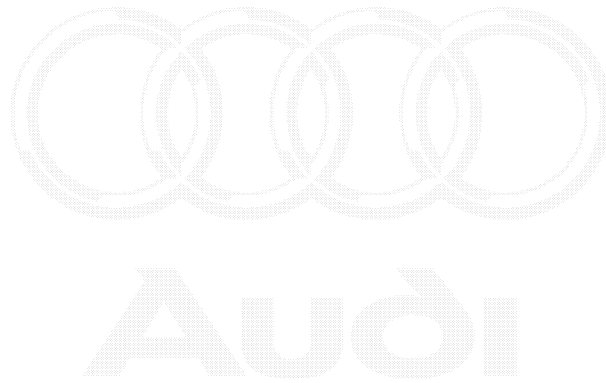


Maintenance

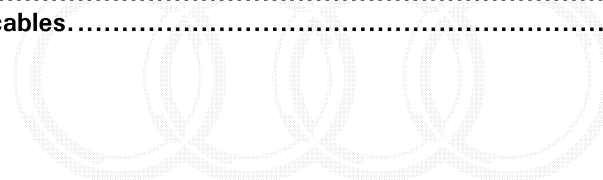
Audi A3 1997 ▶



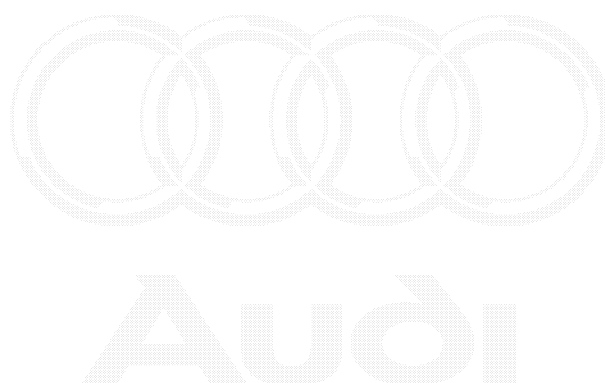
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Survey of engines

- The order in which the individual operations are given has been tested and represents the optimum working sequence. The sequence should therefore be followed to avoid unnecessary work interruptions.
- The sequence of operations given is based on that specified for the Inspection Service, which is the type of service most frequently required.
- Always inform the customer if faults or defects which need repairing are identified during the Inspection Service.

Code letters	AEH, AKL APF, AVU	AGN, APG	AGU	AQA, ARX	ARZ, AUM	AJQ
Exhaust emission classification	AEH- EU II, AKL- EU II + D3 APF- EU II + D4 AVU- EU IV	AGN- EU II + D3 APG- EU III	EU II + D3	AQA- EU II + D3 ARX- EU III	ARZ- EU II + D4 AUM- EU IV	EU II + D3
No of cylinders / Valves per cylinder	4 / 2	4 / 5	4 / 5	4 / 5	4 / 5	4 / 5
Capacity	1.6	1.8	1.8	1.8	1.8	1.8
Output kW at rpm	74/5600 AVU 75/5600	92/6000	110/5000...6000	110/5000...5700	110/5000...5700	132/5500...6000
Torque Nm at rpm	145/3800 AVU148/3800	173/4100	210/2000...4500	210/1750...4600	210/1750...4600	235/1950...5000
Bore ø in mm	81.0	81.0	81.0	81.0	81.0	81.0
Stroke mm	77.4	86.4	86.4	86.4	86.4	86.4
Compression	10.2	10.3	9.5	9.5	9.5	9.5

1

Code letters	AEH, AKL APF, AVU	AGN, APG	AGU	AQA, ARX	ARZ, AUM	AJQ
Injection / ignition	Simos Multi Point Injection	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic
RON at least	95 ¹⁾ (unleaded)	95 ¹⁾ (unleaded)	95 ¹⁾ (unleaded)	95 ¹⁾ (unleaded)	95 ¹⁾ (unleaded)	98 ²⁾ Super plus unleaded
Hydraulic valve lifters	X	X	X	X	X	X
Self-diagnosis	X	X	X	X	X	X
Catalytic converter	X	X	X	X	X	X
Electronic throttle (Electronic throttle)	APF, AVU	-	-	X	X	X
Lambda control	X	X	X	X	X	X
Inlet manifold change-over system	APF, AVU	X	-	-	-	-
Secondary air inlet	-	-	-	ARX	X	-
Exhaust gas recirculation system	APF, AVU	-	-	-	-	-
Turbocharging	-	-	X	X	X	X
Exhaust emission test after 3,5,7,9... years	X	X	X	X	X	X

¹⁾ Regular unleaded petrol RON 91 can be used but will cause a slight loss of power.

²⁾ Premium unleaded petrol RON 95 can be used but will cause a slight loss of power.

2

Code letters	APP	AUQ	ARY	APY, AMK
Exhaust emission classification	EU II + D4	EU IV	EU III	APY-EU II + D3 AMK- EU III
No of cylinders / Valves per cylinder	4 / 5	4 / 5	4 / 5	4 / 5
Capacity l	1.8	1.8	1.8	1.8
Output kW at rpm	132 5500...6000	132 5500...6000	132 5500...6000	154/ 5000...5800
Torque Nm at rpm	235 1950...5000	235 1950...5000	235 1950...5000	270/ 2100...5000
Bore ø in mm	81.0	81.0	81.0	81.0
Stroke mm	86.4	86.4	86.4	86.4
Compression	9.5	9.5	9.5	9.5

Code letters	APP	AUQ	ARY	APY, AMK
Injection / ignition	Bosch Motronic	Bosch Motronic	Bosch Motronic	Bosch Motronic
RON at least	98 ²⁾ Super plus (unleaded)	98 ²⁾ Super plus (unleaded)	98 ²⁾ Super plus (unleaded)	98 ²⁾ Super plus (unleaded)
Hydraulic valve lifters	X	X	X	X
Self-diagnosis	X	X	X	X
Catalytic converter	X	X	X	X
Lambda control	X	X	X	X
Electronic throttle (Electronic throttle)	X	X	X	X
Secondary air inlet	X	X	X	X
Exhaust gas recirculation system	-	-	-	-
Turbocharging	X	X	X	X
Exhaust emission test after 3,5,7,9... years	X	X	X	X

²⁾ Premium unleaded petrol RON 95 can be used but will cause a slight loss of power.

Diesel engines

Code letters	AGR, ALH	AHF, ASV	ATD, AXR	ASZ	
Exhaust emission classification	AGR- EU II ALH- EUII + D3	AHF- EU II ASV- EU III	ATD- EU III AXR- EU III + D4	EU III	
No. of cylinders / valves per cylinder	4 / 2	4 / 2	4 / 2	4 / 2	
Capacity	1.9	1.9	1.9	1.9	
Output	kW at rpm	66/4000	81/4150	74/4000	96/4000
Torque	Nm at rpm	210/1900	235/1900	240/ 1800...2400	310/1900
Bore	øin mm	79.5	79.5	79.5	79.5
Stroke	mm	95.5	95.5	95.5	95.5
Compression		19.5	19.5	19.0	19.0

Code letters	AGR, ALH	AHF, ASV	ATD, AXR	ASZ
Injection / ignition	TDI	TDI	TDI Pump jet	TDI Pump jet
CN	at least 49	49	49	49
Hydraulic valve lifters	X	X	X	X
Self-diagnosis	X	X	X	X
Catalytic converter	With oxidising catalytic con- verter	With oxidising catalytic con- verter	With oxidising catalytic con- verter	With oxidising catalytic con- verter
Lambda control	-	-	-	-
Electronic throttle	AGR as of MY 1999	X	X	X
Exhaust gas recirculation system	X	X	X	X
Turbocharging	X	X	X	X
Charge air cooler	X	X	X	X
Exhaust emission test after 3,5,7,9...years	X	X	X	X

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Delivery Service

Work to be completed	Page
For vehicles kept in stock for long periods: Perform measures as specified in Technical Service Manual "Inspection and Maintenance", chapter 6	
Battery: Before starting the engine for the first time check "no load" voltage (only applies to vehicles kept in stock for long periods)	124
Battery: Check security of battery cables.	125
Battery: Perform load test	127
Engine (from above) and engine compartment: visual check for leaks and damage	134
Cooling system: fluid level to maximum	136
Windscreen / headlight washer system: fluid level to maximum	135
Engine: check oil level and top up if necessary	184
Brake system: fluid level to maximum	185
Hydraulic system: check oil level	148
Transport locks: remove locking elements for front suspension struts	155
Underside of vehicle, mechanical units, steering, protective boots, brake system, hoses, fluid reservoirs: visual check for leaks and damage (without removing noise insulation)	
Vehicle underside (underbody): visual check for damage	172
Tyres (incl. spare wheel): check inflation pressures, note: 3.5 bar when supplied from factory	176
Wheel bolts: tighten to specified torque	178
Fit fuse nos. 14 (10 A) and 42 (15 A) in ashtray	
Continued ▼	

Insert fuse no. 14 (10 A) in ashtray (introduced from week 18, model year 01)	
All switches, electrical equipment, displays and other driver-operated controls: Checking function	26
Electric window lifters: check positions	36
Digital clock: Adjusting	
Air conditioner: check function, set temperature to 22 °C	37
Radio or Radio/Navigation System Plus (Chorus, Concert, Symphony): deactivate transport mode (introduced from week 18, model year 01)	37
Radio or Radio/Navigation System Plus: Stick label with serial number and fixed code number (see vehicle data sticker) onto radio card or with navigation system Plus into equipment card of the operating instructions	
Radio or Radio/Navigation System Plus: activate anti-theft coding by entering fixed code number	43
Radio or Radio/Navigation System Plus: store local radio stations under station keys (on RDS radios, do not store until station name appears on display)	
Telephone/telematics: Attach sticker with serial number in telephone/telematics operating instructions	
Telematics: initialisation of telematics services (RLF radio, telephone, navigation)	
Dash panel insert: set language version	48
Service interval display: reset	51
Service display: Reset inspection service as of model year 2000 > (Y)	88
Service display: Reset LongLife Service as of model year 2000 > (Y)	58
Continued ▼	

Front passenger airbag: Control key switching On / Off, must be set to "On". (see operating instructions)	
All control units: Interrogating fault memory (Enter "00" for address word "Automatic test sequence")	
Windscreen washer jets: adjust settings	28
Protective seat covers and plastic sheeting for carpet: remove	
Floor mats: Assembling	
Check cleanliness of vehicle interior: front and rear seats, interior trim, carpeting/floor mats, windows	
Fit: wheel covers/trim caps, roof aerial, telephone aerial (components stored in luggage compartment)	
Transport locks: remove protective edge strips on doors	
Check cleanliness of vehicle exterior: paintwork, trims, windows, wiper blades	
Check sticker for key no./identification no. for electronic immobiliser on key fob for complete and legible details	
Audi service sticker: enter date for next service (and for brake fluid change) on sticker and affix sticker on left of dash panel or on door post (B-pillar) (sticker not applicable as of model year 02)	10
Service booklet: Enter Delivery Service	
Attach sticker: Take the sticker for Audi models with LongLife Service (contained in the vehicle literature) and attach it at the front of the vehicle near the engine oil dipstick.	
Vehicle literature: check that literature in Service Wallet is complete and prepare for handing over to customer	
Test drive: perform	212

Delivery Service

The entry on the vehicle sticker whether LongLife Service or Inspection Service refers to the country of delivery => Page 12.

– Complete sticker accordingly:

Vehicles with LongLife Service => see description below

With Inspection Service => Page 11

LongLife Service

– Tick box on the sticker: next service date after display.

– Brake fluid service: Add 24 months to current date and enter.

Note:

Observe used oil type and entry of oil grade in dash panel insert.



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Inspection Service (fixed interval)

Every 15,000 km or 12 months, oil change service. Inspection service every 30,000 km



- Month, year: Add 12 months to current date and enter Kilometre.
- Brake fluid service: Add 24 months to current date and enter.

Note:

Observe used oil type and entry of oil grade in dash panel insert. Attach completed sticker to left of dash panel, on inside of door or at door post on driver's side (B-pillar) of the vehicle.

Audi A3 as of chassis number 8LYA 000 001

Vehicles 2000 > (Y)

Note:

The LongLife Service is activated at the factory in all vehicles in the countries mentioned below.

Belgium Germany

Denmark France

Finland Great Britain

Greece Gibraltar

Italy Iceland

Ireland Canary Isles

Luxembourg Malta

Netherlands Norway

Austria Portugal

Sweden Switzerland/Liechtenst.

Spain/Andorra Cyprus

Extension of Service

- ◆ For vehicles with petrol/turbo petrol engine:
maximum of 30,000 Km or a maximum of 2 years;
oil grade 2
- ◆ Vehicles with 4-cyl. diesel engine: maximum
of 50,000 km or a maximum of 2 years; oil grade 4
The oil grade is entered into the dash panel insert.

LongLife engine oil

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

VW 503 00

Normally aspirated / turbocharged petrol engines

VW 503 01

Turbocharged petrol engines (from 154 kW Audi S3)

VW 506 00

Diesel engines (not for pump jet)

VW 506 01

Diesel engines

(pump jet as of week 18 model year 01)

Notes:

- ◆ Vehicles with LongLife Service are already factory-filled with engine oil according to VW standard 503 00 (normally aspirated/turbocharged petrol engines) or 503 01 (turbocharged petrol engines from 154 kW, Audi S3 and Audi TT only) or 506 00 (diesel engines) or 506 01 (diesel pump jet engines). The conditions for the LongLife Service with a running time of a maximum of 2 years can then only be met when the new engine oil is filled in or topped up.
- ◆ Vehicles with petrol engine and LongLife Service may also use oils according to VW 500 00, 501 01 or 502 00 and vehicles with diesel engine and LongLife Service may also use oils according to VW 505 00 or 505 01. The Inspection Service is then valid. The service display must be programmed to 15,000 km / 12 months. (oil grade 1).

Vehicles > 1999 may not be filled with the LongLife engine oils. These vehicles may only be filled with the old oils.

-petrol engine: according to VW 500 00, 501 01 or 502 00

Diesel: according to VW 505 00 or 505 01

Interval	Work to be completed	
After service display	all contents / except ♦♦ positions	
Every 60,000 km	all extension / including ♦♦ positions	
Every 30,000 km	In addition to LongLife Service: Haldex clutch: change the oil	159
Every 60,000 km	In addition to LongLife Service: Haldex clutch: Change oil filter	161
Every 90,000 km	In addition to LongLife Service: Toothed belt: replace (AGR, ALH, AHF, ASV (1.9 l TDI engines)) Toothed belt and tensioning roller: replace (1.9 l TDI pump jet engines)	154
every 120,000 km	In addition to LongLife Service: Ribbed belt: replace Toothed belt and idler wheel: replace (AGR, ALH, AHF, ASV (1.9 l TDI engines)) as of model year 02 Toothed belt: replace (4-cyl. 5V 1.8 l petrol engines (engine code AMK only))	155 154 155
every 180,000 km	In addition to LongLife Service: Ribbed belt: replace Toothed belt: replace (4-cyl. 5V 1.8 l petrol engines (except engine code AMK only))	155 155
Every 24 months	In addition to LongLife Service: Brake fluid: change	187
After the first 36 months, then every 24 months	Exhaust emission test	224
Every 48 months	In addition to LongLife Service: Telematics: replace emergency backup battery	115
Work to be completed ▼		

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Work to be completed		Page
	Check operation of front lights: Side lights, dipped beam, main beam, front fog lights, turn signals, hazard warning lights	
	Check operation of rear lights: Brake lights (incl. high-level brake light), rear lights, reversing lights, rear fog light, number plate light, turn signals, hazard warning lights, luggage compartment light.	
	Interior lights, glove box light, warning lamps: Checking function	26
	Windscreen wiper and washer system and headlight washer system: adjust washer jet settings and check function	28
	Wiper blades: check park position and check for damage	31
	Self-diagnosis: Interrogate fault memory with fault reader V.A.G 1551 or VAS 5051	46
	Service display: Reset as of model year 2000 > (Y)	58
	Door arrester, lock cylinder and bonnet release catch: lubricate	114
	Sun roof: check function, clean guide rails and spray with lubricating spray	115
	Battery: check electrolyte level and top up with distilled water if necessary	117
	Engine (from above) and engine compartment: visual check for leaks and damage	134
	Windscreen / headlight washer system: top up fluid	135
	Cooling system: check antifreeze and top up coolant if necessary	136
◆◆	Air cleaner: clean housing and replace filter element	141
◆◆	Spark plugs: replace	143
Continued ▼		

◆◆	Hydraulic system: check for leaks, check fluid level and top up hydraulic fluid if necessary	148
	Fuel filter: replace (TDI engines)	150
◆◆	Fuel filter: replace (TDI pump jet engines)	150
	Dust and pollen filter: replace	152
	Engine (from below): visual check for leaks and damage	134
	Gearbox, final drive, steering and protective boots: visual check for leaks and damage	
	Manual gearbox/final drive: check oil level and top up if necessary	157
◆◆	Final drive (automatic gearbox): check oil level and top up if necessary	164
	Engine oil: drain or extract, change oil filter	166
	Brake system (from below): visual check for leaks and damage	169
	Brake pads: check thickness	171
	Underseal: visual check for damage	172
	Exhaust system: visual check for leaks and damage, check that parts are properly secured	
	Track rod ends: check play, attachment and protective boots	172
	Ball joints: check protective boots for leaks and damage	
	Tyres (incl. spare wheel): check and record tread depths	FL FR RR RL Spa- re 175
	Tyres (incl. spare wheel): inflate to correct pressures	176
	Tyres (incl. spare wheel): check condition and wear pattern	173
Continued ▼		

Engine oil: fill	179
Brake fluid level (depending on brake pad wear): Checking	185
Brake fluid: replace (additional job)	187
Headlights: check settings and adjust if necessary	197
Audi service sticker: enter date for next service (and for brake fluid change) on sticker and affix on left of dash panel or on door post (B-pillar) (sticker not applicable as of model year 02)	10
Test drive: perform	212

Oil Change Service

Work to be completed after every 15 000 km or 12 months	Page
Toothed belt for camshaft drive: check for damage, measure belt width (TDI engines up to and including model year > 1999 (X))	153
Engine oil: drain or extract, change oil filter	166
Brake pads: check thickness of disc brake pads	171
Engine oil: fill	179
Service interval display: reset	51
Service display: Reset as of model year 2000 > (Y)	88
Audi service sticker: enter date for next service (and for brake fluid change) on sticker and affix on left of dash panel or on door post (B-pillar) (sticker not applicable as of model year 02)	10

Inspection Service

Interval	Work to be completed	
every 15 000 km or 12 months	Oil Change Service	20
Every 30,000 km	Jobs required every 24 months including ◆– positions	
Every 60,000 km	Jobs required every 24 months including ◆/◆◆– positions	
Every 30,000 km	In addition to Inspection Service: Haldex clutch: change the oil	159
Every 60,000 km	In addition to Inspection Service: Haldex clutch: Change oil filter 1)Toothed belt and tensioning roller: replace (1.9 l TDI engines)	161 154
Every 90,000 km	In addition to Inspection Service: 2)Toothed belt: replace (AGR, ALH, AHF, ASV 1.9 l TDI engines) Toothed belt and tensioning roller: replace (1.9 l TDI pump jet engines)	154
every 120,000 km	In addition to Inspection Service: Ribbed belt: replace Toothed belt and idler wheel: replace (AGR, ALH, AHF, ASV (1.9 l TDI)) as of model year 02 Toothed belt: replace (4-cyl. 5V 1.8 l petrol engines (engine code: AMK only))	155 154 155
every 180,000 km	In addition to Inspection Service: Ribbed belt: replace Toothed belt: replace (4-cyl. 5V 1.8 l petrol engines (except engine code: AMK))	155 155

¹⁾ Up to and including model year > 1999 (X) every 60,000 km with tensioning roller.

²⁾ From model year 2000 > (Y) every 90,000 km without tensioning roller.

Interval	Work to be completed	
Every 24 months	In addition to Inspection Service: Brake fluid: change	187
After the first 36 months, then every 24 months	Exhaust emission test	224
Every 48 months	In addition to Inspection Service: Telematics: replace emergency backup battery	115
Work to be completed ▼		

Work to be completed		Page
	Check operation of front lights: Side lights, dipped beam, main beam, front fog lights, turn signals, hazard warning lights	
	Check operation of rear lights: Brake lights (incl. high-level brake light), rear lights, reversing lights, rear fog light, number plate light, turn signals, hazard warning lights, luggage compartment light	
	Interior lights, glove box light, warning lamps: Checking function	26
	Windscreen wiper and washer system and headlight washer system: adjust washer jet settings and check function	28
	Wiper blades: check park position and check for damage	31
	Self-diagnosis: Interrogate fault memory with fault reader V.A.G 1551 or VAS 5051	46
	Service interval display: reset	51
	Service display: Reset as of model year 2000 > (Y)	88
	Door arrester, lock cylinder and bonnet release catch: lubricate	114
◆	Sun roof: check function, clean guide rails and spray with lubricating spray	115
	Battery: check electrolyte level and top up with distilled water if necessary	117
	Engine (from above) and engine compartment: visual check for leaks and damage	134
	Windscreen / headlight washer system: top up fluid	135
	Cooling system: check antifreeze and top up coolant if necessary	136
◆◆	Air cleaner: clean housing and replace filter element	141
Continued ▼		

◆◆	Spark plugs: replace	143
◆◆	Hydraulic system: check for leaks, check fluid level and top up hydraulic fluid if necessary	148
◆	Fuel filter: replace (TDI engines)	150
◆◆	Fuel filter: replace (TDI pump jet engines)	150
◆	Dust and pollen filter: replace	152
	Toothed belt for camshaft drive: check for damage, measure belt width (TDI engines up to and including model year > 1999 (X))	153
	Engine (from below): visual check for leaks and damage	134
	Gearbox, final drive, steering and protective boots: visual check for leaks and damage	
◆	Manual gearbox/final drive: check oil level and top up if necessary	157
◆◆	Final drive (automatic gearbox): check oil level and top up if necessary	164
	Engine oil: drain or extract, change oil filter	166
	Brake system (from below): visual check for leaks and damage	169
	Brake pads: check thickness	171
◆	Underseal: visual check for damage	172
	Exhaust system: visual check for leaks and damage, check that parts are properly secured	
	Track rod ends: check play, attachment and protective boots	172
	Ball joints: check protective boots for leaks and damage	
Continued ▼		

	Tyres (incl. spare wheel): check condition and wear pattern					173	
	Tyres (incl. spare wheel): check and record tread depths	FL	FR	RR	RL	Spa- re	175
	Tyres (incl. spare wheel): inflate to correct pressures					176	
	Engine oil: fill					179	
	Brake fluid level (depending on brake pad wear): Checking					185	
	Brake fluid: replace (additional job)					187	
◆	Headlights: check settings and adjust if necessary					197	
	Exhaust emission test (additional job)					224	
	Audi service sticker: enter date for next service (and for brake fluid change) on sticker and affix on left of dash panel or on door post (B-pillar) (sticker not applicable as of model year 02)					11	
	Test drive: perform					212	



Lights, electrical equipment, switches, displays and other driver-operated controls: Checking function

- The following components must be checked:
 - Lighting, headlights, fog lights, turn signals, hazard warning lights, tail lights, rear fog light, reversing lights, brake lights, parking light function
 - Interior lights and reading lights (automatic switch-off function for front interior lights) glove box light, ashtray light, luggage compartment light, ignition key light
 - Warning buzzer which indicates 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

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- Cigarette lighter
- Electric exterior mirror (heated, adjustable)
- Electric window lifters
- Electric sun roof
- Central locking, radio remote control, comfort closing
- Heated seats
- Radio

Windscreen wiper and washer system and headlight washer system: adjust washer jet settings and check function

Note:

If the wiper blades judder or make a noise when tested, check the control angle of the wiper blades => Page 33.

Windscreen washer system: check washer jet settings and adjust if necessary

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Special tools required

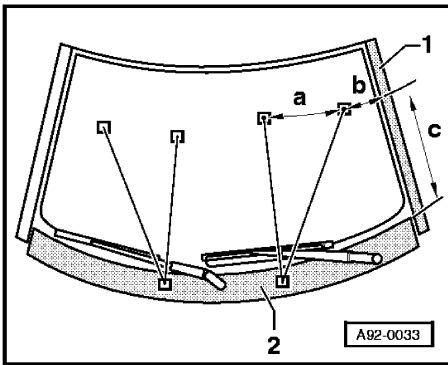
- ◆ Windscreen wiper jet adjusting tool 3125 A with needle 3125/5

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 windscreen with water-soluble ink.
- Use the special tool 3125 A fitted with the needle 3125 / 5 to aim each individual jet at the marked points.



Setting dimensions:

- ◆ Dimension a = 240 mm (± 50)
- ◆ Dimension b = 190 mm (± 50)
- ◆ Dimension c = 320 mm (± 50)

Notes:

The setting dimensions for the windscreen are calculated laterally from the weather strip -1- and vertically from the additional cover for the plenum chamber -2-.

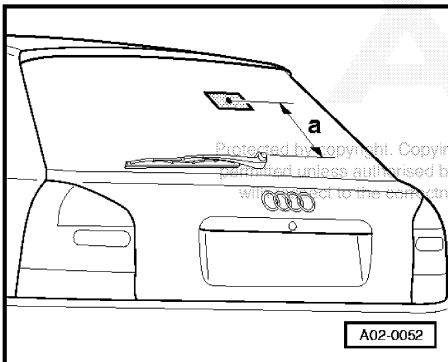
- ◆ The setting dimensions give the values for the vehicle when moving. The spray from the jets will be slightly offset when stationary.

Note:

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

Rear window washer jet setting

- ◀ - Adjust the washer jet using special tool 3125 A so that the water jet is directed onto the rear window within the dimension a = 280 mm above the wiper arm pivot mounting.



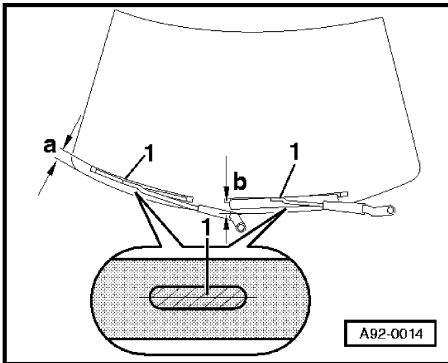
Headlight washer system: check washer jet settings

The headlight washer jets are set by the manufacturer and therefore do not require adjustment.

Wiper blades: check park position and check for damage

Park position for windscreen wiper blades

- Switch windscreen wipers on and off and allow to return to the park position.



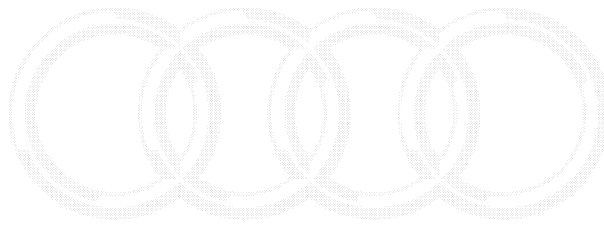
- Check whether the wiper blades are correctly positioned against the markings -1- on the windscreen.
- Check for the following distances between tips of wiper blades and the water deflector at the bottom edge of the windscreen:
 - Distance a = 15... 25 mm
 - Distance b = 17... 27 mm

Note:

The positioning is symmetrically opposite for right-hand drive vehicles.

- If necessary, loosen the wiper arm, align and tighten fastening nut.
- Actuate flick wipe switch and check settings.

Tightening torque	Nm
Wiper arms to pivot mountings	16



Park position for rear window wiper blade

- Switch rear window wipers on and off and allow to return to the park position.
- Check whether the wiper blade lies against the upper edge of the hatched area at the bottom of the rear window.
- If necessary, loosen the wiper arm, align and tighten fastening nut.

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Tightening torque	Nm
Wiper arm to pivot mounting	16

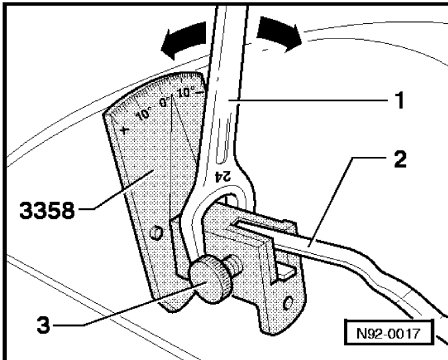
Eliminating windscreen wiper judder

Special tools required

◆ Wiper arm adjusting tool

3358 B

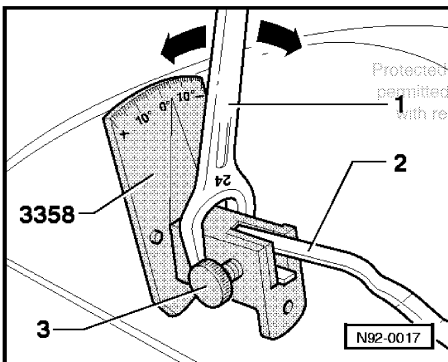
- Switch windscreen wipers on and off and allow to return to the park position.
- Remove wiper blade.



- ◀ - Insert wiper arm -2- in wiper arm adjusting tool 3358 B and secure with locking screw -3-.
- Compare angle indicated to specified value in table.

Angle of attack (specifications)	
Driver's side	- 9°
Passenger's side	- 3°
Tolerance	± 0°

If necessary, adjust the angle of attack to the specified value as follows:



- ◀ - Place open ended spanner -1- (24 mm A/F) over adjusting tool and adjust angle of wiper arm -2- (arrows) according to specified values.
- Release wiper arm -2- from adjusting tool and re-secure with locking bolt -3-.
- Check set value against table. If necessary, repeat setting and checking procedure until specified value is achieved.
- Remove adjusting tool and fit wiper blade.
- Check that windscreen wiper system operates without juddering.

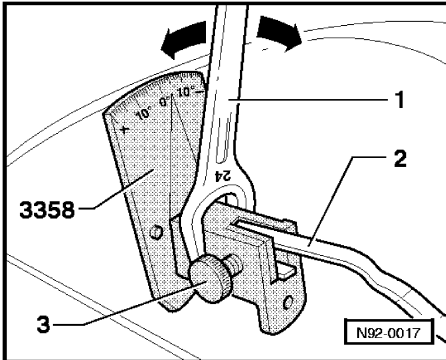
Eliminating rear window wiper judder

Special tools required

- ◆ Wiper adjusting tool
3358 B

Checking adjustment angle

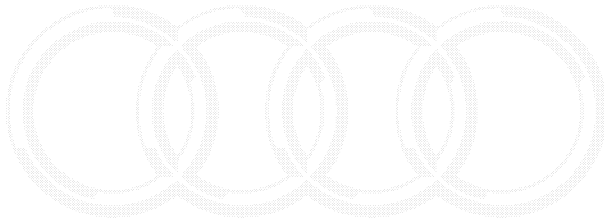
- Move wiper arm to park position.
- Remove wiper blades.
- Insert wiper arm -2- in wiper arm adjusting tool 3358 B and secure with locking screw -3-.
- Compare angle indicated to specified value in table.



Contact angle Audi A3

	0°
Tolerance	+ 2°

If the displayed value deviates from the specified value, adjust the contact angle => Page 34



Electric window lifters: check positions

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

- Activate the automatic open/close function as follows:

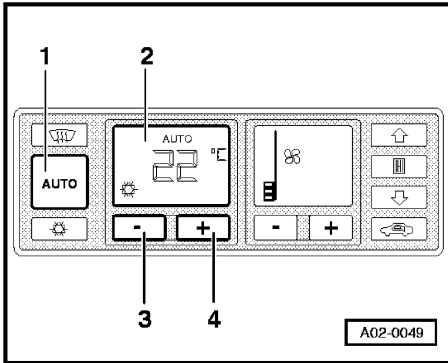
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Switch the ignition on.

Close windows fully using electric window switches.

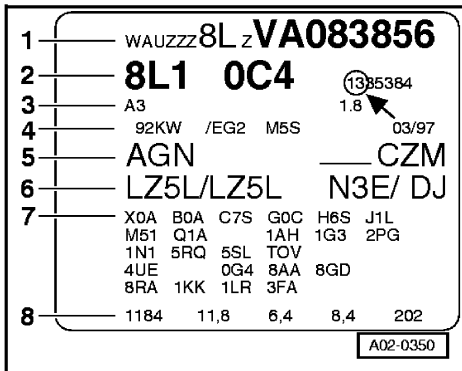
- Then actuate all electric window switches again for at least one second in the "close" direction to activate the automatic open/close function.
- Press switch downwards. The window should automatically wind down to stop.

Air conditioner: check function, set temperature to 22 °C



- Check all air conditioner functions:
 - = > Owner's manual
- Check whether the display -2- is set to 22 °C.
- If necessary, adjust the temperature as follows:
 - Press key -1- for automatic function. "AUTO" appears on the display -2-.
 - Adjust temperature to 22 °C by pressing key -3- for "colder" or key -4- for "warmer".

Radio / Navigation System Plus (Chorus, Concert, Symphony): deactivate transport mode

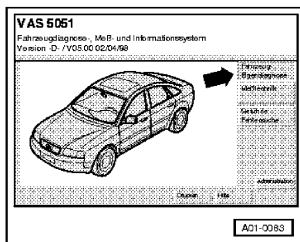


- Introduced from week 18, the transport mode is activated on the above-mentioned radios
- Week 18 is recognisable from the seven digit production control number, on the data sticker under "2". The first two digits "arrow" represent the week.

37

The transport mode can be activated in "dash panel insert 17" and in "radio 56".

- Deactivate the transport mode e.g. in dash panel insert 17 as described below.



Deactivation of radio 56 utilises the same procedure

◆ **Connect vehicle diagnostic, testing and information system VAS 5051** => Page 68

- Switch on ignition.

Indicated on display:

Select operating mode:

- Press "Vehicle self-diagnosis" key on display.

Note:

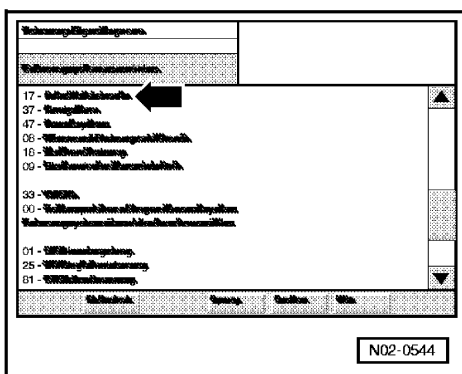
If the displays shown in the procedure do not appear on the display:

- = > Operating instructions for vehicle diagnostic, testing and information system VAS 5051.

