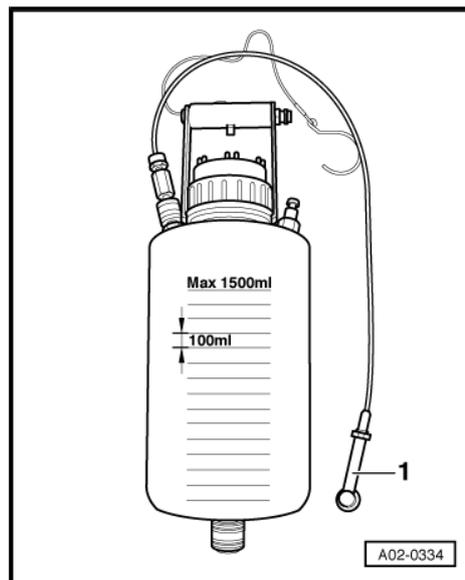
Repeat the procedure on the other rear side of the vehicle.

Table - sequence for changing brake fluid / quantities

Front left	200 ml
Front right	200 ml
Rear left	200 ml
Rear right	200 ml
Total quantity ²³⁾	1,000 ml

23) including brake fluid extracted from brake fluid reservoir and fluid changed in hydraulic clutch system

- Fit caps back on bleeder screws on brake calipers.
- Move filling lever on -VAS 5234- to position -B- (see operating instructions).
- Detach filling hose from adapter.
- Unscrew adapter from brake fluid reservoir.
- Check brake fluid level and correct as necessary.
- Screw cap onto brake fluid reservoir.
- Check pedal pressure and free travel (no more than 1/3 of total pedal travel).
- During the final test drive, make sure that at least one ABS-controlled brake application is carried out (with noticeable pulsing of brake pedal).



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7.58 Headlights: checking settings and adjusting if necessary

The following checking and adjustment procedures apply to all countries. However, national legislation and guidelines for individual countries must be adhered to.

Requirements for checking and adjusting

- Tyre pressures OK.
- Lenses must not be damaged or dirty.
- Reflectors and bulbs OK.
- Vehicle correctly loaded.
- Loading: With one person or 75 kg on the driver's seat and the vehicle otherwise unloaded (unladen weight).

The unladen weight is the weight of the vehicle ready for operation with full fuel tank (at least 90 %) including the weight of all equipment normally carried (e.g. spare wheel, tools, jack, fire extinguisher, etc.).

If the fuel tank is not at least 90% full put in additional weight as follows:

- Read fuel level in fuel tank from the fuel gauge. Calculate additional weight according to the following table and place weight into boot.

Capacity table

Fuel level on fuel gauge	6-cyl. engines Additional weight in kg	8-cyl. and W12 engines Additional weight in kg
1/4	60	65
1/2	40	45
3/4	20	25
full	0	0

Example: 6-cyl. engines

When the fuel tank is half full, an additional weight of 40 kg must be placed in the luggage compartment.



Note

As an additional weight it is best to use a fuel canister filled with water (a 5 litre fuel canister filled with water weighs approx. 5 kg).

Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.

- Vehicle and headlight adjuster must be on a level surface => Headlight adjuster operating instructions .
- Vehicle and headlight adjuster must be aligned.

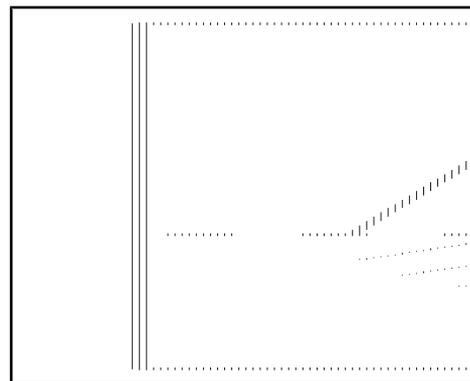
Ensure that the headlight adjuster is positioned 30 cm in front of the headlight.

- Dip setting must be adjusted.

