

2 Battery

Observe notes on contact corrosion ⇒ [page 1](#) .

2.1 Battery - general notes

The following descriptions are given in ⇒ Electrical system; General information; Rep. Gr. 27 :

- ◆ Safety measures and procedures to be followed
- ◆ Warnings and safety procedures when handling lead-acid batteries

2.2 Maintenance-free batteries

The following descriptions are given in ⇒ Electrical system; General information; Rep. Gr. 27 :

- ◆ Battery with “magic eye”
- ◆ Checking battery with “magic eye”
- ◆ Central gas venting system
- ◆ Battery terminal post screw connection
- ◆ Visual inspection of battery
- ◆ Checking colour indicator - batteries with “magic eye”
- ◆ Checking electrolyte level in battery

2.3 Disconnecting and connecting battery

Disconnecting



Caution

On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .

- Switch off ignition and take out ignition key.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.



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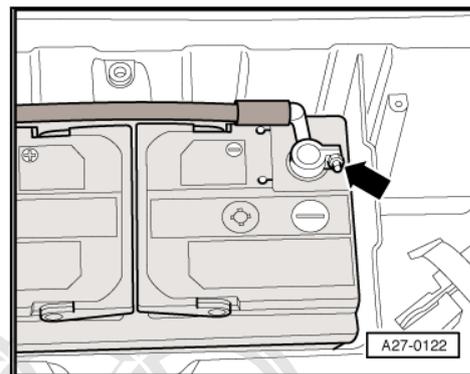
- Loosen nut several turns and disconnect battery clamp -arrow- of earth cable from battery terminal post.

Connecting

- When connecting battery, attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut.

The following measures must be carried out after re-connecting battery:

- ◆ Activate vehicle equipment (radio, radio/navigation system, clock, electric windows) according to operating instructions.
- ◆ Deactivate service mode of telematics control unit ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .
- ◆ Check operation of remote control and synchronise remote control keys if necessary. Customers should be informed that second and additional keys are also to be synchronised so as to ensure proper operation of remote control function ⇒ Owner's manual .
- ◆ Interrogate fault memories of all control units and erase “Undervoltage” fault if necessary ⇒ Vehicle diagnosis, testing and information system VAS 5051.



Note

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After re-connecting the power supply, the ABS/ESP warning lamp does not go out until the vehicle has been driven a few metres.

Tightening torque

Component	Nm
Battery terminal to battery post	6

2.4 Removing and installing battery

Removing



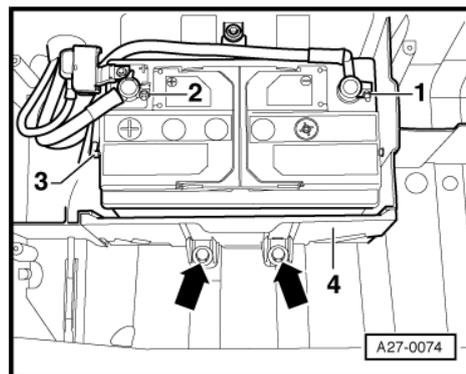
Caution

On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .

- Switch off ignition and remove ignition key.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.

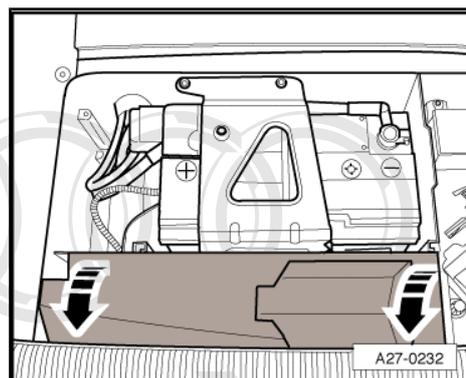
Vehicles without bracket for compact spare wheel:

- Remove cover from positive terminal.
- Connect the battery charger for battery back-up operation
⇒ [page 9](#) .
- Disconnect earth lead -1- and positive lead -2- from battery.
- Pull off hose -3- for central gas venting.
- If necessary, swivel out the moulded element in front of the battery.
- Remove the bolts -arrows- at battery mount -4-.