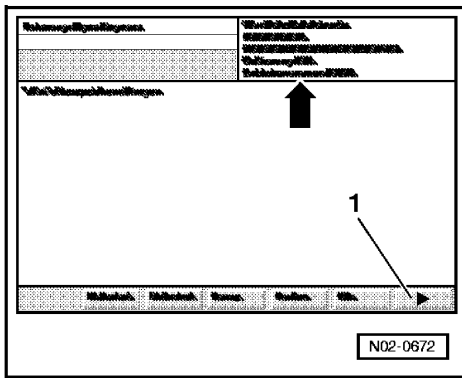
Indicated on display:

Select vehicle system:

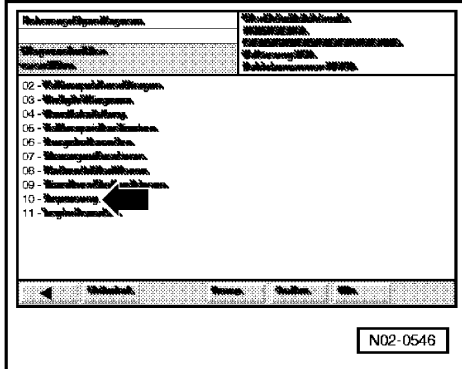
- On the display, press "17 - Dash panel insert" -arrow-.



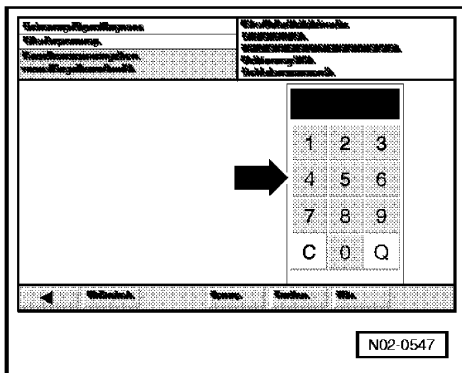
38



- ◀ Indicated on display:
The control unit identification and the coding are displayed -arrow-.
- On the display, press the arrow key -1-.



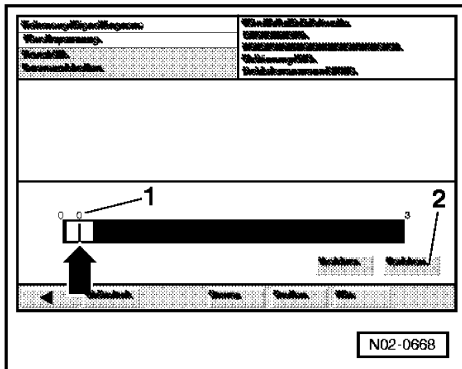
- ◀ Indicated on display:
- On the display, press "10 - Adaption" -arrow-.



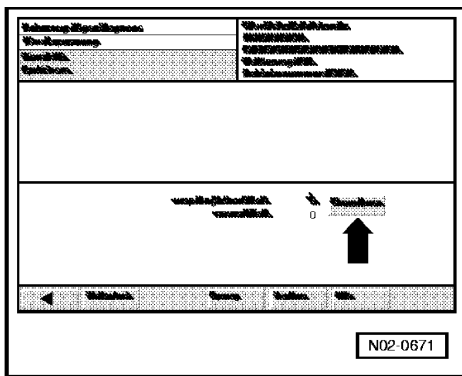
- ◀ Indicated on display:
- On the number block of the display -arrow-, press key 9 twice.
The transport mode is activated or deactivated in adaption channel 99
- Press the Q key on the number block of the display to confirm the entry.

Notes:

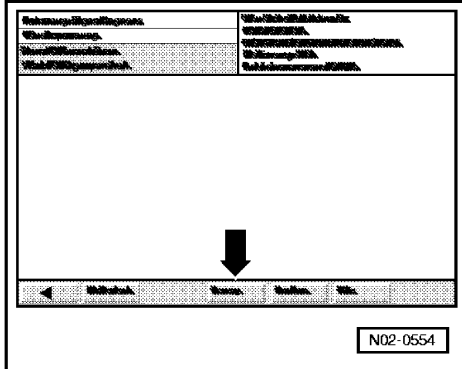
- ◆ "0" = transport mode inactive
- ◆ "1" = transport mode active



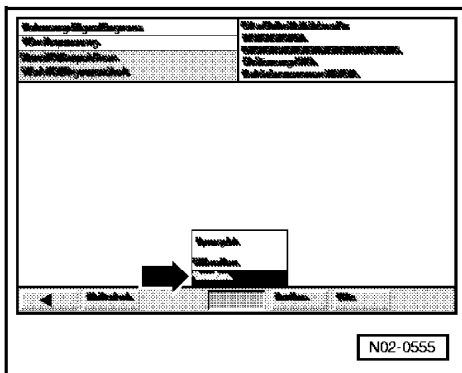
- ◀ Indicated on display:
- Move the cursor -arrow- on the display to the left, until 0 is displayed above the scroll bar -1-.
- ◆ 0 = transport mode inactive
- On the display, press the "Save" key -2-.



- ◀ Indicated on display:
 - On the display, press the "Transfer" key -arrow-.
- End of output**



- ◀ Indicated on display:
 - On the display, press the "Skip" key -arrow-.



- ◀ Indicated on display:
 - On the display, press the "Exit" key -arrow-.
 - Press the "Exit" key in the Exit menu.
 - Switch off ignition.

Note:

The VAS 5051 must remain connected for various checks and for the exhaust emission test, if required.

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Radio or Radio/Navigation System Plus: activate 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.

- Activate the fixed code as follows:
- Radio ("beta", "gamma", "delta")
=>Page 44.
- Radio "Chorus", "Concert", "Symphony"
=>Page 44
- Radio or Radio/Navigation System Plus => Page 44
- Switch on radio or radio/navigation unit.

Radio "beta", "gamma", "delta":

- Switch on radio
- Press and hold the DX and FM keys simultaneously until "1000" appears on the display. Release the keys.
- Enter the code number on the radio code card using the station keys 1 to 4. Key 1 is used to enter the first digit of the code number, key 2 for the second digit, and so on.
- Then press and hold the DX and FM keys simultaneously again until "SAFE" appears on the frequency display. Release the keys. A frequency is then automatically displayed after a brief delay.

Radio "Chorus", "Concert", "Symphony"

- Press and hold the TP and RDS keys simultaneously until "1000" appears on the display. Release the keys.

New radio generation

- Press and hold the RDS and SCAN keys simultaneously until "1000" appears on the display. Release the keys.

All models:

- Enter the code number on the radio code card using the station keys 1 to 4. Key 1 is used to enter the first digit of the code number, key 2 for the second digit, and so on.
- Then press and hold the TP and RDS keys (new radio generation RDS and SCAN) simultaneously again until "SAFE" appears on the frequency display. Release the keys. A frequency is then automatically displayed after a brief delay.

Navigation System Plus:

- Press the keys NAVIGATION and DISPLAY at the same time and keep pressed until the code input mask appears. Release the keys.
- Mark the numbers of the code number in sequence using the rotating/pressure switch in the number row and confirm each number by pressing the switch. The numbers are entered in the 4 number zones below. The code number is attached to the unit card (operating instructions).
- The zone "OK" is marked with the rotating/pressure switch and confirmed by pressing the switch. If the input is completed successfully the unit changes to normal operating status.

Self-diagnosis: Interrogate fault memory with V.A.G 1551 or VAS 5051

Connecting VAS 5051 => Page 68.

Connecting V.A.G 1551:

- Place selector lever in P or N position and apply handbrake (automatic gearbox).
- Lift off diagnostic connection cover in the storage recess at the front of the centre console.
- Connect fault reader V.A.G 1551 with lead V.A.G 1551/3 (ignition switched off).
- Switch on printer with PRINT key (indicator lamp in key illuminates).

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V.A.G SELF DIAGNOSIS	HELP
1 - Rapid data transfer 1)	
2 - Flash code output 1)	

Indicated on display:

1) appears alternately

- Enter "1" to select "Rapid data transfer".

To interrogate fault memory:

- Start engine and run at idling speed.

- Briefly press brake pedal.
- Enter "00" for address word "Automatic test sequence" and confirm entry with Q key. The V.A.G 1551 transmits all known address words in sequence.

If a control unit answers with its identification, the number of faults stored or "No fault detected" appears on the display.

Any system faults stored will be displayed in sequence and printed out. The V.A.G 1551 will then transmit the next address word.

V.A.G SELF DIAGNOSIS	HELP
1 - Rapid data transfer 1)	
2 - Flash code output 1)	

The automatic test sequence has ended when the following appears on the display:

- 1) appears alternately
- Switch ignition off.

If faults have been stored, they must be rectified. The fault print-out is required for carrying out the repair work.

Note:

The V.A.G 1551 or the VAS 5051 must remain connected so that the service interval display can be reset and the exhaust emission test can be carried out if required.

Dash panel insert: set language version

Vehicles with Driver Information System (DIS)

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

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

The multifunction monitor is supplied from the factory with the language set to German.

- To set the language version, proceed as follows:

Connecting VAS 5051 => Page 68.

Connect the fault reader V.A.G 1551 => Page 46.

- **Switch the ignition on.**
- **Enter "1" to select "Rapid data transfer"**

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- Enter "17" for address word "Dash panel insert" and confirm entry with Q key.
- Press → key twice to continue.
- Enter "10" to select the "Adaption" function and confirm with the Q key.
- Enter "04" to select "Adaption channel 04" and confirm entry with Q key.

Channel 2 Adaption 1 →
- = - 0 -

- Indicated on display
- Press → key to continue.

Channel 4 Adaption 2 Q
Enter adaption value XXXXX

- Indicated on display:
- Enter desired language version according to the following table.

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

Notes:

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

Example:

- Enter adaption value "00001".

Channel 4 Adaption 2 Q
Enter adaption value 00001

- Indicated on display
- Confirm entry with Q key.

Channel 4 Adaption 1 Q
- = - 0 -

- Indicated on display
- Confirm entry with Q key.

Channel 4 Adaption 1 Q
Store changed value?

- Indicated on display
- Confirm entry with Q key.

Channel 4 Adaption 1 →
Changed value is stored

- Indicated on display
- Terminate adaption of the language version by pressing the → key.

Rapid data transfer HELP
Select function XX

- Indicated on display:

Service interval display: reset

The service interval display must be reset during the Delivery Inspection and also after each Oil Change Service or Inspection Service.

Delivery Inspection

The service interval display can be reset in two different ways:

- ◆ Using the adjustment buttons for the mileage and clock on the dash panel insert
 - Reset "service OIL" and "service INSP" => Page 56.

or

- ◆ Using fault reader V.A.G 1551/1552
 - Select adaption channel 02 and enter the adaption code "00000" => Page 54.

Note:

The service interval display can only be reset to adaption channel 02 using V.A.G 1551/1552, on dash panel inserts with software versions from D05 onwards.

Oil Change Service and Inspection Service

When a service is due, the type of service required will be indicated by a flashing message on the trip recorder display when the ignition is switched on. The message will continue to flash for approx. 60 seconds after the engine has been started.

Language version		Type of
German	Other languages	service due
serviceOIL	serviceOIL	Oil Change Service
serviceINSP	serviceINSP	Inspection Service

The service due will be indicated either 1,000 km or 10 days in advance.

Note:

The service interval display can only be reset to adaption channel 02 using V.A.G 1551/1552, on dash panel inserts with software versions from D05 onwards.

- Connect the fault reader V.A.G 1551 => Page 46.
- Switch the ignition on.

V.A.G SELF DIAGNOSIS
1 – Rapid data transfer 1)
2 – Flash code output 1)

HELP

Indicated on display:

) appears alternately

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– Enter "1" to select "Rapid data transfer".

Rapid data transfer	HELP
Enter address word XX	

◀ Indicated on display

– Enter "17" for address word "Dash panel insert" and confirm entry with Q key.

8L0919860A AB INSTR. CLUSTER UN4 D05 →	
Code 12042	WSC 12345

◀ If adjacent display appears (example):

– Check software version of dash panel insert:

Vehicles > 1997

Dash panel inserts with software version up to D04:

– Reset SID using adjustment buttons for mileage and clock on dash panel insert => Page 56.

Vehicles > 1997

Dash panel inserts with software version as of D05 and vehicles from 1998 > (all vehicles):

– Reset the SID using fault reader V.A.G 1551 => Page 54.

or

– Reset SID using adjustment buttons for mileage and clock on dash panel insert => Page 56.

Resetting the SID with V.A.G 1551

– Press → key to continue.

– Enter "10" to select the "Adaption" function and confirm with the Q key.

Adaption
Feed in channel No.

◀ Indicated on display

– Enter "02" to select "Adaption channel 02" and confirm entry with Q key.

Channel 2	Adaption	11 →
- = - 0 -		

◀ Indicated on display:

The display will show the service, e.g. 11.

– 0 - indicates that no service is due

– 1 - indicates that Oil Change Service is due

– 10 - indicates that Inspection Service is due

– 11 - indicates that Oil Change Service and Inspection Service are due

– Press →key.

Channel 4	Adaption	2 Q
Enter adaption value XXXXX		

◀ Indicated on display

– After the service has been performed, enter the appropriate adaption value as follows:

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Adaption value		Type of service cancelled
00000		Delivery Inspection
00000		serviceOIL and serviceINSP
00010		serviceOIL
00001		serviceINSP

Example:

– Enter adaption value "00000".

Channel 4 Adaption 2 Q ◀
Enter adaption value 00000

If adjacent display appears (example):

– Confirm entry with Q key.

Channel 4 Adaption 2 Q ◀
- = - 0 -

Indicated on display:

– Confirm entry with Q key.

Channel 4 Adaption 2 Q ◀
Store changed value?

Indicated on display

– Confirm entry with Q key.

Channel 2 Adaption 0 → ◀
Changed value is stored

Indicated on display

– Terminate resetting procedure for SID by pressing →.

Rapid data transfer HELP ◀
Select function XX

Indicated on display:

Resetting SID with adjustment buttons for mileage and clock

– Switch ignition off.

◀ – Press the reset button for the trip recorder -2- on the dash panel insert and at the same time switch on the ignition.

The trip recorder display -3- will read: "serviceOIL".

– Release the button.

– Pull the clock adjuster knob -1- on the dash panel insert and hold for approx. 2 seconds to reset the "serviceOIL" display.

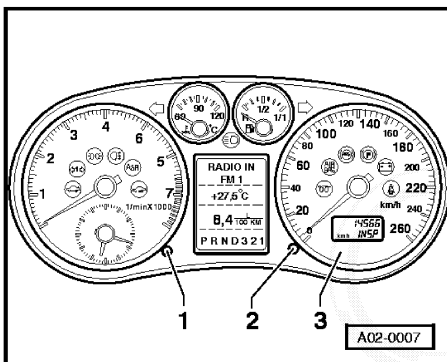
Note:

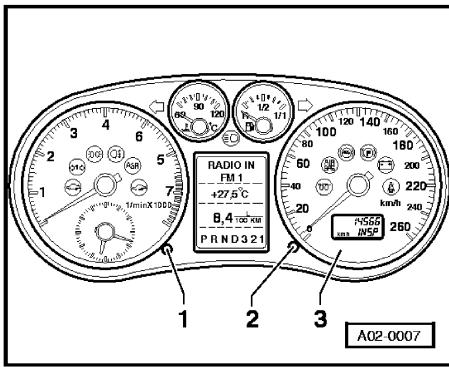
Depending on the make of the dash panel insert, the display on the trip recorder will either continue to read "serviceOIL" or change to "- - -".

– Press the trip recorder reset button -2- again to call up the next service message.

– Release the button.

The trip recorder display -3- will read: "serviceINSP".





- ◀ – Pull the clock adjuster knob -1- on the dash panel insert and hold for approx. 2 seconds to reset the "serviceINSPE" display.

Note:

Depending on the make of the dash panel insert, the display on the trip recorder will either continue to read "serviceINSPE" or change to "- - -".

- Switch ignition off.

Service display: resetting LongLife Service as of 2000 > (Y)

Resetting of service display after service, Audi A3 as of chassis number 8LYA 000 001

Resetting of service display with

- ◆ vehicle diagnostic, testing and information system VAS 5051 => Page 68.

or with

- ◆ fault reader V.A.G 1551 => as described below.

Note:

Resetting without V.A.G 5051 or VAS 5051 automatically sets the service to a fixed interval value.

Rapid data transfer	HELP
Select function XX	

- ◀ Indicated on display:
 - Press keys 1 and 0 and confirm input with Q key.

Rapid data transfer	Q
10 – Adaption	

- ◀ Indicated on display:
 - Confirm entry with Q key.

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Channel 2 Adaption 1 Q ◀
 Enter adaption value 00000

Indicated on display:
 – Confirm entry with Q key.

Channel 2 Adaption 0 Q ◀
 (- 1 3-L

Indicated on display:
 – 0 - signifies service reset,
 i.e. following confirmation with Q key "SERVICE IN 15000 km"
 is displayed in dash panel

Note:

The display of 15000 km is the starting value for the service indicator. -Conversion to the greater km performance (e.g. 50,000 km with 4 cyl. diesel engines) is only carried out whilst driving.
 – Confirm entry with Q key.

Channel 2 Adaption 0 Q ◀
 Store altered value?

Indicated on display:
 – Confirm entry with Q key.

Channel 2 Adaption 0 → ◀
 Changed value is stored

Indicated on display:
 – Press → key to terminate resetting of SID.

Adaption values: checking or changing

After resetting the service display the following channels and adaption values (for the relevant engine variation in the vehicle) must be checked or changed.

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) 4-cylinder diesel engines	50,000 km
Channel 44 (max time interval until service)	730 days
Channel 45 (oil grade for max mileage of 30,000 km)	2
Channel 45 (oil grade for max mileage of 50,000 km)	4

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Procedure for correction of adaption values:

- ◆ => Page 63, Channel 42 (min mileage)
- ◆ => Page 64, Channel 43 (max mileage)
- ◆ => Page 65, Channel 44 (max time interval until Service)
- ◆ => Page 67, Channel 45 (oil grade for max mileage)

Min. mileage

With this function a minimum mileage in km is fixed for the service display.

Rapid data transfer	HELP
Select function XX	

- Indicated on display:
– Press keys 1 and 0 and confirm input with Q key.

Rapid data transfer	Q
10 – Adaption	

- Indicated on display:
– Confirm entry with Q key.

Adaption
Enter channel number XX

- Indicated on display:
– Press keys 4 and 2.
– Confirm entry with Q key.

Channel 42	Adaption	15 →
min-value oil in 1000 km	(- 1	3-L

- Indicated on display:
The display will show the minimum mileage in km until the next service (here, e.g. 15 = 15,000 km).

Notes:

- ◆ The number must be entered in steps of 1000 km. Accordingly, readout on the display will also be in steps of 1000 km.
- ◆ When using keypad on the fault reader, number must be entered directly.
- ◆ If an incorrect value is entered adaption function will be terminated and must be restarted.

Max. mileage

With this function a maximum mileage in km is fixed for the SIA.

Rapid data transfer	HELP
Select function XX	

- Indicated on display:
– Press keys 1 and 0 and confirm input with Q key.

Rapid data transfer	Q
10 – Adaption	

- Indicated on display:
– Confirm entry with Q key.

Adaption
Enter channel number XX

- Indicated on display:

- Press keys 4 and 3.
- Confirm entry with Q key.

Channel 43	Adaption	30 →
max-value oil in 1000 km		(- 1 3-L)

Indicated on display:

Displayed is the maximum mileage in kilometres up to a service (here e.g. 30 equals 30,000 km)

Notes:

- ◆ The value entered for the corresponding engine variation must correspond to the value of table => Page 62.
- ◆ The number must be entered in steps of 1000 km. Accordingly, readout on the display will also be in steps of 1000 km.
- ◆ When using keypad on the fault reader, number must be entered directly.
- ◆ If an incorrect value is entered adaption function will be terminated and must be restarted.

Max. time interval

With this function a maximum time in days is fixed for the service display.

Rapid data transfer	HELP
Select function XX	

Indicated on display:

- Press keys 1 and 0 and confirm input with Q key.

Rapid data transfer	Q
10 - Adaption	

Indicated on display:

- Confirm entry with Q key.

Adaption
Enter channel number XX

Indicated on display:

- Press keys 4 and 4.
- Confirm entry with Q key.

Channel 44	Adaption	730 →
max-value insp. in 1 days		(- 1 3-L)

Indicated on display:

The display will show the maximum time interval in days until the next service (here, e.g. 730 = 730 days).

Notes:

- ◆ The value entered for the corresponding engine variation must correspond to the value of table => Page 62.
- ◆ The respective specified value can only be entered in steps of single days and the display is therefore also in days.
- ◆ When using keypad on the fault reader, number must be entered directly.
- ◆ If an incorrect value is entered adaption function will be terminated and must be restarted.

Adapting oil grade

Rapid data transfer HELP
Select function XX

- ◀ Indicated on display:
 - Press keys 1 and 0 and confirm input with Q key.

Rapid data transfer Q
10 – Adaption

- ◀ Indicated on display:
 - Confirm entry with Q key.

Adaption
Enter channel number XX

- ◀ Indicated on display:
 - Press keys 4 and 5.
 - Confirm entry with Q key.

Notes:

- ◆ Oil used must be re-adapted after each service.
- ◆ The adaption value can be set from 1-4. Attached to each value from 1-4 is a max mileage (channel 43) and a maximum time (channel 44).
- ◆ The value entered for the corresponding engine variation must correspond to the value of table => Page 62.

Resetting service display (VAS 5051)

Special tools, testers, measuring instruments and auxiliary items required

- ◆ VAS 5051 vehicle diagnostic, testing and information system
- ◆ VAS 5051/3 adapter cable

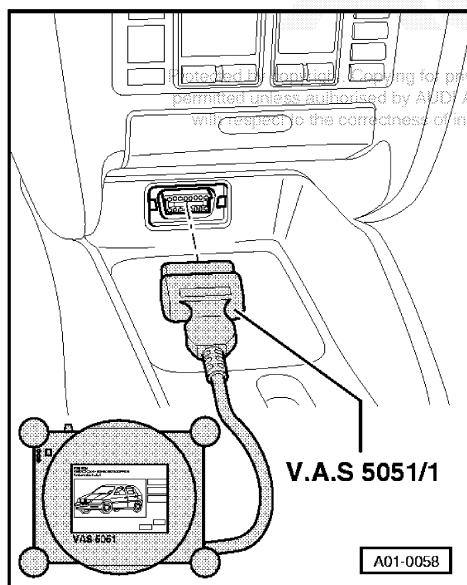
Connect vehicle diagnostic, testing and information system VAS 5051

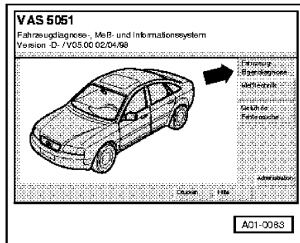
Apply handbrake.

- Automatic gearbox: Move selector lever to "P" or "N".
- ◀ – Manual gearbox: Gear lever in idling position.

With the ignition switched off connect the VAS 5051 as follows:

- Connect the VAS 5051 with adapter cable VAS 5051/3 with the ignition switched off.





– Switch ignition on.

◀ Indicated on display:

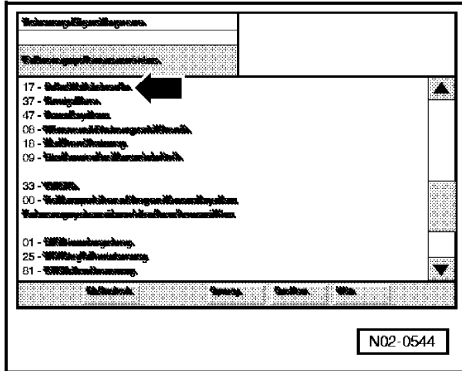
Selecting operating mode:

– Press "Vehicle self-diagnosis" -arrow- on the display.

Note:

If the displays shown in the procedure do not appear in the display:

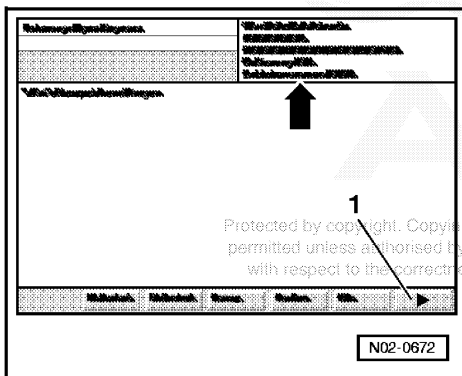
= > Operating instructions for vehicle diagnostic, testing and information system VAS 5051



◀ Indicated on display:

Selecting vehicle system:

– On the display press "17 – Dash panel insert" -arrow-.

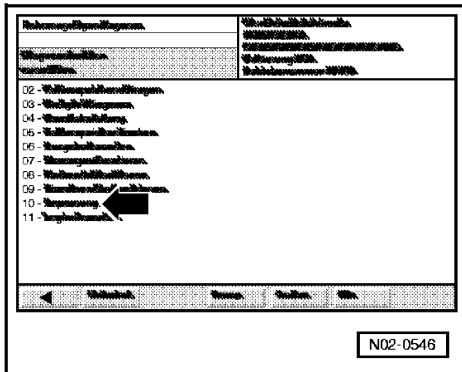


◀ Indicated on display:

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

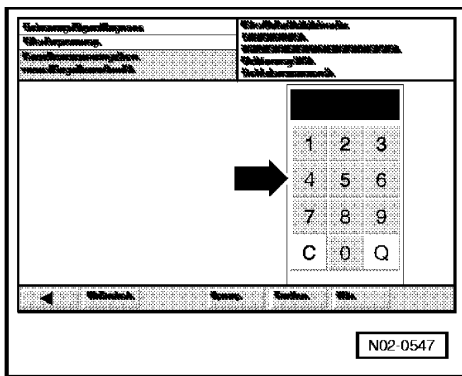
– On the display press the arrow key -1-.

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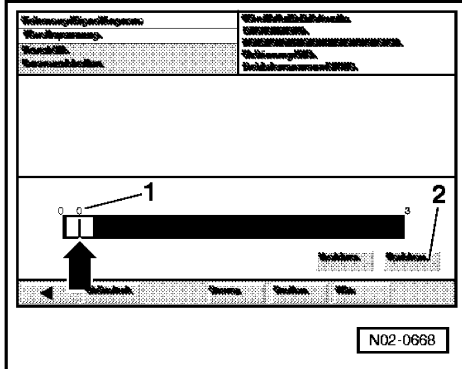


◀ Indicated on display:

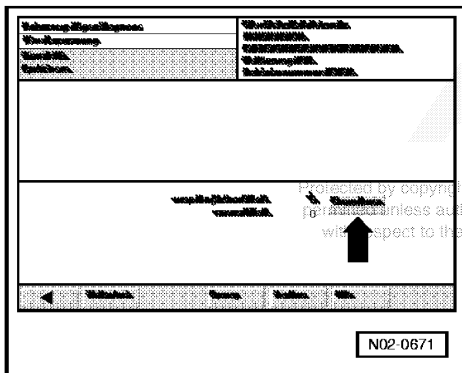
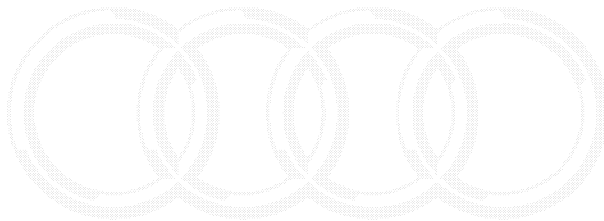
– On the display press "10 – Adaption" -arrow-.



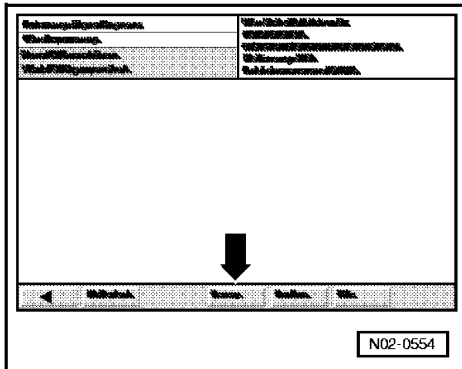
- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 0 and 2.
- The service display is reset via adaption channel 02.
- Press Q key on the number block of the display to confirm the entry.



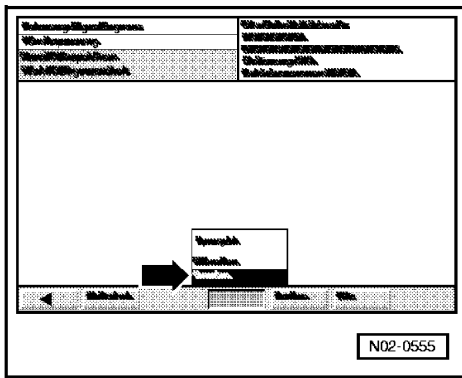
- ◀ Indicated on display:
 - Move the cursor -arrow- on the display to the left until 0 is displayed above the scroll bar -1-.
 - On the display press "Save" -2-.



- ◀ Indicated on display:
 - On the display press "Transfer" -arrow-.
- End of output**



- ◀ Indicated on display:
 - On the display press "Skip" -arrow-.



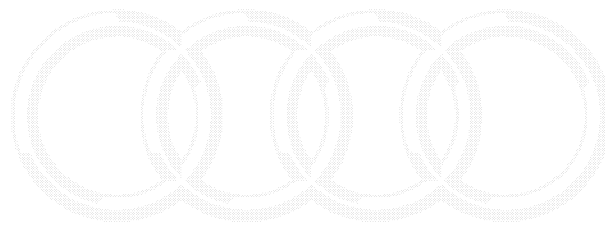
- ◀ Indicated on display:
 - On the display press "Exit" -arrow-.
 - Press "Exit" in the Exit menu.
 - Switch off ignition and detach diagnostic connector.

Note:

The VAS 5051 must remain connected for checking the adaption values => Page 74 and for the exhaust emission test (if required).

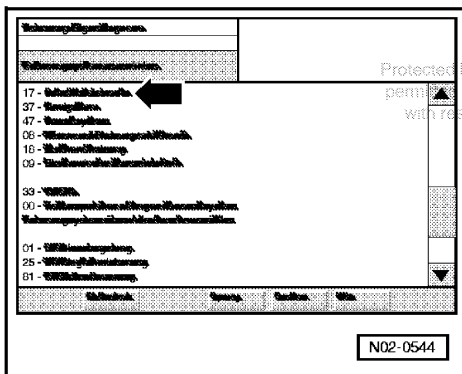
- Switch ignition on.

After switching on the ignition, the mileage/kilometre display in the dash panel insert no longer indicates that a service is due.



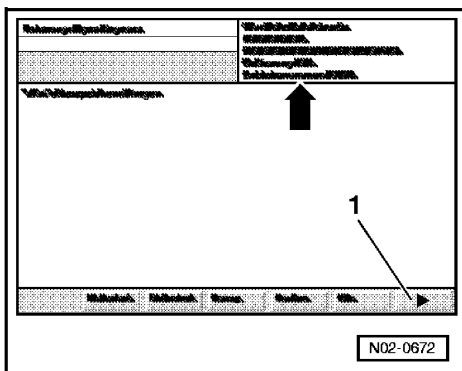
Adaption values: checking or changing

- Connecting VAS 5051 => Page 68.

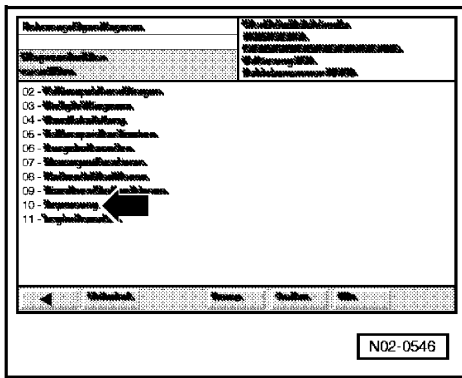


- ◀ Indicated on display:
 - On the display press "17 - Dash panel insert" -arrow-.

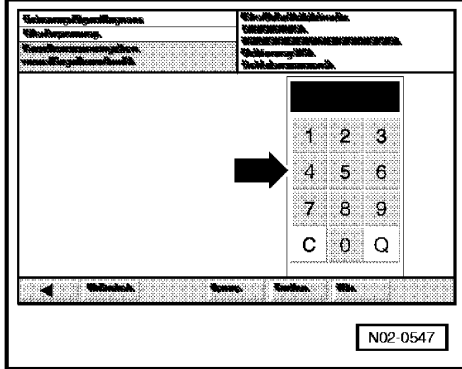
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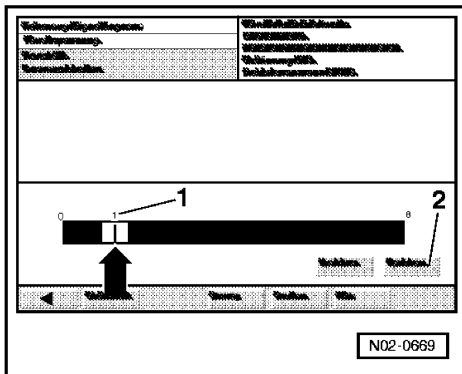
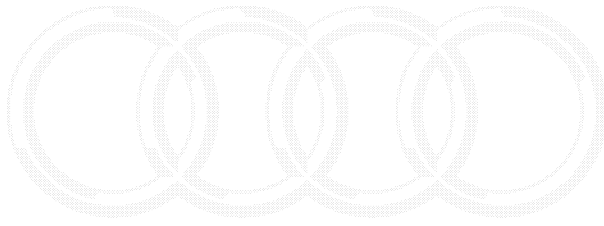
- ◀ Indicated on display:
 - The control unit identification and the coding are displayed - arrow-.
 - On the display press the arrow key -1-.



- ◀ Indicated on display:
 - On the display press "10 – Adaption" -arrow-.



- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 4 and 5. Adaption channel 45 is used to adapt the dash panel insert to the oil grade.
 - Press Q key on the number block of the display to confirm the entry.

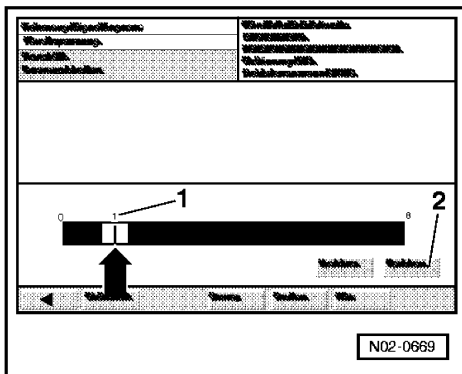


- ◀ Indicated on display:
 - Move the cursor -arrow- on the display to the left until the adaption value 2 is displayed above the scroll bar -1-.