A “%” value is marked on top of headlight. This indicates the dip setting that the headlights must be adjusted to. The percentage value is for a range of 10 m. At a dip setting of, for example, 1.0% (for vehicles with headlight range control), this converts to 10 cm.

Vehicles with manually adjustable headlight range control:

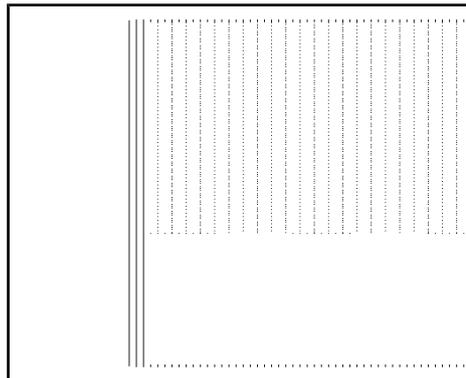
- The knurled wheel for headlight range control must be in position -0-.



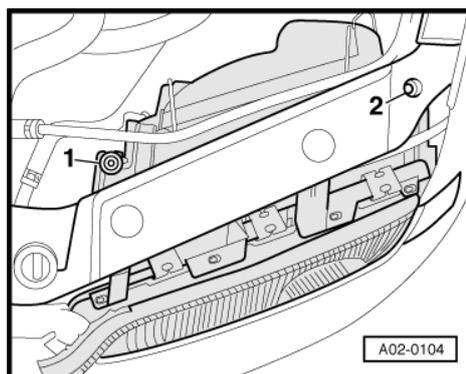
7.58.1 Checking headlight setting (using new test screen without 15° setting line)

- Start the engine.
- Switch on dipped headlights.

- The horizontal light-dark border should coincide with the setting line -1- on the test screen.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.

**Note**

- ◆ To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.
- ◆ If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.
- ◆ If using an old test screen with a 15° setting line, the adjustment procedure is the same as for the new test screen. To avoid incorrect settings, ignore the 15° setting line.



If the headlight setting is incorrect adjust the headlights as follows:

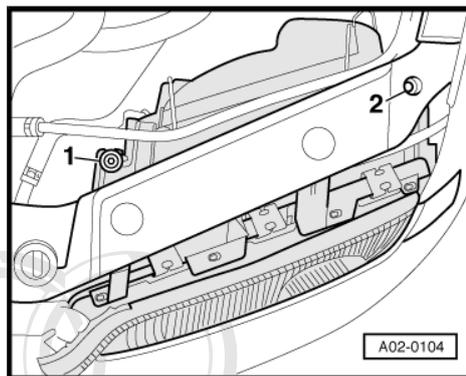
- ◆ Vehicles with halogen headlights ⇒ [page 132](#)
- ◆ Vehicles with gaseous discharge headlights ⇒ [page 132](#)

7.58.2 Adjusting headlights - vehicles with halogen headlights

- Note the requirements for checking and adjusting ⇒ [page 130](#).

Headlight (left)

- Adjust setting using a suitable screwdriver (do not damage adjuster wheel) or hexagon key.
- 1 - Adjuster screw for lateral setting
- 2 - Height adjuster screw

**Note**

On the right headlight, the adjuster screws are in a symmetrically opposite position.

7.58.3 Adjusting headlights - Vehicles with gaseous discharge headlights

- Note the requirements for checking and adjusting ⇒ [page 130](#).

- Connect -V.A.G 1551- ⇒ [page 20](#).
- Start the engine.
- Switch on dipped headlights.

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Indicated on display:²⁴⁾

V.A.G - Self diagnosis 1 - Rapid data transfer	HELP
---	------

24) appears alternately

- Enter "1" for "Rapid data transfer".

Indicated on display:

V.A.G - Self diagnosis 2 - Flash code output	HELP
---	------

- Enter "55" to select the address word "Headlight range control" and confirm entry with  key.

Rapid data transfer Enter address word XX	HELP
--	------

 **Note**

If the tester does not detect an on-board control unit for headlight range control, the vehicle is not equipped with this function (export version for some countries). In this case perform the adjustment as for vehicles with halogen headlights => [page 132](#).

