

Differential, removing and installing

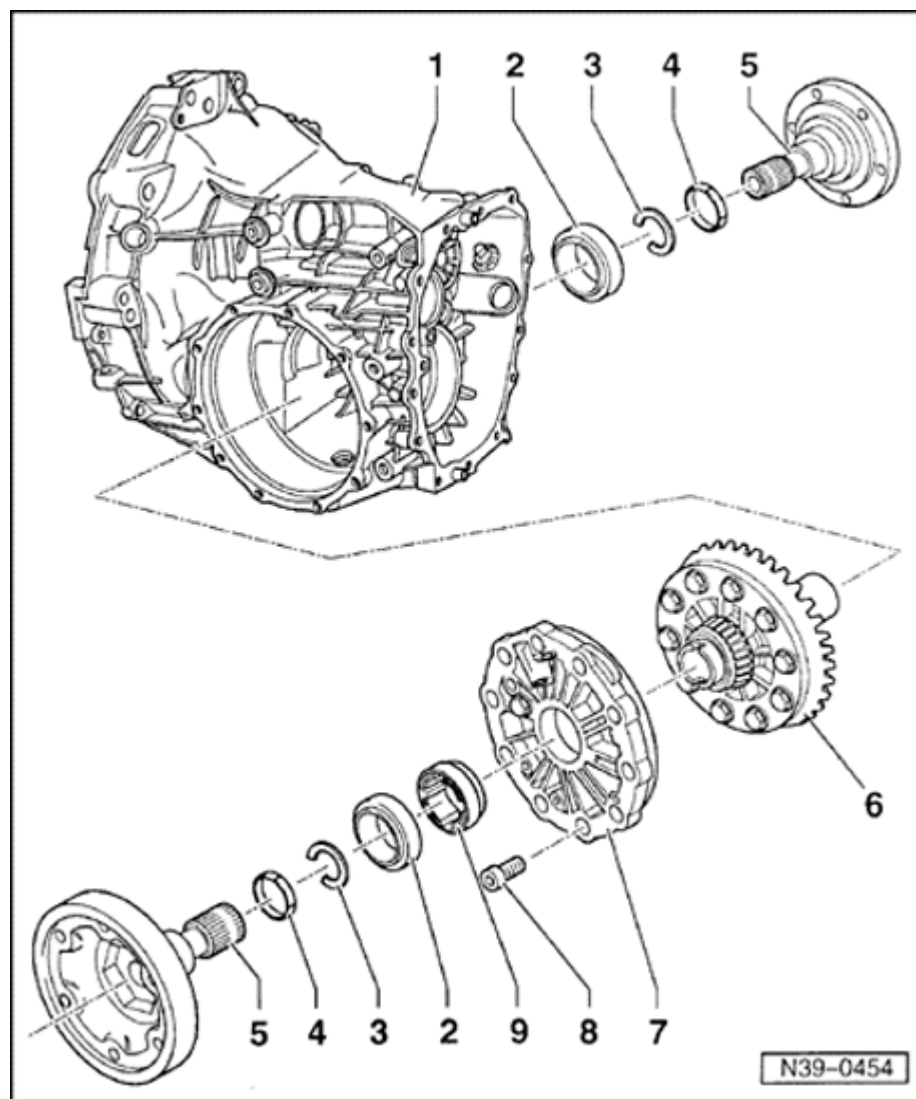
Special tools and equipment

- ◆ VW771 slide hammer - complete set
- ◆ 3257 Puller
- ◆ Kukko 21/3 extractor

Notes:

- ◆ *Removal and installation is also possible with transmission installed.*
- ◆ *The differential can be removed and installed without disassembling shift mechanism, input shaft, pinion shaft or transmission cover. The above components have to be disassembled if the differential needs to be adjusted.*
- ◆ *Flanges with and without polygon bearings are used. Application ⇒ [Page 00-3](#) .*
- ◆ *Polygon bearings can only be replaced together with drive flange.*

- ◆ *Look for visible damage to polygon bearings.*
- ◆ *The rough operation of the polygon bearing with the drive flange not installed is not an indication that the bearings are malfunctioning. An acoustic check can only be carried out while installed.*
- ◆ *A spacer ring is installed between the polygon bearing and differential pinion for drive flanges with a spline diameter of 30 mm ⇒ [Page 39-14](#) , ⇒ [Fig. 3](#) and ⇒ [Fig. 4](#) .*
- ◆ *Adjustments are required when replacing components marked with 1): ⇒ [Page 39-33](#) , list of adjustments*