Vehicles with bracket for compact spare wheel:

- Remove the compact spare wheel.
- Swivel out the moulded element in front of the battery
-arrows-.

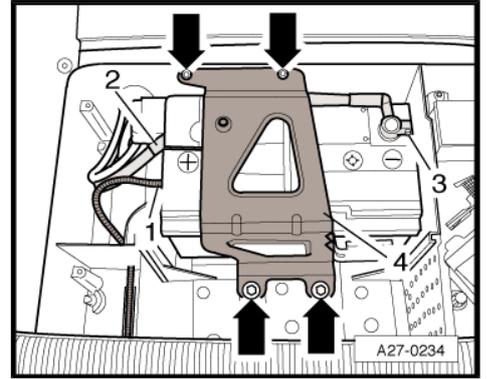


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- Remove the bolts -arrows- at compact spare wheel / battery mount bracket -4-.
- Remove the compact spare wheel / battery mount bracket.
- Remove cover from positive terminal.
- Connect the battery charger for battery back-up operation ⇒ [page 9](#) .
- Disconnect earth lead -3- and positive lead -2- from battery.
- Disconnect central gas venting system hose -1-.

All models:

- Lift battery out of luggage compartment.



 **WARNING**

Observe environmental requirements.

◆ *When disposing of used batteries, always observe the required disposal procedures for batteries and sulphuric acid ⇒ **Electrical system; General information; Rep. Gr. 27.***

Installing

Install in reverse order, paying attention to the following:

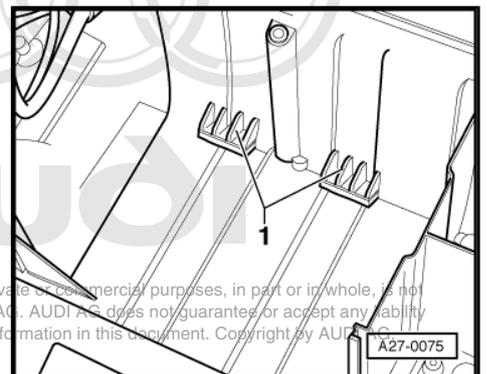
 **Note**

- ◆ *Only maintenance-free batteries complying with standards "TL82506" (as of December 1997) and "VW75073" (as of August 2001) are to be fitted.*
- ◆ *Batteries from the Audi parts range feature a base strip adapter for matching to different fastening strips. When and how the base strip adapter is to be used is described in the battery operating instructions.*

- Insert the battery in the battery recess such that the battery base strip engages beneath the locating elements -1-.

 **Note**

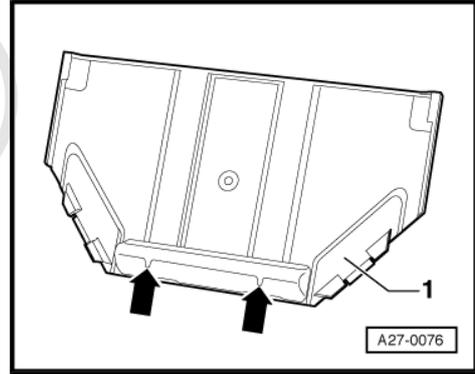
In order to ensure secure seating of the battery, only batteries with 10.5 mm mounting strips must be installed.



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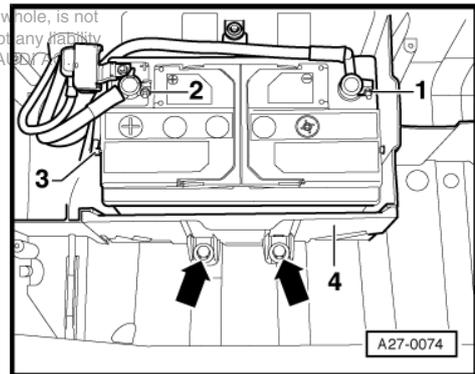
Vehicles without bracket for compact spare wheel:

- Insert the battery mount -1- such that the two lugs -arrows- engage in the recesses of the battery base strip.