Indicated on display:

4B0907357 HEADLIGHT RANGE CTRL X009 - > Code 00005	WSC 02389
--	-----------

- Press  key.

Indicated on display:

Rapid data transfer Select function XX	HELP
---	------

- Enter "02" for function "Interrogate fault memory" and confirm with  key.

Indicated on display:

No fault recognised!

- Press  key.

or

Indicated on display:

X faults recognised!

When the printer is switched on, the stored faults are displayed and printed one after the other.

- The faults must be eliminated once the last fault has been displayed and printed.

- Press  key.

Indicated on display:

Rapid data transfer Select function XX	HELP
---	------

- Enter "05" for function "Erase fault memory" and confirm with  key.

Indicated on display:

Rapid data transfer Fault memory is erased!	->
--	----

- Press  key.

Indicated on display:

Rapid data transfer Select function XX	HELP
---	------

- Enter "04" for the function "Start basic setting" and confirm with the  key.

Indicated on display:

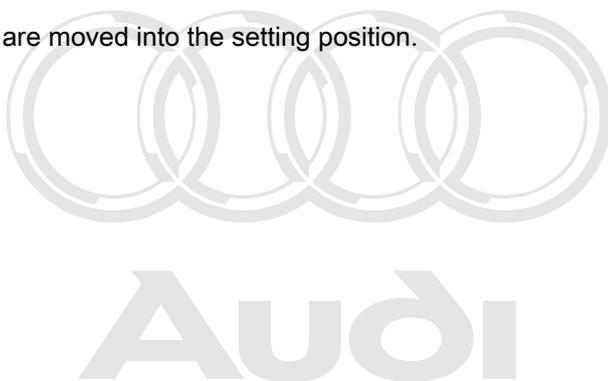
- Enter "001" to select "Display group number 001" and confirm entry with  key.

Basic setting	Q
Input display group number XXX	

Indicated on display:

The headlights are moved into the setting position.

System in basic setting	1 ->
Waiting	



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Indicated on display:

System in basic setting Set headlight	1 ->
--	------

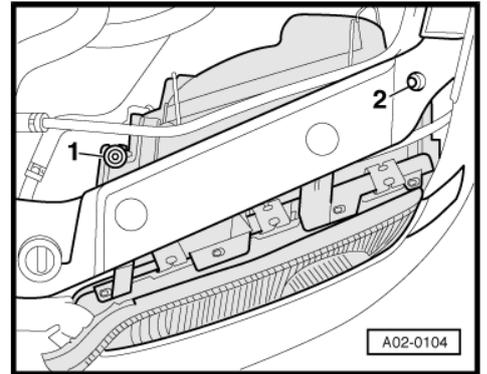
 **Note**

The headlights are now in the setting position. Adjust the headlights. Basic setting function 1 switches off automatic range control and fault "Headlights not set" will be stored in fault memory.

Headlight (left)

- Adjust setting using a suitable screwdriver (do not damage adjuster wheel) or hexagon key.

- 1 - Adjuster screw for lateral setting
- 2 - Height adjuster screw



 **Note**

On the right headlight, the adjuster screws are in a symmetrically opposite position.

- Press  key.

Indicated on display:

Rapid data transfer Enter address word XX	HELP
--	------

- Enter "04" for the function "Start basic setting" and confirm with the  key.

Indicated on display:

Basic setting Input display group number XXX	
---	---

- Enter "002" to select "Display group number 002" and confirm entry with  key.

Indicated on display:

System in basic setting Ctrl pos. learnt	2 ->
---	------

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 **Note**

The control unit has now "learnt" this position as reference position. The fault "Headlights not set" in the fault memory will be erased and the automatic range control function will be restored.

- Press  key.

Indicated on display:

Rapid data transfer Select function XX	HELP
---	------

- Enter "06" to select "End data transfer" and confirm entry with  key.

7.58.4 Fog lights: adjusting



Note

Fog lights are set automatically when headlights are adjusted.