**1 - Transmission housing 1)****2 - Seal**

- ◆ Always replace ⇒ [Page 39-1](#)

3 - Circlip

- ◆ Always replace
- ◆ Removing and installing ⇒ [Fig. 1](#)

4 - Spacer ring

- ◆ Only for drive flange with polygon bearings and splines with 30 mm diameter ⇒ [Page 00-3](#)
- ◆ Removing ⇒ [Fig. 2](#)
- ◆ Installing ⇒ [Fig. 3](#)

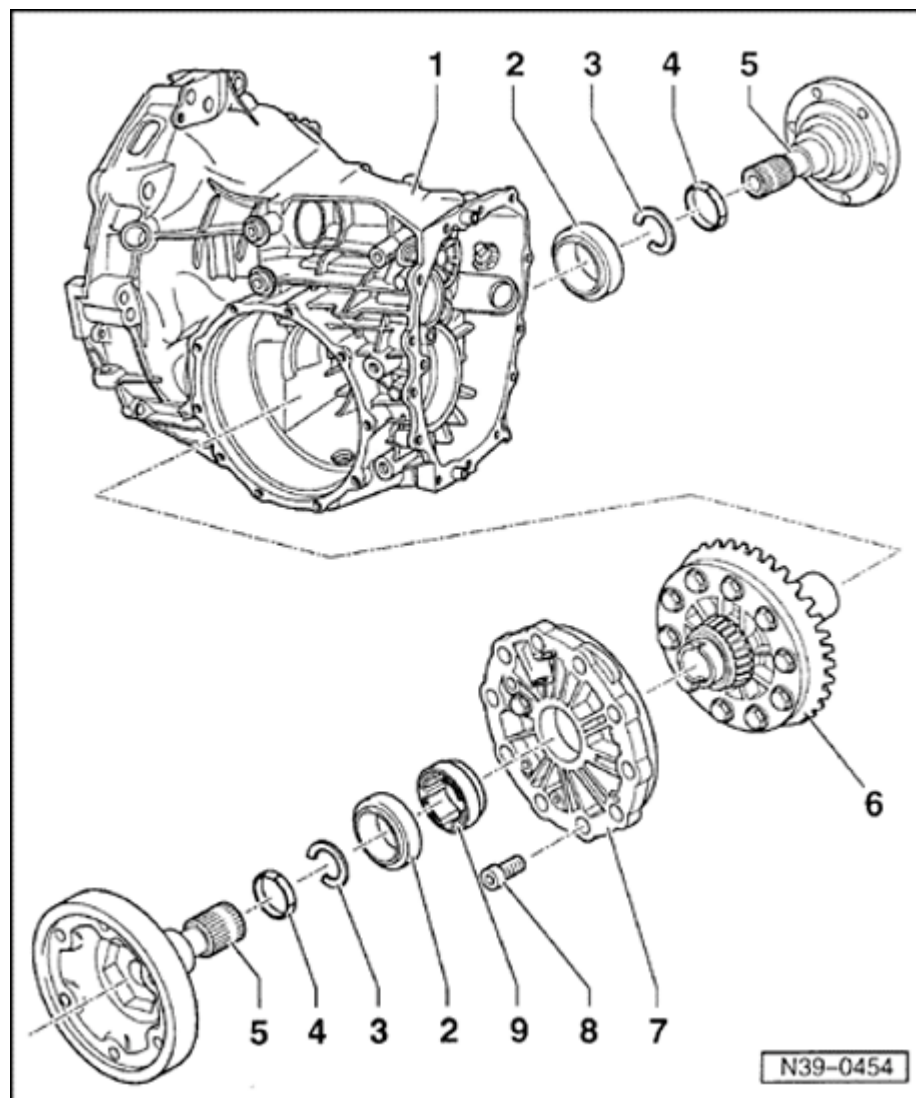
5 - Drive flange

- ◆ Removing and installing ⇒ [Page 39-1](#)
- ◆ Drive flange with polygon bearing assembly ⇒ [Fig. 4](#)

6 - Differential with ring gear 1)

- ◆ Can be installed without removal of transmission
- ◆ Disassembling and assembling ⇒ [Page 39-15](#)