- Tighten the bolts -arrows- at the battery mount 4.
- Connect up battery in the following sequence with ignition and electrical consumers switched off:

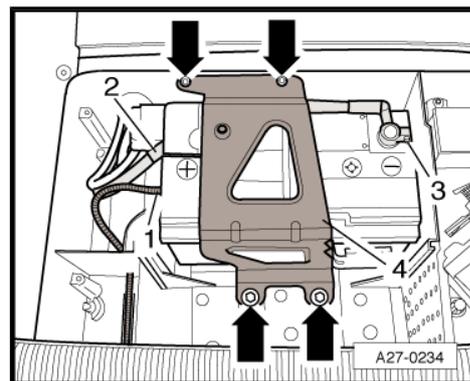
- Start by connecting pole shoe -2- of positive lead by hand to battery positive terminal "+" and tighten nut.
- Connect pole shoe -1- of earth lead by hand to battery negative terminal "-" and tighten nut.
- Connect hose -3- for central gas venting system. Observe notes in ⇒ Electrical system; General information; Rep. Gr. 27 .



Vehicles with bracket for compact spare wheel:

Connect up battery in the following sequence with ignition and electrical consumers switched off:

- Start by connecting pole shoe -2- of positive lead by hand to battery positive terminal “+” and tighten nut.
- Connect pole shoe -3- of earth lead by hand to battery negative terminal “-” and tighten nut.
- Connect hose -1- for central gas venting system. Observe notes in ⇒ Electrical system; General information; Rep. Gr. 27 .
- Insert compact spare wheel / battery mount bracket and tighten the bolts -arrows- at compact spare wheel / battery mount bracket -4-.



All models:

- After installation, check that battery is securely attached ⇒ Electrical system; General information; Rep. Gr. 27 .
- Terminate battery back-up operation on the battery charger.

If the battery has been removed and installed without battery back-up operation, the following action must be taken after connecting the battery:

- ◆ Activate vehicle equipment (radio/radio navigation system, clock, electric window lifters) in line with owner's manual.
- ◆ Deactivate service mode of telematics control unit ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .
- ◆ Check operation of remote control and synchronise remote control keys if necessary. Customers should be informed that second and additional keys are also to be synchronised so as to ensure proper operation of remote control function ⇒ Owner's manual .
- ◆ Interrogate fault memories of all control units and erase “Undervoltage” fault if necessary ⇒ Vehicle diagnosis, testing and information system VAS 5051.

 **Note**

- ◆ After re-connecting the power supply, the ABS/ESP warning lamp does not go out until the vehicle has been driven a few metres.
- ◆ Following installation, do not forget to insert moulded element in front of battery.

Tightening torques

Component	Nm
Battery mount to luggage compartment pan	10
Compact spare wheel / battery mount bracket to luggage compartment pan	10
Battery terminal to battery post	6

2.5 Checking battery

The following descriptions are given in ⇒ Electrical system; General information; Rep. Gr. 27 :

- ◆ Checking battery using battery tester with printer -VAS 5097A-

- ◆ Measuring no-load voltage - vehicles not equipped with energy management control unit -J644-
- ◆ Measuring current draw

2.6 Charging battery

The following descriptions are given in ⇒ Electrical system; General information; Rep. Gr. 27 :

- ◆ Charging battery with battery charger -VAS 5095A- , -VAS 5900- , -VAS 5903- or -VAS 5904-
- ◆ Totally discharged battery
- ◆ Quick charging battery
- ◆ Back-up power supply of battery via battery charger -VAS 5095A- , -VAS 5900- , -VAS 5903- or -VAS 5904-

2.7 Preparations before charging battery

Procedure



WARNING

Risk of explosion due to a discharged battery with "magic eye".

- ◆ *The battery must NOT be checked or charged if the indicator of the "magic eye" is colourless or yellow. Do NOT boost start the vehicle. There is a risk of explosion when checking or charging the battery or boost starting the vehicle. The battery must be renewed.*

Before connecting battery charger, it is necessary to perform the following steps:



Note

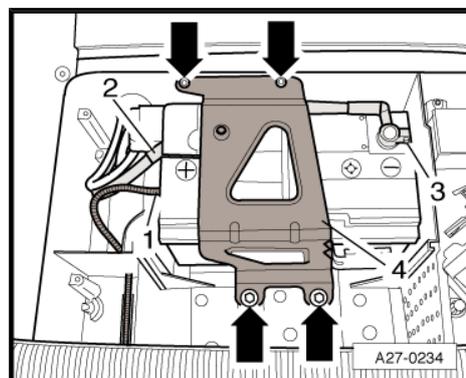
The battery clamps should normally be disconnected from the battery before charging.