Fog lights:

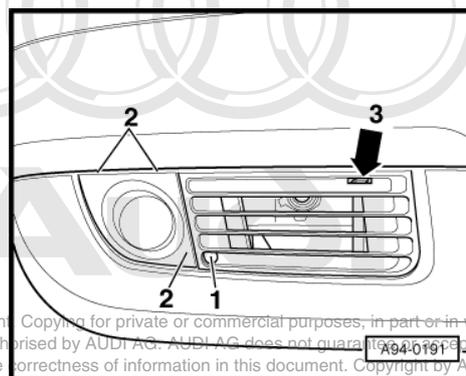
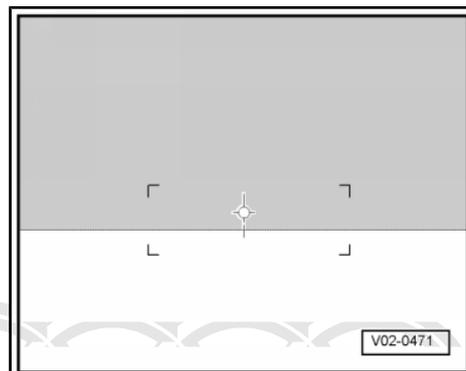
Dip setting:

- Fog lights 20 cm
- Check whether the upper light-dark border touches the setting line horizontally over the complete width of the test screen.
- Turn the adjuster screw -arrow- anti-clockwise to reduce the range. Lateral adjustment is not possible.



Note

The illustration shows the right fog light. On the left fog light, the adjuster screw is in a symmetrically opposite position.



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7.58.5 Other additional lights: adjusting

Additional lights from other systems which have been retrofitted must be checked and adjusted according to the applicable guidelines.

7.59 Road test

To what extent the following can be checked depends on vehicle equipment and local conditions (urban/country).

- The following points must be checked during the road test:
 - ◆ Engine: performance, misfiring, idling speed, acceleration
 - ◆ Clutch: pulling away, pedal pressure, odours
 - ◆ Gear selection: ease of operation, gear lever position
 - ◆ Automatic gearbox: selector lever position, shift lock / ignition key removal lock, shift behaviour, dash panel insert display
 - ◆ Brake pedal and handbrake: operation, travel and effectiveness, pulling to one side, juddering, squeal, ABS function
 - ◆ Steering: operation, steering free play, steering wheel centralised when wheels are in straight-ahead position
 - ◆ Sliding/tilting sunroof: operation
 - ◆ Cruise control system: operation
 - ◆ Radio: quality of reception, GALA, interference
 - ◆ Driver Information System (DIS): functions
 - ◆ Air conditioner: operation
 - ◆ Vehicle: moving off line when travelling straight ahead (level road)
 - ◆ Imbalance: wheels, drive shafts

- ◆ Wheel bearings: noises
- ◆ Engine: hot starting behaviour



Audi

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8 Type plate, vehicle identification number

A - Type plate

- Is located on the lock carrier (front right).
- Vehicles for certain export countries have no type plate.

B - Vehicle identification number

- Is stamped on rear bulkhead of engine compartment. Pull noise insulation panel forwards.

8.1 Information encoded in vehicle identification number:

W A U	Z Z Z	4 D	Z	Y	N	0 0 0 0 1
Manufacturer's mark	Filler characters	Type	Filler characters	Model year 2000	Production location	Serial number

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8.2 Vehicle data sticker

The vehicle data sticker can be found in the customer's Service Schedule, and also on the vehicle in the spare wheel well or on the luggage compartment floor.