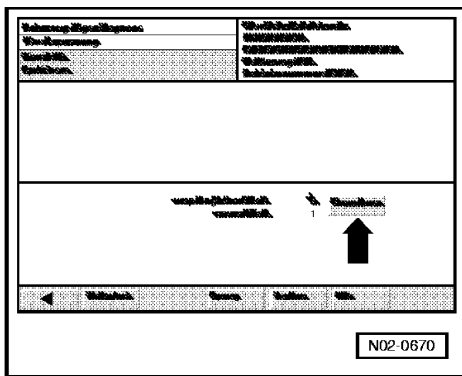
Note:
The adaption value in the top line indicates the current service display status: AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Channel 45 (oil grade for petrol engines max. mileage of 30,000 km)	2
Channel 45 (oil grade for 4-cyl. diesel engine max mileage of 50,000 km)	4

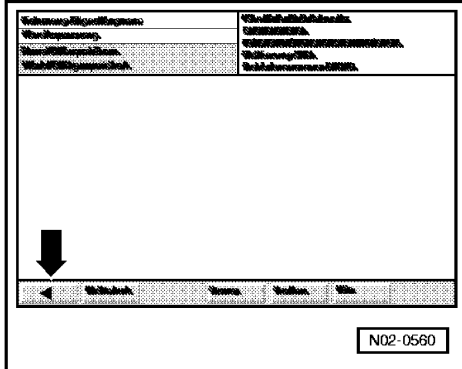
Note:



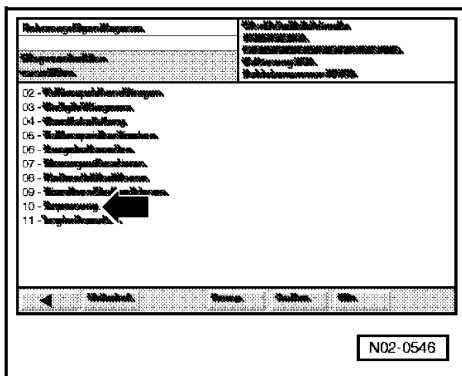
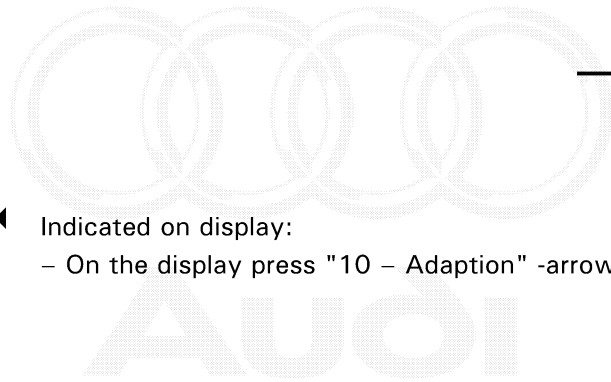
- ◀ *Encode the dash panel insert to flexible(LongLife Service). For petrol engines use the adaption value 2, for 4-cyl. diesel engines use the adaption value 4.*
 - On the display press "Save" -2-.



- ◀ Indicated on display:
 - On the display press "Transfer" -arrow-.

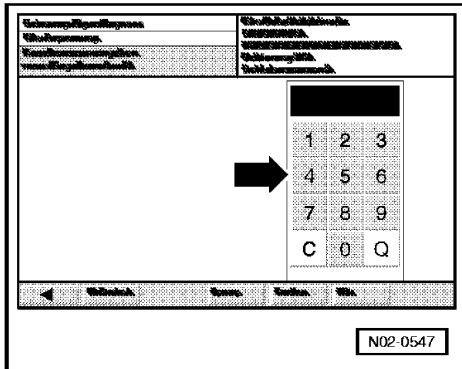


- ◀ Indicated on display:
 - On the display press the key marked with the -arrow-.

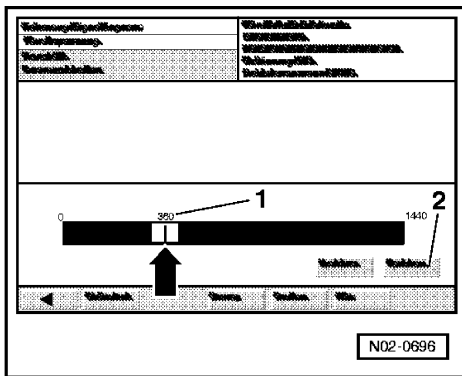


- ◀ Indicated on display:
 - On the display press "10 - Adaption" -arrow-.

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- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 4 and 4. Adaption channel 44 is used to adapt the time interval before the next service is due.
 - Press Q key on the number block of the display to confirm the entry.



◀ Indicated on display:

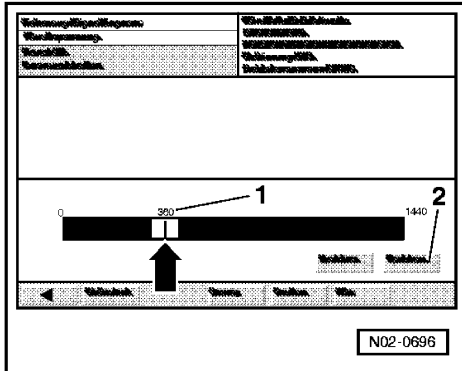
- Move the cursor -arrow- on the display to the left until the adaption value 730 is displayed above the scroll bar -1-.

Note:

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

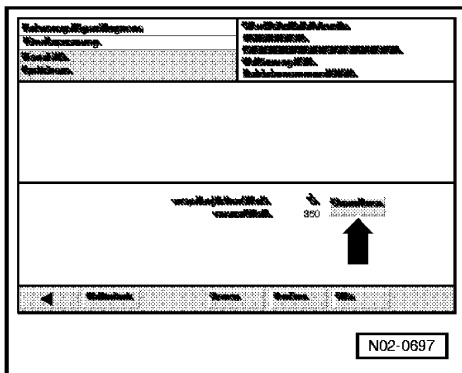
Channel 44 (max time interval until service)	730 days
--	----------

Note:



◀ *Encode the dash panel insert to flexible(LongLife Service). Enter the adaption value 730.*

- On the display press "Save" -2-.

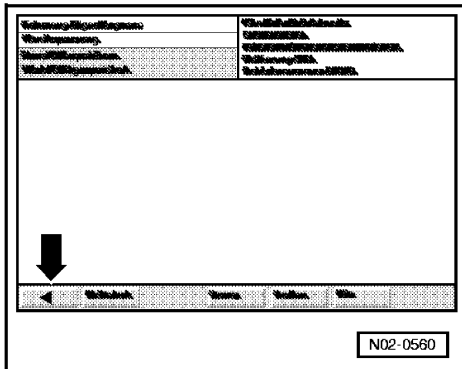


◀ Indicated on display:

- On the display press "Transfer" -arrow-.

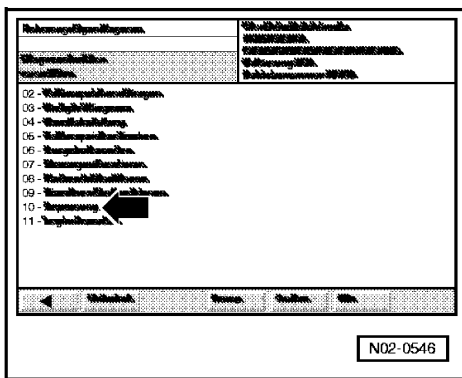


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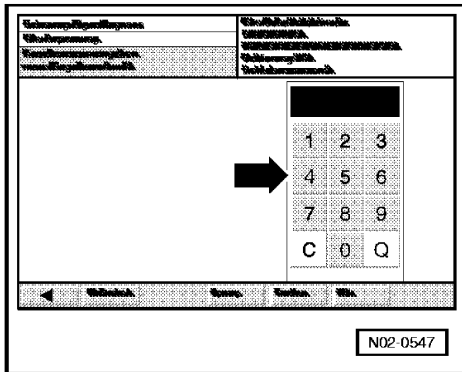
◀ Indicated on display:

- On the display press the key marked with the -arrow-.



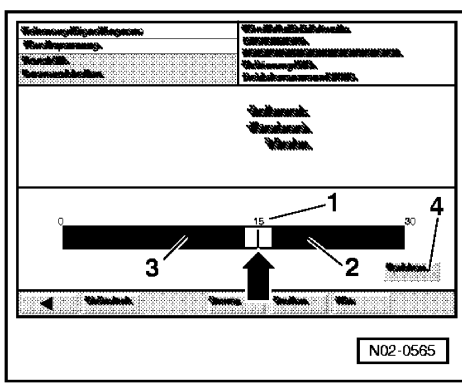
N02-0546

- ◀ Indicated on display:
 - On the display press "10 - Adaption" -arrow-



N02-0547

- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 4 and 3. Adaption channel 43 is used to adapt the maximum driving distance before the next service is due.
 - Press Q key on the number block of the display to confirm the entry.

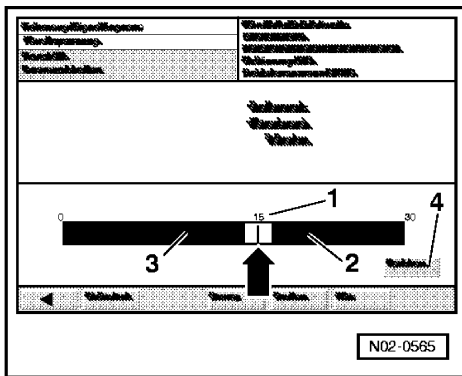


N02-0565

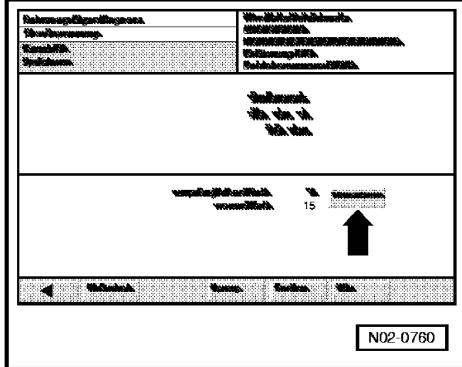
- ◀ Indicated on display:
 - Move the cursor -arrow- on the display to the left until the adaption value 30 is displayed above the scroll bar -1-.
- Notes:**
 - ◆ The value can be increased by one unit by briefly pressing the scroll bar -2- to the right of the cursor.
 - ◆ The value can be reduced by one unit by briefly pressing the scroll bar -3- to the left of the cursor.
 - ◆ The adaption value in the top line indicates the maximum driving distance before the next service is due.

Channel 43 (max. mileage)	30,000 km
Petrol engines:	
Channel 43 (max. mileage)	50,000 km
4-cyl. diesel engines	

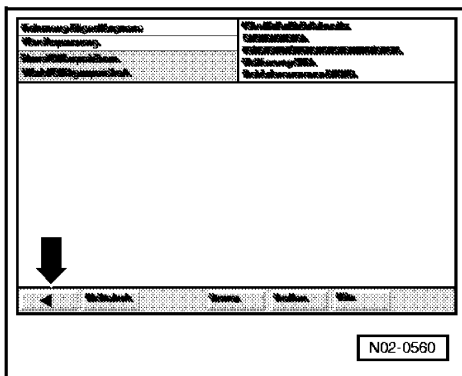
Note:
 Encode the dash panel insert to flexible(LongLife Service). For petrol engines use the adaption value 30, for 4-cyl. diesel engines use the adaption value 50.



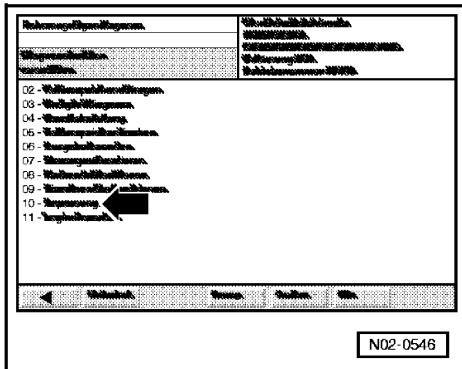
◀ – On the display press "Save" -4-



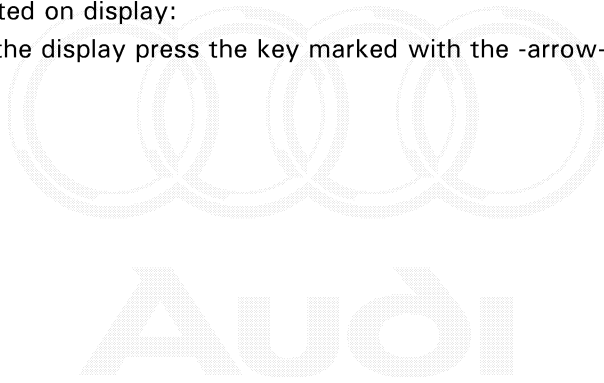
◀ Indicated on display:
– On the display press "Transfer" -arrow-

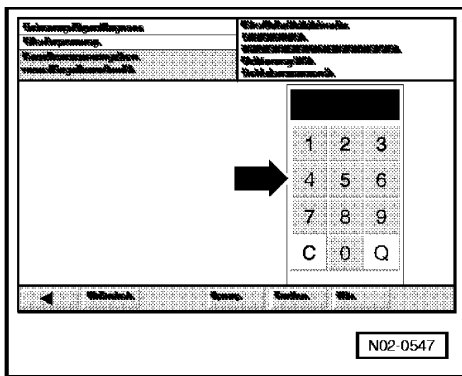


◀ Indicated on display:
– On the display press the key marked with the -arrow-

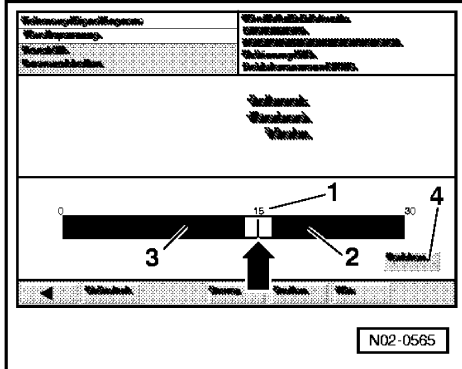


◀ Indicated on display:
– On the display press "10 – Adaption" -arrow-



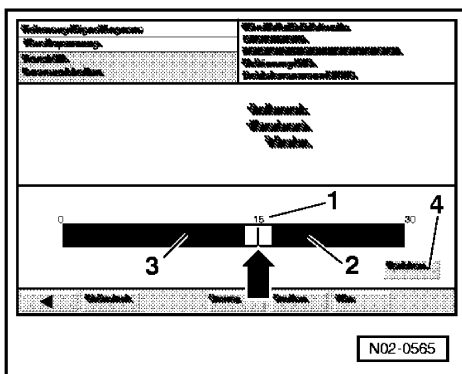


- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 4 and 2. Adaption channel 42 is used to adapt the minimum driving distance before the next service is due.
 - Press Q key on the number block of the display to confirm the entry.

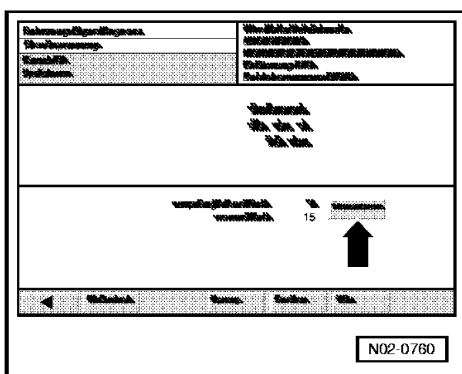


- ◀ Indicated on display:
 - Move the cursor -arrow- on the display to the left until the adaption value 15 is displayed above the scroll bar -1-.
- Notes:**
 - ◆ The value can be increased by one unit by briefly pressing the scroll bar -2- to the right of the cursor.
 - ◆ The value can be reduced by one unit by briefly pressing the scroll bar -3- to the left of the cursor.
 - ◆ The adaption value in the top line indicates the minimum driving distance before the next service is due.

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

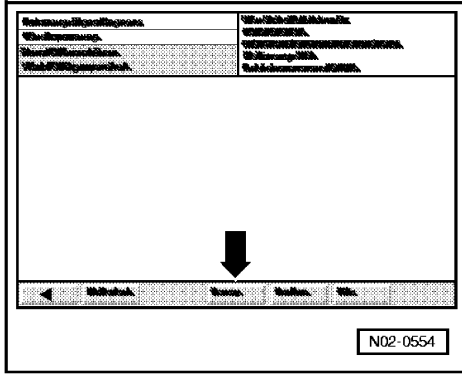


- Note:**
- ◀ Encode the dash panel insert to flexible(LongLife Service). Enter the adaption value 15.
 - On the display press "Save" -4-.

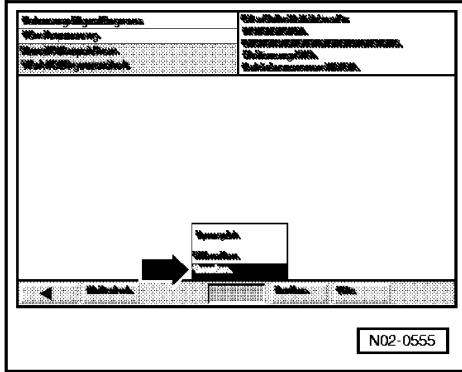


- ◀ Indicated on display:
 - On the display press "Transfer" -arrow-.

End of output



- ◀ Indicated on display:
 - On the display press "Skip" -arrow-



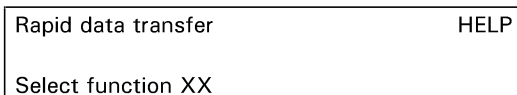
- ◀ Indicated on display:
 - On the display press "Exit" -arrow-
 - Press "Exit" in the Exit menu.
 - Switch off ignition and detach diagnostic connector.

Service display: resetting Inspection Service (fixed interval) as of 2000 > (Y)

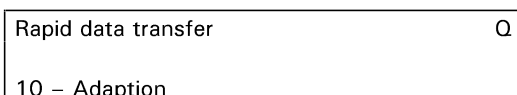
Resetting of service display after service, Audi A3 as of chassis number 8LYA 000 001

Resetting of service display with

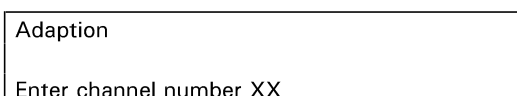
- ◆ Fault reader V.A.G 1551 => Page 88
- or with
- ◆ Vehicle diagnostic, testing and information system VAS 5051 => Page 93.
- ◆ Resetting without V.A.G 1551 or VAS 5051 => Page 112.



- ◀ Indicated on display:
 - Press keys 1 and 0 and confirm input with Q key.



- ◀ Indicated on display:
 - Confirm entry with Q key.



- ◀ Indicated on display:
 - Press keys 0 and 2.
 - Confirm entry with Q key.

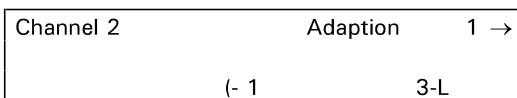
Notes:

- ◆ The service indicator is used to remind the driver of a necessary service. The information appears in the centre display.
- ◆ The service reminder will first appear 2000 km/1 month before the next service is due. Resolution is 100 km.

Display example:

"SERVICE IN 1300 KM" will appear after the vehicle has been driven 13,700 km.

- ◆ The remaining mileage prior to servicing can be called up by pressing the clock adjustment button and thus calling up the menu in the centre display.
- ◆ If service is due, the appropriate message appears on the centre display for 5 s after switching on the ignition. It appears after the note on automatic gearboxes and a possible target input of the navigation system has been displayed. Display: "SERVICE."

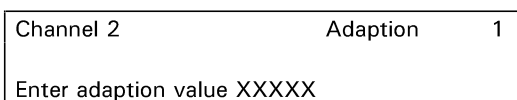


Indicated on display:
The type of service is displayed
– 1 - signifies active service,
i.e. "SERVICE" is displayed in dash panel.

Note:

The service indication is only to be reset by way of direct input.

- Press → key.



Indicated on display:
The service is reset by means of the following adaption value:

Adaption value	Type of service
00000	Reset

- Enter the appropriate adaption value (00000) via the keypad to reset the service interval.
- Press key 0 five times.

Channel 2	Adaption	1 Q
Enter adaption value 00000		

Indicated on display:
 – Confirm entry with Q key.

Channel 2	Adaption	0 Q
	(- 1	3-L

Indicated on display:
 – 0 - signifies service reset,
 i.e. following confirmation with Q key "SERVICE IN 15000 km"
 is displayed in dash panel
 – Confirm entry with Q key.

Channel 2	Adaption	0 Q
Store altered value?		

Indicated on display:
 – Confirm entry with Q key.

Channel 2	Adaption	0 →
Changed value is stored		

Indicated on display:
 – Press → key to terminate resetting of SID.

Adaption values: checking or changing

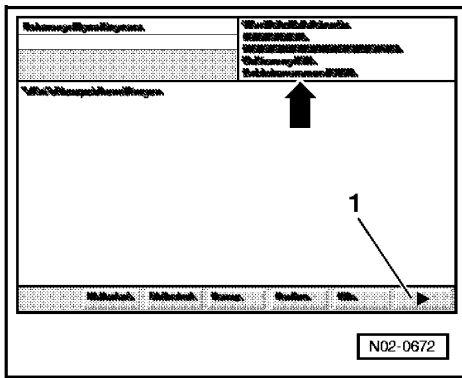
After resetting of service display the following channels and adaption values must be checked or changed.

Table of channels and adaption values

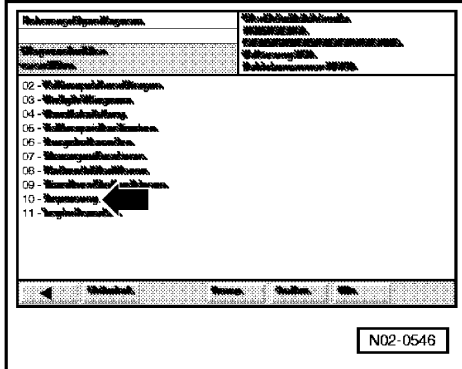
Channel 42 (min. mileage)	15,000 km
Channel 43 (max. mileage)	15,000 km
Channel 44 (max time interval until service)	365 days
Channel 45 (oil grade)	1

Procedure for correction of adaption values:

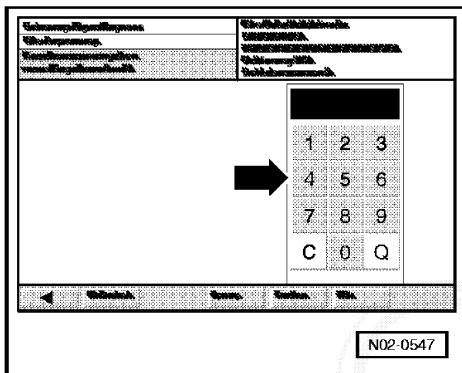
- ◆ => Page 63, Channel 42 (min mileage)
- ◆ => Page 64, Channel 43 (max mileage)
- ◆ => Page 65, Channel 44 (max time interval until Service)
- ◆ => Page 67, Channel 45 (oil grade for max mileage)



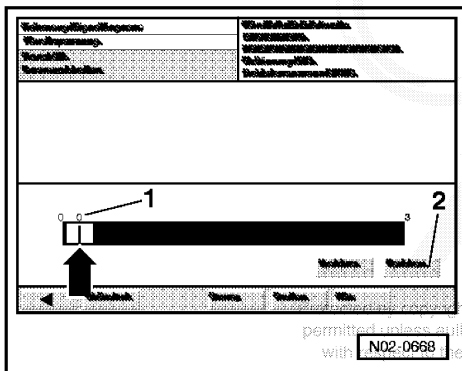
- ◀ Indicated on display:
The control unit identification and the coding are displayed -arrow-.
- On the display press the arrow key -1-.



- ◀ Indicated on display:
- On the display press "10 - Adaption" -arrow-.

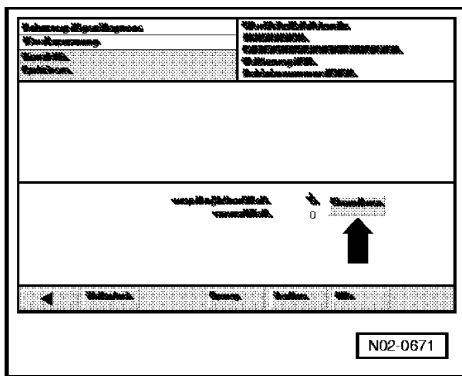


- ◀ Indicated on display:
- On the number block of the display -arrow- press keys 0 and 2.
The service display is reset via adaption channel 02.
- Press Q key on the number block of the display to confirm the entry.

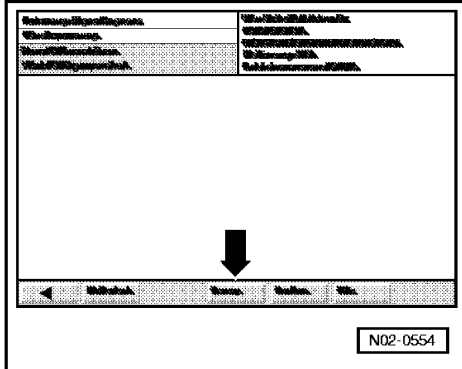


- ◀ Indicated on display:
- Move the cursor -arrow- on the display to the left until 0 is displayed above the scroll bar -1-.
- On the display press "Save" -2-.

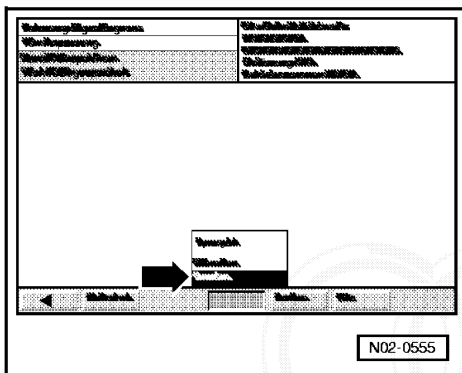
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- ◀ Indicated on display:
 - On the display press "Transfer" -arrow-
- End of output



- ◀ Indicated on display:
 - On the display press "Skip" -arrow-



- ◀ Indicated on display:
 - On the display press "Exit" -arrow-
 - Press "Exit" in the Exit menu.
 - Switch off ignition and detach diagnostic connector.

Note:

The VAS 5051 must remain connected for checking the adaption values => Page 99 and for the exhaust emission test (if required).

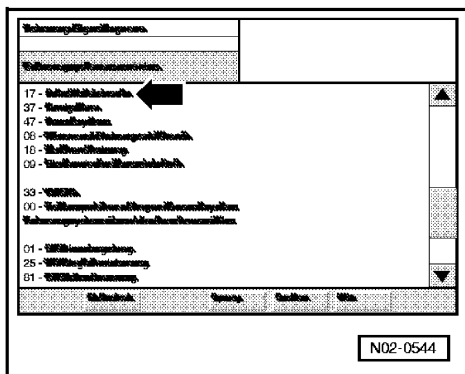
- Switch ignition on.

After switching on the ignition, the mileage/kilometre display in the dash panel insert no longer indicates that a service is due.



Adaption values: checking or changing

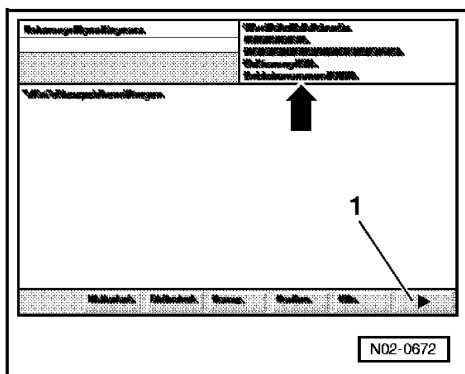
- Connecting VAS 5051 => Page 93.



◀ Indicated on display:

Selecting vehicle system:

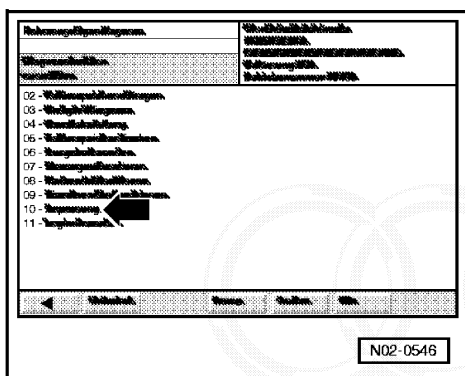
- On the display press "17 - Dash panel insert" -arrow-.



◀ Indicated on display:

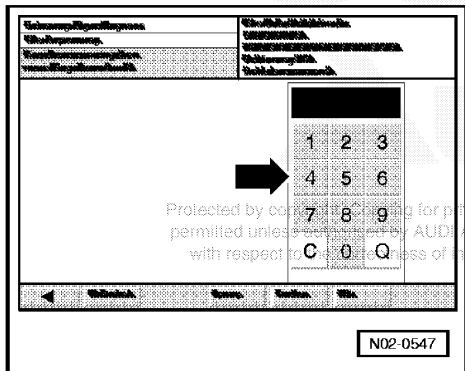
The control unit identification and the coding are displayed - arrow-.

- On the display press the arrow key -1-.



◀ Indicated on display:

- On the display press "10 - Adaption" -arrow-.

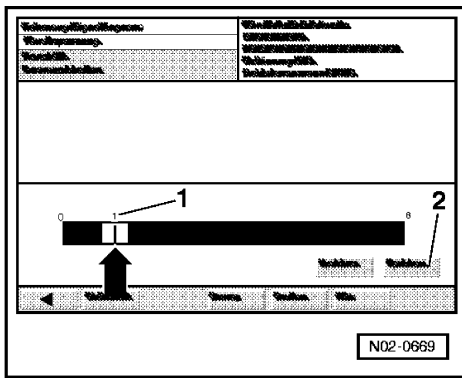


◀ Indicated on display:

- On the number block of the display -arrow- press keys 4 and 5. Adaption channel 45 is used to adapt the dash panel insert to the oil grade.

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

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◀ Indicated on display:

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

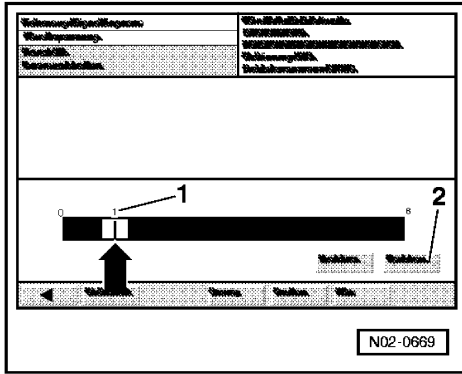
Note:

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

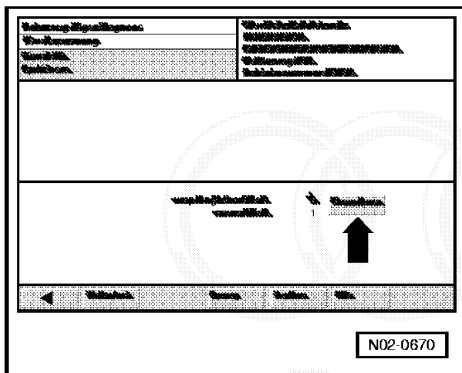
Channel 45 (oil grade)	1
------------------------	---

Note:

Encode the dash panel insert to non-flexible(Inspection Service). Enter the adaption value 1.

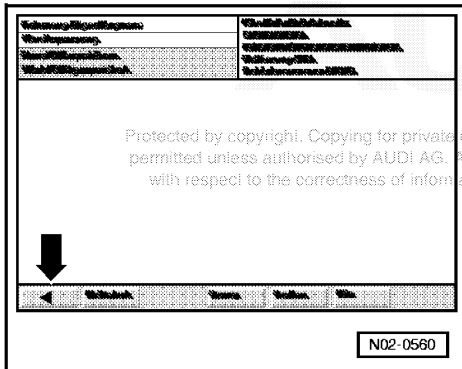


◀ – On the display press "Save" -2-.



◀ Indicated on display:

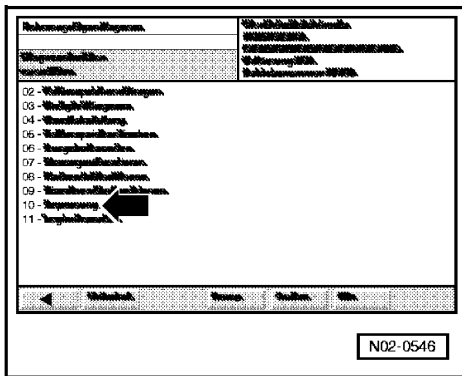
- On the display press "Transfer" -arrow-.



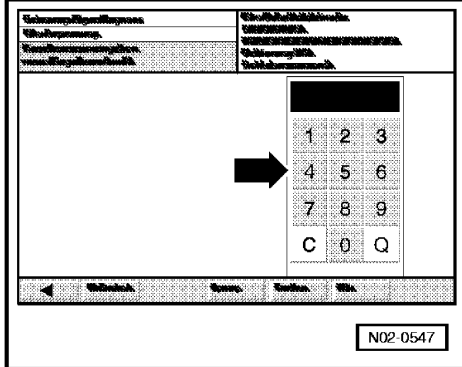
◀ Indicated on display:

- On the display press the key marked with the -arrow-.

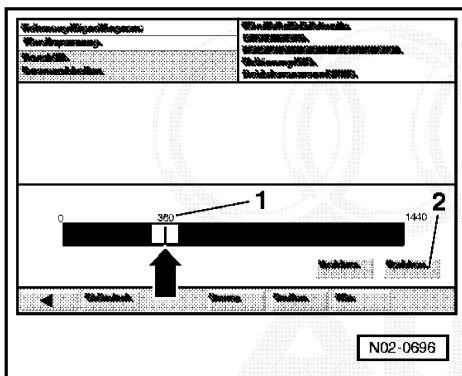
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- ◀ Indicated on display:
 - On the display press "10 - Adaption" -arrow-



- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 4 and 4. Adaption channel 44 is used to adapt the time interval before the next service is due.
 - Press Q key on the number block of the display to confirm the entry.

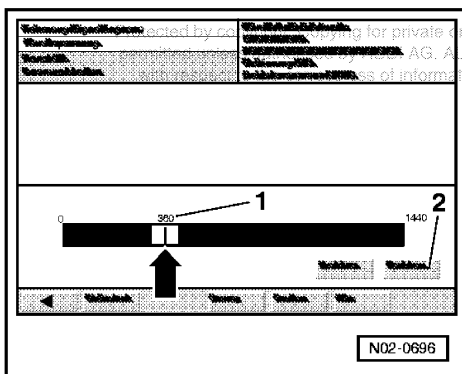


- ◀ Indicated on display:
 - Move the cursor -arrow- on the display to the left until the adaption value 365 is displayed above the scroll bar -1-.

