39-68

Driveshaft, servicing

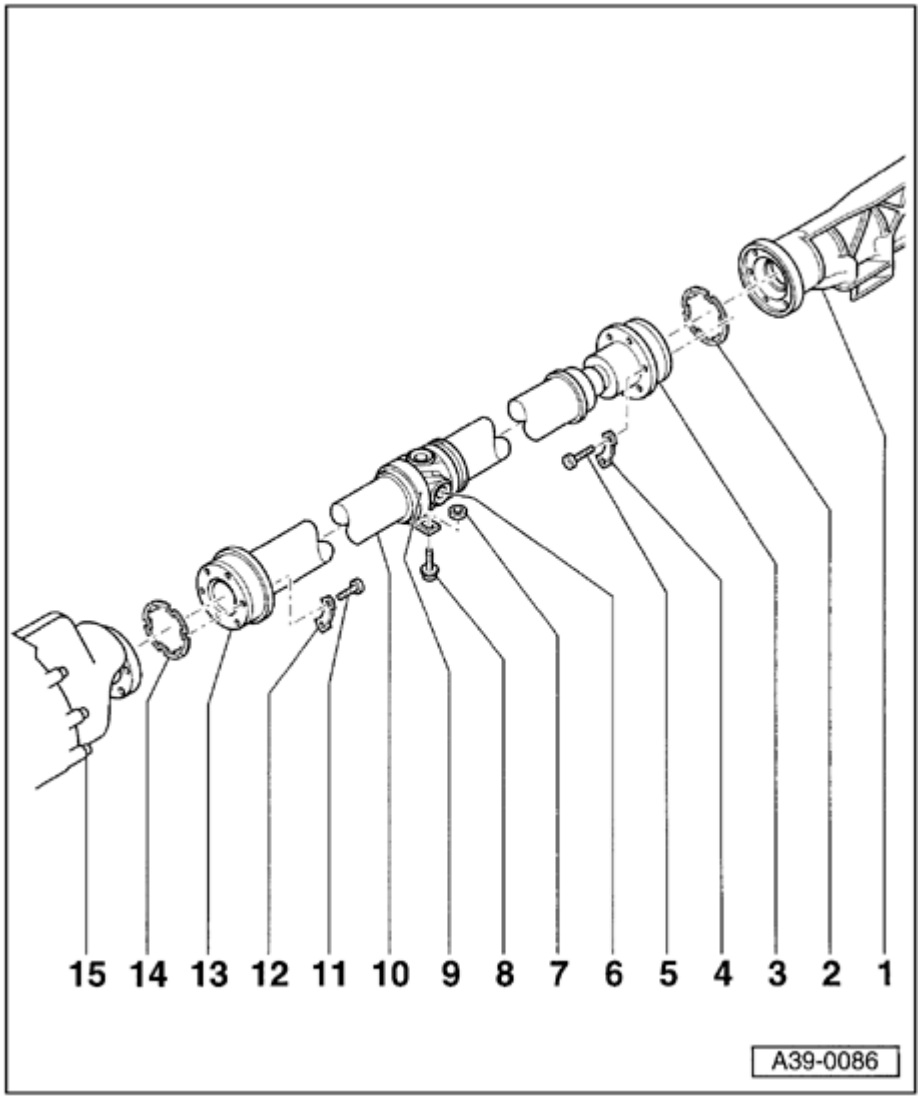
CAUTION!

