Drive flange/driveshaft radial deviation, measuring and identifying

Special tools and equipment

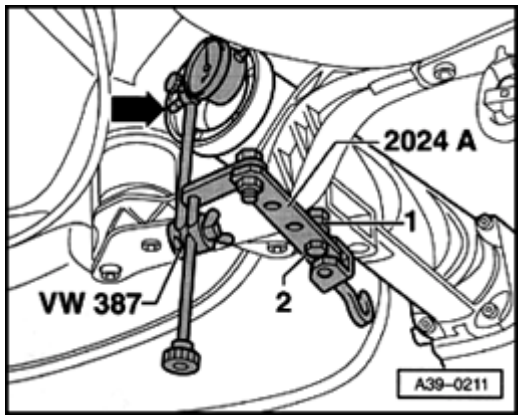
- VW38 universal measurement bracket
- 2024A engine sling
- Dial indicator
- Bolt M10 x 85

Notes:

- *Radial deviation must always be measured, when the torque tube is removed. Apply a new color marking and remove the old one.*
- *If a new driveshaft is installed and the color marking on the drive flange of the final drive is no longer visible, the location of the largest radial deviation must be determined and identified with a color marking.*
- *This color marking is then matched with the color marking on the driveshaft* ⇒ *Page 39-74* .

- *The radial deviation can also be measured with final drive installed, by separating driveshaft at final drive. Notes ⇒ Page 39-68 .*

- Remove front left bolt at crossmember for final drive.



- Remove strap from 2024A engine sling and tighten with bolt -2- (M10 x 85 mm) at open bore. Position strap using approx. 5 nuts (M12) for backing -1-.
- Secure VW387 dial gauge holder onto strap mounted in this position.
- Place dial indicator on inside machined surface of drive flange (arrow) and set to "0" with with 1 mm preload.
- Turn differential simultaneously in one direction by turning rear wheels (drive flanges right and left), until drive flange makes complete rotation.
- Identify greatest radial deviation on outer drive flange with color marking (corresponds to largest dimension from pivot axis).
- Remove old color marking on drive flange.
- Install driveshaft ⇒ Page 39-74 .

Driveshaft, adjusting

Special tools and equipment

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

- Observe all cautions ⇒ Page 39-68

Adjustments should be carried out carefully, because a badly adjusted driveshaft is often the cause of vibration and droning noises.

- Remove crossmember below 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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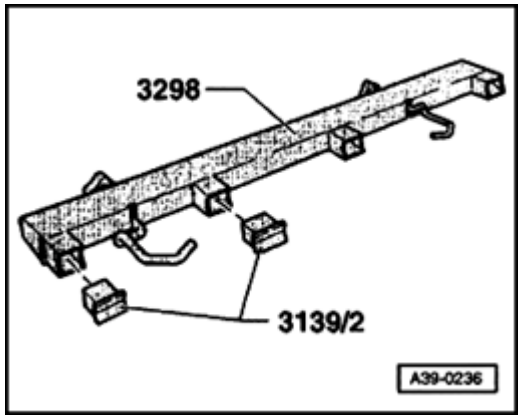
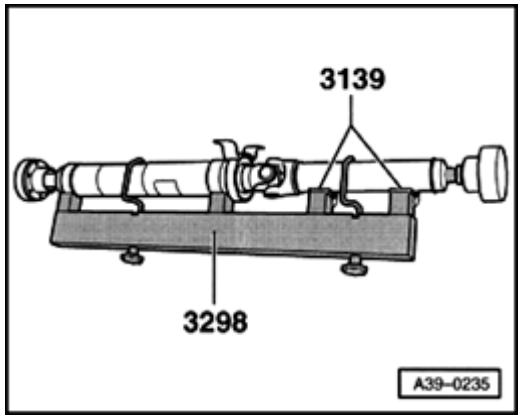


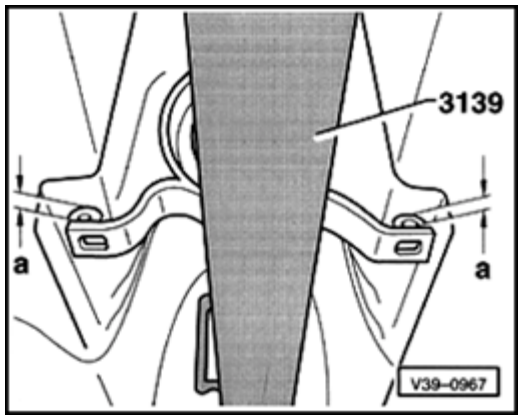
- Place two 3139/2 spacers in 3298 assembly tool.



- Mount 3298 assembly tool with two 3139/2 spacers and tighten plastic nuts.

Note:

Never install alignment fixture onto balance plates.



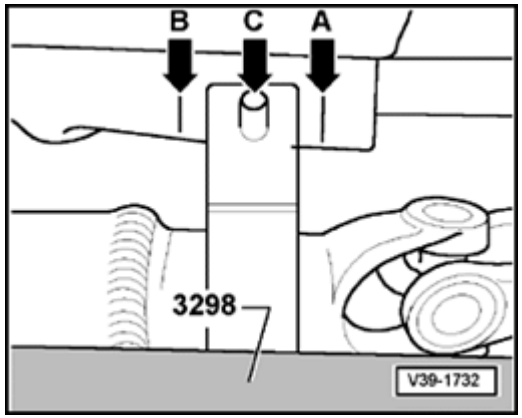
- Remove mounting bolts and shims of center bearing.

- Align center driveshaft bearing so that dimensions -a- are same on both sides.
- Measure dimensions -a-.
- Identify shims according to table. Part numbers ⇒ parts catalog

The following shims are available

Dimension -a- (mm)	Shim thickness (mm)
0-3.0	-
3.1-5.0	2
5.1-7.0	4
7.1-9.0	6
9.1-11.0	8
11.1-13.0	10

- Install selected shims on both sides.



Aligning driveshaft longitudinally

- Push driveshaft with alignment fixture toward rear as far as possible.
- Mark position of center bearing on body (arrow -A-).
- Push driveshaft with alignment fixture toward front as far as possible.
- Mark position of center bearing on body (arrow -B-).
- Align driveshaft (arrow -C-).

The center bearing must be aligned centrally between markings -A- and -B-.

- Install mounting bolts for center driveshaft bearing together with previously selected shims, and tighten.
- Remove alignment fixture.
- Install heat shield above driveshaft.

Installation is the reverse of removal, note the following:

- Align exhaust system free of stress.

⇒ Repair Manual, Engine Mechanical, Repair Group 26

Tightening torques

Component		Tightening torque
Center bearing to body		23 Nm (17 ft lb)
Front cross-member below exhaust system to body		25 Nm (18 ft lb)
Nuts on exhaust pipe clamp		40 Nm (30 ft lb)