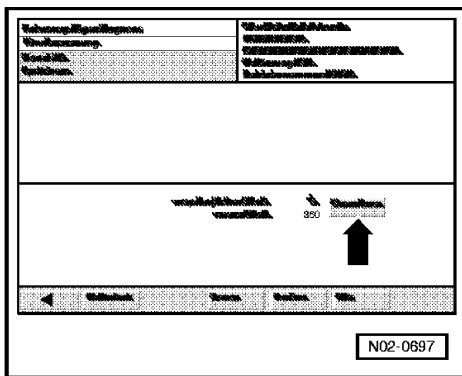
Note:
The adaption value displays the maximum time interval before the next service is due.

Channel 44 (max time interval until service)	365 days
--	----------

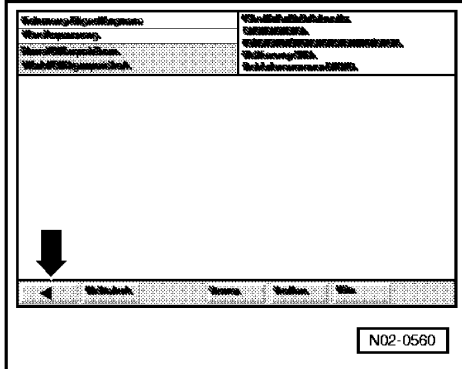
- Note:**
Encode the dash panel insert to non-flexible(Inspection Service).
Enter the adaption value 365.



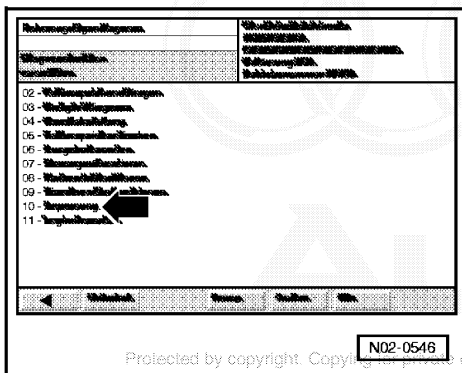
- ◀ On the display press "Save" -2-



- ◀ Indicated on display:
 - On the display press "Transfer" -arrow-.

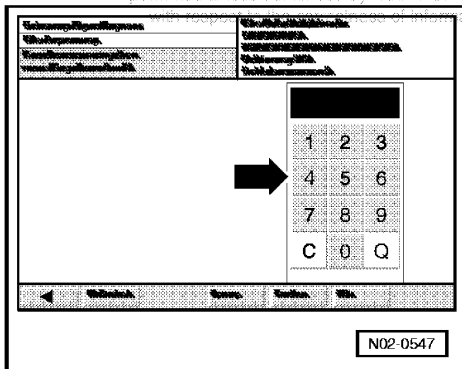


- ◀ Indicated on display:
 - On the display press the key marked with the -arrow-.

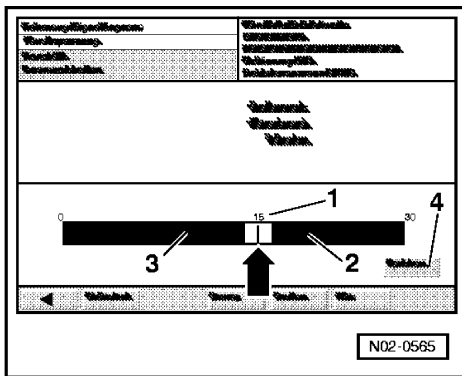


- ◀ Indicated on display:
 - On the display press "10 – Adaption" -arrow-.

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- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 4 and 3. Adaption channel 43 is used to adapt the maximum driving distance before the next service is due.
 - Press Q key on the number block of the display to confirm the entry.



◀ Indicated on display:

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

Notes:

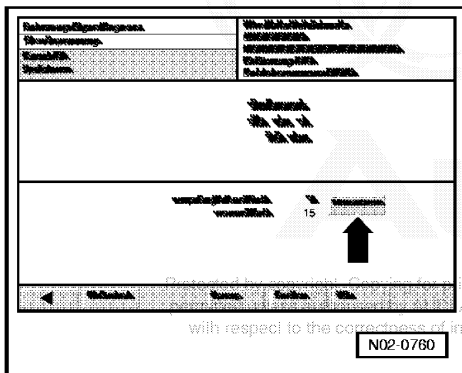
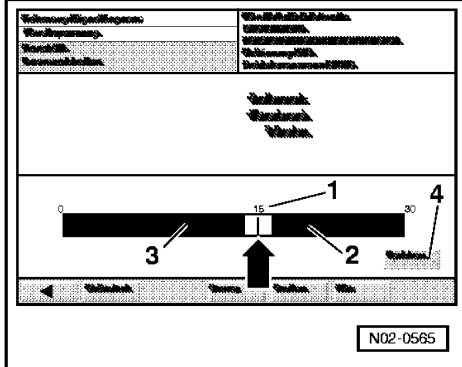
- ◆ The value can be increased by one unit by briefly pressing the scroll bar -2- to the right of the cursor.
- ◆ The value can be reduced by one unit by briefly pressing the scroll bar -3- to the left of the cursor.
- ◆ The adaption value in the top line indicates the maximum driving distance before the next service is due.

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

Note:

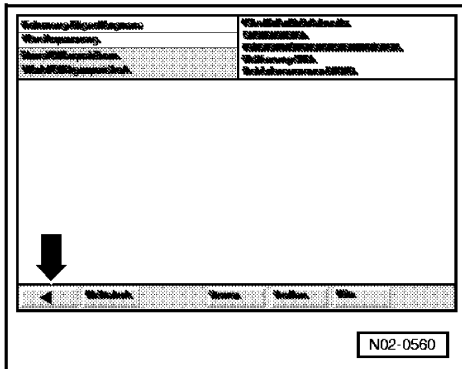
Encode the dash panel insert to non-flexible (Inspection Service).
Enter the adaption value 15.

- On the display press "Save" -4-.



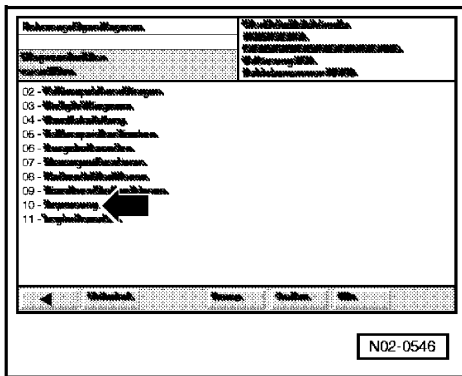
◀ Indicated on display:

- On the display press "Transfer" -arrow-.



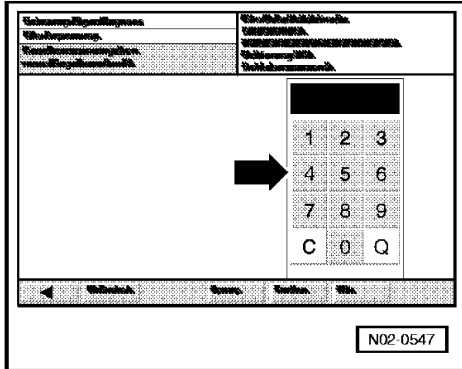
◀ Indicated on display:

- On the display press the key marked with the -arrow-.



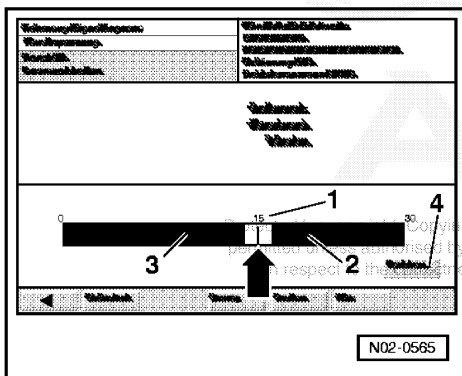
N02-0546

- ◀ Indicated on display:
 - On the display press "10 - Adaption" -arrow-.



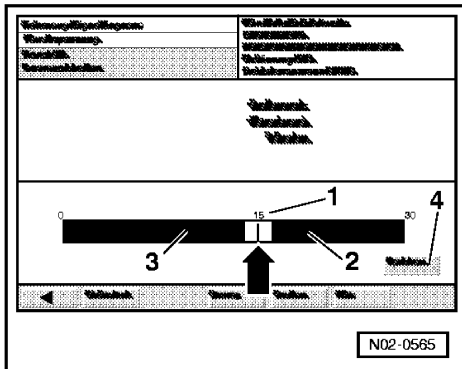
N02-0547

- ◀ Indicated on display:
 - On the number block of the display -arrow- press keys 4 and 2.
- Adaption channel 42 is used to adapt the minimum driving distance before the next service is due.
- Press Q key on the number block of the display to confirm the entry.



N02-0565

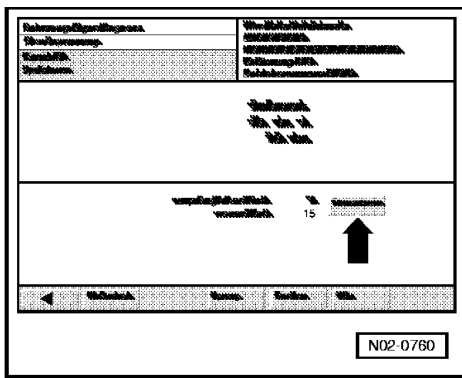
- ◀ Indicated on display:
 - Move the cursor -arrow- on the display to the left until the adaption value 15 is displayed above the scroll bar -1-.
- Notes:**
 - ◆ The value can be increased by one unit by briefly pressing the scroll bar -2- to the right of the cursor.
 - ◆ The value can be reduced by one unit by briefly pressing the scroll bar -3- to the left of the cursor.
 - ◆ The adaption value in the top line indicates the minimum driving distance before the next service is due.



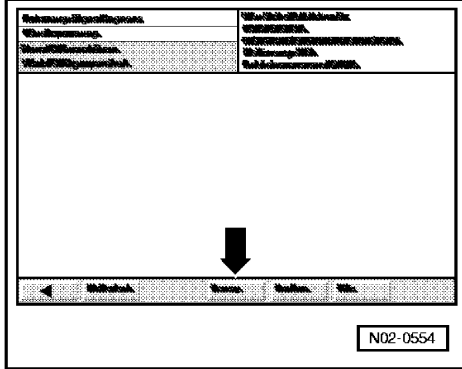
N02-0565

Channel 42 (min. mileage)	15,000 km
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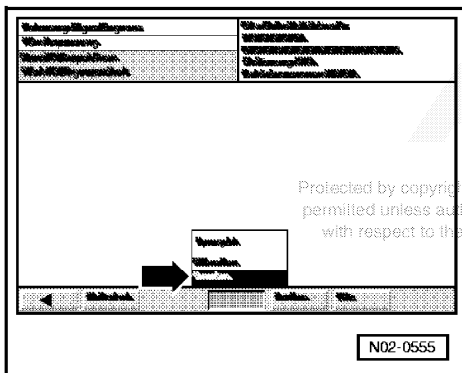
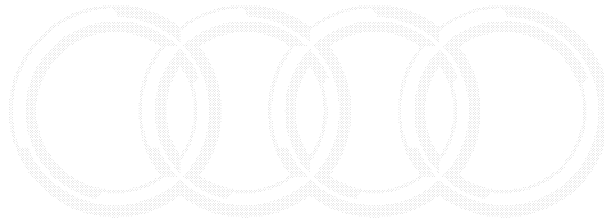
- Note:**
*Encode the dash panel insert to non-flexible(Inspection Service).
 Enter the adaption value 15.*
 - On the display press "Save" -4-.



- ◀ Indicated on display:
 - On the display press "Transfer" -arrow-
- End of output



- ◀ Indicated on display:
 - On the display press "Skip" -arrow-



- ◀ Indicated on display:
 - On the display press "Exit" -arrow-
 - Press "Exit" in the Exit menu.
 - Switch off ignition and detach diagnostic connector.

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Resetting service display after a service without V.A.G 1551 or VAS 5051

Note:

- ◆ Resetting without V.A.G 1551 or VAS 5051 automatically sets the service interval to a fixed value (15,000 km).

The service interval display can be reset using the adaption function on fault reader V.A.G 1551 or VAS 5051 => Page 88.

The service interval display can also be reset using the following procedure:

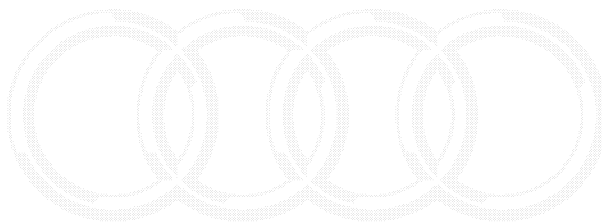
- Switch off ignition.
- Press the reset key for the trip recorder on the dash panel insert and at the same time switch on the ignition.

After releasing the trip counter the following display appears: "SERVICE IN ???? KM" or "SERVICE".

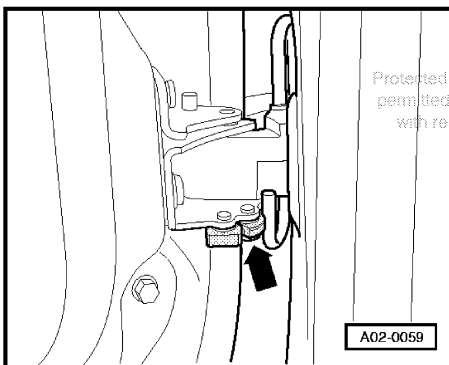
- Keep the clock adjuster knob in the dash panel pressed until the description is set back to "SERVICE IN ???? KM" or "SERVICE".

Indicated on display: "SERVICE IN 15000 KM".

- Switch off ignition.



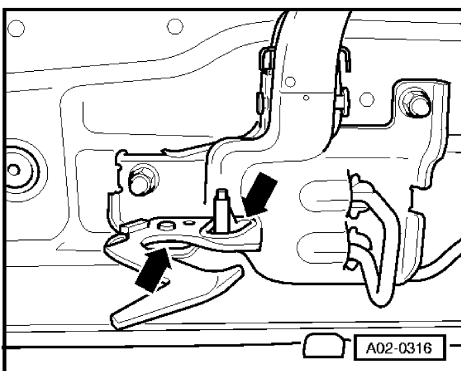
Door arresters and lock cylinders: lubricate



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- ◀ - Only grease the door arresters at the points shown in the illustration -arrows-.
- Lubricant: "G 052 778 A2"
- Lubricate the lock cylinder.
- Lubricant: "G 052 778 A2"

Bonnet release catch: lubricate



- ◀ - Only grease the bonnet release catch at the points shown in the illustration -arrows-.
- Lubricant: "G 052 778 A2"

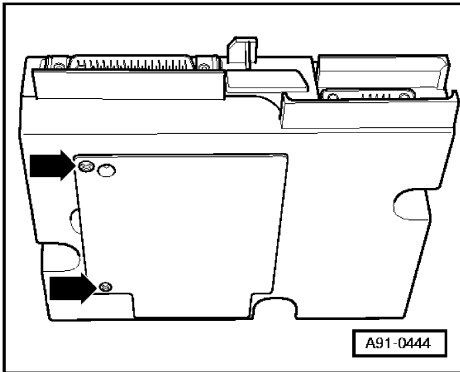
Sun roof: check function, clean guide rails and spray with lubricating spray

- Check the sun roof for leaks.
- Clean the guide rails.
- Spray the guide rails.
 - Lubricant: "G 052 778 A2"
- Check function of sun roof.

Telematics: renew the emergency backup battery

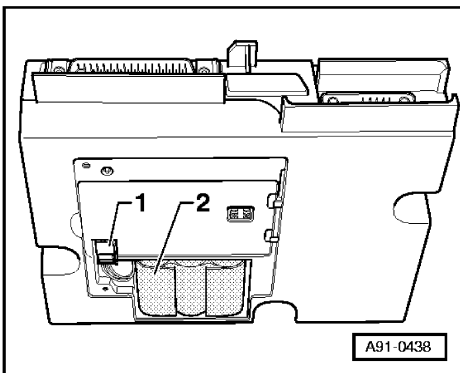
Note:

The emergency backup battery should be renewed every four years on vehicles with telematics.



The telematics control unit is located on the right of the luggage compartment behind the side trim.

- Remove the trim.
- Loosen the two bolts -arrows- on the telematics control unit and take off the cover.



- Unplug the connector -1- and pull out the emergency backup battery -2-.

Installing:

- Installation is performed in the reverse sequence to removal.

Before disconnecting the battery, please note the following.

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

= > Vehicle diagnostic, testing and information system VAS 5051; Guided fault-finding; Adaption; Telephone/telematics

Notes:

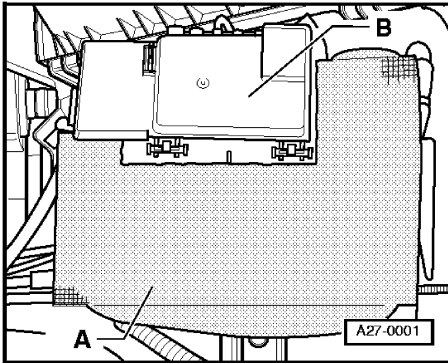
- ◆ Obtain the anti-theft code for the radio/navigation unit before disconnecting the battery.
- ◆ When reconnecting the battery, please ensure that the vehicle equipment (radio/navigation system, clock, electric window lifters, engine) is activated as described in operating instructions. Also remember to deactivate the service mode on the telematics control unit.

= > Vehicle diagnostic, testing and information system VAS 5051; Guided fault-finding; Adaption; Telephone/telematics

Battery: check electrolyte level and top up with distilled water if necessary

Batteries with magic eye => Page 119

The battery is located at the front left of the engine compartment.

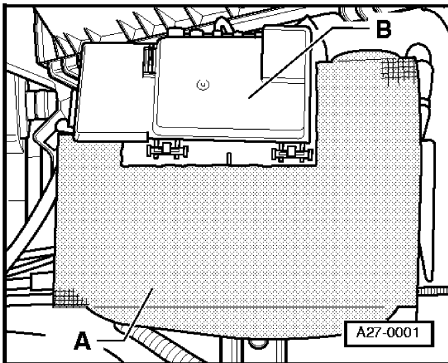


- ◀ – Open the battery protective cover -A- (velcro) and push slightly downwards.
 - The electrolyte level must be between MIN. and MAX. marks.

Notes:

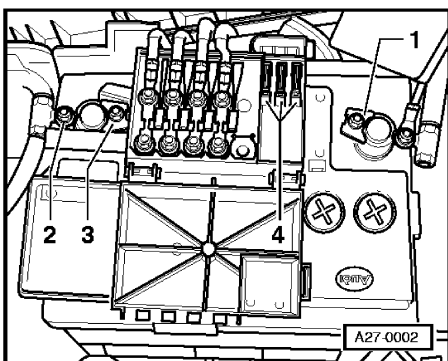
- ◆ For batteries with clearly visible min and max mark, the electrolyte level can be checked visually from the outside of the battery.
- ◆ For batteries on which the external min- and max-marks are not readily visible, or the electrolyte level cannot be checked properly due to an opaque battery casing, the battery caps must be unscrewed. => Top up with distilled water, Page 118.
- ◆ The electrolyte level must align with the marking inside the battery – plastic separator -. This corresponds to the outer max marking.
- If necessary, top up battery cells to max. mark with distilled water.

Top up with distilled water



Notes:

- ◆ The centre battery caps are covered by the bracket for the main fuse box. The main fuse box must first be removed in order to unscrew these caps.
- ◆ Before disconnecting the battery, please refer to Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the accuracy of the information in this document. Copyright by AUDI AG. => Page 116.
- Open lid -B- of main fuse box towards front of vehicle.



- ◀ – Slacken hexagon nut -1- and disconnect battery earth strap.
- Remove the hexagon nut -2- and detach retaining brackets for main fuse box from battery casing.
- Unscrew battery caps.

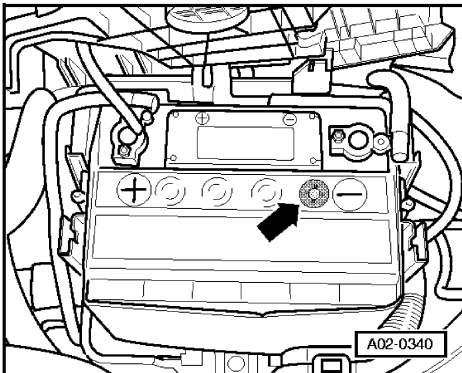
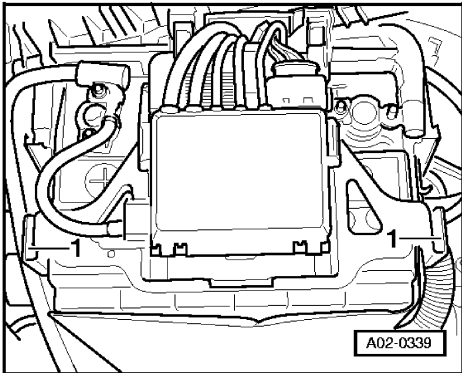
– Use only distilled water to top up the battery electrolyte.

Note:

Using distilled water prevents contamination of the battery electrolyte and the associated increase in self discharge.

◀ **Batteries with magic eye**

– Press in both catches -1- and fold the main fuse box towards the rear.

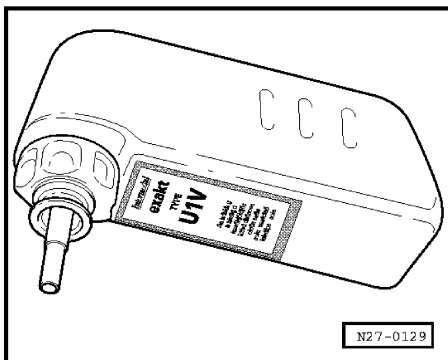


- ◀
- ◆ The magic eye -arrow- indicates the electrolyte level and the charge level of the battery to be checked.
 - ◆ Three different coloured displays are possible:
 - Green → battery is sufficiently charged.
 - Black → no charge or charge too low
 - No colour or yellow → critical electrolyte level has been reached. It is absolutely necessary to top up with distilled water.

Notes:

- ◆ Make sure to exchange the battery when a battery is older than 5 years or the colour indicator of the magic eye has no colour.
- ◆ Before disconnecting the battery, please refer to = > Page 116.

Top up with distilled water



◆ **Battery filling bottle V.A.G 5045**

Important
When using battery electrolyte it is absolutely necessary that the accident prevention procedures are observed.

Wear protective clothing.

Only use flashlight to illuminate the inside of the battery housing.

Never use an open flame to illuminate the inside of the battery housing.

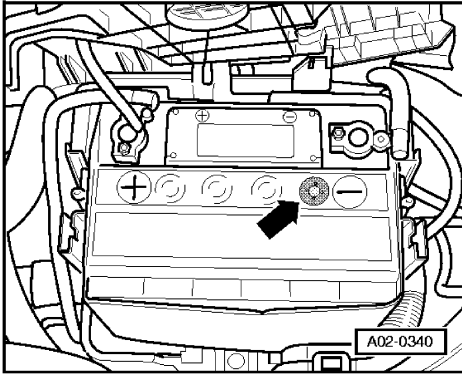
Never use an open flame or burning cigarettes near batteries.

When disposing of the batteries it is absolutely necessary that disposal procedures for batteries and sulphuric acid are observed.

The correct battery electrolyte level is an important factor in ensuring long life of battery.

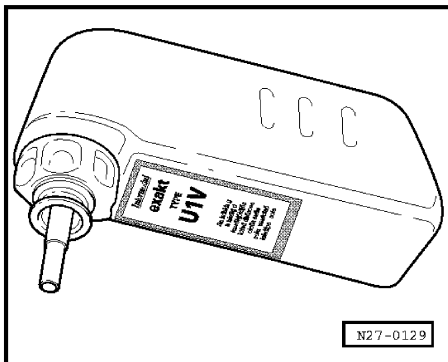
If electrolyte level is too low, cell plates will dry out and the battery will lose power. The cell plates must be fully covered by electrolyte (battery acid) in order to prevent corrosion of plates, plate bridges and cell connectors. Corrosion of these parts will make battery function unreliable and ultimately unusable. The battery becomes unusable.

– Switch ignition off.



- ◀ – The electrolyte level can be read off at the magic eye -arrow-.
- Tap the battery housing with a suitable tool to eliminate air bubbles underneath the magic eye which could falsify the colour display.
 - Green → battery is sufficiently charged.
 - Black → no charge or charge too low
 - No colour or yellow → critical electrolyte level has been reached. It is absolutely necessary to top up with distilled water.

– When electrolyte level is too low only use battery top-up bottle VAS 5045 to top up with distilled water.



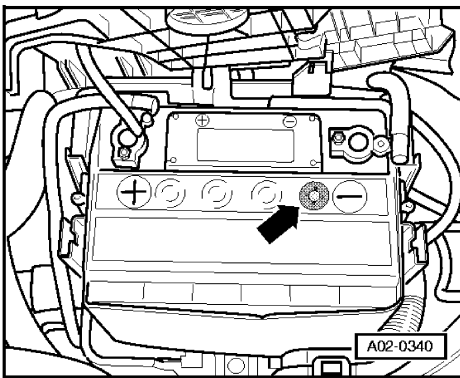
Notes:

- ◀ ♦ The neck of filler bottle VAG 5045 is designed to prevent over-filling of the battery cells, which would cause the electrolyte to overflow. When the "max." level is reached, the flow of distilled water into the battery cell is cut off.
- ♦ Use distilled water only, this prevents contamination of the battery electrolyte and the associated increase in self discharge.
- Remove the foil covering the battery cap.
- Unscrew the battery cap.
- Fill up with distilled water from battery filling bottle VAS 5045.
- Screw the battery cap back on.

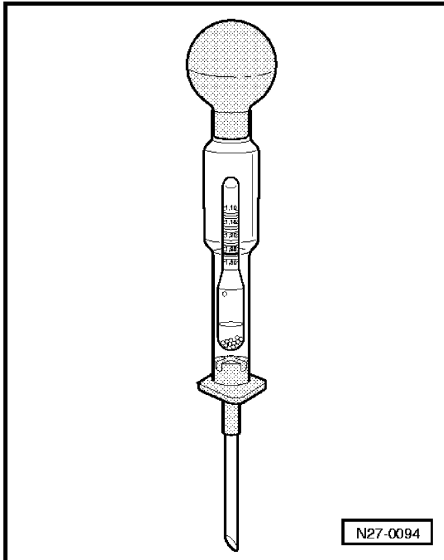
Electrolyte level too high

Note:

If the electrolyte level is too high (above the max. mark) then the electrolyte (sulphuric acid/water mixture) will leak and cause damage to surrounding components outside the battery.



- ◀ – On batteries with a magic eye -arrow- the foil covering the battery cap must be removed.
 - Unscrew the battery cap.
- If electrolyte level is too high (overfilled), i.e. if level is above inside mark (plastic web) or above outer "max." mark:



- ◀ – Extract electrolyte using the hydrometer (= > illustration) until the remaining fluid is level with the plastic indicator web or the "max." mark .

Note:

Observe environmental requirements for disposal.

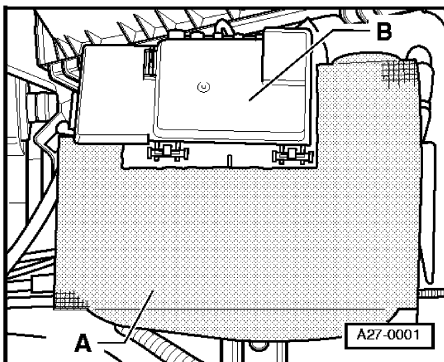
- Screw the battery cap back on.

Battery: check "no-load" voltage before starting the engine for the first time (only applies to vehicles kept in stock for long periods)

Test units required

- ◆ Digital multimeter V.A.G 1315 A
- or
- ◆ Minitester V.A.G 1362
- or
- ◆ Hand-held multimeter V.A.G 1526 or V.A.G 1526 A

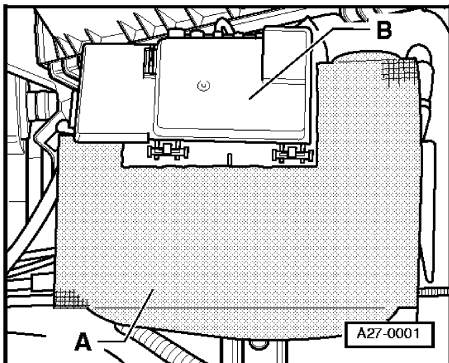
Notes:



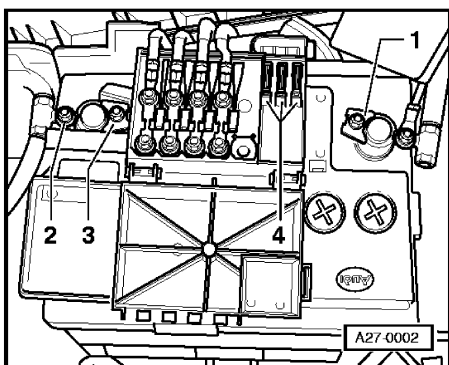
- ◆ The vehicle must not be driven or started with the battery that is to be tested for at least 2 hours before performing measurement.
- ◀ ◆ The battery must not be loaded by connected power consumers for at least 2 hours before performing measurement.
- ◆ The battery must not be charged for at least 2 hours before performing measurement.
- Open the battery protective cover -A- (velcro).
- Open lid -B- of main fuse box towards front of vehicle.

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

Battery: Check security of battery cables.



- ◀ - Open the battery protective cover -A- (velcro).
- Open lid -B- of main fuse box towards front of vehicle.



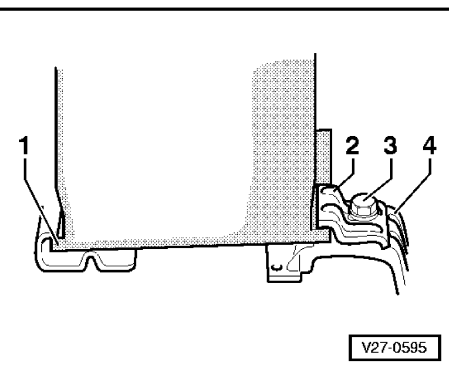
- ◀ - Check that the battery cable clamps are securely fitted. If necessary, tighten nuts -1- and -3-.

Important

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

Note:

- ◆ Before disconnecting the battery, please refer to => Page 116.

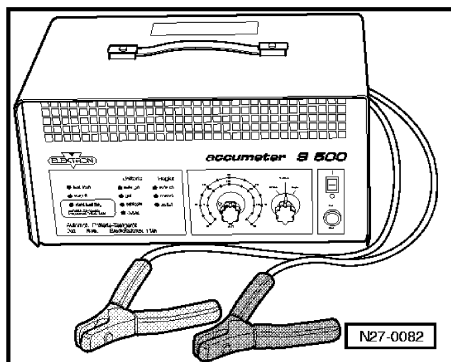
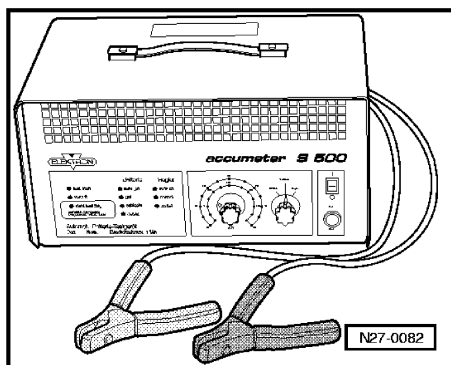


- ◀ - Check that battery is securely installed. If necessary, tighten securing bolt -3- on retainer plate -2-.

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Tightening torque	Nm
Battery cable clamp to battery terminal	5
Bolt to retainer plate	22

Battery: Perform load test



The battery load test gives information about the condition of the battery.

Special tools, testers, measuring instruments and auxiliary items required

- ◆ Battery tester VAS 5096 or VAS 5097

Note:

It is not required to remove the battery when using battery tester VAS 5096 or VAS 5097. The battery need not be disconnected.

Performing battery load test

- Switch ignition off.
- Read operating instructions of battery test unit.
- Connect the clips of the test leads to battery terminals as described in operating instructions of test equipment.

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The clips must make good contact with battery terminals.

- As the load current differs the current must be set according to battery capacity at the test unit => Operating instructions of battery test equipment.
- Perform a battery load test as described in the operating instructions.

The load test shows the minimum voltage given according to battery capacity.

Example:

Battery capacity	Low temperature test current	Load current	Minimum voltage (limitvalue)
80Ah	380A	300A	9.5V

- If the minimum voltage is not achieved replace the battery.

Note:

- ◆ Before disconnecting the battery, please refer to

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=> Page 116.

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Test equipment display during load test

The following evaluations of the test equipment must be taken into consideration.

Table:

Display on battery tester	Delivery Service	Inspection Service LongLife Service
Battery very good	Battery OK	Battery OK
Battery good	Recharge battery ¹⁾	Battery OK
Battery bad	Recharge battery ¹⁾	Recharge battery ¹⁾
Battery defective	Replace battery	Replace battery ²⁾

¹⁾ Perform battery load testing again after recharging the battery.

If "battery good" "battery bad" is displayed again after recharging the battery replace the battery.

²⁾ Replace battery after discussion with customer.

Note:

◆ Before disconnecting the battery, please refer to => Page 116.

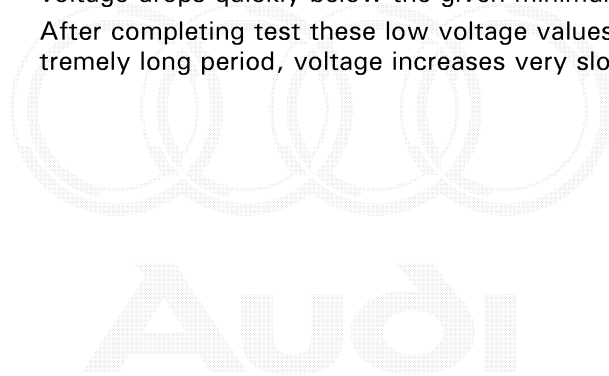
Explanations for battery load test:

The battery voltage lowers (high current flow) caused by high load during this test.