The sticker contains the following vehicle data:

- 1 - Vehicle identification number
- 2 - Model identification code/ production control number
- 3 - Model code
- 4 - Engine output/ emissions standard/ gearbox
- 5 - Engine and gearbox code letters (not specified on some export models)
- 6 - Paint number/ interior equipment identification number
- 7 - Identification numbers for optional extras
- 8 - Unladen weight/ fuel consumption/ CO₂ emission level (not specified on some export versions)

1	W A U Z Z Z 4 D Z V N 0 1 4 8 1 9
2	4 D 2 G 5 B 3162005
3	A 8 Lim. quat. 3.7
4	169KW /EU3 A5 07/97
5	A K J D N V C J T
6	L Z 5 L / L Z 5 L N 0 E / B U
7	X 0 A B 0 A C 8 C G 0 Q H 6 V J 1 G M P 5 Q 1 D 1 B M 1 A T 1 G 3 2 P N 1 N 1 5 R Q 5 S L T 7 L 0 J Z 4 U E O Y Z 0 G 7 8 A E 8 G L 8 F A 8 R Y 1 K E 1 L C 3 F A 1 B M
8	1847 19,9 9,1 13,1 314

A02-0109

8.3 Engine code and engine number



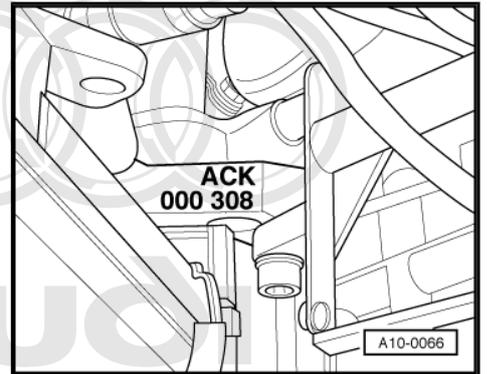
Note

The "engine code" is also stated on the vehicle data stickers in the Service Schedule and in the spare wheel well or on the luggage compartment floor.

There is also a sticker on the toothed belt guard giving the engine code and engine number.

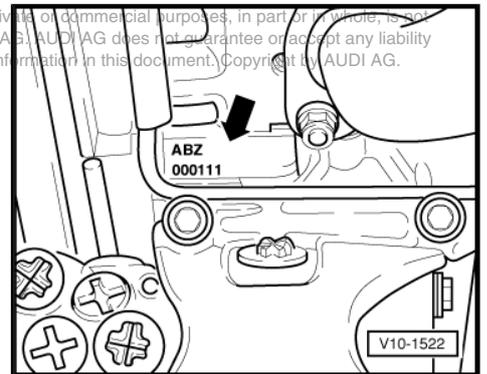
V6 petrol engines:

The engine number ("engine code letters" and "serial number") is stamped onto the right inner side of the cylinder block between cylinder head and hydraulic pump.



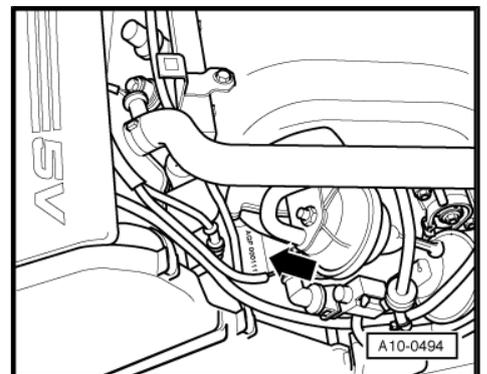
V8 petrol engines:

The engine number ("engine code letters" and "serial number") is stamped on the left side of the cylinder block immediately above the hydraulic pump.



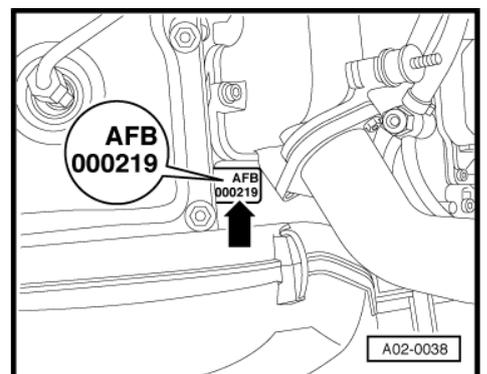
V8 5V petrol engines:

The engine number ("engine code letters" and "serial number") is stamped onto the left side of the cylinder block.



