

Subframe, removing and installing

WARNING!

- ♦ **Do not re-use any fasteners that are worn or deformed in normal use.**
- ♦ **Some fasteners are designed to be used only once, and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual-replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.**

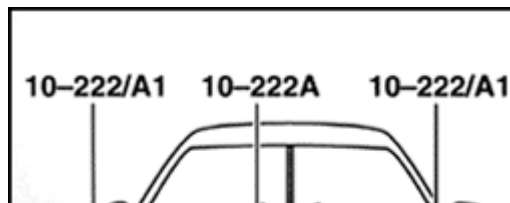
Special tools, test equipment and auxiliary items

10-222A Engine support bridge	10-222/1
3393	

Removing

- Support engine using engine support bridge.
- Remove wheel trim.

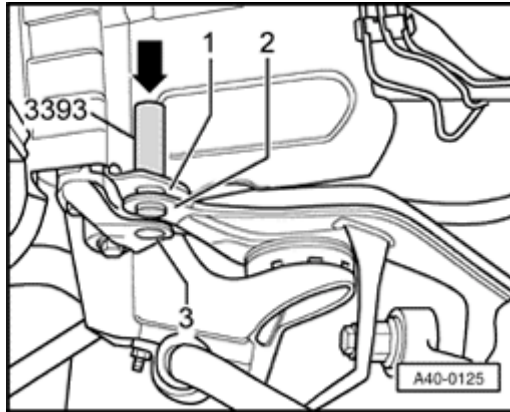
On light alloy wheels use puller in vehicle tool kit to remove trim cap.



A

- Remove wheels.
- Remove noise insulation panel.

40-78

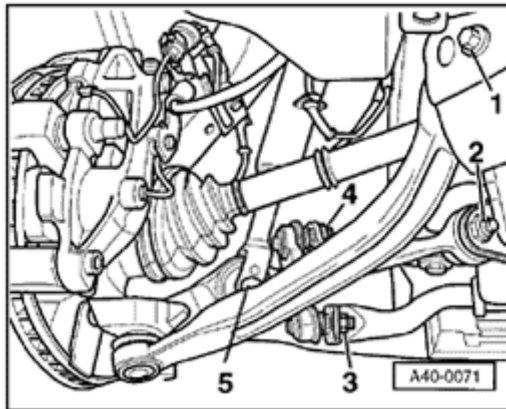


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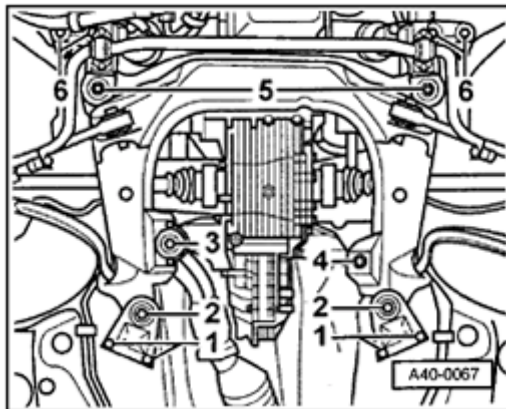
- Before loosening subframe, use 3393 testing mandrel to make sure that holes -1- and -2- are aligned.
- If holes -1- and -2- are not aligned, carry out wheel alignment after installing subframe.

CAUTION!

Install a support device (e.g. VAG1383A transmission jack) to prevent damage to the lower link joints resulting from excessive rebound travel in the suspension.

**A**

- Remove nuts -3-.
- Loosen bolts -1- (attaching lower guide links to subframe).

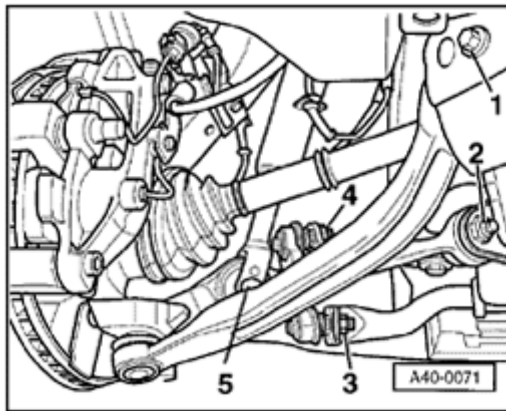
**A**

- Remove bolts -1-.
- Remove bolts -2- and lower subframe at rear.