- ***Refer to general repair instructions ⇒ Page 00-14 .***
- ***Do not bend the driveshaft more than 25° at the center universal joint, otherwise the universal joint could be damaged.***
- ***Only store and transport the driveshaft extended.***
- ***No repair work can be carried out on the driveshaft with the exception of removing, installing and adjusting.***
- ***If the driveshaft is only detached at the transmission or from the rear final drive, it must be tied up or supported at the constant velocity joints.***
- ***Before removing, mark the position of the joint to flange. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.***

- ***For complaints (noise or vibrations), first check whether correct adjustment of the driveshaft resolves the problem before replacing the driveshaft.***

- ***After removing the driveshaft from the rear final drive, do not reinstall additional balance disc (thicker washer) which may have been installed between base plate and bolt head.***

39-69



1 - Final drive

2 - Gasket

- Always replace
- Pull off backing foil, and attach self-adhesive side of gasket to drive flange.
- De-grease drive flange

3 - Constant Velocity (CV) joint

- Maximum permissible bend angle 8°

4 - Backing plate

5 - Socket-head bolt

- Always replace
- Self-locking
- 55 Nm (41 ft lb)
- Bolt threads in drive flanges must always be cleaned (e.g. with thread tap)

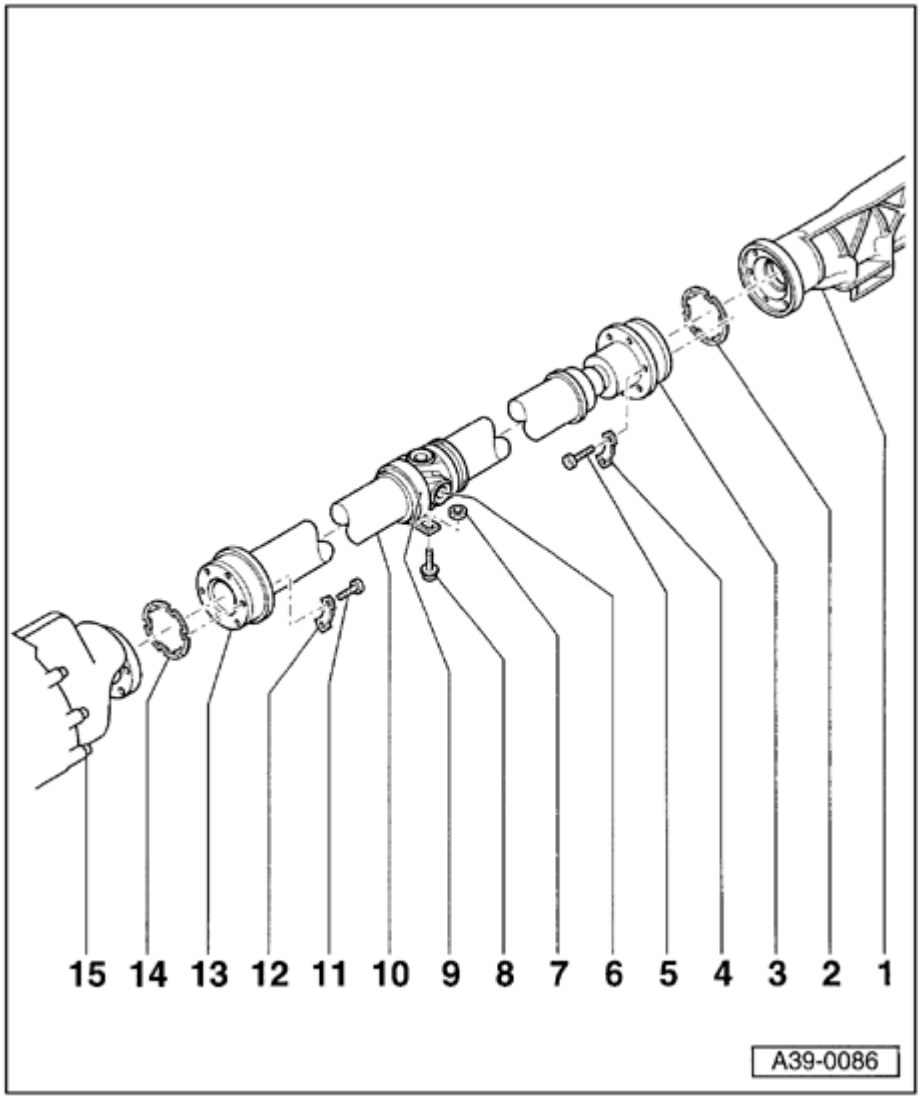
6 - Universal joint

- Max permissible bend angle 25°

7 - Shim

- Determining thickness ⇒ Page 39-79

39-70



8 - Hex bolt

- 23 Nm (17 ft lb)