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

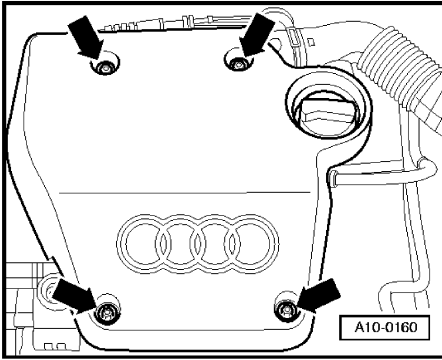
If the battery is defective or charged insufficiently the battery voltage drops quickly below the given minimum voltage.

After completing test these low voltage values remain over an extremely long period, voltage increases very slowly again.



Removing engine cover

– Loosen nuts -arrows- and remove engine cover.



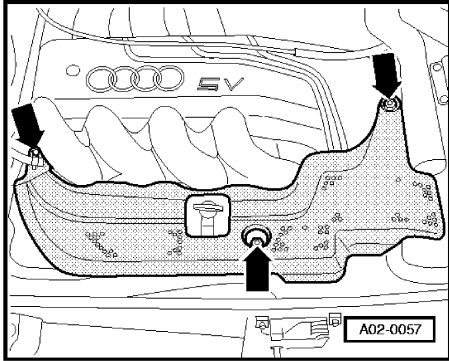
◀ 4-cylinder petrol engine AEH:

Engine code: AVU

– Pull off the cover upwards.

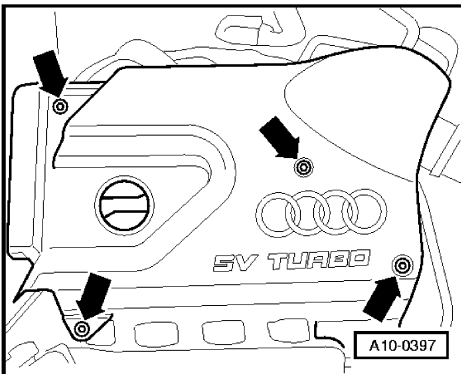
Engine code: APG

– Pull the oil dipstick out of the guide tube, take off the cover and then insert the oil dipstick back into the guide tube.

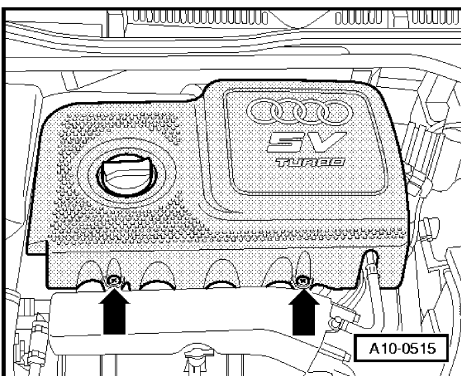


◀ 4-cylinder petrol engine AGN:

———— 131 ————



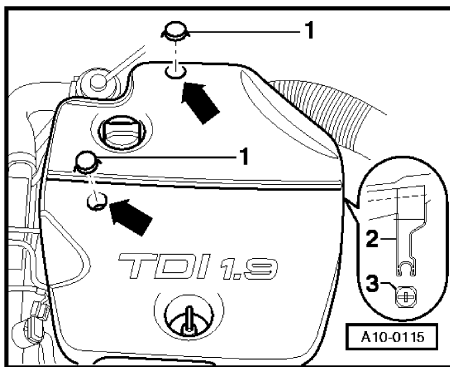
◀ 4-cylinder petrol engines: 110 kW, 132 kW;



◀ 4-cylinder petrol engines: "S3"

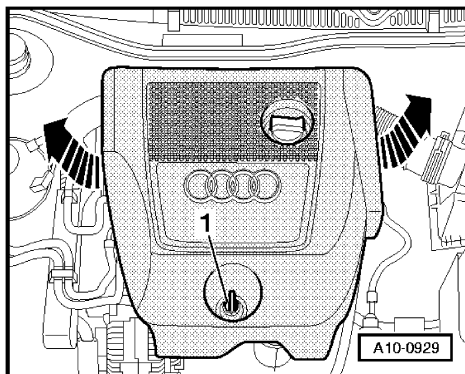
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———— 132 ————



◀ 4-cylinder TDI engines

- Remove plugs -1- and slacken nuts -arrows-.
- Remove retainer -2- from pin -3- and remove engine cover.



◀ 4-cylinder TDI pump jet engines

- Pull the oil dipstick -1- out of the guide tube.
- Remove the engine cover.
- Insert the oil dipstick back into the guide tube.

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

- Perform visual check as follows:
 - Remove engine cover => from Page 131.
 - 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 areas from below with the vehicle raised on a lifting platform and the noise insulation removed.

Important

Faults found must be rectified (repair measure).

Windscreen / headlight washer system: top up fluid

– Fill container to top with washer fluid.

Note:

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

Cooling system: check antifreeze and top up coolant if necessary

- ◆ The cooling system is filled all year round with a mixture of water and antifreeze/corrosion protection agent.
- ◆ Coolant additive "G 011 A8 C" (green) is used up to vehicle identification no. 8L VA 006 233.
- ◆ Coolant additive "G 012 A8 D" (red) is used as of vehicle identification no. 8L VA 006 234.

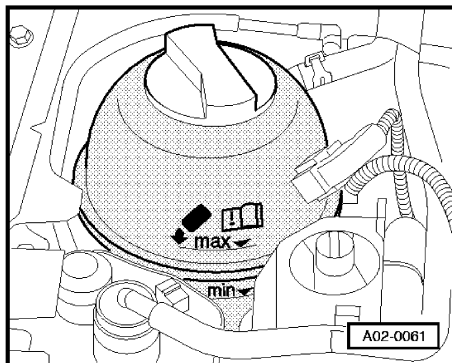
Important

The two different coolant additives "G 011 A8 C" (green) and "G

- ◆ If the fluid in the expansion tank is brown, this means G 012 A8 D has been mixed with another type of coolant. In this case, flush out the cooling system and fill with fresh coolant. To flush the system, fill it with clean water and run the engine for about 2 minutes. This should remove as much of the old coolant as possible.

- ◆ "G 011 A8 C" and coolant additives "conforming to TL VW 774 C" or "G 012 A8 D" and coolant additives "conforming to TL VW 774 D" prevent frost and corrosion damage, scaling and also raise the boiling point of the coolant. For these reasons the cooling system must be filled all year round with the correct anti freeze and anti corrosion additive.

Checking coolant level and topping up if necessary



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

Delivery Inspection

- ◆ Coolant level at MAX mark

Inspection Service

- ◆ Coolant level between MIN and MAX marks
- If coolant level is too low, add required amount according to 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 %

Notes:

- ◆ Because of its high boiling point, the coolant improves engine reliability under heavy loads, particularly in countries with tropical climates.
- ◆ Protection against frost must be assured to around – 25 °C (in countries with arctic climates to around – 35 °C).
- ◆ The coolant concentration must not be reduced by adding water even in warmer seasons and in warmer countries. The anti freeze ratio must be at least 40 %.
- ◆ If greater frost protection is required in very cold climates, the amount of "G 011 A8 C" or "G 012 A8 D" can be increased, but only up to 60 % (this gives frost protection to around – 40 °C), as otherwise frost protection is reduced again and cooling effectiveness is also reduced.

Checking antifreeze and topping up coolant additive if necessary

- If the degree of frost protection is too low, drain off the required quantity as specified in the frost protection table (= > Page 140) and add coolant additive "G 011 A8 C" or coolant additive "conforming to TL VW 774 C" or "G 012 A8 D" or coolant additive "conforming to TL VW 774 D".

Note:

Observe environmental requirements for disposal.

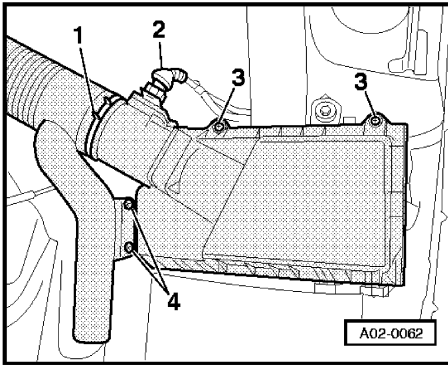
Frost protection table

Frost protection to °C		Required quantity in litres
Actual	Specified value	4-cylinder engine
0	– 25	3.5
	– 35	4.0
– 5	– 25	3.0
	– 35	3.5
– 10	– 25	2.0
	– 35	3.0
– 15	– 25	1.5
	– 35	2.0
– 20	– 25	1.0
	– 35	1.5
– 25	– 35	1.0
– 30	– 35	0.5
– 35	– 40	0.5

- Check coolant additive concentration after test drive.

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Air cleaner: clean housing and replace filter element



4-cylinder-petrol engine AGN:

- Slacken bolts -4-.

All models:

- Release hose clamp -1- and pull off air intake hose.
- Unplug connector -2- at air mass meter.
- Slacken bolts -3- and lift off air cleaner cover.
- Remove old filter element.

Note:

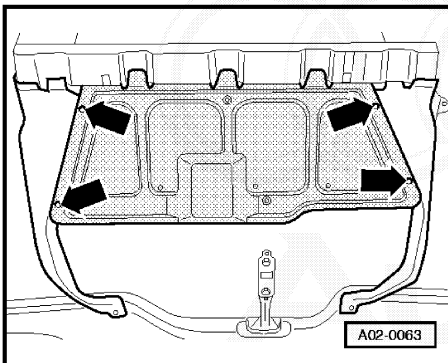
Observe environmental requirements for disposal.

- Clean filter housing and install new filter element.

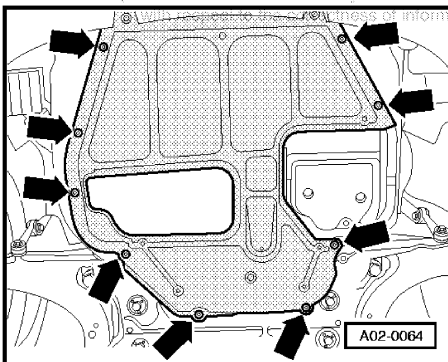
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Noise insulation: remove

- Unscrew bolts -arrows- and remove noise insulation.



4-cylinder petrol engines:



4-cylinder TDI engines:

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Spark plugs: replace

Special tools required

- ◆ Spark plug socket 3122 B
- ◆ Assembly tool T10029

Notes:

- ◆ Spark plug designation
=> Exhaust emission test binder
- ◆ Observe environmental requirements for disposal.

4-cyl. petrol engines, codes AEH, AGN, AKL, APF, APG:

- Remove the engine cover => from Page 131 onwards
- Disconnect the spark plug connectors with assembly tool T 10029 and unclip the ignition cables.
- Remove spark plugs using spark plug socket 3122 B.
- Install new spark plugs using spark plug socket.
- Check ignition cables and spark plug connectors are correctly seated.

Tighten the spark plugs to 30 Nm.

4-cyl. 2V petrol engines 1.6I AVU:

- Remove engine cover => from Page 131.

- Removing and installing the lower part of the switchable intake manifold

=> Simos Injection and Ignition System (4-cylinder); Repair group 24; Fuel preparation, Fuel injection

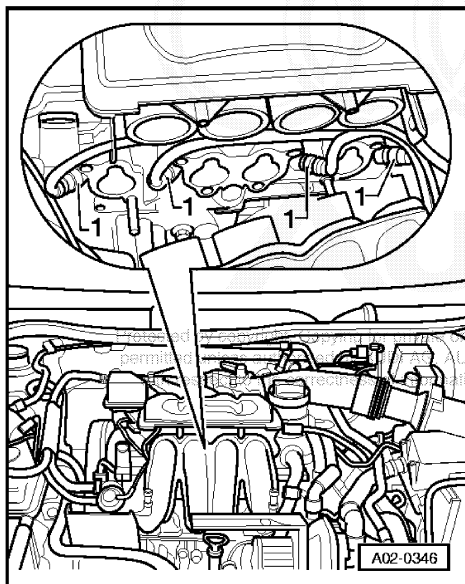
- Disconnect the spark plug connectors -1- with assembly tool T 10029.

- Remove spark plugs using spark plug socket 3122 B.

- Install new spark plugs using spark plug socket.

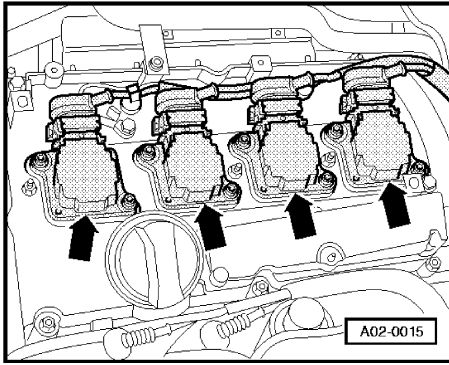
- Check ignition cables and spark plug connectors are correctly seated.

Tighten the spark plugs to 30 Nm.



4-cyl. 5V petrol engine 1.8l (turbo) AGU:

- Remove engine cover => from Page 131.
- With the ignition switched off, pull the retainer clips for the ignition coil connectors upwards and unplug the connectors.



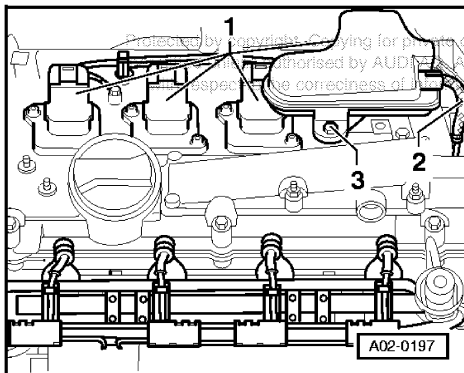
- ◀ - Unscrew ignition coils -arrows-.
- Remove spark plugs using spark plug socket 3122 B.
- Install new spark plugs using spark plug socket.
- Install ignition coils. Replace seals if damaged.

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

4-cyl. 5V petrol engine 1.8l (turbo)

AQA, ARZ, AJQ, APP, APY, AUQ, ARY:

- Remove engine cover => from Page 131.
- Disconnect the vacuum hose -2- from the vacuum reservoir.
- Loosen bolt -3- and detach the vacuum reservoir from the bracket.
- With the ignition switched off, disconnect the connectors from the ignition coils.

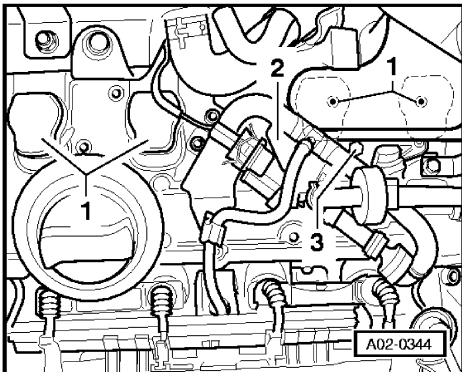


- ◀ - Unscrew and remove the ignition coils -1-.
- Remove spark plugs using spark plug socket 3122 B.
- Install new spark plugs using spark plug socket.
- Install ignition coils. Replace seals if damaged.

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

4-cyl. 5V petrol engine 1.8l (turbo) AMK:

- Remove engine cover => from Page 131.
- Loosen bolt -3- and detach the vacuum reservoir from the bracket.
- Remove the bracket -2- over the ignition coils.
- With the ignition switched off, disconnect the connectors from the ignition coils.
- ◀ - Unscrew and remove the ignition coils -1-.
- Remove spark plugs using spark plug socket 3122 B.
- Install new spark plugs using spark plug socket.
- Install ignition coils. Replace seals if damaged.



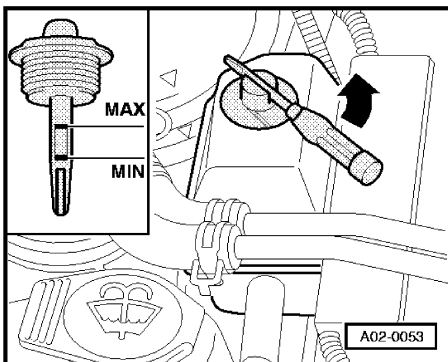
Tightening torques	Nm
Spark plugs in cylinder head	30
Ignition coils to cylinder head cover	10

Hydraulic system: check for leaks, check fluid level and top up hydraulic fluid if necessary

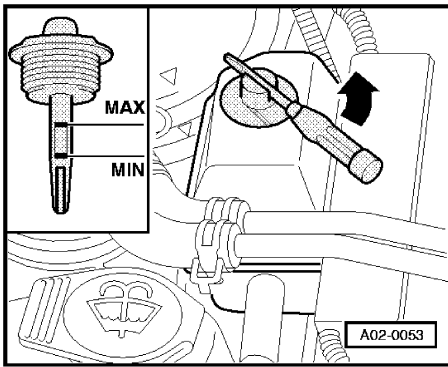
Checking fluid level of power-assisted steering

- Cold fluid:
 - Do not run engine and set front wheels to straight-ahead position.
- Warm fluid (above approx. 50 °C):
 - Run engine and set front wheels to straight-ahead position.

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- ◀ - Unscrew filler cap with dipstick using a screwdriver-arrow.
- Wipe dipstick with a clean cloth.
- Screw in cap hand-tight and unscrew again.



- ◀ – Check fluid level:
 - Cold fluid:
 - Level must be around MIN. mark (up to 2 mm above or below mark).
 - Warm fluid (above approx. 50 °C):
 - Level must be between MIN. and MAX. mark.

Notes:

- ◆ The definitive fluid level is the one measured after screwing in the cap.
- ◆ Fluid must be drawn off if the level is above the specified range.

Important

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

- If there are no leaks in the hydraulic system, top up with "G 002 000".
- Screw in cap hand-tight.

Fuel filter: replace (TDI engines)

Notes:

- ◆ Please ensure that no diesel fuel contacts coolant hoses. If necessary, clean hoses immediately.
- ◆ Observe environmental requirements for disposal.

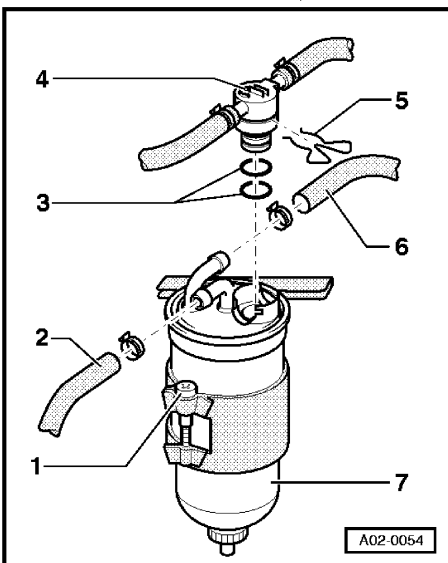
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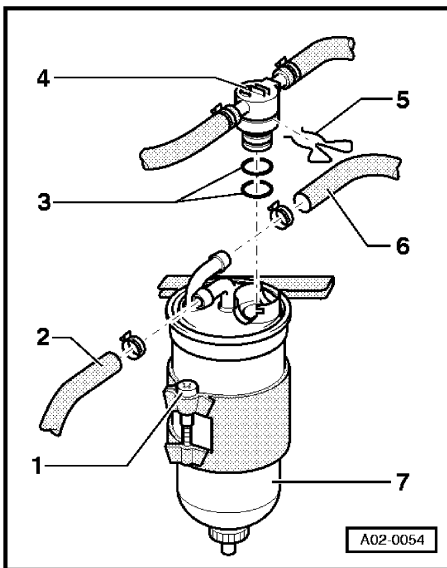
Removing

- ◀ – Pull off retaining clip -5-.
- Take off control valve -4- with fuel hoses connected.
- Disconnect fuel hoses -2- and -6- from hose connections.
- Loosen clamp bolt -1- on bracket and remove filter -7- from bracket.

Installing

- Fill new filter -7- with clean diesel fuel. This will enable the engine to start more quickly.
- Replace O-rings -3- in control valve.
- Note O-rings in control valve when inserting control valve.





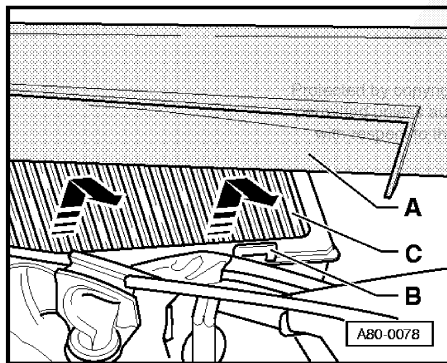
- ◀ – Insert filter -7- in bracket and tighten screw clamp -1-.
- Install control valve -4- with fuel lines connected.
- Fit retaining clip -5-.
- Push fuel hoses -2- and -6- onto hose connections and secure hoses with hose clamps.

Note:

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

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

Dust and pollen filter: replace



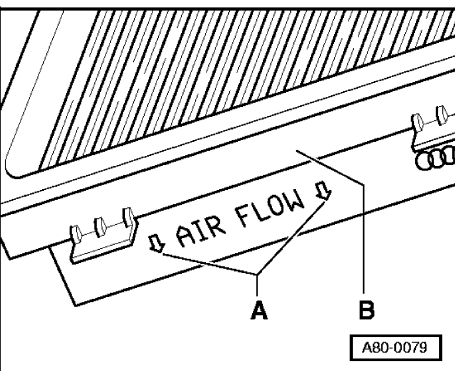
The filter is located below the plenum chamber cover on the right.

◀ **Detach rubber seal upwards** as far as centre of vehicle.

Fold up moveable part -A- of plenum chamber cover.

- Press back the 2 retainer lugs -B- (one of the retainer lugs is visible in the Fig.).
- Remove dust and pollen filter -C-.

Notes:



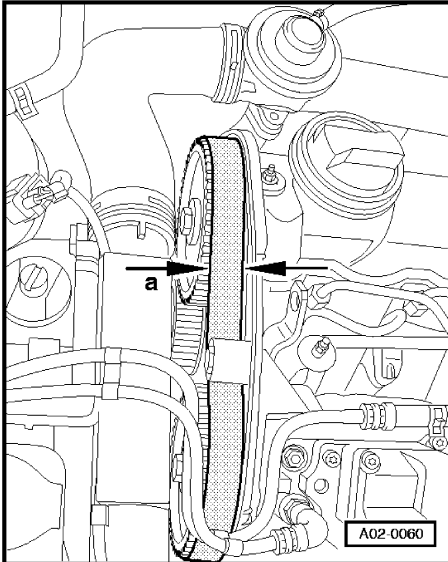
- ◆ Observe environmental requirements for disposal.
- ◆ To prevent water from entering the dust and pollen filter or the heater, ensure that the plenum chamber cover and cowl panel trim are fitted correctly.
- ◆ The dust and pollen filter element must be fitted the right way round in frame -B-. The arrow markings -A- indicate the direction of air flow.
- Install new filter element.
- Fit the plenum chamber cover and the rubber seal.

Toothed belt for camshaft drive: Check for damage, measure width of toothed belt (TDI engines up to and including model year 1999 (X))

Auxiliary equipment required

◆ Ruler

- Slacken the three tensioning clips at the top of the toothed belt guard.



- Bend the toothed belt guard slightly to one side to expose the toothed belt.

◀ Note:

For reasons of clarity, the Fig. shows the toothed belt with the upper part of the toothed belt guard removed.

- Measure width -a- of toothed belt using the ruler.
- Wear limit = 22 mm

Important

The toothed belt must be replaced if the belt width is less than 22 mm (repair measure).

Toothed belt for camshaft drive: replace (TDI engines)

- Removing and installing toothed belt:

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= > 4-cyl. diesel direct injection engine (TDI), Mechanical components; Repair group 13; Dismantling and assembling engine, Removing, installing and tensioning toothed belt.

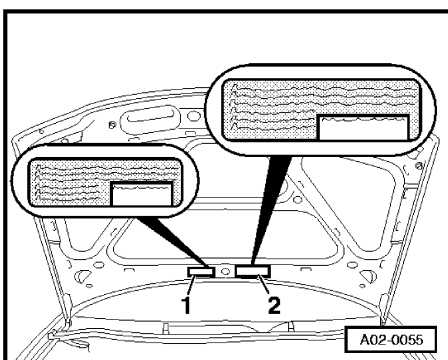
- Dynamically checking and adjusting commencement of injection:

= > Diesel Direct Injection and Glow Plug System (TDI 4-cyl.); Repair group 23; Servicing diesel direct injection system; Dynamically checking and adjusting commencement of injection

4-cyl. TDI pump jet engines

- Removing and installing toothed belt:

= > 4-cyl. diesel direct injection system (TDI) pump jet; Mechanical components; Repair group 13; Dismantling and assembling engine



- ◀ – Fill in toothed belt replacement sticker -1- on underside of bonnet. Attach a new sticker, if necessary.

Ribbed belt: replace

Vehicles with 4-cylinder 5V petrol engines

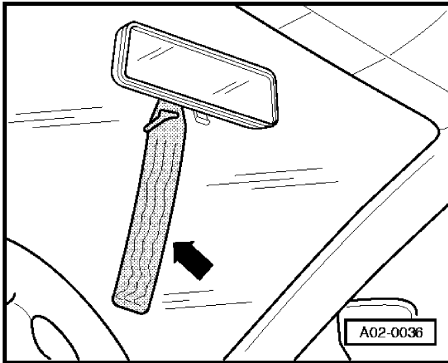
= > 4-cylinder Engine (5-valve), Mechanical components; Repair group 13; Crank assembly; Removing and installing ribbed belt.

Toothed belt: replace

Vehicles with 4-cylinder 5V petrol engines

= > 4-cylinder Engine (5-valve), Mechanical components; Repair group 13; Crank assembly; Removing and installing toothed belt.

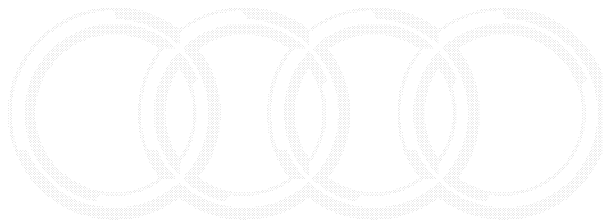
Transport locks: remove locking elements for front suspension struts



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

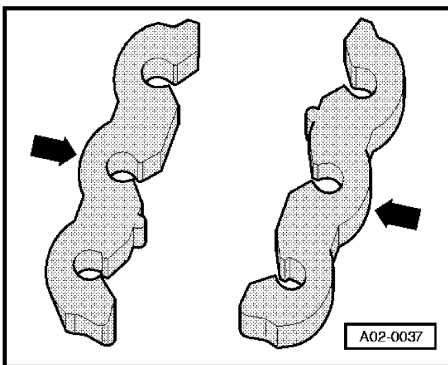
Two different types of transport lock are used.

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



Notes:

- ◆ It is not necessary to remove the wheels.
- ◆ Ensure that surface of springs is not damaged.



- ◀ - Detach the blocking elements -arrows- from the springs.

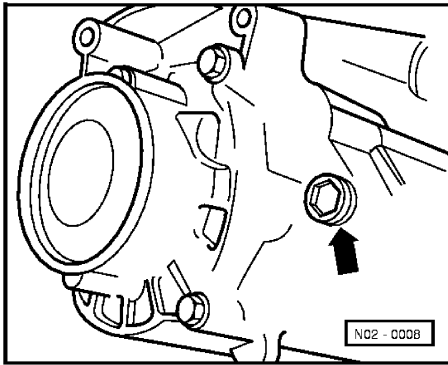
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Note:

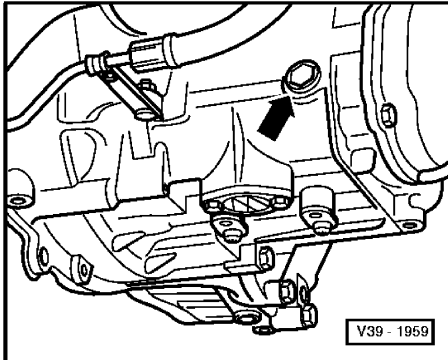
Up to approx. 08.97 a different type of blocking element was used. These are fitted to the front suspension strut piston rods below the bellows. Removing:

- Slide up bellows on suspension strut.
- Release retainers on blocking elements by applying pressure using multi-grip pliers.
- Remove blocking elements.
- Slide bellows back down on suspension strut.

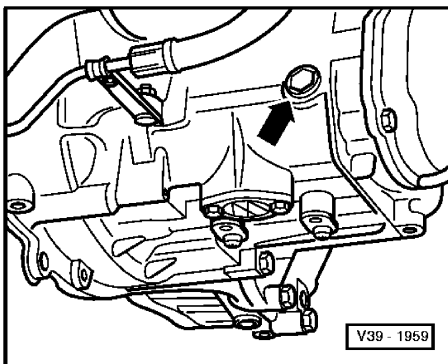
Manual gearbox/final drive: check oil level and top up if necessary



- Remove the oil filler plug -arrow-.
 - Specified value: oil level up to lower edge of filler hole
- ◀ **5-speed manual gearbox 02K, front wheel drive**



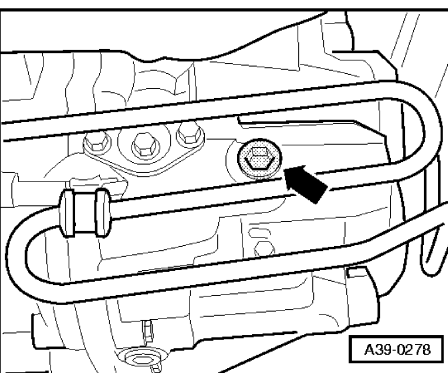
- ◀ **5-speed manual gearbox 02J, front wheel drive**



- ◀ **5-speed manual gearbox 02C, four-wheel drive**

Tightening torque	Nm
Oil filler plug	25

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- ◀ **6-speed FWD and 4WD manual gearbox 02M**

Important

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 fluid.

- If the gearbox is leak free, fill with gear oil G 50 SAE 75 W 90 (synthetic oil).
- On this gearbox the filler plug must be renewed.
- Tightening torque 30 Nm

Haldex clutch: change the oil

- With the ignition switched off, connect fault reader V.A.G 1551 with diagnostic cable V.A.G 1551/3A.
- Use address word 22 for four-wheel electronics with ignition on.
- Initiate function 08 for reading measured value block and select display group number 002.
- If the temperature is not shown select display group number 001.

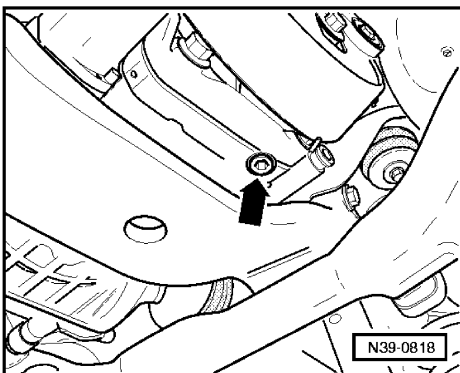
Read measured value block	001→		
00000000	00000000	36 °C	11.7 V

Indicated on display:

The third display zone shows the OIL temperature.

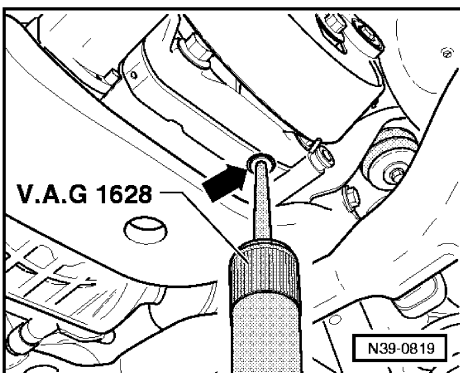
- The oil temperature must be 20... 40 °C
- The OIL temperature can be achieved by driving the engine warm.

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- Position container underneath.
- Unscrew the drain plug (arrow) and drain the oil completely.
- High-performance oil G 052 175 A1, 0.25l containers
- Insert cartridge with 0.25 litre oil into hand cartridge gun V.A.G 1628.
- Drain plug with new sealing ring must be ready.

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- Insert hand cartridge gun V.A.G 1628 vertically into the drain bore (arrow).
- Pump oil completely into Haldex clutch.
- Put down hand cartridge gun V.A.G 1628 and immediately screw in drain plug with new sealing ring.

Tightening torque:

Drain plug in housing

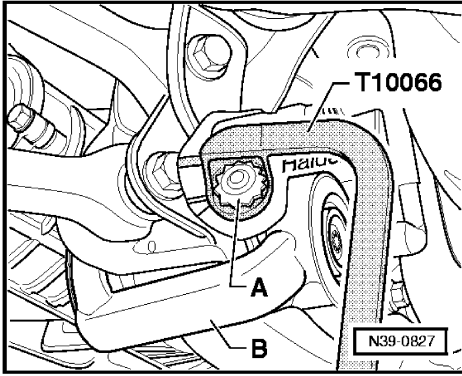
15 Nm

160

Haldex clutch: change oil filter

Removing

- Position drip tray.



- ◀ - Loosen oil filter with wrench T10066 and unscrew.
Installation position: The oil filter -A- is on the right-hand vehicle side and is covered by the subframe near the front mounting bracket -B-.

Installing

- Coat sealing of new oil filter with oil for Haldex clutch.
- Screw in oil filter -A- and tighten with T10066.
- Check oil level in Haldex clutch => Page 162.

161

Haldex clutch: check oil level

- With the ignition switched off, connect fault reader V.A.G 1551 with diagnostic cable V.A.G 1551/3A.
- Use address word 22 for four-wheel electronics with ignition on.
- Initiate function 08 for reading measured value block and select display group number 002.
- If the temperature is not shown select display group number 001.

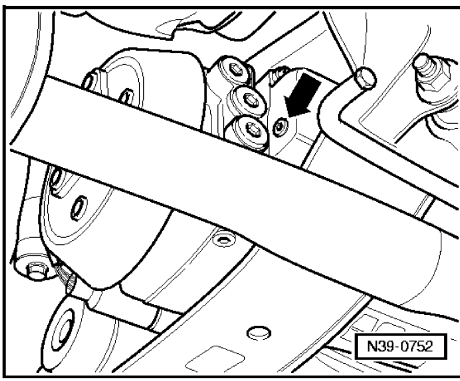
Read measured value block	001 →		
00000000	00000000	36 °C	11.7 V

Indicated on display:

The third display zone shows the OIL temperature.

- The oil temperature must be 20...40 °C
- The OIL temperature can be achieved by driving the engine warm.

162



- ◀ – Unscrew bolt for oil check (arrow).
- The oil level is correct when the Haldex clutch is topped up to the lower edge of the control bore or up to a minimum of approx. 3 mm below the lower edge of the control bore.
- Fit plug (arrow).
 - If the oil level is incorrect, then the oil in the Haldex clutch must be changed => Page 159.