V6 TDI engines:

The engine number ("engine code letters" and "serial number") is stamped onto the right inner side of the cylinder block between cylinder head and injection pump.



9 Lifting the vehicle



WARNING

- ◆ *To avoid damaging the vehicle floor and to prevent the vehicle from tipping, the vehicle should only be lifted at the points shown in the illustration.*
- ◆ *Never start engine and engage gear with vehicle lifted, so long as even one driven wheel has contact with the floor. There is a risk of accident if this is not observed.*
- ◆ *If work is to be performed under the vehicle, it must be securely supported by suitable stands.*

9.1 Trolley jack

Always use suitable rubber or wooden blocks to avoid damage.

A trolley jack may only be applied at the lifting points as illustrated.

On no account should vehicle be lifted at engine sump, gearbox or on front or rear axle, as this may cause serious damage.

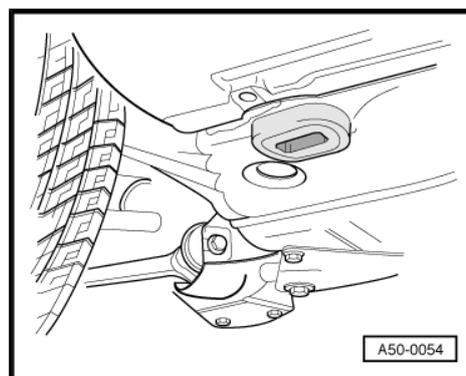
9.2 Lifting platform

Before driving on to a lifting platform ensure there is sufficient clearance between low-lying vehicle components and lifting platform.

9.3 Lifting points for lifting platform and trolley jack

Front and rear:

On the oval-shaped rubber plates on the underbody.



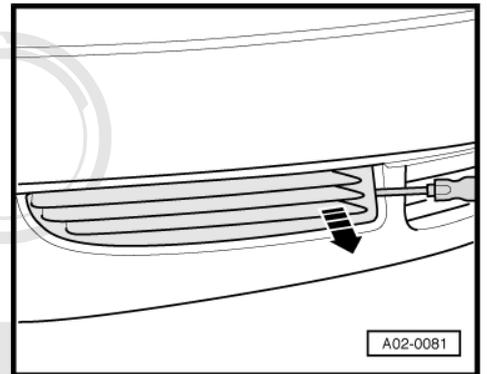
10 Tow-starting/towing

- Attach a tow rope or tow bar only to the specified towing eyes
 => [page 141](#) :

10.1 Towing eyes

10.1.1 Front towing eye

- Lever off air intake grille -arrow- in lower part of bumper using a screwdriver and pull grille off forwards.
- Take towing eye out of vehicle tool kit.

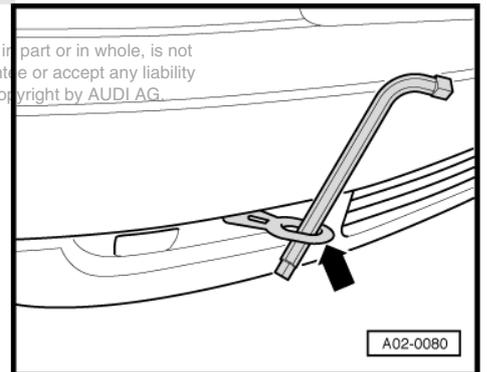


- Screw in towing eye -arrow- as far as it will go and tighten it with wheel bolt spanner.

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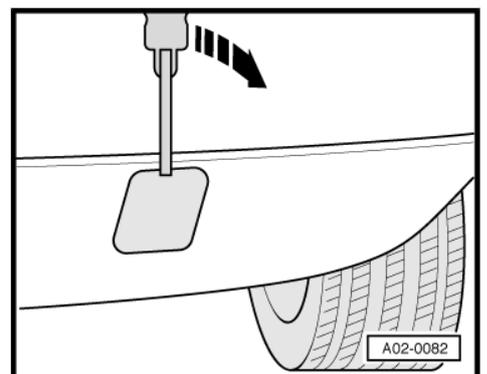
Note

After use remember to unscrew towing eye and replace it in vehicle tool kit. The towing eye must always be carried in the vehicle.