9 - Driveshaft center bearing

10 - 14Driveshaft

- Adjusting ⇒ Page 39-79

11 - 16Socket-head bolt

- Always replace
- Self-locking
- 55 Nm (41 ft lb)
- Bolt threads in drive flanges must always be cleaned (e.g. with thread tap)

12 - Backing plate

13 - Constant Velocity (CV) joint

- Max. permissible bend angle 8°

14 - Gasket

- Always replace
- Pull off backing foil, and attach self-adhesive side of gasket to drive flange.
- De-grease drive flange

15 - Transmission

39-71

Driveshaft, removing and installing

Special tools and equipment

- 3298 alignment fixture for all wheel drive driveshaft
- 3139/2 adapter

- Observe all cautions ⇒ Page 39-68 .

Removing

- Remove crossmember under exhaust system (if installed).
- Remove rear section of exhaust system located rearward of exhaust pipe clamp(s).

⇒ Repair Manual, Engine Mechanical, Repair Group 26

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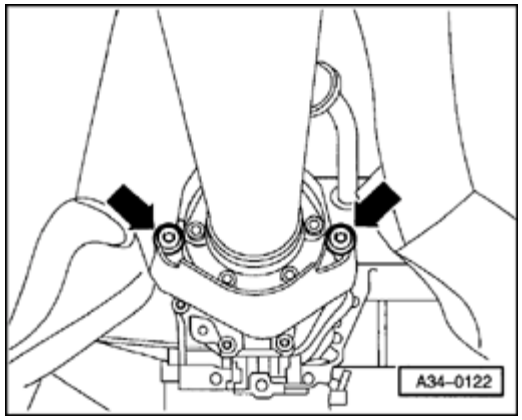
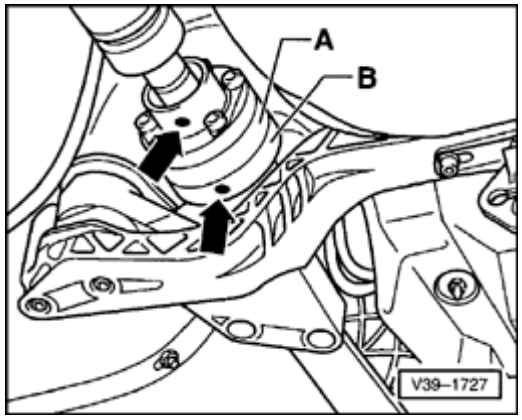
Removing

- Remove heat shield above driveshaft.



- Remove heat shield for driveshaft from cover of Torsen differential (arrows).



- Check for factory color markings marked on driveshaft and driveshaft/flange at rear final drive drive flange. If not, mark position of driveshaft flange (arrow -A-) in relation to drive flange final drive (arrow -B-) with paint.

Note:

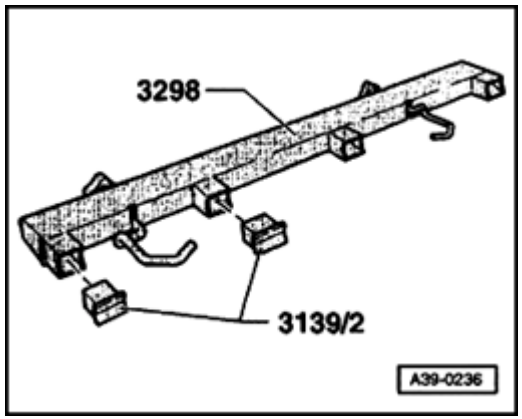
Marking the shaft is only necessary if the same driveshaft will be re-installed.