- Switch off ignition and all electrical equipment; then take out ignition key.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.
- Remove cover from positive terminal.
- Unfasten nut -3- a few turns and disconnect pole shoe of earth lead from battery terminal.
- Unfasten nut -2- several turns and disconnect pole shoe of positive lead from battery terminal.

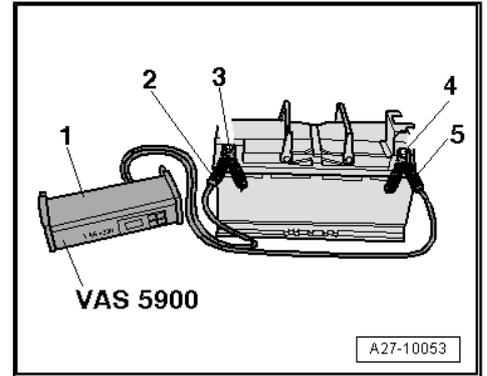


Note

-Item 1-, -Item 4- and -arrows- can be ignored.



- Connect red clamp "+" -item 5- of battery charger -1- to battery positive terminal -4- and black clamp "-" -item 2- to earth terminal -3-.
- Plug in mains connector of battery charger and switch on battery charger ⇒ Electrical system; General information; Rep. Gr. 27 .
- Leave boot lid open during charging.



2.8 Preparations for back-up power supply of battery

Procedure

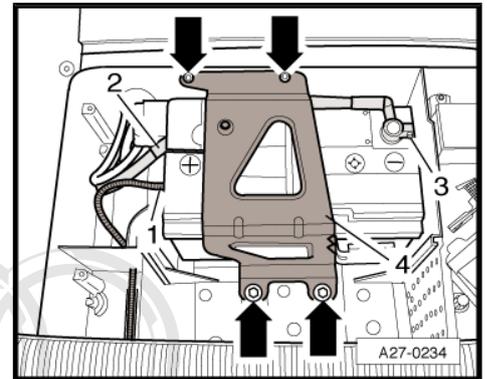
Before connecting battery charger, it is necessary to perform the following steps:

- Switch off ignition and all electrical equipment.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.
- Remove the cover over the positive terminal.
- Connect red clamp "+" of battery charger to positive battery clamp "+" -item 2- and black clamp "-" to negative battery clamp "-" -item 3-.

Note

-Item 1-, -Item 4- and -arrows- can be ignored.

- Plug in mains connector of battery charger and switch on battery charger ⇒ Electrical system; General information; Rep. Gr. 27 .