Note:

To prevent the outer joints on the lower track control link and guide link from being bent too far, secure the links to the car body using a piece of wire or similar.

- Remove bolts for lower guide links.
- Remove lower guide links from subframe.

**A**

- Remove bolts -5-.

Note:

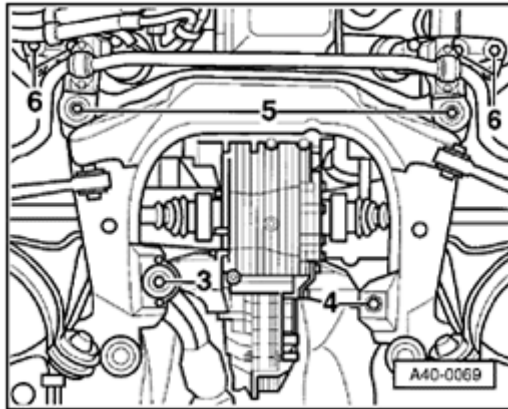
For vehicles with headlight range control ⇒ [page 40-14](#) .

- Remove nuts -2- (attaching lower track control links to subframe) and remove bolts.
- Disconnect ABS wheel speed sensor wiring from retainers on brake calipers.

**A**

- Remove lower track control links from subframe.

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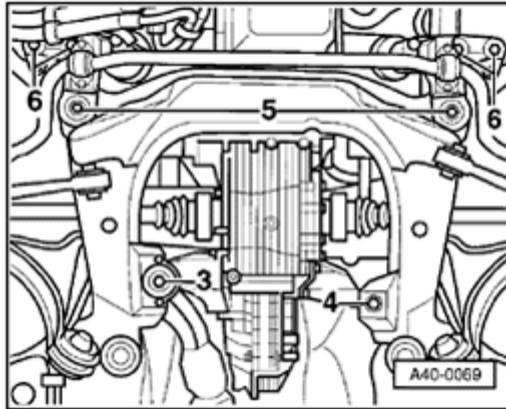


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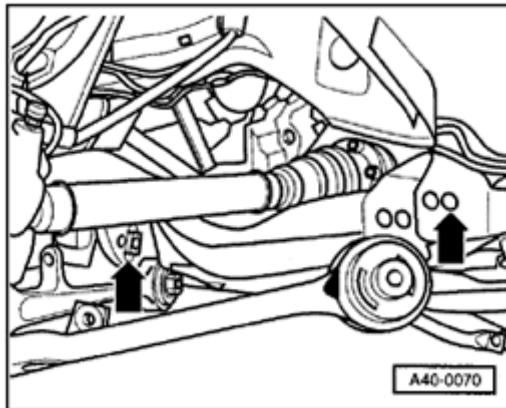
- Remove nuts -3- and -4-.
- Remove bolts -5-.
- Loosen bolts -6- until subframe can be removed.

Installing

- All nuts and bolts must be replaced

**A**

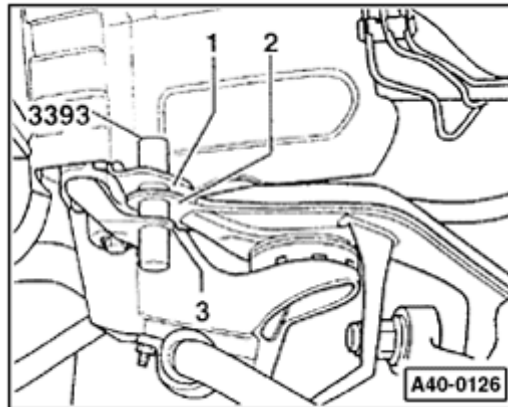
- Install subframe; install bolts -5- and -6- hand-tight.
- Install bolts securing suspension struts to lower track control links.

**A**

- Install lower track control links and lower guide links in subframe.
- Install bolts in inner holes (arrows).

Note:

For vehicles with headlight range control ⇒ [page 40-14](#) .