- Loosen mounting bolts of both driveshaft flanges.

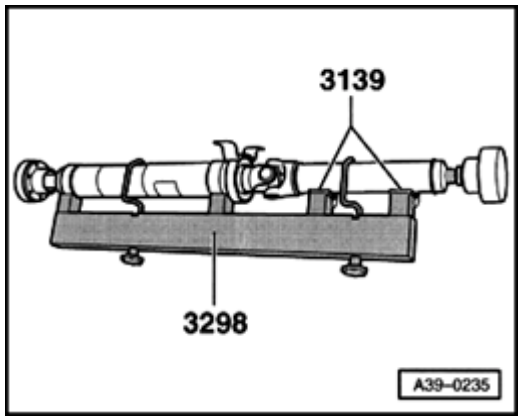
39-73

- Remove three upper mounting bolts on each driveshaft constant velocity joint.

- Loosen mounting bolts of center bearing slightly.



- Install two 3139/2 adapters, in 3298 alignment fixture.



- Mount 3298 alignment fixture with both 3139/2 adapters and tighten plastic nuts.

Note:

Never install alignment fixture onto balance plates.

- Remove mounting bolts of flanges to transmission and to final drive as well as mounting bolts for center bearing.
- Push driveshaft together toward final drive. CV joints can be moved axially.

- Remove driveshaft at transmission drive flange using assembly tool.

Note:

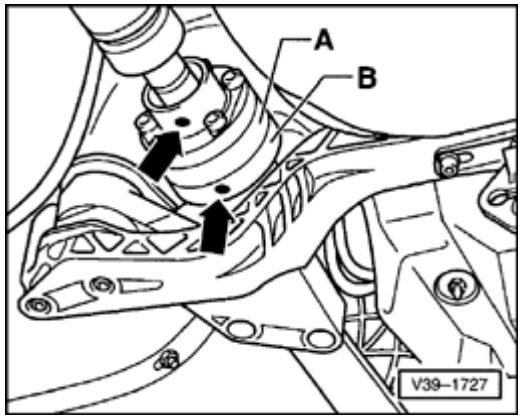
Driveshaft must always be kept in extended position for transportation and storage.

Installing

Installation is the reverse of removal, note the following:

Notes:

- *The threaded holes on the drive flange of the transmission and the final drive should be cleaned of all locking compound residue after the driveshaft has been removed. Otherwise there is a risk of seizing a bolt when tightening and subsequently break off at the next disassembly.*
- *Clean by using a thread tap.*
- *Replace seals on drive flanges. Pull off backing foil, and attach self-adhesive side of gasket to drive flange. Adhesive bonding surface must be free of grease.*



Notes continued:

- *To prevent imbalance, the flanges of the driveshaft (arrow -A-) and of the final drive (arrow -B-) must be installed so that the factory color markings (or the markings made during removal) are aligned.*
- *If a new driveshaft is being installed and the factory color marking on the rear final drive flange is no longer visible, the radial deviation at the flange for the driveshaft must be measured ⇒ Page 39-77 and the color marking on the driveshaft must be aligned with the color marking on the flange.*
- *After removing the driveshaft from the final drive, additional balance disc (thicker washer) which may have been installed between base plate and bolt head may not be re-installed.*
- *Always replace self-locking driveshaft bolts.*

- After installing, adjust driveshaft ⇒ Page 39-79 .

- Align exhaust system free of stress.

⇒ Repair Manual, Engine Mechanical, Repair Group 26

Tightening torques

Component	Tightening torque
Driveshaft to transmission	55 Nm (41 ft lb)
Driveshaft to final drive	55 Nm (41 ft lb)
Center driveshaft bearing to body	23 Nm (17 ft lb)
Heat shield for driveshaft to transmission	23 Nm (17 ft lb)
Front cross-piece below exhaust system to body	25 Nm (18 ft lb)
Nuts for exhaust pipe clamp	40 Nm (30 ft lb)