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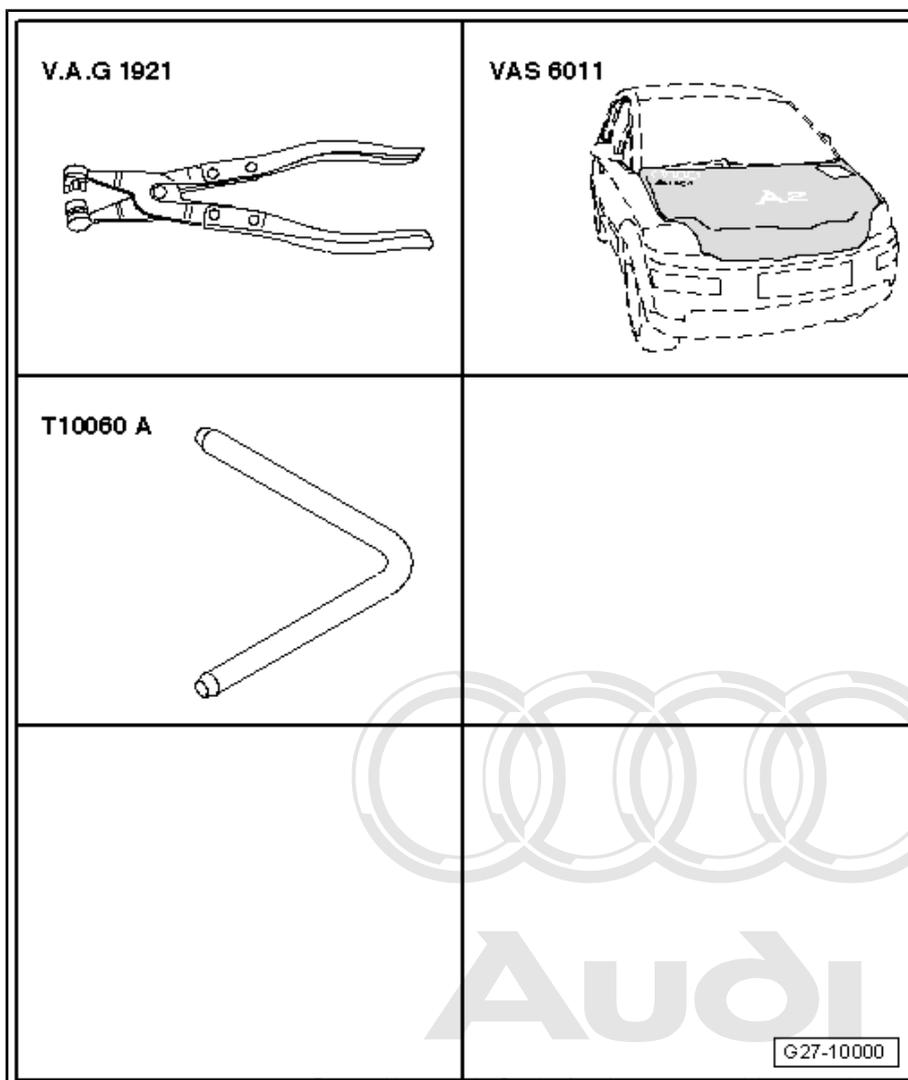
3 Removing and installing alternator

Observe notes on contact corrosion ⇒ [page 1](#) .

3.1 Vehicles with 1.4 I MPI engine

Special tools and workshop equipment required

- ◆ Hose clamp fitting tool - V.A.G 1921-
- ◆ Protective cover for bonnet Audi A2 -VAS 6011-
- ◆ Locking pin -T10060 A-



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Removing



Note

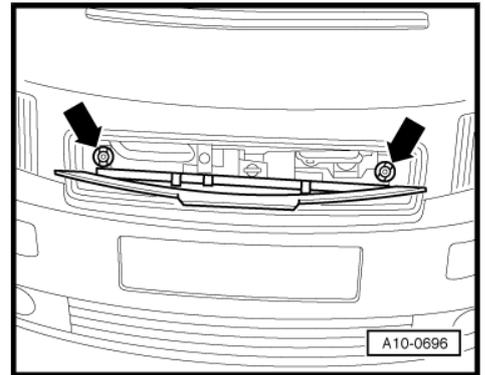
The following describes the procedure for a vehicle with air conditioner.



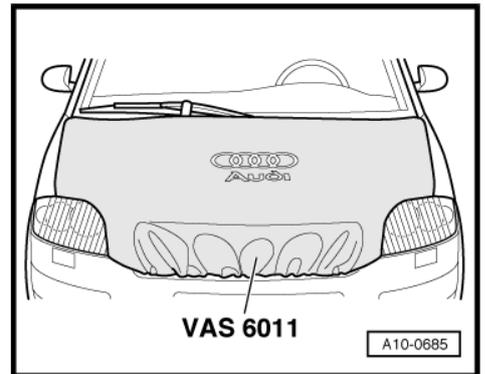
Caution

On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .
- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



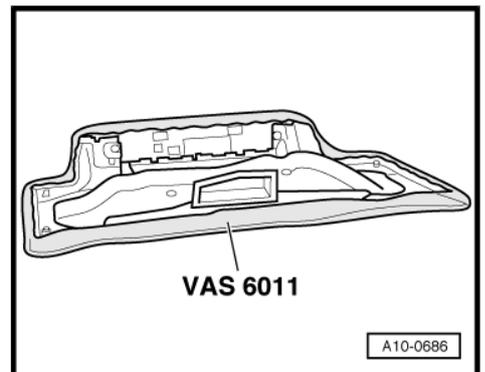
- Fit the protective cover -VAS 6011- over the bonnet.