10.1.2 Rear towing eye

- Lever out cover panel -arrow- from lower part of bumper (right-side) using a screwdriver.



10.2 Notes on towing and tow-starting



Note

- ◆ *The tow-rope should be slightly elastic to reduce the risk of damage to both vehicles. It is advisable to only use synthetic fibre ropes or ropes of similar elastic material. However, it is safer to use a tow bar.*
- ◆ *Always avoid excessive towing forces and do not jerk. During towing operations on unsurfaced roads there is always a danger that the attachment parts will be over-stressed and damaged.*
- ◆ *The vehicle should only be tow-started if it is not possible to start the engine using jump leads.*

If the vehicle has to be towed or tow-started, please note the following points:

- Legal regulations concerning towing must be observed.
- Both drivers must be familiar with towing procedures. Inexperienced drivers should not attempt to tow-start or tow.
- **When using a tow rope, the driver of the towing vehicle must engage the clutch very gently when moving off and changing gear.**
- The driver of the vehicle being towed must ensure that the tow-rope is always taut.
- Both vehicles must switch on their hazard warning lights, unless otherwise specified by local regulations.
- The ignition must be switched on so that the steering wheel is free and the turn signals, horn and windscreen wiper and washer system can be used.
- Because the brake servo only works when the engine is running, considerably more pressure is required on the brake pedal when the engine is not running.
- As power-assisted steering does not work when the engine is not running, more force is required to turn the steering wheel when the engine is off.
- If there is no lubricant in the manual or automatic gearbox, the vehicle must be towed with the driven wheels raised off the ground.

When tow-starting vehicles with manual gearbox, please note the following points:

- Before moving off, engage 2nd or 3rd gear, press clutch pedal and hold.
- Switch on ignition.
- When both vehicles are moving, release clutch pedal.
- As soon as the engine starts, depress clutch and move gear lever to neutral to avoid running into the towing vehicle.



Note

- ◆ *Vehicles with a catalytic converter (petrol engines only) must not be tow-started over a distance of more than 50 m with the catalytic converter at operating temperature. Otherwise, unburnt fuel may enter the catalytic converter and cause damage.*
- ◆ *For technical reasons, it is not possible to tow-start a vehicle with an automatic gearbox.*

When towing a vehicle with front-wheel drive and automatic gearbox the following points must also be noted:

- Selector lever must be in position "N".
- Do not tow vehicle at a speed of more than 50 km/h.
- The maximum towing distance is 50 kilometres.

If towing over greater distances, the vehicle must be lifted at the front.

Reason: When the engine is not turning the gearbox oil pump will not work - the gearbox will therefore not be adequately lubricated for higher speeds or longer distances.

When using a breakdown vehicle, the vehicle can only be towed with the front wheels raised.

Reason: If vehicle is towed when raised at rear, the drive shafts will turn backwards. As a result, the planetary gears in the automatic gearbox will then turn at such high speeds that the gearbox will be severely damaged in a short time.

When towing a vehicle with four-wheel drive and manual gearbox the following points must also be noted:

- Do not tow vehicle at a speed of more than 50 km/h.
- The maximum towing distance is 50 kilometres.

When using a breakdown vehicle, the vehicle being towed can be suspended (either at front or rear).

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Note

If it is not possible to tow the vehicle normally, it must be transported by a special transporter or trailer. This also applies to distances greater than 50 kilometres.

When towing a vehicle with four-wheel drive and automatic gearbox the following points must also be noted:

- Selector lever must be in position "N".
- Do not tow vehicle at a speed of more than 50 km/h.
- The maximum towing distance is 50 kilometres.

When using a breakdown vehicle, the vehicle being towed must not be suspended (either at front or rear).



Note

If it is not possible to tow the vehicle normally, it must be transported by a special transporter or trailer.