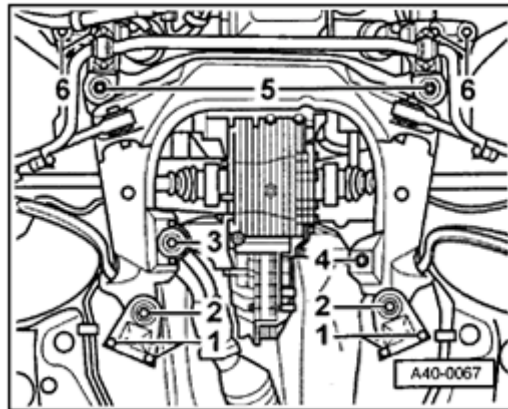


A

- Before tightening, 3393 testing mandrel must be installed to align subframe to body
- Hole -1-, subframe hole -2- and aluminium bracket hole -3- must align on both sides

Notes:

- ◆ *When installing the complete subframe, the 3393 testing mandrel can be used to align the subframe to the body only if holes -1- and -2- were aligned before the repairs were made.*
- ◆ *If the 3393 testing mandrel is not used when installing the subframe or if holes -1- and -2- did not align before repairs were made a wheel alignment will need to be carried out.*



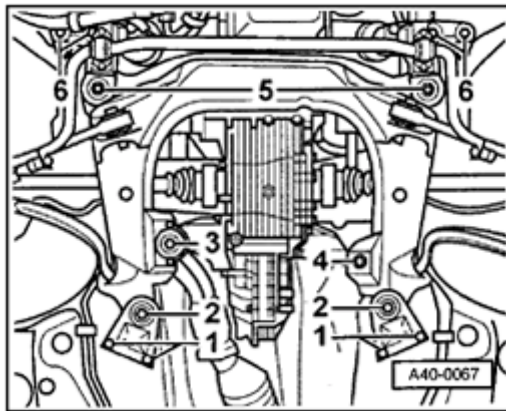
A

- Loosely install bolts -1- and -2-.
- Loosely install bolts -3- and -4-.
- Carry out corrosion protection measures, as needed, to holes used for 3393 testing mandrel.

Tightening sequence

CAUTION!

The bonded rubber bushings can only be turned to a limited extent. The bolted connections on the suspension links should therefore only be tightened when the vehicle is standing on the ground.

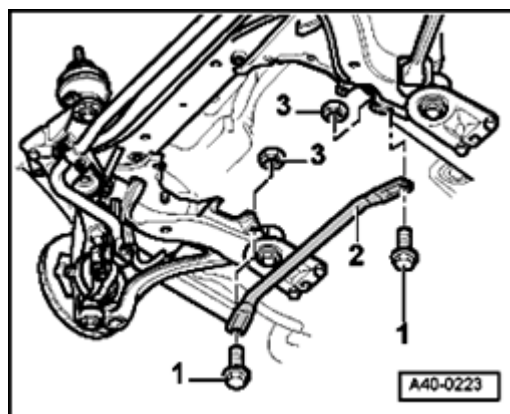


A

- Tighten bolts -2- and -5- to 110 Nm (81 ft lb) + 1/4-turn (90°).
- Tighten bolts -6- to 75 Nm (55 ft lb).
- Tighten bolts -1- to 23 Nm (17 ft lb).
- Tighten nuts -3- and -4- to 40 Nm (30 ft lb).
- Tighten bolts for lower track control link to 80 Nm (59 ft lb) + 1/4-turn (90°).
- Tighten guide link bolts to 90 Nm (66 ft lb) + 1/4-turn (90°).
- Attach coupling link to stabilizer bar using new ribbed nuts and tighten to 100 Nm (74 ft lb).
- Attach suspension strut to lower track control link.
Tightening torque: 90 Nm (66 ft lb)
- Install ABS wheel speed sensor wiring into retainer on brake caliper.
- Install wheels.

Lower cross member, removing and installing

From m.y. 1998 ➤, various subframes (⇒ parts catalog microfiche) are equipped with a lower cross member.