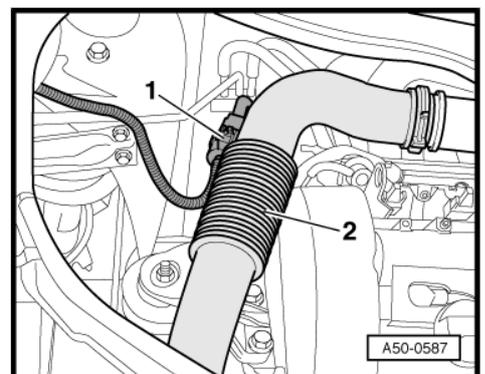
 **Note**

Do not stand the bonnet on end.

- Detach the bonnet and set it down on the protective cover -VAS 6011- .



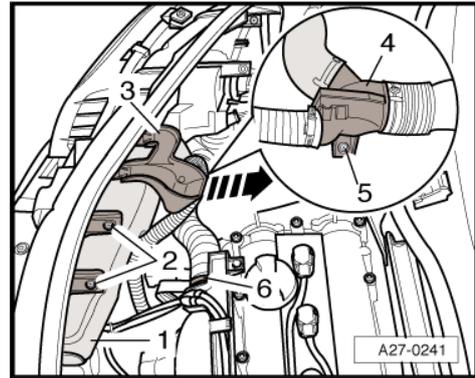
- Detach the activated charcoal filter system solenoid valve 1 - N80- -Item 1- with mount at the air duct.
- Remove the air duct -2-; for this purpose, release the spring clips with hose clamp fitting tool -V.A.G 1921- .
- Remove the air duct.



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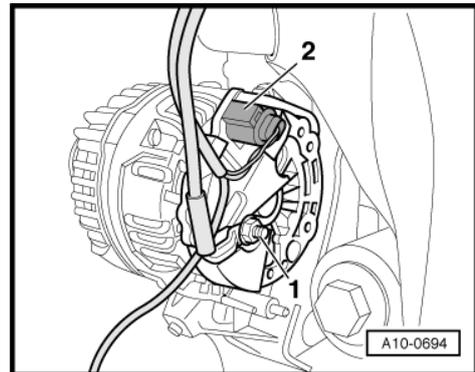
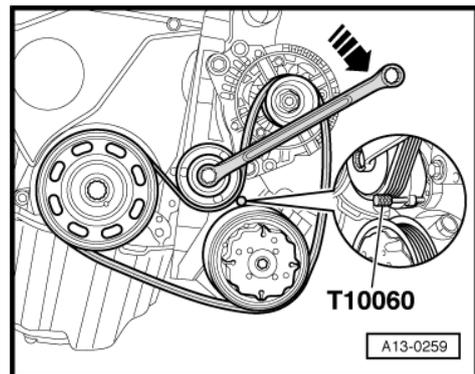
- Remove bolts -2-.
- Detach the water collector -3- in -direction of arrow-.
- Detach air duct hose -6- for intake air preheater from warm air arrester plate.
- Remove the bolt -5- from the intake air preheater -4-.
- Detach the air hose -1- at the lock carrier and air cleaner housing.



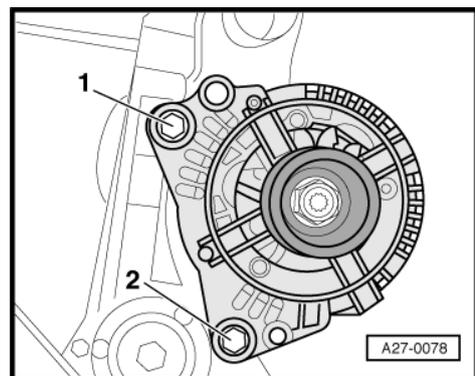
Note

Mark direction of rotation of ribbed V-belt with chalk or felt pen. Running a used belt in the opposite direction could destroy it.