Tightening torque:
Oil check bolt 30 Nm

Final drive (automatic gearbox): check oil level and top up if necessary

- Remove speedometer drive shaft and wipe with a clean cloth.
 - Install speedometer drive shaft and then remove again.
- ◀ – Specified value: final drive oil level should be between MIN and MAX marks -arrows-

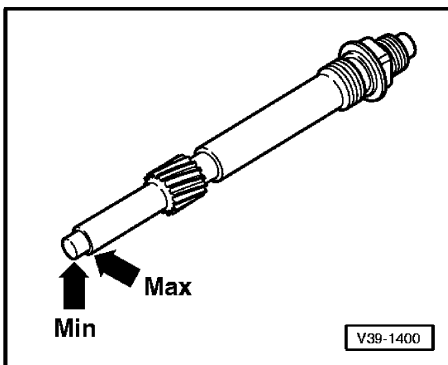
Notes:

- ◆ ATF oil is used as axle oil in 01M automatic gearbox.
- ◆ Only use ATF "G 052 162 " (colour: colourless/yellow).

Important

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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 with ATF.

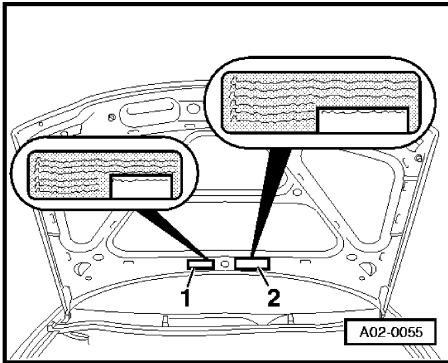


- If there are no leaks in the final drive, top up with ATF "G 052 162..".

Note:

If too much ATF is added, the excess oil can be extracted using extractor device V.A.G 1358 A.

- Install speedometer drive shaft.



- ◀ - Fill in gear oil check sticker -2- at rear of bonnet. Attach a new sticker, if necessary.

Engine oil: drain or extract, change oil filter

Special tools required

- ◆ Hazet strap wrench 2171-1
- or
- ◆ Oil filter wrench 3417
- ◆ Oil extractor V.A.G 1307 A or V.A.G 1358 A

Notes:

- ◆ Use suction probe V.A.G 1358 A/4 (10 mm outer diameter) to speed up the extraction process.
- ◆ Observe environmental requirements for disposal.

4-cylinder petrol engines:

- Remove noise insulation => Page 142.
- Slacken oil filter using strap wrench (e.g. Hazet 2171-1) or the oil filter wrench 3417 and remove oil filter.

Note:

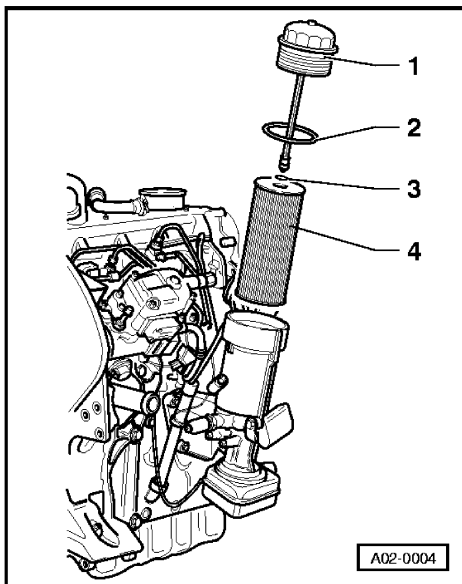
Observe environmental requirements for disposal.

- Unscrew oil drain plug or extract engine oil.
- Clean sealing surface on engine for oil filter.
- Lightly oil rubber seal.
- Screw in new filter and tighten.
- Screw in oil drain plug with new sealing ring.
- Top up engine oil, specifications => Page 180.
- Observe instructions for turbo engines => Page 183.

Tightening torque	Nm
Oil filter	20
Oil drain plug	30

4-cylinder TDI engines:

- In order to drain oil via the oil drain plug, remove noise insulation => Page 142.



- ◀ - Slacken cap -1- using oil filter wrench 3417.

Note:

The cap must be slackened before draining or extracting the engine oil in order to allow the oil to run out of the oil filter housing.

- Unscrew oil drain plug or extract engine oil.
- Replace O-rings -2- and -3- as well as oil filter element -4-.

Note:

Observe environmental requirements for disposal.

- Tighten cap using oil filter wrench 3417.
- Screw in oil drain plug with new sealing ring.
- Top up engine oil, specifications => Page 180.
- Observe instructions for turbo engines => Page 183.

Tightening torques	Nm
Oil drain plug	30
Cap	25

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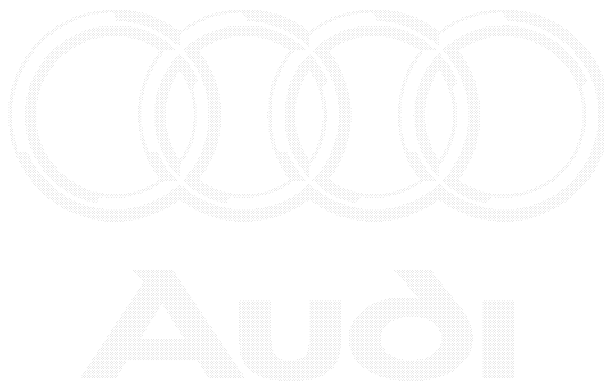
Brake system: visual check for leaks and damage

- 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.
- Ensure that brake hoses do not touch any vehicle 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.

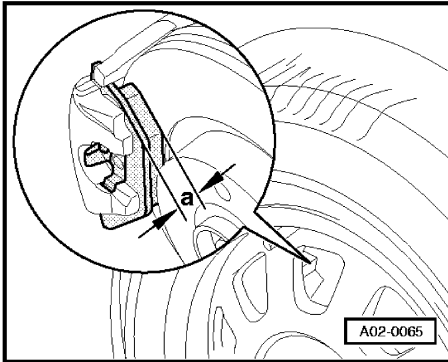
Important

Faults found must be rectified (repair measure).



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Brake pads: check thickness

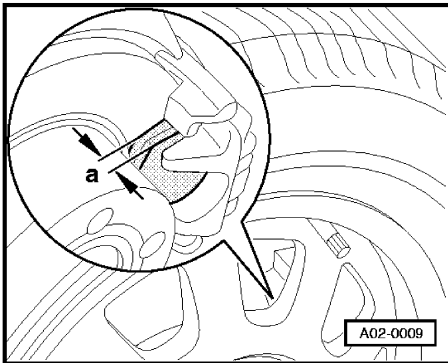


Important

- ◀ If the pad thickness is down to 7 mm (including backing plate), the brake pads have reached the wear limit and must be replaced (repair measure). Please inform the customer.

Front disc brake pads:

- a - Pad thickness including backing plate
- Wear limit: 7 mm



◀ Rear disc brake pads:

- a - Pad thickness including backing plate
- Wear limit: 7 mm

All models:

- Determine thickness of outer pads by checking visually (through disc wheel cut-out using a torch).
- Determine thickness of inner pads by checking visually (using a torch and mirror).

Underseal: visual check for damage

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

Important

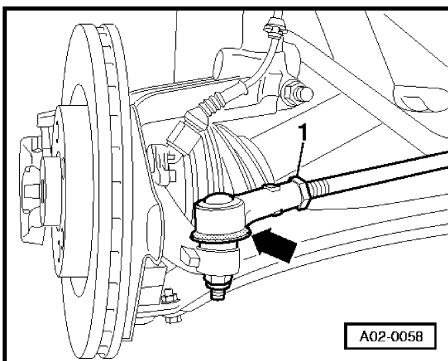
Faults found must be rectified (repair measure).

Track rod ends: check play, attachment and protective boots

Note:

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

- ◀ - Check play by moving track rods and wheels.
 - There should be no play
- Check that lock nut -1- is properly tightened (50 Nm).
- Check protective boot -arrow- for damage and correct seating.



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Tyres (incl. spare wheel): check condition and wear pattern

Checking tyres

Note:

In the interests of driving safety, only tyres of the same type and tread pattern should be fitted on a vehicle.

Delivery Inspection

- Check tyre tread and side walls for damage and remove any foreign bodies.

Inspection Service

- Check tyres for scuffing, one-sided wear, porous side walls, cuts and fractures.

Important

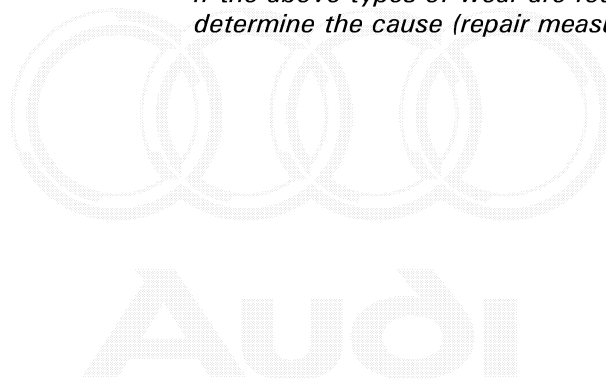
The customer must be informed of any defects.

Checking tyre wear pattern

- The wear pattern of the front tyres indicates whether the toe and camber have to be checked
 - Feathering on tread indicates incorrect toe setting.
 - One-sided tread wear is mainly caused by incorrect camber.

Note:

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



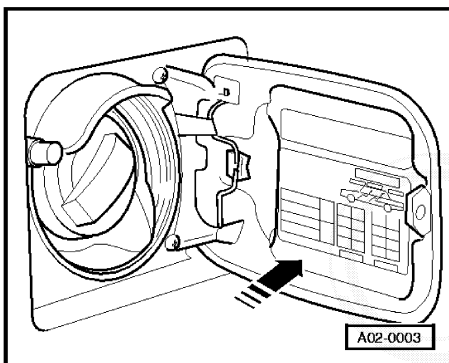
Tyres (incl. spare wheel): check and record tread depths

- Check tyre tread depth.
 - Minimum permissible tread depth: 1.6 mm

Notes:

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

Tyres (incl. spare wheel): inflate to correct pressures



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

Notes:

- ◆ 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 the maximum pressure specified for the vehicle.
- Temporary (compact) spare wheel
 - The correct inflation pressure is indicated on the side wall.

Note:

Check the valve extensions for damage and dirt which could cause leaks. Replace if necessary.

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Factory-fitted winter tyres

For vehicles which are supplied from the factory with winter tyres, ensure that the inflation pressures are correct during the Delivery Inspection.

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

Wheel bolts: tighten to specified torque

Trim cap

- ◀ Puller -A- for removing the trim cap is in the vehicle tool kit.

Wheel bolts

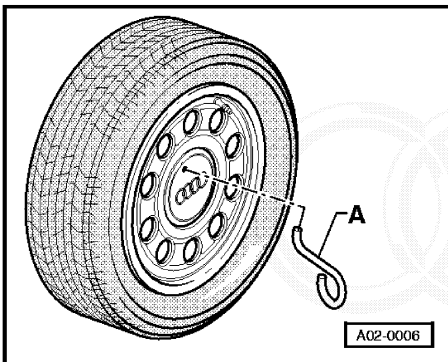
The adapter for loosening and tightening the anti-theft wheel bolts is in the vehicle tool kit.

Note:

Ensure that the wheel bolts are tightened crosswise to the following tightening torque:

Tightening torque	Nm
Wheel bolts	120

- After completing the work, replace puller in vehicle tool kit.



Engine oil: Filling

The engine is filled with a high quality multigrade oil at the factory which can be used all year round, except in extremely cold climates.

Viscosity grades

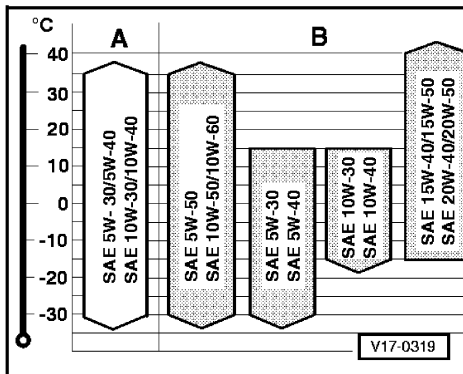
- ◀ Select the viscosity grade of the oil according to the chart.

Inspection Service

- A - Multigrade high lubricity oils, Specification = > Page 181
- B - Multigrade oils, specification = > Page 181

LongLife Service

- A - LongLife multigrade high lubricity oils, Specification = > Page 182



Note:

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

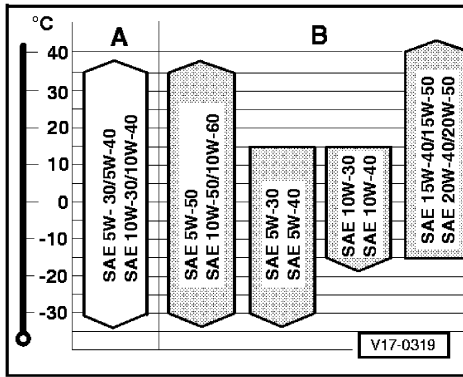
Viscosity grades and oil specifications

The specifications listed here should appear on the container – either singly or together with other specifications.

Notes:

When topping up, different types of oil may be mixed if necessary.

With LongLife oils, a once-only addition of up to 0.5l of different oils is possible => Page 181.

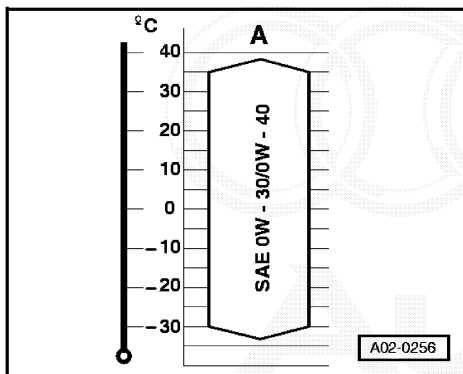


Oil specifications for vehicles with petrol engines:

- A - High lubricity multigrade oils, specification VW 500 00 ¹⁾
High-lubricity multigrade oils, specification VW 502 00 ²⁾
 - B - Multigrade oils, specification VW 501 01 ¹⁾
 - - Multigrade oils, Specification API-SF ³⁾ or API-SG ³⁾
- ¹⁾ The date given after the VW specification must not be earlier than 10.97.
- ²⁾ These oils are particularly suitable for turbocharged petrol engines.
- ³⁾ These oils should only be used if the approved engine oils are not available.

Oil specifications for TDI engines:

- A - High-lubricity multigrade oils, specification VW 500 00 ¹⁾
(only in combination with specification VW 505 00)
 - B - Multigrade oils, specification VW 505 00 ¹⁾
VW 505 01 ¹⁾
 - - Multigrade oils, specification VW 501 01 ¹⁾ (only in conjunction with specification VW 505 00)
 - - Multigrade oils, specification API-CD (should only be used for emergency topping up)
- ¹⁾ The date given after the VW specification must not be earlier than 10.97.



LongLife Oil specifications for vehicles with petrol engines:

- A - Multigrade high lubricity oils, for flexible change intervals

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

VW 503 00

Normally aspirated / turbocharged petrol engines

VW 503 01

Turbocharged petrol engines 154 kW Audi S3

LongLife Oil specifications for vehicles with diesel engines:

- A - Multigrade high lubricity oils, for flexible change intervals

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

VW 506 00

Diesel engines (not for pump jet)

VW 506 01

Diesel engines pump jet

(as of week 18, model year 01)

- Top up engine oil.

Capacities with filter replacement:

= > Exhaust emission test binder

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 until the oil pressure warning lamp in the dash panel insert goes out. Do not press the accelerator! This could cause severe damage to the turbocharger.
 - The full oil pressure is only reached when the warning lamp goes out, and the accelerator can then be pressed.

All models:

- Finally, check the engine oil level = > Page 184.

Engine: check oil level

Test requirements:

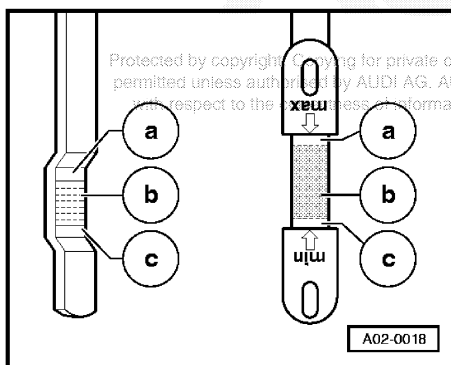
- Engine oil temperature at least 60 °C
- Vehicle must be level (horizontal)
- Wait a few minutes after switching off the engine to allow the oil to flow back into the sump.
- Pull out the dipstick, wipe with a clean cloth and insert again to stop.
- Pull out the dipstick again and read off the oil level.

Markings on oil dipstick:

- a - Oil must not be topped up.
- b - Oil may 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 somewhere in area - b - (grooved area) after topping up.

Note:

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



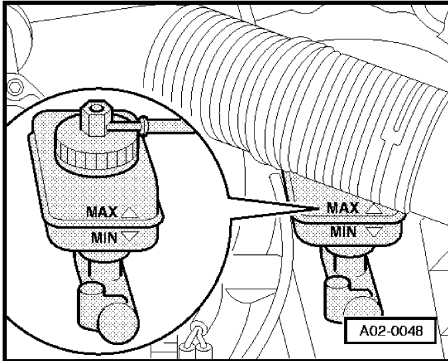
Brake fluid level (depending on brake pad wear): check

Only use new genuine VW/Audi brake fluid according to US standard FMVSS 116 DOT 4.

Important

- ◆ Brake fluid is poisonous. On account of its corrosive effect it must also never be allowed to come into contact with paint.
- ◆ Brake fluid is hygroscopic, i.e. it absorbs moisture from the surrounding atmosphere. It is thus always to be kept in containers with an air-tight seal.

– Note the following:



Delivery Inspection

- ◆ The fluid level must be at the MAX mark.

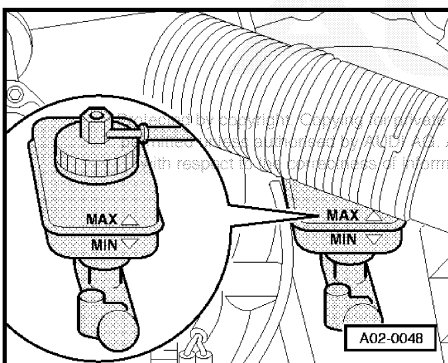
Note:

To ensure that the fluid does not escape from the container, the fluid level must not exceed the MAX mark.

Inspection Service

When the vehicle is driven, the brake fluid level will decrease 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 mark and the brake pads have almost reached the wear limit, topping up is not required.

Important

If the fluid level has fallen below the MIN mark, the brake system must be checked (repair measure) before adding brake fluid.

Brake fluid: change brake fluid (every 24 months)

Changing the brake fluid with brake filling and bleeding unit VAS 5234 => Page 191

Change the brake fluid with brake filling and bleeding unit V.A.G 1869 => as described below

Only use new genuine VW/Audi brake fluid according to US standard FMVSS 116 DOT 4.

Important

- ◆ Do not under any circumstances allow brake fluid to come into contact with liquids which contain mineral oils (e.g. oil, petrol, cleaning agents). Mineral oils damage the plugs and seals in the brake system.
- ◆ Brake fluid is poisonous and must on no account be siphoned by mouth through a hose. 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 atmosphere. It is thus always to be kept in containers with an air-tight seal.
- ◆ Always observe the relevant environmental regulations for disposal.

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Special tools and auxiliary equipment required

- ◆ Brake filling and bleeding unit V.A.G 1238 B or V.A.G 1869
- ◆ Reservoir

Changing brake fluid with brake filling and bleeding unit V.A.G 1238 B or V.A.G 1869

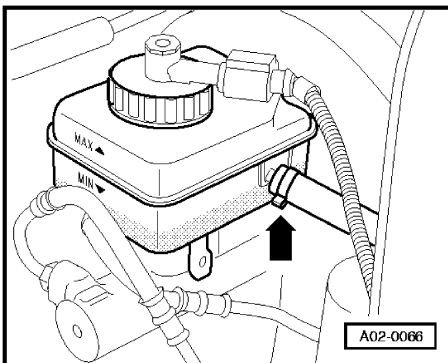
- Open the brake fluid reservoir.

Note:

The brake fluid reservoir must be kept adequately filled to ensure that no air can enter the brake system from the reservoir.

- Open the bleed screw on rear right brake caliper.

- ◀ - Place a suitable container under the bleed screw to catch the used brake fluid.
- With the engine running, use the brake pedal to pump out brake fluid until the fluid level reaches the connection -arrow- on the reservoir.
- Close bleed screw.



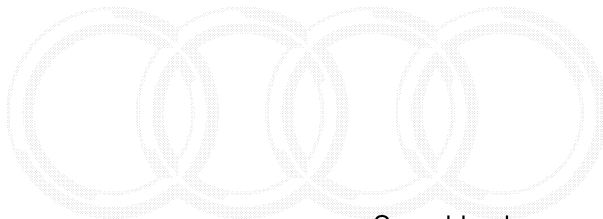
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On vehicles with manual gearbox the clutch slave cylinder should also be "flushed" with new brake fluid. When doing so, note the following:

- Connect V.A.G 1238 B or V.A.G 1869 but do not switch on.
- Open bleed screw on clutch slave cylinder.
- Connect breather hose of brake fluid collector to bleed screw on clutch slave cylinder.
- Switch on the bleeder appliance and allow about 100 cm³ of brake fluid to drain out.
- Close bleed screw.

Sequence for changing brake fluid in brake calipers:

- 1 - Rear right brake caliper
- 2 - Rear left brake caliper
- 3 - Front right brake caliper
- 4 - Front left brake caliper
- Connect breather hose of brake fluid collector to bleed screw on relevant brake caliper.



- Open bleeder screw and allow about 200 cm³ of brake fluid to drain out.

Pumping in new brake fluid flushes the used brake fluid out of the system.

- Close bleed screw.
- Disconnect hose from brake fluid reservoir.

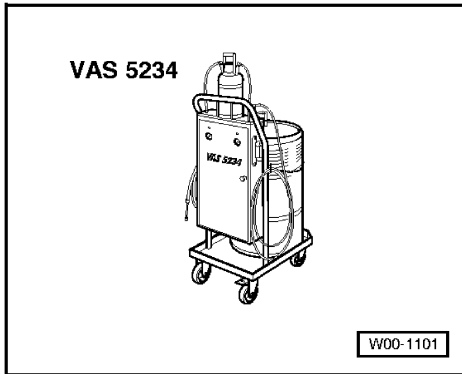
Check pedal pressure and brake pedal free play.

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- Free play: max. 1/3 of pedal travel
- During the final test drive, ensure that an ABS-controlled brake application is carried out at least once (with noticeable pulsing of brake pedal).

Changing the brake fluid with brake filling and bleeding unit VAS 5234

Special tools, testers, measuring instruments and auxiliary items required



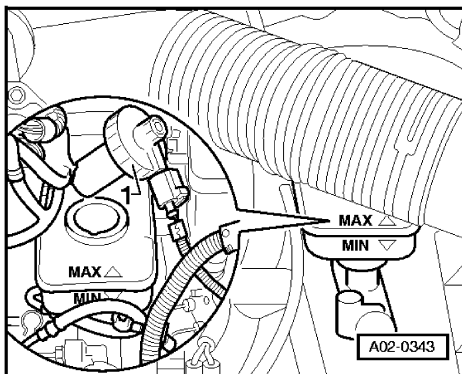
◆ VAS 5234 Brake filling and bleeding unit

Only use new brake fluid with the part number B 000 700 A.
(corresponds to the US standard FMVSS 116 DOT 4)

Important

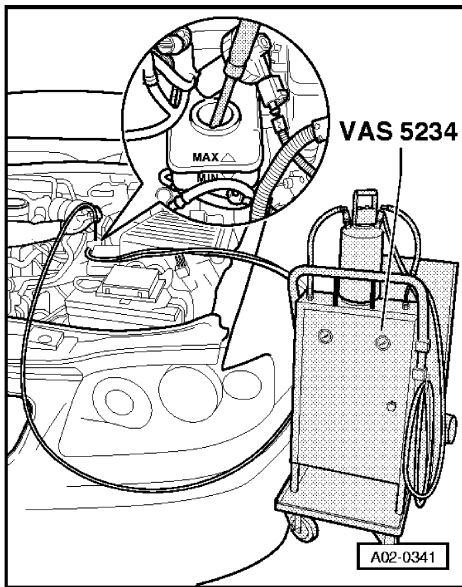
- ◆ Do not under any circumstances allow brake fluid to come into contact with liquids which contain mineral oils (e.g. oil, petrol, cleaning agents). Mineral oils damage the seals and gaiters in the brake system.
- ◆ Brake fluid is poisonous. On account of its corrosive effect it must also never be allowed to come into contact with paint.
- ◆ Brake fluid is hygroscopic, i.e. it absorbs moisture from the surrounding atmosphere. It is thus always to be kept in containers with an air-tight seal.
- ◆ Use plenty of water to rinse away any brake fluid spillage.
- ◆ Always observe the relevant environmental regulations for disposal.

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Refer to the operating instructions for VAS 5234.

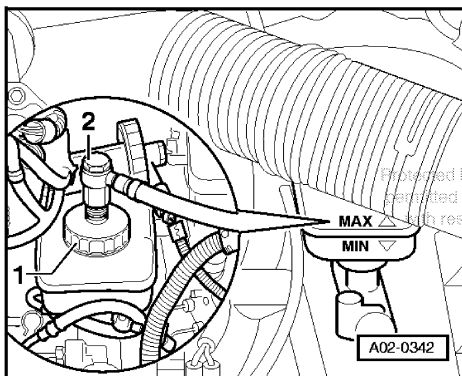
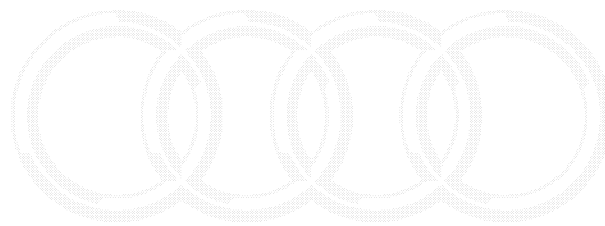
- Unscrew the cap -1- from the brake fluid reservoir.



- ◀ – Use the suction hose from VAS 5234 to extract as much brake fluid as possible.

Note:

The strainer in the brake fluid reservoir must not be removed.

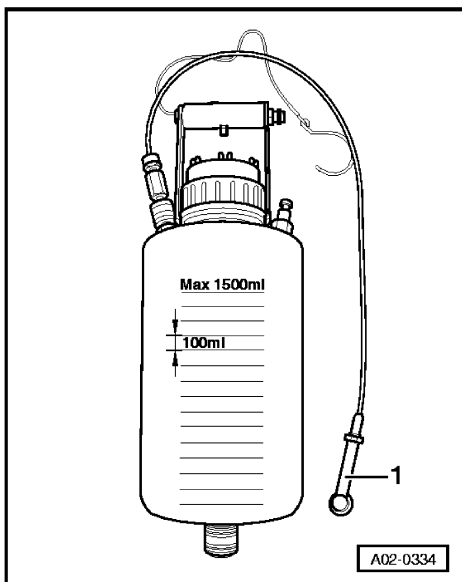


Important

Do not reuse the old brake fluid that has been extracted.

- Connect the adapter -1- to the brake fluid reservoir.
- Connect the filling hose -2- from VAS 5234 to the adapter.

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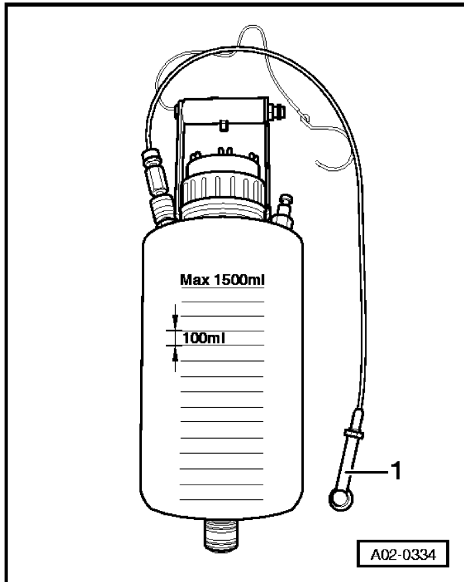


Vehicles with manual gearbox:

- ◀ – Remove the cap from the bleed screw of the clutch slave cylinder.
- Connect the bleeder hose -1- of the collector bottle to the bleed screw of the clutch slave cylinder, open the bleed screw and let approx. 100 ml flow out. Close the bleed screw and fit the cap.
- Repeatedly depress the clutch pedal.

Continued for all vehicles:

– Remove the caps from the bleed screws.



- ◀ – Connect the bleeder hose -1- of the collector bottle to the rear right bleed screw, open the bleed screw and allow approx. 200 ml of brake fluid to flow out. Close bleed screw.

Repeat the process on the other side of the vehicle at the rear.

- Connect the bleeder hose -1- of the collector bottle to the front right bleed screw, open the bleed screw and allow approx. 200 ml of brake fluid to flow out. Close bleed screw.

Repeat the process on the other side of the vehicle at the front.

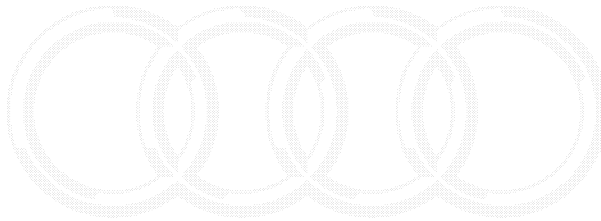


Table – order / brake fluid quantities

Rear right	200 ml
Rear left	200 ml
Front right	200 ml
Front left	200 ml
Total amount¹⁾	1,000 ml

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¹⁾ with brake fluid extracted from the brake fluid reservoir and exchange quantity for the hydraulic clutch system

- Fit the caps onto the bleed screws on the brake calipers.
- Move the filling lever on VAS 5234 to position -B- (see operating instructions).
- Detach the filling hose from the adapter.
- Unscrew the adapter from the brake fluid reservoir.
- Screw the cap onto the brake fluid reservoir.
- Check the brake fluid level and correct as necessary.
- Check pedal pressure and brake pedal free play. Free play: max. 1/3 of pedal travel

Headlights: check settings and adjust if necessary

The following checking and adjustment procedures are applicable to all countries. However, national legislation and guidelines for individual countries must be adhered to.

Checking and adjustment conditions

- ◆ 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 fluid container is not filled to at least 90% generate load as follows:

- Read filler level of fuel container off the petrol gauge. Calculate additional weight according to the following table and place weight into boot.

Capacity table

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Filler level of petrol gauge	FWD Additional weight in kg	Four-wheel drive Additional weight in kg
1/4	40	45
1/2	25	30
3/4	10	15
full	0	0

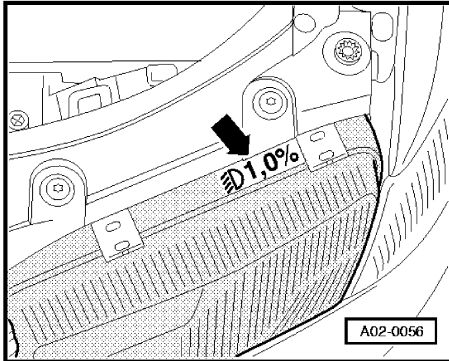
Example:

When the tank is half full an additional weight of 25 kg must be placed into the boot if the vehicle is front-wheel drive.

Note:

As an additional weight it is best to use a petrol canister filled with water (a 5 litre fuel canister filled with water weighs approx. 5 kg).

- Roll the vehicle several metres or bounce at front and rear several times so that springs settle correctly.
- ◆ The vehicle and the headlight adjuster must be on a level surface
- = > Operating instructions for headlight adjuster
- ◆ Vehicle and headlight adjuster must be aligned.
- Ensure that the headlight adjuster is positioned 30 cm in front of the headlight.
- ◆ Inclination must be set.



- ◀ - The inclination values are marked on the headlight as percentages. The headlight must be adjusted according to these values. The percentage value is for a range of 10 m. For example, at an angle of inclination of 1.0% (for vehicles with headlight range control), this means 10 cm.

Vehicles with headlight range control:

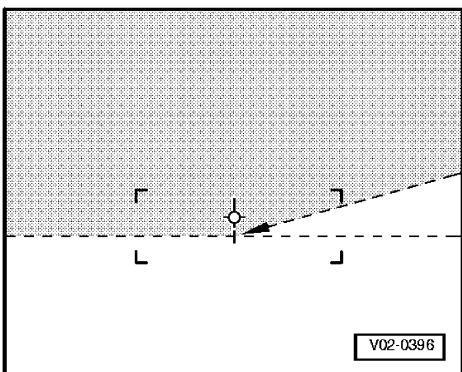
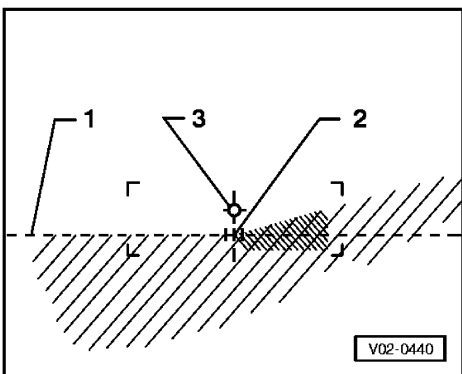
- ◆ The knurled wheel for the headlight range control must be in position -0-.

Checking headlight setting (using new test screen without 15°-setting line)

- Check the following:
 - ◀ - The horizontal light-dark border should touch the setting line -1- of the test surface with dipped beam switched on.
 - 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.

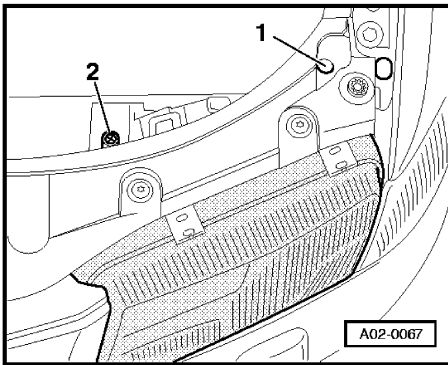
Notes:

- ◆ In order to find the break-away point -2- more easily, cover and uncover left half of headlight (facing direction of travel) a few times. Then check dipped beam again.
- ◆ If the dipped beam headlights have been correctly adjusted, the centre spot of the main beam should lie on the central mark -3-.
- ◆ If using the old test screen with 15°-setting line, the adjustment procedure is the same as for the new test screen. To avoid incorrect settings, ignore the 15°-setting line.