A

1 - Bolts M10 x 22

Tightening torque: 40 Nm (30 ft lb) +1/4-turn (90°)

2 - Cross member

3 - Nuts

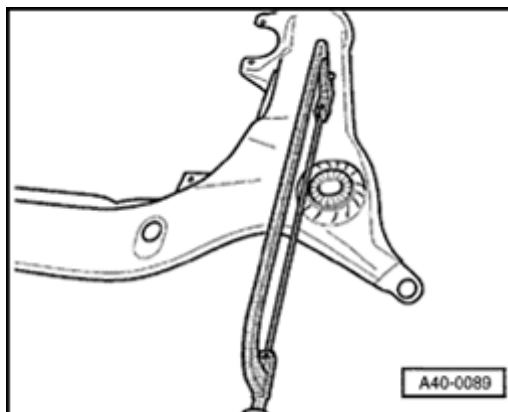
Subframe bushings, replacing

⚠ Removing bonded rubber mounts

- Saw or cut off rubber bead on subframe up to outer mounting bushing.

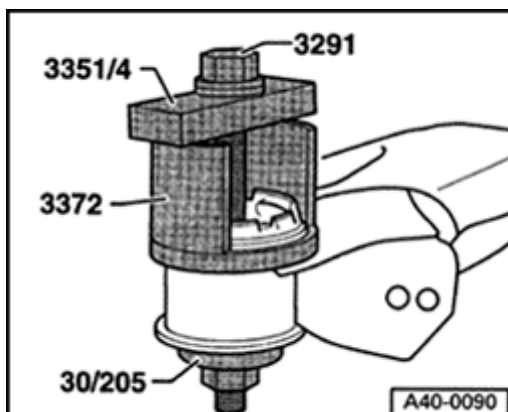
Note:

If the paint on the surface of the subframe is damaged, carry out corrosion protection measures.

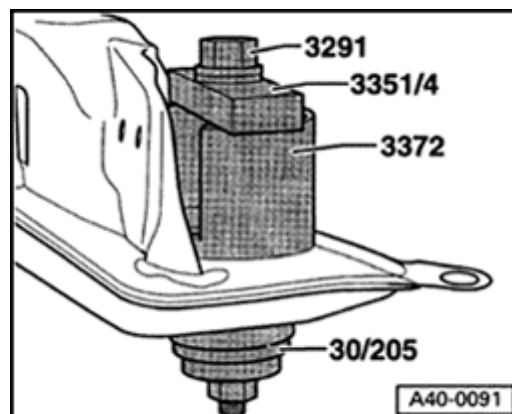


⚠ Pulling out rear bonded rubber mounts

- Make sure that 3372 installation device is properly positioned and cannot tilt.

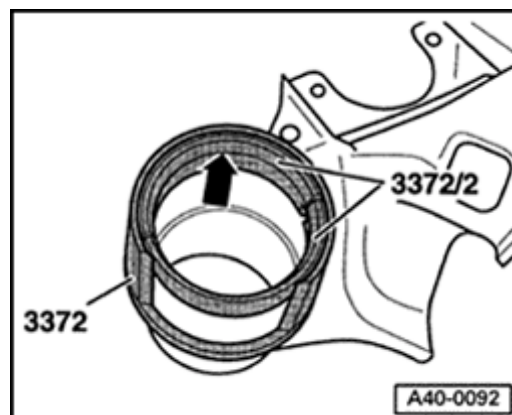


40-87



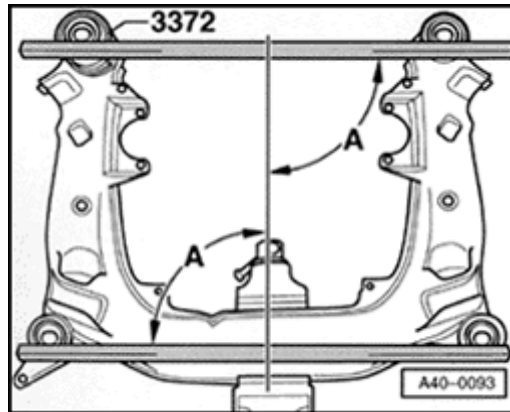
▲ Pulling out bonded rubber mounts

All of the bonded rubber subframe mounts are pulled out using the same tool.



▲ Assembly preparations for pulling in subframe bonded rubber mounts

- Install installation device and insert 3372/2 thrust pieces.