- In order to slacken the poly V-belt, turn tensioner in -direction of arrow- using a ring spanner.
- Lock the poly V-belt tensioner in position by inserting the locking pin -T10060 A- in the locating holes.
- Remove ribbed belt.
- Detach the terminal 30/B+ wire -Item 1- from alternator.
- Unplug electrical connector -2-.



- Remove securing bolts -1- and -2- for alternator.

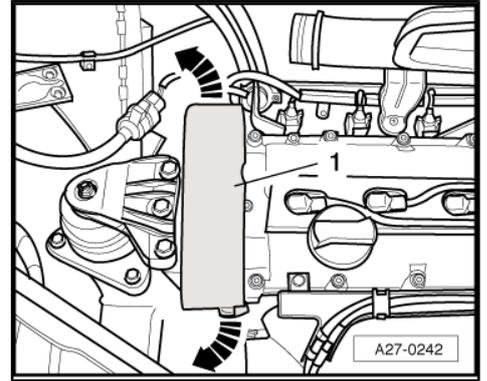


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- Release the retaining clips -arrows- and remove the toothed belt cover -1-.
- Lift out alternator.

 **Note**

- ◆ *If the alternator sticks in its holder, screw the bolts back in again down to the last 2 turns.*
- ◆ *Tap carefully on the bolt heads with the flat side of a hammer to release the bushes of the alternator mount.*



Installing

Install in reverse order, paying attention to the following:

- To facilitate positioning of the alternator, drive back the bushings for the securing bolts slightly.

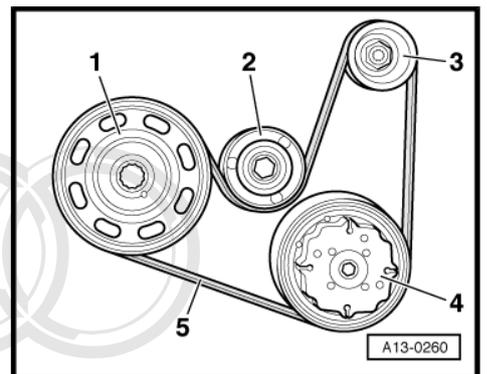
 **Note**

Stiff alternator mount bushes must be released as otherwise the clamping force of the bush will not be adequate even if tightened to the correct torque.

- Make sure the poly V-belt is properly positioned and correctly routed.

Poly V-belt routing on vehicles with air conditioner:

- 1 - Crankshaft pulley
- 2 - Tensioning roller
- 3 - Alternator pulley
- 4 - Air conditioner compressor pulley
- 5 - Poly V-belt



- Position the poly V-belt on the crankshaft and alternator pulleys.
- As a final step, position the poly V-belt on the air conditioner compressor pulley.

All models:

- Slacken off the tensioner and pull the locking pin T10060 A out of the locating holes.
- Make sure the poly V-belt is correctly positioned.
- Connect the battery. Action to be taken => [page 3](#).
- Start the engine and check belt running.

Tightening torques

Component	Nm
Alternator to bracket	25
Terminal 30/B+ wire to alternator	16
Intake air preheater to lock carrier	3.5
Air hose to lock carrier	2.5

3.2 Vehicles with 1.6 l FSI engine

4 Servicing alternator

4.1 Checking alternator

The alternator is checked as part of "Guided fault-finding" under "Body/electrical system / 27 - Starter, current supply/electrical components / C- Alternator, checking" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

4.2 Servicing alternator

The following descriptions are given in ⇒ Electrical system; General information; Rep. Gr. 27 :

- ◆ Bosch alternator from 2001 onwards - exploded view
- ◆ Removing and installing voltage regulator - Bosch alternator from 2001 onwards
- ◆ Checking carbon brushes - Bosch alternator from 2001 onwards
- ◆ Removing and installing poly V-belt pulley without free-wheel
- ◆ Removing and installing poly V-belt pulley with free-wheel



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