Adjusting headlights

- Vehicles with gas discharge headlights => Page 202
- Vehicles with halogen headlights => see description below



◀ Headlight (left)

- Adjust setting using a suitable screwdriver (do not damage adjuster wheel) or Allen key.
- 1 - Height adjustment screw
- 2 - Lateral adjustment screw
- Adjust the relevant adjustment screw using a Phillips screwdriver or an Allen key.

Note:

The positioning of the adjustment screws on the right headlight is symmetrically opposite.

Fog lights in headlights:

Note:

The fog lights are set automatically when the headlights are set.

Adjusting headlights with automatic headlight range control

- Note the checking and adjustment conditions => Page 197.
 - Basic setting with V.A.G 1551 => as described below
- Connect the fault reader V.A.G 1551 => Page 46.
 - Basic setting with VAS 5051 => Page 205
- Switch ignition on.
- Press key 1 for "Rapid data transfer" mode.

Rapid data transfer

HELP

Enter address word XX

◀ Indicated on display:

Address word for automatic headlight range control: 55

- Press keys 5 and 5

Rapid data transfer

Q

55 - Beam adjustment

◀ Indicated on display:

- Confirm entry with Q key.

Perform basic setting

- Press keys 0 and 4 (04 selects "Basic setting" function).

Rapid data transfer Q
04 – Basic setting

- Indicated on display:
– Confirm entry with Q key.

Basic setting
Enter display group number XXX

- Indicated on display:
– Enter display group number 001.
– Confirm entry with Q key.

System in basic setting 1 →
Wait

- Indicated on display:
– The headlights will now be moved into setting position (approx. 15 seconds).

System in basic setting 1 →
Adjust headlights

- Indicated on display:
– The headlights are now in the setting position. Adjust headlights with headlight aiming device (e.g. VAS 5046). Basic setting function 1 switches off automatic range control and fault "Headlights not set" will be stored in fault memory.
– Press → key.

Rapid data transfer HELP
Select function XX

- Indicated on display:
– Press keys 0 and 4 (04 selects "Basic setting" function).

Rapid data transfer Q
04 – Basic setting

- Indicated on display:
– Confirm entry with Q key.

Basic setting
Enter display group number XXX

- Indicated on display:
– Enter display group number 002.
– Confirm entry with Q key.

System in basic setting 2 →
Control position learnt

- Indicated on display:
– The control unit has now learnt this setting. The fault "Headlamps not set" in fault memory will be erased and automatic range control function will be restored.
– Press → key.

Rapid data transfer HELP
Select function XX

- Indicated on display:
– Press keys 0 and 2 (02 selects the function "Interrogate fault memory").

Rapid data transfer Q
02 – Interrogate fault memory

- Indicated on display:
– Confirm entry with Q key.

X faults recognised

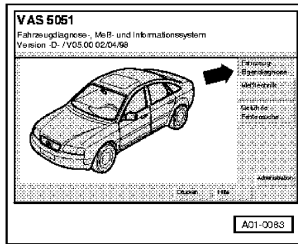
- The display shows either no fault or the number of faults that have been stored.
– Press → key.

Rapid data transfer HELP
Select function XX

- Indicated on display:
– Press keys 0 and 6 (06 selects the function "End output").

Performing basic setting with the VAS 5051:

- Connect the vehicle diagnostic, testing and information system VAS 5051 => Page 68.



- Switch ignition on.

Indicated on display:

Selecting operating mode:

- Press "Vehicle self-diagnosis" -arrow- on the display.

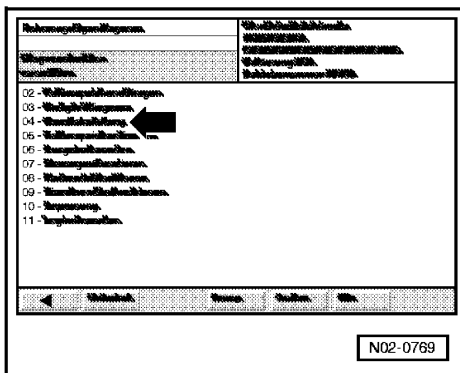
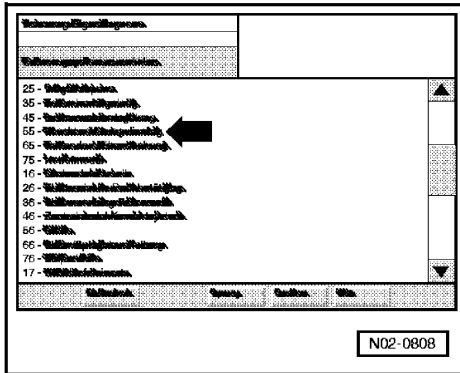
Note:

If the displays shown in the procedure do not appear in the display:

- => Operating instructions for vehicle diagnostic, testing and information system VAS 5051

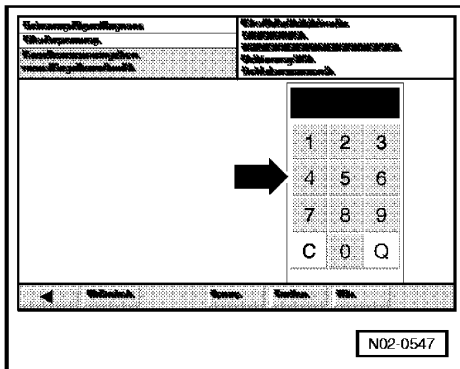
Indicated on display:

- On the display press "55 – Headlight range control" -arrow-.



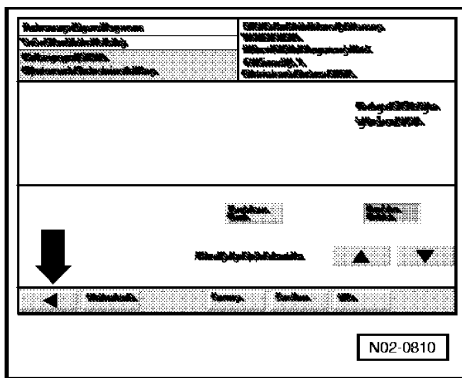
Indicated on display:

- On the display press "04 – Start basic setting" -arrow-.



Indicated on display:

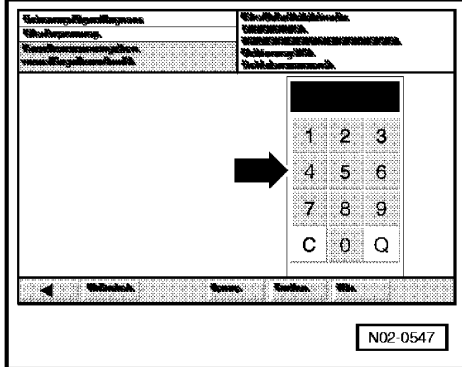
- On the number block of the display -arrow- press 001 (001 is used to select "display group number 001").
- Press Q key on the number block of the display to confirm the entry.



After the message "wait" is shown, the following display appears:

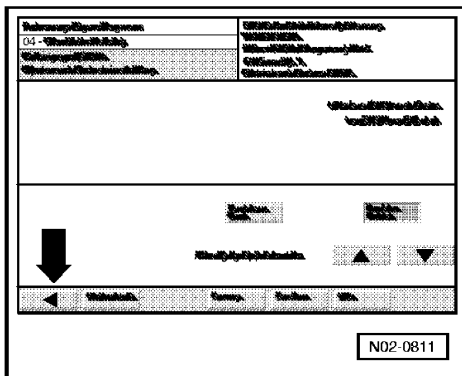
Indicated on display:

- Now adjust the headlights => Page 201
- After adjusting the headlights, press the key marked with the -arrow- on the display.



Indicated on display:

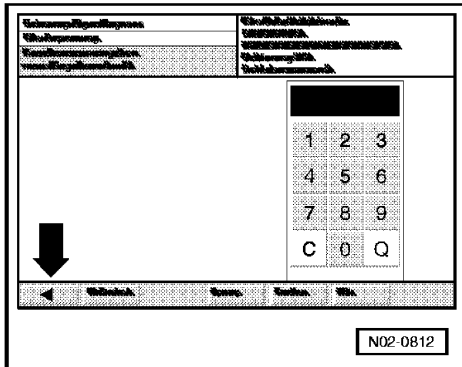
- On the number block of the display -arrow- press 002 (002 is used to select "display group number 002").
- Press Q key on the number block of the display to confirm the entry.



Indicated on display:

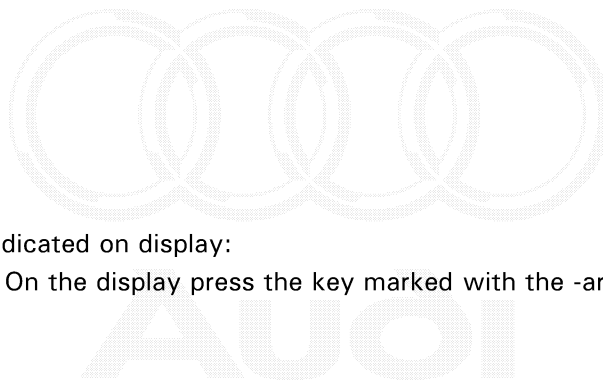
The headlight control position is now "learned" by the control unit.

- On the display press the key marked with the -arrow-.

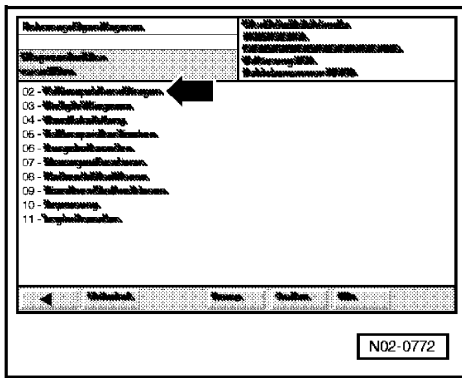


Indicated on display:

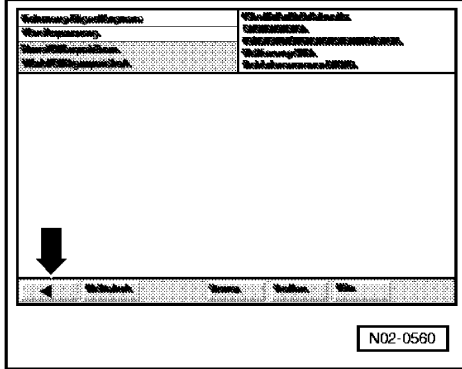
- On the display press the key marked with the -arrow-.



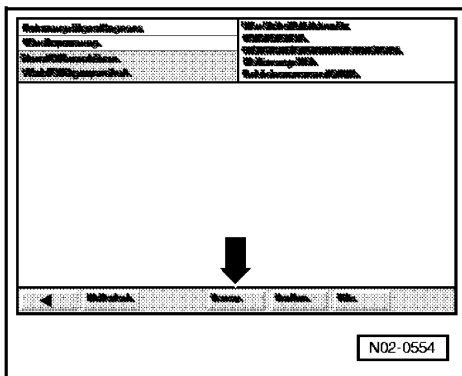
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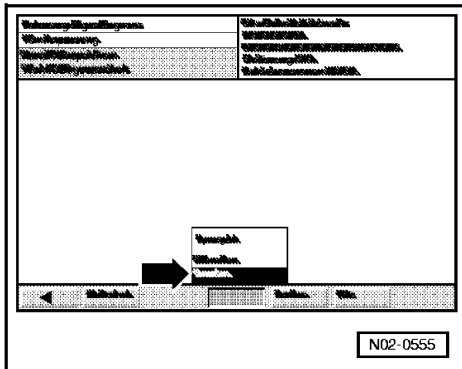
- ◀ Indicated on display:
 - On the display press "02 – Interrogate fault memory" -arrow-.



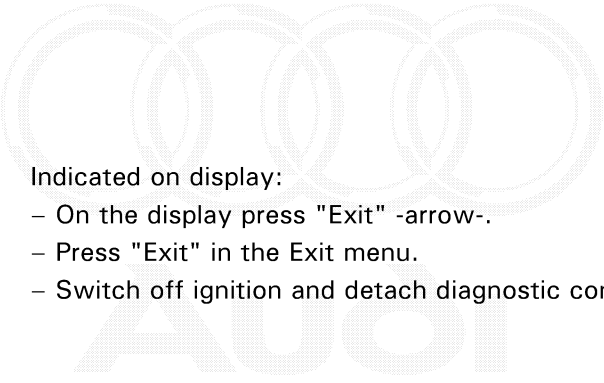
- ◀ Indicated on display:
 - Any system faults that are stored are displayed.
 - If faults have been stored, they must be rectified. The fault print-out is required for carrying out the repair work.
 - On the display press the key marked with the -arrow-.



- ◀ Indicated on display:
 - On the display press "Skip" -arrow-.



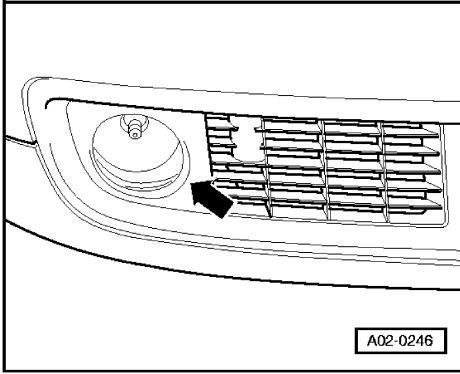
- ◀ Indicated on display:
 - On the display press "Exit" -arrow-.
 - Press "Exit" in the Exit menu.
 - Switch off ignition and detach diagnostic connector.



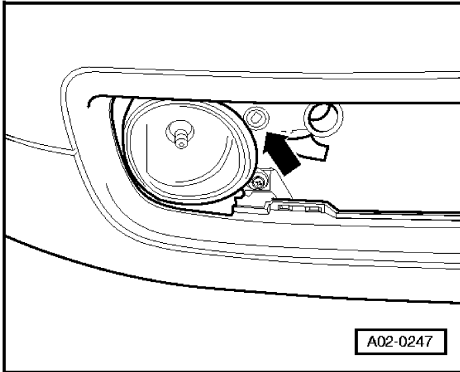
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Fog lights in bumper:

- Inclination:
 - Fog lights 20 cm



- ◀ - Pull the cover panel -arrow- off the lower part of the bumper.



- ◀ - Turn the adjuster screw -arrow- to adjust the beam. There is no provision for lateral adjustment.

Additional lights:

Additional lights from other systems which have been retrofitted must be checked and adjusted according to the applicable guidelines.

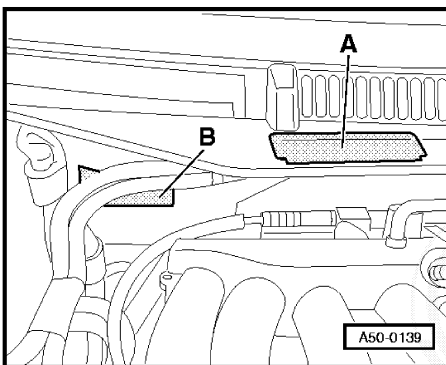
Test drive: perform

The extent to which the following can be checked is dependent upon the vehicle equipment and local conditions (city/country).

- The following points must be checked during the test drive:
 - Engine: output, misfiring, idling, acceleration
 - Clutch: pulling away, pedal pressure, smell
 - Gear selection: ease of actuation, gear lever position
 - Automatic gearbox: selector lever positions, shift lock / ignition key lock, shift behaviour, display in dash panel insert
 - Brake pedal and handbrake: Function, free play and effectiveness, pulling to one side, juddering, squealing
 - ABS-function: Noticeable pulsing should be felt in the brake pedal when the vehicle is performing an ABS-assisted braking manoeuvre.
 - Steering: function, steering play, steering wheel in centre position when driving straight ahead
 - Sun roof: Function

- Cruise control system: Function
- Radio: reception, GALA, interference
- Driver Information System (DIS): Functions
- Air conditioner: Function
- Vehicle: moving off line when driving straight ahead (level road)
- Imbalance: wheels, drive shafts
- Wheel bearings: noise
- Engine: hot starting behaviour

Vehicle data sticker



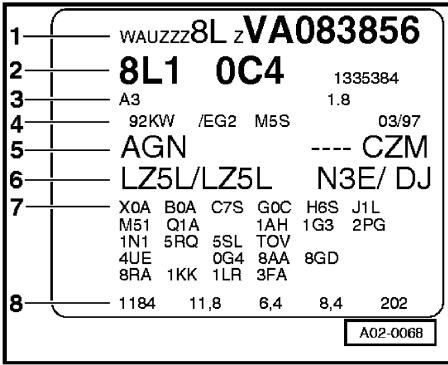
- ◀ - A - Vehicle identification number
 - Stamped on the rear cross panel of the engine compartment and visible through a window in the plenum chamber cover.
 -
- B - Type plate
 - Attached to the plenum chamber behind the right suspension strut turret.

Meaning of vehicle identification number:

W A U	Z Z Z	8 L	Z	Y	A	000 001
Manufacturer's code	Filler characters	Model	Filler characters	Model year 2000	Production location	Serial number

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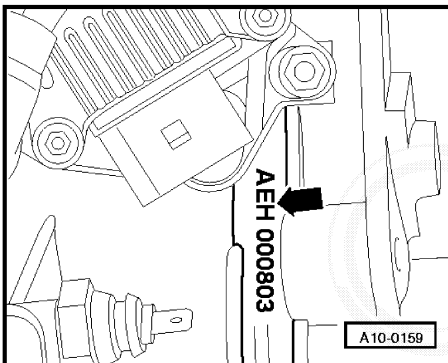
The vehicle data sticker can be found in the customer's service schedule and in the spare wheel well or on the luggage compartment floor.



- ◀ The sticker contains the following vehicle data:
- 1 - Vehicle identification number
 - 2 - Model identification number/production control number
 - 3 - Model code
 - 4 - Engine output/emission standard/gearbox
 - 5 - Engine- and gearbox code letters (not specified on some export versions)
 - 6 - Paint number/interior equipment identification number
 - 7 - Identification numbers for optional equipment
 - 8 - Unladen weight/fuel consumption/CO₂-emission level (not specified on some export versions)

Engine code and engine number

Note:

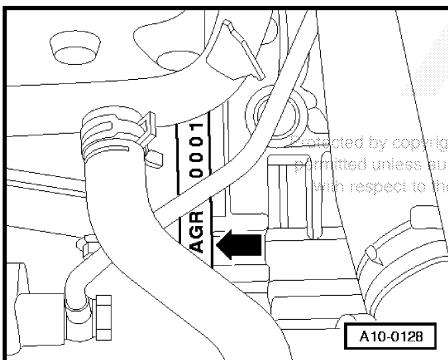


◀ The engine code can be found on the vehicle data stickers in the service schedule and in the spare wheel well or on the luggage compartment floor.

Additionally, there is a sticker on the toothed belt cover with engine code and engine number.

4-cylinder petrol engines:

The engine number ("Engine code" and "Serial number") can be found at the front next to the join between engine and gearbox



◀ **4-cylinder TDI engines:**

The engine number ("Engine code" and "Serial number") can be found at the front next to the join between engine and gearbox

Lifting the vehicle

Important

- ◆ 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 the vehicle lifted, even with only one wheel on 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.

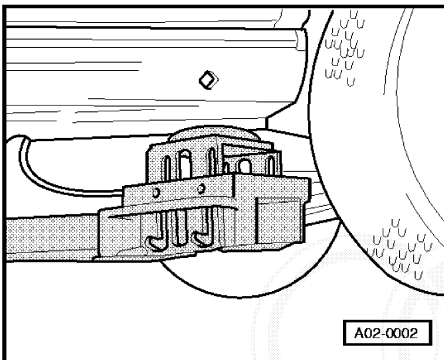
Trolley jack

Always use a suitable rubber or wooden block to avoid damage. A trolley jack can only be applied at the lifting points shown in the illustrations.

On no account should the vehicle be lifted at the engine sump, gearbox or front or rear axle, as this may cause serious damage.

Lifting platform

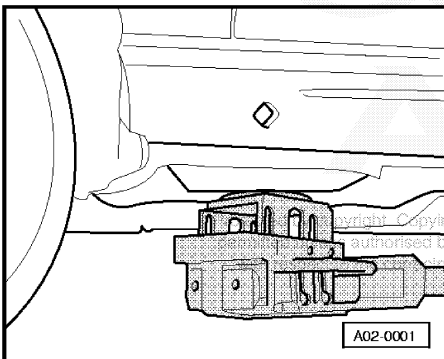
Before driving on to a lifting platform, ensure there is sufficient clearance between the low-lying vehicle components and lifting platform.



Lifting points for lifting platform and trolley jack

◀ Front:

On longitudinal floor panel reinforcement next to the stamped marking.



◀ Rear:

On longitudinal side member reinforcement next to the stamped marking.

Note:

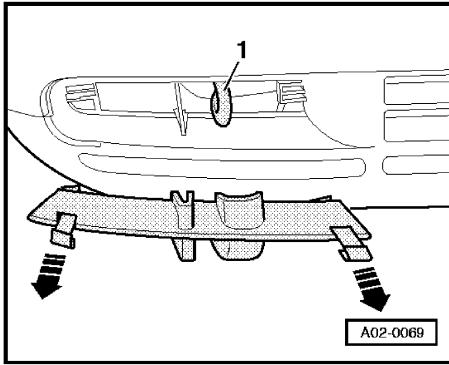
The fastener of the trailing arm must not come into contact with the lifting attachment, as this could damage the suspension.

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Tow-starting/towing

– Attach tow rope or tow bar only to the following towing eyes:

Front towing eye

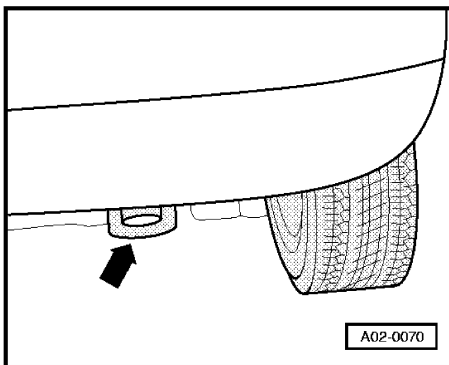


- ◀ The front towing eye -1- is behind the air intake grille on the lower right of the bumper.
 - Pull back retainer catch -arrow- and remove air intake grille.

Note:

When reinstalling the air intake grille, ensure that both lugs are inserted into the recesses provided.

Rear towing eye



- ◀ The rear towing eye -arrow- is located below the rear right of the bumper.

Notes:

- ◆ The tow rope should be elastic to reduce the risk of damage to both vehicles. It is advisable to use synthetic fibre ropes or ropes of similar elastic material. However, it is safer to use the tow bar.
- ◆ Avoid excessive tensile forces and jerking. During towing operations on roads which are not surfaced, 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:

- ◆ 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 towed vehicle 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.
- ◆ The power assisted steering does not work when the engine is not running, therefore more force is required to turn the steering wheel.
- ◆ If there is no lubricant in the manual or automatic gearbox, the vehicle must be towed with the drive wheels raised.

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 ignition on.
- When both vehicles are moving, release clutch pedal.

- As soon as the engine starts, depress clutch and move gear stick to neutral to avoid running into the towing vehicle.

Notes:

- ◆ 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, unburned 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 vehicles with automatic gearbox, please also note the following:

- ◆ 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 km.

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If towing over greater distances, the vehicle must be lifted at the front.

- Reason: When the engine is not running, the gearbox oil pump does not work, therefore the gearbox is not sufficiently lubricated for high speeds and long distances.

Using a breakdown vehicle, the vehicle can only be towed with the front wheels raised.

- Reason: If raised at the rear, the input shafts 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.

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.

Arbeitsabläufe für Benzinmotoren

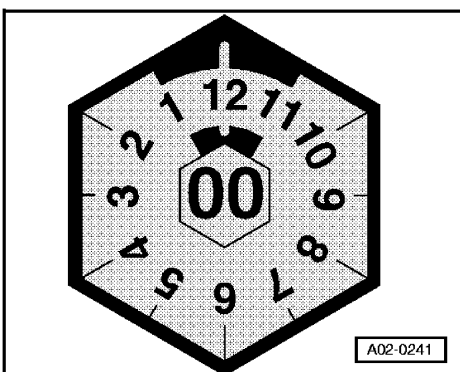
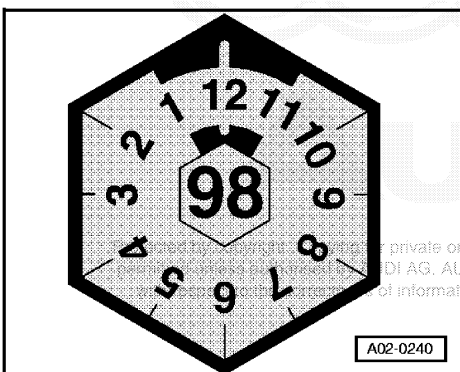
Intervalle für die Abgasuntersuchung

Fahrzeuge mit geregelterm Katalysator bzw. Fahrzeuge mit Dieselmotor:

- ◆ 36 Monate nach der Erstzulassung und dann alle 24 Monate nach der letzten AU.
- ◆ Taxi und Mietwagen: Alle 12 Monate.
- ◀ Der Fälligkeitstermin für die nächste Abgasuntersuchung ist der AU-Plakette zu entnehmen.

Beispiel

Ein Fahrzeug mit der abgebildeten AU-Plakette auf dem amtlichen Kennzeichen vorn muß im Dezember 1997 zur Abgasuntersuchung.



- ◀ Nach bestandener Abgasuntersuchung erhält das Fahrzeug eine AU-Plakette mit einer Gültigkeitsdauer bis Dezember 1999.
- Arbeitsabläufe für Benzinmotoren => Seite 225.
Arbeitsabläufe für Dieselmotore => Seite 255.

Hinweise:

- ◆ Alle für die Abgasuntersuchung benötigten Prüfungen und Daten
=> Ordner "Abgasuntersuchung"
- ◆ Beheben Sie beim Abfragen des Fehlerspeichers erkannte Fehler (Motorelektronik) und löschen Sie den Fehlerspeicher vor der Abgasuntersuchung.
- ◆ Die nachstehend beschriebenen Benzinmotoren sind mit Fehlerspeichern ausgestattet, die es ermöglichen, die Lambda-Regelkreisprüfung durch Fehlerspeicher-Abfrage über das V.A.G 1551 vorzunehmen.
- ◆ Bei der Lambda-Regelkreisprüfung durch Fehlerspeicher-Abfrage über das V.A.G 1551 ist die Vorbereitung einer Störgröße nicht erforderlich.
- ◆ Speziell bei neuen Katalysatoren kann es vorkommen, daß die Störgröße von der Regelung so schnell ausgeregelt wird, daß der Regelvorgang von den Meßgeräten nicht ausreichend erfaßt wird.



Störgrößen vorbereiten:

Motorkennbuchstaben:

AEH => Seite 227

AGN => Seite 227

AQA => Seite 227

ARZ => Seite 227

ARX => Seite 227

AJQ => Seite 227

APP => Seite 227

ARY => Seite 227

Motorkennbuchstaben:

AGU => Seite 229

APY => Seite 229

AMK => Seite 229

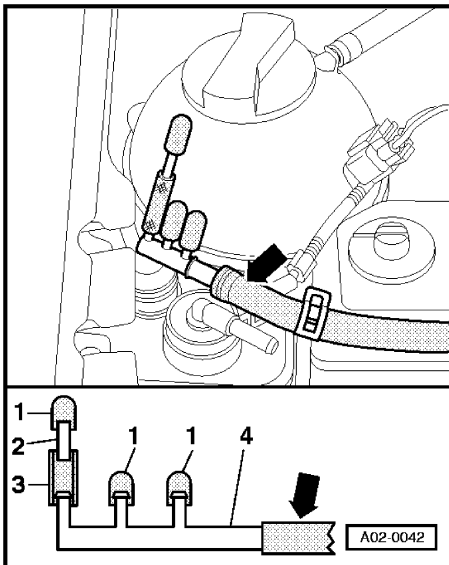
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Störgröße vorbereiten bei den Motorkennbuchstaben: AEH, AGN, AQA, ARZ, ARX, AJQ, APP, ARY

Das Vorbereiten einer Störgröße ist nur erforderlich bei Prüfung ohne Fehlerspeicher-Abfrage (V.A.G 1551) zur Lambda-Regelkreisprüfung => Seite 245.

Hinweise:

◆ Unterdruckleitungen nicht bei laufendem Motor abziehen, sonst erfolgt Fehlerspeicher-Eintrag.



◆ Unterdruckleitung beim Abschneiden nicht quetschen; Leitungsquerschnitt muß frei sein.
◆ Prüfen Sie den Innenquerschnitt des Winkelstücks mit Draht auf freien Durchgang.

◆ Feilen Sie den Anschluß des Winkelstücks zum leichteren Einstecken in den Schlauch ggf. etwas dünner.

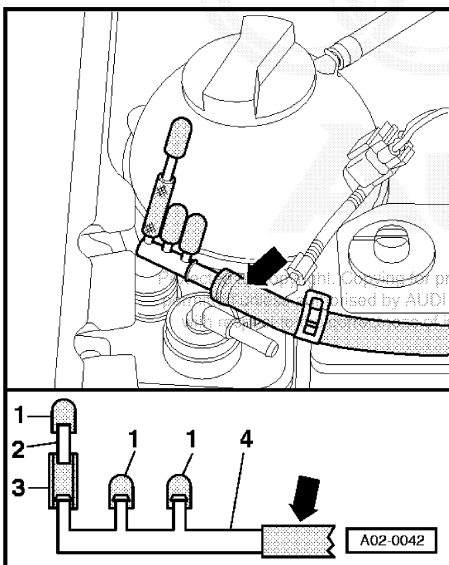
– Bauen Sie bei Lambda-Regelkreisprüfung ohne Fehlerspeicher-Abfrage (V.A.G 1551) die folgenden, zur AU-Prüfung notwendigen Teile ein:

– 1 - Verschlusskappe 034 133 335 (3x)

– 2 - Unterdruckleitung 15 mm lang, N 020 139 1

– 3 - Gewebeschlauch 40 mm lang, N 020 353 5

– 4 - Winkelstück 034 129 737



– Ziehen Sie den Schlauch -Pfeil- vom Aktivkohlefilter-Behälter (AKF-Behälter) ab.

– Bestücken Sie das Winkelstück -4-, wie unten in der Abb. gezeigt.

– Stecken Sie das Winkelstück auf den abgezogenen Schlauch auf, wie in der Abb. gezeigt.

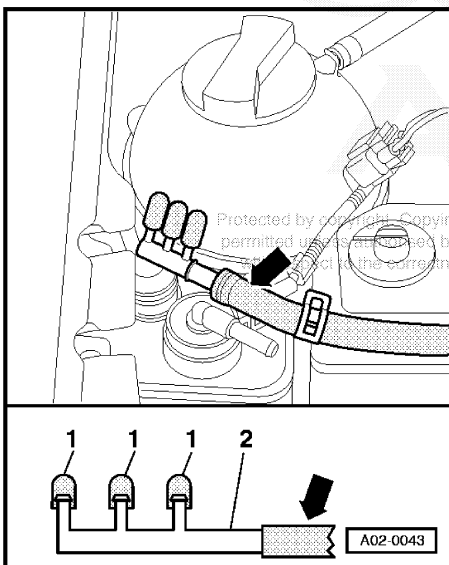
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Störgröße vorbereiten bei den Motorkennbuchstaben: AGU, APY, AMK

Das Vorbereiten einer Störgröße ist nur erforderlich bei Prüfung ohne Fehlerspeicher-Abfrage (V.A.G 1551) zur Lambda-Regelkreisprüfung => Seite 245.

Hinweise:

- ◆ Unterdruckleitungen nicht bei laufendem Motor abziehen, sonst erfolgt Fehlerspeicher-Eintrag.
- ◆ Unterdruckleitung beim Abschneiden nicht quetschen; Leitungsquerschnitt muß frei sein.
- ◆ Prüfen Sie den Innenquerschnitt des Winkelstücks mit Draht auf freien Durchgang.
- ◆ Feilen Sie den Anschluß des Winkelstücks zum leichteren Einstecken in den Schlauch ggf. etwas dünner.



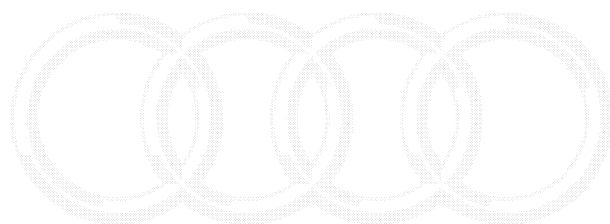
- ◀ - Bauen Sie bei Lambda-Regelkreisprüfung ohne Fehlerspeicher-Abfrage (V.A.G 1551) die folgenden, zur AU-Prüfung notwendigen Teile ein:
 - 1 - Verschlusskappe 034 133 335 (3x)
 - 2 - Winkelstück 034 129 737
- Ziehen Sie den Winkelschlauch -Pfeil- vom Aktivkohlefilter-Behälter (AKF-Behälter) ab.
- Bestücken Sie das Winkelstück -2-, wie unten in der Abb. gezeigt.
- Stecken Sie das Winkelstück auf den abgezogenen Schlauch auf, wie in der Abb. gezeigt.

Prüfgeräte für Abgasuntersuchung

Der Prüfablauf ist ausgelegt für Prüfungen mit der Prüfgerätekombination für Abgasuntersuchung, bestehend aus:

- ◆ Fehlerauslesegerät V.A.G 1551 mit Leitung V.A.G 1551/3
- ◆ Zündungstester V.A.G 1767
- ◆ 4-Komponenten-Abgastester V.A.G 1788
- ◆ Datenlesegerät V.A.G 1799
- ◆ Drehzahlsteller V.A.G 1788/10
- ◆ Drehzahl-Adapter-Bordnetz VAS 5087

montiert und verbunden auf Meßgerätewagen V.A.G 1700 bzw. V.A.G 1800.



Um Verletzungen von Personen und/oder eine Zerstörung der Einspritz- und Zündanlage zu vermeiden, ist folgendes zu beachten:

◆ Zündleitungen bei laufendem Motor bzw. bei Anlaßdrehzahl nicht berühren bzw. abziehen.

◆ Leitungen der Einspritz- und Zündanlage, auch Meßgeräteleitungen nur bei ausgeschalteter Zündung ab- und anklemmen.

Fehlerauslesegerät V.A.G 1551 anschließen

- Wählhebel in Stellung "P" oder "N" bringen und Handbremse anziehen (Automatisches Getriebe).
- Clipsen Sie die Abdeckung für Diagnoseanschluß aus.
- Schließen Sie das Fehlerauslesegerät V.A.G 1551 mit der Leitung V.A.G 1551/3 an.