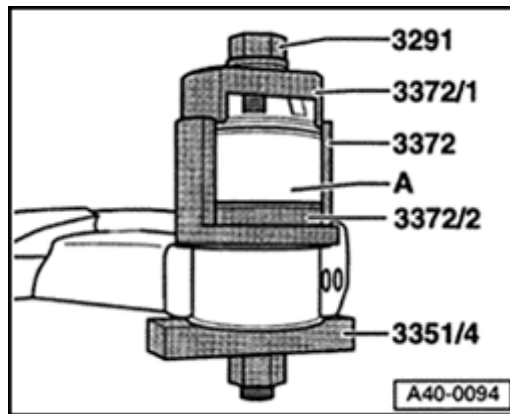
A Aligning bonded rubber mounts

- Bonded rubber mounts must be aligned using a long rectangular tube or a straight-edge.

Angle -A-: $90^{\circ} + 5^{\circ}$

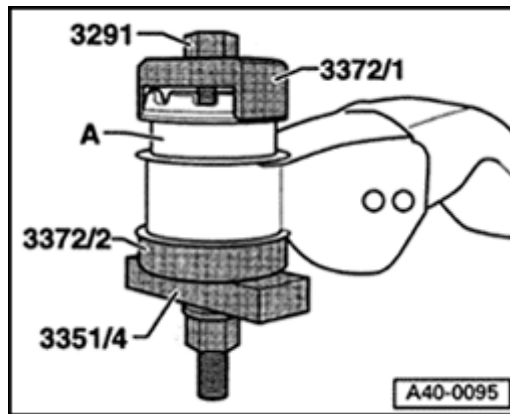
Note:

Always use protective jaws when clamping the subframe in a vise.



A Pulling in rear bonded rubber mounts

- Use G 294 421 A1 lubricating oil when pulling in bonded rubber mounts.
- Pull in mount -A- until 3372/1 thrust piece aligns with upper edge of 3372 installation device.
- Remove 3372 installation device and 3372/2 thrust pieces upward.

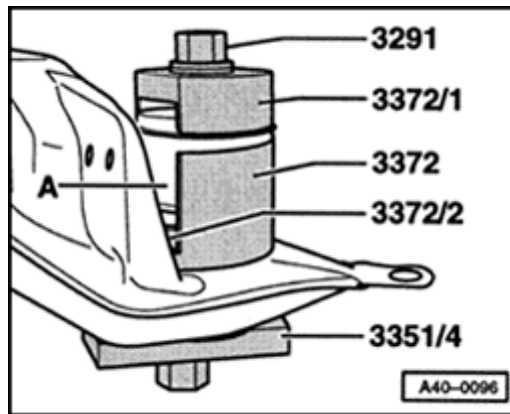


▲ Pulling in rear bonded rubber mounts

- Install 3372/2 thrust pieces between 3351/4 bridge and subframe.
- Pull bonded rubber mount in up to stop.

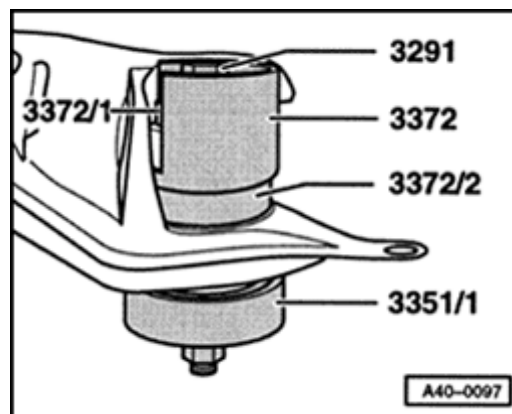
Note:

If the paint on the surface of the subframe is damaged, carry out corrosion protection measures.



▲ Pulling in front bonded rubber mount

- Use G 294 421 A1 lubricating oil when pulling in bonded rubber mounts.
- Install 3372/2 thrust pieces into 3372 installation device.
- Pull in bushing -A- until 3372/1 press tool is flush with upper edge of 3372 installation device.



A Pulling in front bonded rubber mounts

- Lift 3372 installation device and remove 3372/2 thrust pieces.
- Replace 3351/4 bridge with 3351/1 thrust piece and then pull bonded rubber mount in up to stop.

Note:

If the paint on the surface of the subframe is damaged, carry out corrosion protection measures.