Hinweis:

Das Fehlerauslesegerät wird zur Datenübertragung vom Abgastester zum Datenlesegerät gebraucht und muß deshalb immer angeschlossen sein.

Sichtprüfung für Abgasuntersuchung

- Führen Sie eine Sichtprüfung der schadstoffbeeinflussenden Bauteile durch auf:
 - Vorhandensein
 - Vollständigkeit
 - Dichtigkeit
 - Beschädigung
 - Alle benötigten Daten
- = > Ordner "Abgasuntersuchung"

Zündungstester V.A.G 1767 und Drehzahl-Adapter-Bordnetz VAS 5087 anschließen

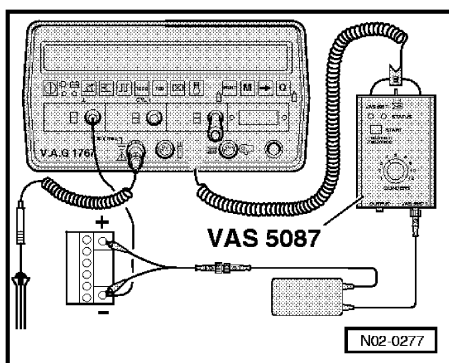
- Schließen Sie den Zündungstester V.A.G 1767 bei ausgeschalteter Zündung nach Bedienungsanleitung an.

Hinweise:

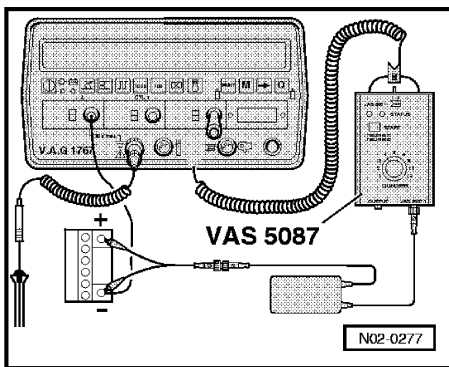
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- ◆ Bitte Bedienungsanleitung für das VAS 5087 beachten.

- ◆ Unbedingt die in der Bedienungsanleitung vorhandenen Sicherheitshinweise beachten!



- ◀ Schließen Sie das VAS 5087 (Drehzahl-Adapter-Bordnetz) wie folgt an:
 - Klemmen Sie die Triggerzange des Zündungstester V.A.G 1767 am Strombügel des VAS 5087 an.
 - Wählen Sie mit dem "Schalter 1/4" des VAS 5087 die Schalterstellung "4" für Klemme 4.
 - Drehen Sie den Schalter für die Zylinderzahl auf 4 für 4-Zylinder-Motor.

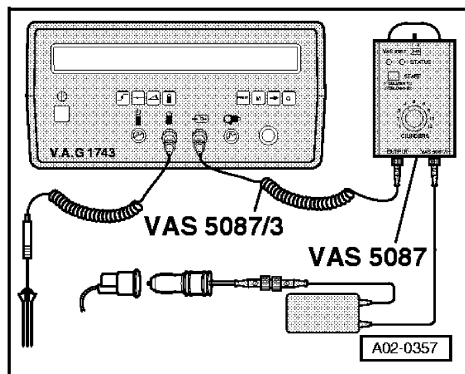


- ◀ – Schließen Sie eine Leitung vom Adapter VAS 5087/1 an das VAS 5087 (Buchse VAS 5087/1) an.
- Mit der anderen Leitung vom Adapter VAS 5087/1 stellen Sie eine Verbindung zur Fahrzeugbatterie her.

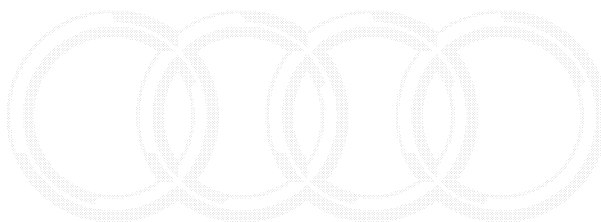
- rote Klemme an Batterieplus
- schwarze Klemme an Batterieminus

Hinweise:

- ◆ Bei geringer Öffnung der Triggerzange (z.B. durch zu starken Zug am Spiralkabel) kann es zu Fehlanzeigen kommen.



- ◀ ◆ Alternativ kann die Drehzahlabnahme auch über den Zigarettenanzünder abgenommen werden, verwenden dazu den jeweiligen Adapter.



Prüfablauf der Abgasuntersuchung

Prüfvoraussetzungen:

- Klimaanlage ausgeschaltet.
- Elektrolüfter für Kühler darf nicht laufen.
- Alle elektrischen Verbraucher ausgeschaltet.

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Prüfablauf bei Verwendung vom Meßgerätewagen V.A.G 1800

- Motor anlassen und im Leerlauf laufen lassen.
- Drücken Sie am Drehzahl-Adapter-Bordnetz VAS 5087 die Taste "Start".
- Für ca. 10 Sekunden muß die rote Signallampe blinken. Danach muß die grüne Signallampe leuchten. Am Zündungstester V.A.G 1767 muß jetzt die Motordrehzahl angezeigt werden.
- Folgen Sie den Anweisungen am Bildschirm.

Prüfablauf bei Verwendung vom Meßgerätewagen V.A.G 1700

= > Seite 237.

Zündungstester V.A.G 1767

- Motor anlassen und im Leerlauf laufen lassen.
- Drücken Sie am Drehzahl-Adapter-Bordnetz VAS 5087 die Taste "Start".
- Für ca. 10 Sekunden muß die rote Signallampe blinken. Danach muß die grüne Signallampe leuchten. Am Zündungstester V.A.G 1767 muß jetzt die Motordrehzahl angezeigt werden.

Zylinder: Auswahl →, Bestätigen Q
3 4 5 6 8 12 autom.

- ◀ Bei Anzeige am Display des Zündungstesters:
 - Wählen Sie die Zylinderanzahl mit der →-Taste an.
 - Bestätigen Sie die Eingabe mit der Q-Taste.

Ruhende Hochspannungsverteilung?
weiter mit → -Taste, beenden mit Q-Taste

- ◀ Bei Anzeige am Display des Zündungstesters:
 - Beenden Sie mit der Q-Taste.

XXXX/min X Zyl.
XX,X° vor OT XX °C

- ◀ Bei Anzeige am Display des Zündungstesters:
 - Setzen Sie den Prüfablauf am Datenlesegerät V.A.G 1799 fort.

am Datenlesegerät V.A.G 1799

- Drücken Sie am Datenlesegerät die F1-Taste für "AU Benzin".
- Führen Sie die Abgasuntersuchung nach den Anweisungen am Display des Datenlesegerätes durch.

Fahrzeugidentkarte bitte einstecken !!
Manuelle Eingabe mit " -Taste

- ◀ Bei Anzeige am Display:
 - Drücken Sie die → Taste.**
 - Geben Sie die Fahrzeug-Identdaten (amtl. Kennzeichen, Fzg.-Identnummer usw.) aus dem Kraftfahrzeugschein über die Tastatur des Datenlesegerätes ein.

Eingabe überprüfen mit " -Taste
Weiter mit Q-Taste

- ◀ Bei Anzeige am Display:
 - Bestätigen Sie die Eingabe der Fahrzeugdaten mit der Q-Taste.

Strich-Code einlesen

Manuelle Eingabe mit → -Taste

- ◀ Bei Anzeige am Display:
- Ziehen Sie den Lesestift des Datenlesegerätes über den entsprechenden Strichcode des Datenblattes im Ordner "Abgasuntersuchung".
- oder
- Führen Sie mit der →-Taste die manuelle Eingabe nach den Anweisungen am Display des Datenlesegerätes durch.

Eingabe überprüfen mit → -Taste

Weiter mit Q-Taste

- ◀ Bei Anzeige am Display:
- Bestätigen Sie die eingegebenen bzw. eingelesenen Fahrzeugdaten mit der Q-Taste.

Sichtprüfung i.O. = j

Nicht i.O. = n

- ◀ Bei Anzeige am Display:
- Geben Sie das Ergebnis der Sichtprüfung ein.

HC-Rückstandstest

Sonde an Frischluft?

X ppm vol HC

- ◀ Bei Anzeige am Display:
- Der Abgastester führt einen HC-Rückstandstest aus. Ist der Wert über 20 ppm, wird der Ablauf nicht weitergeführt. Die Entnahmesonde darf sich nicht im Abgasendrohr befinden.

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AU-Prüfablauf beginnen

Sonde im Abgasendrohr?

X % CO

- ◀ Bei Anzeige am Display:
- Setzen Sie die Entnahmesonde des Abgastesters in das Abgasendrohr ein.

F1 Temperaturmessung mit Meßfühler

F2 Temperaturmessung manuell eingeben

- ◀ Bei Anzeige am Display:
- Ziehen Sie den Ölmeßstab heraus.
 - Schieben Sie den Temperatur-Meßfühler in das Ölmeßstabführungsrohr ein.
- Drücken Sie die F1-Taste für "Temperaturmessung mit Meßfühler".**
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Motoröltemperatur

Ist XX5 C

Soll 80° C

- ◀ Bei Anzeige am Display:
- Warten Sie, bis die Motoröltemperatur größer 80 °C ist.

Prüfung i.O. Weiter mit der Q-Taste

Prüfung wiederholen mit der F1-Taste

- ◀ Bei Anzeige am Display:
- Nehmen Sie den Meßfühler heraus.
 - Schieben Sie den Ölmeßstab ein.
 - Setzen Sie den Prüfablauf durch Drücken der Q-Taste fort.

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Warmlaufzeit für KAT	XX s
Drehz. IST XXX/min	SOLL XXXX/min

- ◀ Bei Anzeige am Display:
- Erhöhen Sie die Drehzahl zur Aufwärmung des Katalysators für vorgegebene Warmlaufzeit auf über Sollwert.

Prüfung im erhöhten Leerlauf	30 s
Drehz. IST XXXX/min	SOLL 2500...2800/min

- ◀ Bei Anzeige am Display:
- Halten Sie die Drehzahl für 30 Sekunden im Sollwertbereich.
 - Überprüfen Sie die Istwerte (CO-Gehalt, Lambda-Wert). Schalten Sie dazu mit der →-Taste die Istwerteanzeige weiter.
 - Wiederholen Sie ggf. die Prüfung.
 - Setzen Sie den Prüfablauf durch Drücken der Q-Taste fort.

Leerlaufprüfung	10 s
Drehz. IST XXX/min	SOLL XXX...XXX/min

- ◀ Bei Anzeige am Display:
- Das Datenlesegerät übernimmt innerhalb 10 Sekunden die Istwerte.

- Überprüfen Sie den Istwert (CO-Gehalt), schalten Sie dazu mit der → -Taste die Istwerteanzeige weiter.
- Wiederholen Sie ggf. die Prüfung.
- Setzen Sie den Prüfablauf durch Drücken der Q-Taste fort.

Lambda-Regelkreisprüfung mit Fehlerspeicher-Abfrage => Seite 243.

Lambda-Regelkreisprüfung ohne Fehlerspeicher-Abfrage => Seite 245.

Prüfung mit Fehlerspeicher-Abfrage (V.A.G 1551) zur Lambda-Regelkreisprüfung

Alle Motorkennbuchstaben

F1 Regelkreisprüfung – Grundverfahren

F2 Regelkreisprüfung – alternatives Verf.

- Bei Anzeige am Display:
- Drücken Sie die F2-Taste für "alternatives Verfahren". Damit wird der Fehlerspeicher des Steuergerätes abgefragt (automatischer Prüfablauf).

F1 Fehlerspeicher abfragen (V.A.G 1551)

F2 Manuelle Beurteilung des Regelkreises

- Bei Anzeige am Display:
- Drücken Sie die F1-Taste für Fehlerspeicher-Abfrage.

Prüfung i.O. Weiter mit der Q-Taste

Prüfung wiederholen mit der F1-Taste

- Bei Anzeige am Display:
- Drücken Sie die Q-Taste.

Hinweis:

Prüfung n. i.O. Weiter mit der Q-Taste

Prüfung wiederholen mit der F1-Taste

- Bei Anzeige am Display:
- F1-Taste drücken und Prüfung wiederholen bzw. Reparaturmaßnahme durchführen.*

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Eingabe von Erläuterungen mit " -Taste

Weiter mit Q-Taste

- Bei Anzeige am Display:
- Geben Sie ggf. Erläuterungen nach Drücken der →-Taste ein.
 - Drücken Sie die Q-Taste.

Prüfer auswählen / manuelle Eingabe F3

F1 XXXXX

F2 XXXXX

- Bei Anzeige am Display:
- Wählen Sie mit der F1 ... 3-Taste den Prüfer an bzw. geben Sie den Namen ein.
 - Drücken Sie die Q-Taste, warten Sie den Protokollausdruck ab.
 - Drücken Sie die →-Taste.
 - Beenden Sie die Prüfung durch Drücken der Q-Taste und der F2-Taste.

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Prüfung ohne Fehlerspeicher-Abfrage (V.A.G 1551) zur Lambda-Regelkreisprüfung

F1 Regelkreisprüfung – Grundverfahren

F2 Regelkreisprüfung – alternatives Verf.

F1 Grundverfahren – Störgröße/Halbwellen

F2 Regelkreisprüfung – Ersatzverfahren

Regelkreisprüfung XX s

Drehz. IST XXXX/min SOLL XXX...XXXX/min

- Bei Anzeige am Display:
 - Drücken Sie die F1-Taste für "Grundverfahren".

- Bei Anzeige am Display:
 - Drücken Sie die F1-Taste.

- Bei Anzeige am Display:
 - Das Datenlesegerät führt Soll/Istwert-Vergleich der Drehzahl für die Regelkreisprüfung aus.
 - Fortsetzung der Prüfung für die Motorkennbuchstaben: AEH, AGN, AQA, ARZ, ARX, AJQ, APP, ARY => Seite 246.
 - Fortsetzung der Prüfung für die Motorkennbuchstaben: AGU, APY, AMK => Seite 250.

Motorkennbuchstaben: AEH, AGN, AQA, ARZ, ARX, AJQ, APP, ARY

Regelkreisprüfung beginnen

Weiter mit → -Taste

Regelkreisprüfung Störgröße EIN 60 s

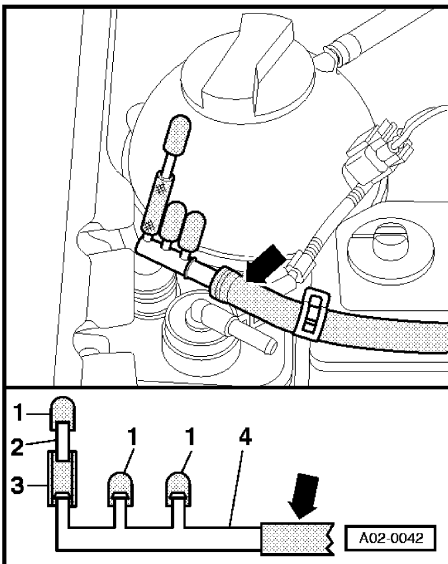
X.XXX X.XXX

- Bei Anzeige am Display:
 - Drücken Sie die → -Taste, die Regelkreisprüfung wird eingeleitet.

- Bei Anzeige am Display:
 - Schalten Sie sofort die Störgröße wie folgt auf:

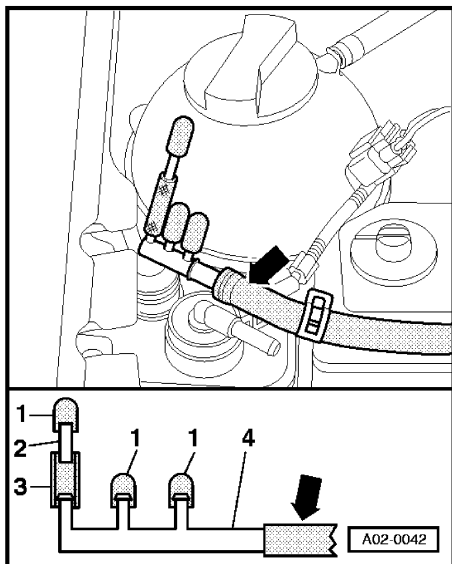
- Ziehen Sie die Verschlusskappe -1- von der Leitung -2- ab (die beiden anderen Verschlusskappen bleiben immer aufgesteckt).
Nachdem die Störgröße erkannt wurde => Display-Anzeige, muß sie innerhalb 60 Sekunden wieder ausgeregelt werden.

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Regelkreisprüfung	Störgröße AUS 60 s		
X.XXX	X.XXX	X.XXX	X.XXX

- ◀ Bei Anzeige am Display:
 - Schalten Sie sofort die Störgröße wie folgt aus:



- ◀ – Stecken Sie die Verschlusskappe -1- auf die Leitung -2- auf. Nachdem das Ausschalten der Störgröße erkannt wurde => Display-Anzeige, muß sie innerhalb 60 Sekunden wieder ausgeregelt werden.

I-AGW Str.	EIN Ausger.	Str.	AUS Ausger.
X.XXX	X.XXX	X.XXX	X.XXX

- ◀ Bei Anzeige am Display:
 - Drücken Sie die →-Taste.

Prüfung i.O. Weiter mit der Q-Taste
Prüfung wiederholen mit der F1-Taste

- ◀ Bei Anzeige am Display:
 - Drücken Sie die Q-Taste.

Hinweise:

Anstelle der Display-Anzeige "Prüfung i.O." kann auch einer der beiden folgenden Display-Texte angezeigt werden:

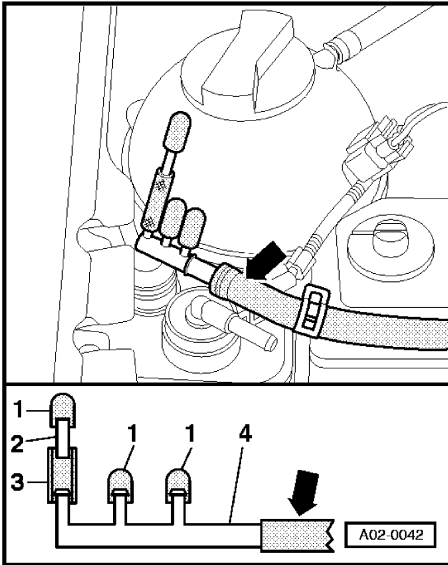
Störgröße nur in einer Richtung erkannt
F1 1 Halbwelle erlaubt F2 Nicht erlaubt

- ◀ Bei Anzeige am Display:
 - ◆ Die Störgröße wurde nur in einer Richtung erkannt.
 - ◆ Die Regelkreisprüfung gilt auch als bestanden, wenn die Störgröße nur in einer Richtung erkannt wurde.
 - ◆ Prüfablauf durch Drücken der F1-Taste fortsetzen.

Prüfung n. i.O. Weiter mit der Q-Taste
Prüfung wiederholen mit der F1-Taste

- ◀ Bei Anzeige am Display:
 - ◆ F1-Taste drücken und Prüfung ggf. mehrfach wiederholen, bis die Störgröße zumindest in einer Richtung erkannt wurde. Andernfalls Reparaturmaßnahme durchführen.
 - ◆ Im Ausnahmefall kann es vorkommen, daß die Störgröße nicht erkannt bzw. nicht ausgeregelt wird.

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Maßnahme bei nicht erkannter Störgröße:

- ◀ – Verkürzen Sie die Leitung -2- schrittweise, bis Störgröße erkannt wird.
- Entfernen Sie ggf. die Leitung -2- mit Schlauch -3- zum Ausschalten der Störgröße ganz.

Maßnahme bei nicht ausgeregelter Störgröße:

- Verlängern Sie die Leitung -2- schrittweise um 5 mm, bis Störgröße ausgeregelt werden kann.

Motorkennbuchstaben: AGU, APY, AMK

Regelkreisprüfung beginnen

Weiter mit → -Taste

Regelkreisprüfung

Störgröße EIN 60 s

X.XXX

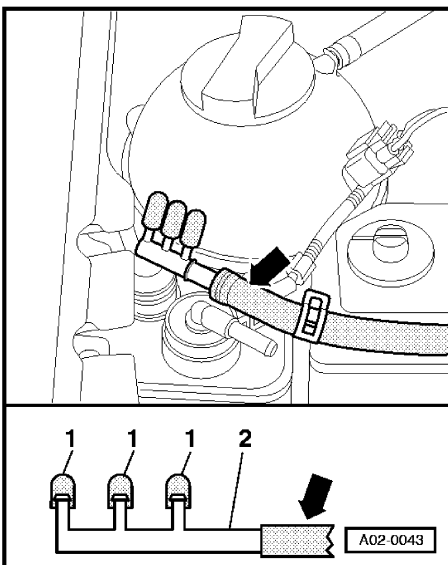
X.XXX

- ◀ Bei Anzeige am Display:
 - Drücken Sie die → -Taste, die Regelkreisprüfung wird eingeleitet.

- ◀ Bei Anzeige am Display:
 - Schalten Sie sofort die Störgröße wie folgt auf:

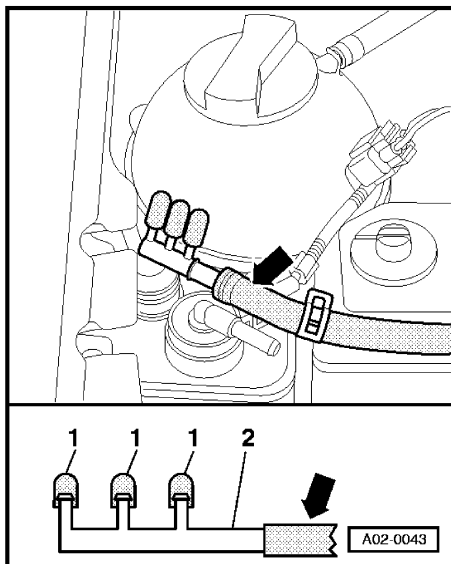
- ◀ – Ziehen Sie eine der Verschlusskappen -1- vom Winkelstück -2- ab (die beiden anderen Verschlusskappen bleiben immer aufgesteckt).

Nachdem die Störgröße erkannt wurde => Display-Anzeige, muß sie innerhalb 60 Sekunden wieder ausgeregelt werden.



Regelkreisprüfung	Störgröße AUS 60 s		
X.XXX	X.XXX	X.XXX	X.XXX

- ◀ Bei Anzeige am Display:
 - Schalten Sie sofort die Störgröße wie folgt aus:



- ◀ – Stecken Sie die Verschlusskappe -1- auf das Winkelstück -2- auf.
- Nachdem das Ausschalten der Störgröße erkannt wurde => Display-Anzeige, muß sie innerhalb 60 Sekunden wieder ausgeregelt werden.

I-AGW Str.	EIN Ausger.	Str. AUS	Ausger.	
X.XXX	X.XXX	X.XXX	X.XXX	X.XXX

- ◀ Bei Anzeige am Display:
 - Drücken Sie die →-Taste.

Prüfung i.O. Weiter mit der Q-Taste
Prüfung wiederholen mit der F1-Taste

- ◀ Bei Anzeige am Display:
 - Drücken Sie die Q-Taste.

Hinweise:

Anstelle der Display-Anzeige "Prüfung i.O." kann auch einer der beiden folgenden Display-Texte angezeigt werden:

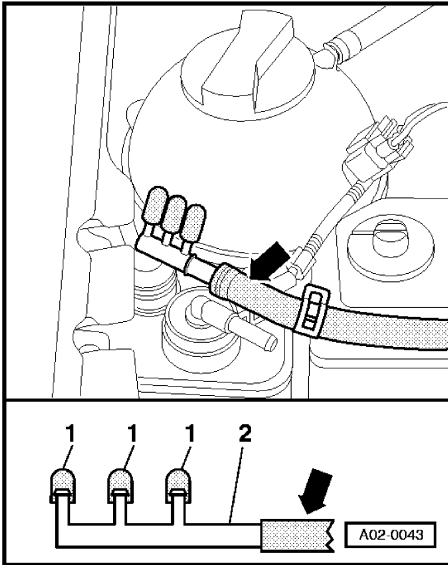
Störgröße nur in einer Richtung erkannt
F1 1 Halbwelle erlaubt F2 Nicht erlaubt

- ◀ Bei Anzeige am Display:
 - ◆ Die Störgröße wurde nur in einer Richtung erkannt.
 - ◆ Die Regelkreisprüfung gilt auch als bestanden, wenn die Störgröße nur in einer Richtung erkannt wurde.
 - ◆ Prüfablauf durch Drücken der F1-Taste fortsetzen.

Prüfung n. i.O. Weiter mit der Q-Taste
Prüfung wiederholen mit der F1-Taste

- ◀ Bei Anzeige am Display:
 - ◆ F1-Taste drücken und Prüfung ggf. mehrfach wiederholen, bis die Störgröße zumindest in einer Richtung erkannt wurde. Andernfalls Reparaturmaßnahme durchführen.
 - ◆ Im Ausnahmefall kann es vorkommen, daß die Störgröße nicht erkannt bzw. nicht ausgeregelt wird.

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Maßnahme bei nicht erkannter Störgröße:

- ◀ – Ziehen Sie ggf. zwei der Verschlusskappen -1- zum Aufschalten der Störgröße ab.

Maßnahme bei nicht ausgeregelter Störgröße:

- Schalten Sie ggf. die Störgröße so auf, wie für die Motoren AEH und AGN usw. beschrieben
=> Seite 227.

Fortsetzung der Prüfung für alle Motorkennbuchstaben:

Eingabe von Erläuterungen mit " -Taste

Weiter mit Q-Taste

- ◀ Bei Anzeige am Display:
 - Geben Sie ggf. Erläuterungen nach Drücken der →-Taste ein.
 - Drücken Sie die Q-Taste.

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Prüfer auswählen / manuelle Eingabe F3

F1 XXXXX

F2 XXXXX

- ◀ Bei Anzeige am Display:
 - Wählen Sie mit der F1 ... 3-Taste den Prüfer an bzw. geben Sie den Namen ein.
 - Drücken Sie die Q-Taste, warten Sie den Protokollausdruck ab.
 - Drücken Sie die →-Taste.
 - Beenden Sie die Prüfung durch Drücken der Q-Taste und der F2-Taste.

Hinweise:

- ◆ Durch Drücken der F3-Taste kann ein Kontrollausdruck mit den Meßdaten erstellt werden.
- ◆ Entfernen Sie nach der AU das Winkelstück wieder und befestigen Sie den Schlauch am AKF-Behälter mit einer Schlauchklemme.
- ◆ Ziehen Sie keine Unterdruckleitungen bei laufendem Motor ab, sonst erfolgt Fehlerspeicher-Eintrag.

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Arbeitsabläufe für Dieselmotoren

Motorbuchstaben: AGR, AHF, ALH, ATD, ASV, ASZ

Hinweise:

- ◆ Intervalle für Abgasuntersuchung => Seite 224.
- ◆ Alle für die Abgasuntersuchung benötigten Prüfungen und Daten
=> Ordner "Abgasuntersuchung"
- ◆ Beheben Sie beim Abfragen des Fehlerspeichers erkannte Fehler (Motorelektronik) und löschen Sie den Fehlerspeicher vor der Abgasuntersuchung.
- ◆ Motor nicht im Stand warmlaufen lassen, sondern anlässlich einer Probefahrt warmfahren.
- ◆ Sind die Trübungswerte nicht im Sollbereich, zügige Probefahrt durchführen und Messung wiederholen.

Sichtprüfung für Abgasuntersuchung

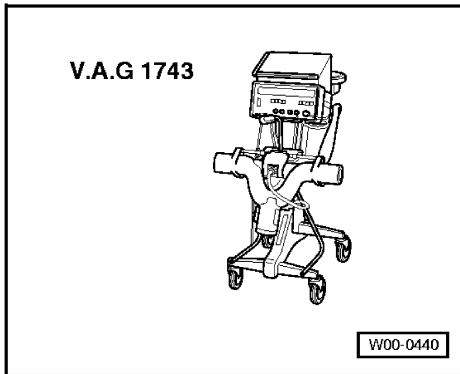
- Sichtprüfung der schadstoffbeeinflussenden Bauteile durchführen auf:
 - Vorhandensein
 - Vollständigkeit
 - Dichtigkeit
 - Beschädigung
 - Alle benötigten Daten
- => Ordner "Abgasuntersuchung"



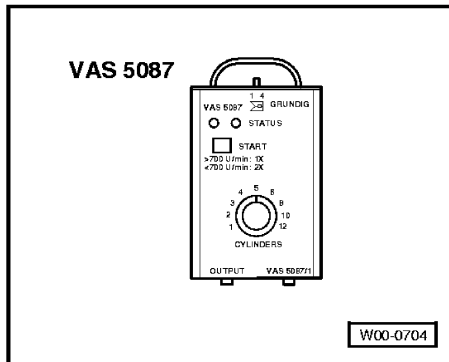
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Prüfgeräte für Abgasuntersuchung



- Der Prüfablauf ist ausgelegt für Prüfungen mit der Prüfgerätekombination für Abgasuntersuchung, bestehend aus:
- ◆ Dieseltester V.A.G 1743
 - ◆ Fehlerauslesegerät V.A.G 1551 mit Leitung V.A.G 1551/3
 - ◆ Datenlesegerät V.A.G 1799



- ◆ Drehzahl-Adapter-Bordnetz VAS 5087 montiert und verbunden auf Meßgerätewagen V.A.G 1800.

Hinweis:

Alle für die Abgasuntersuchung benötigten Prüfungen und Daten = > Ordner "Abgasuntersuchung"

Fehlerauslesegerät V.A.G 1551 anschließen

- Wählhebel in Stellung "P" oder "N" bringen und Handbremse anziehen (Automatisches Getriebe).
- Clipsen Sie die Abdeckung für Diagnoseanschluß aus.
- Schließen Sie das Fehlerauslesegerät V.A.G 1551 mit der Leitung V.A.G 1551/3 an.

Hinweis:

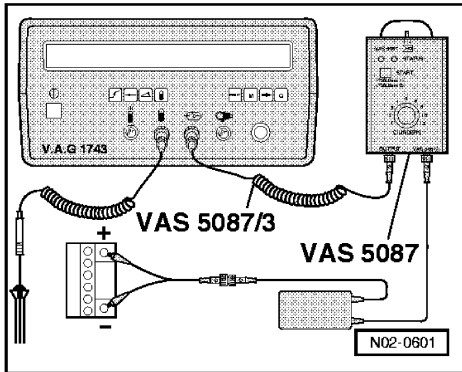
Das Fehlerauslesegerät wird zur Datenübertragung vom Abgastester zum Datenlesegerät gebraucht und muß deshalb immer angeschlossen sein.

Dieseltester V.A.G 1743 und Drehzahl-Adapter-Bordnetz VAS 5087 anschließen

- Schließen Sie den Dieseltester V.A.G 1743 bei ausgeschalteter Zündung nach Bedienungsanleitung an.

Hinweise:

- ◆ Bitte Bedienungsanleitung für das VAS 5087 beachten.
- ◆ Unbedingt die in der Bedienungsanleitung vorhandenen Sicherheitshinweise beachten!

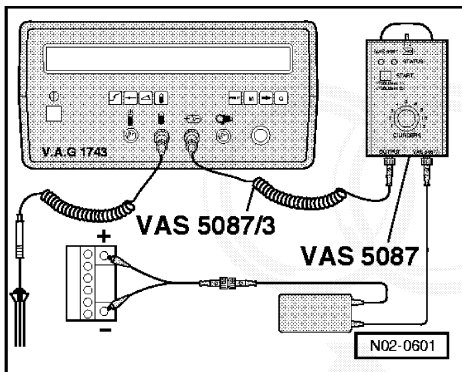


- ◀ Schließen Sie das VAS 5087 (Drehzahl-Adapter-Bordnetz) wie folgt an:

- Wählen Sie mit dem "Schalter 1/4" des VAS 5087 die Schalterstellung "4" für Klemme 4.
- Drehen Sie den Schalter für die Zylinderzahl auf 4 für 4-Zylinder-Motor.
- Klemmen Sie das Adapterkabel VAS 5087/3 von dem Output-Anschluß des VAS 5087 an den Klemmgebereingang des V.A.G 1743

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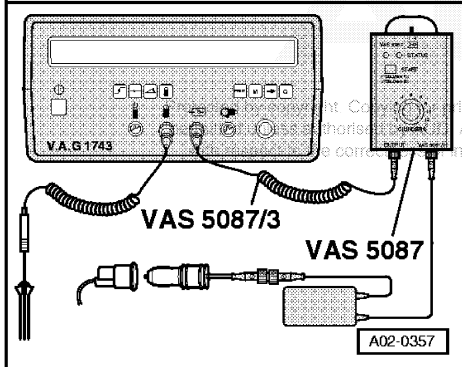
- Schließen Sie eine Leitung vom Adapter VAS 5087/1 an das VAS 5087 (Buchse VAS 5087/1) an.



- ◀ – Mit der anderen Leitung vom Adapter VAS 5087/1 stellen Sie eine Verbindung zur Fahrzeugbatterie her.
 - rote Klemme an Batterieplus
 - schwarze Klemme an Batterieminus

Hinweise:

- ◆ Bei geringer Öffnung der Triggerzange (z.B. durch zu starken Zug am Spiralkabel) kann es zu Fehlanzeigen kommen.



- ◀ ◆ Alternativ kann die Drehzahlabnahme auch über den Zigarettenanzünder abgenommen werden, verwenden dazu den jeweiligen Adapter für den Anzünder.

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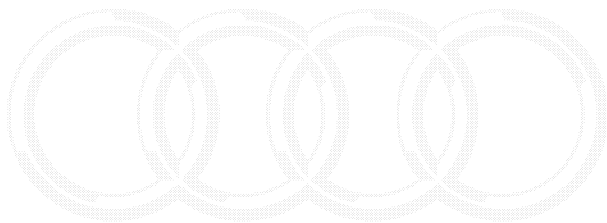
Prüfablauf der Abgasuntersuchung

Prüfvoraussetzung:

- Die Klimaanlage muß zur Prüfung abgeschaltet sein.
- Schalten Sie zur Prüfung das Fahrlicht ein.

Prüfablauf bei Verwendung vom Meßgerätewagen V.A.G 1800.

- Motor anlassen und im Leerlauf laufen lassen.
- Drücken Sie am Drehzahl-Adapter-Bordnetz VAS 5087 die Taste "Start".
- Für ca. 10 Sekunden muß die rote Signallampe blinken. Danach muß die grüne Signallampe leuchten. Am Dieseltester V.A.G 1743 muß jetzt die Motordrehzahl angezeigt werden.
- Folgen Sie den Anweisungen am Bildschirm.



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