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**7 - Cover for final drive 1)**

- ◆ Coat sealing surfaces with thin layer of sealant AMV 188 001 02

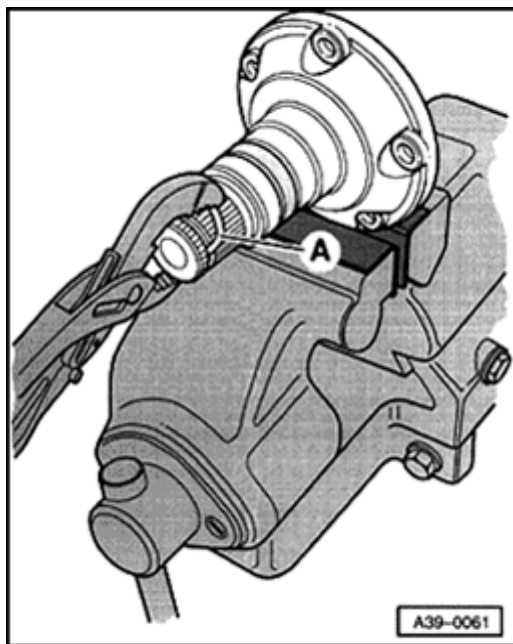
8 - Torx[®] bolt

- ◆ 25 Nm (18 ft lb)

9 - Drive gear for Vehicle Speed Sensor (VSS)

- ◆ Removing and installing ⇒ [Page 39-8](#)
- ◆ Carefully install onto differential without canting. Do not use force: drive gear can break easily.

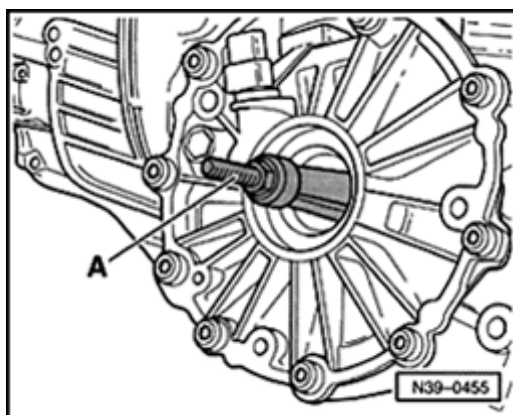
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Fig. 1 Removing and installing circlip

- Clamp drive flange into vise using protective jaws. Press circlip out of groove in drive flange by pressing in new circlip -A-.

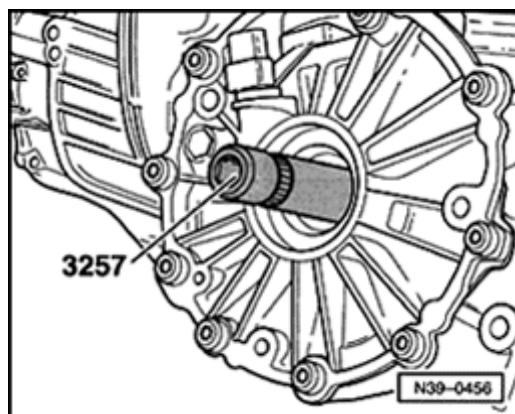


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Fig. 2 Removing spacer ring

A - Kukko 21/3 extractor 18.5-23.5 mm

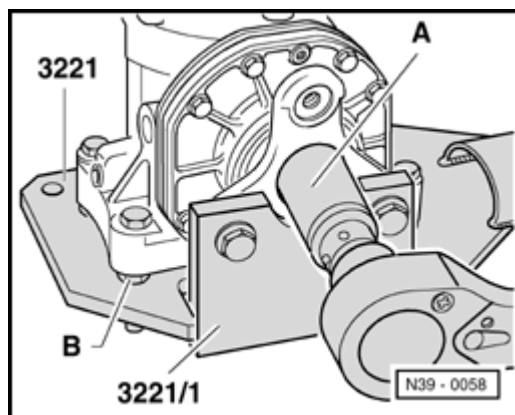
- If spacer ring is tight, remove using VW771 slide hammer-complete set.



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Fig. 3 Installing spacer ring

- Press in spacer ring to stop without canting.



A

Fig. 4 Drive flange with polygon bearing assembly

- 1 - Drive flange
- 2 - Needle bearing (polygon bearing)
- 3 - Spacer ring
- 4 - Circlip
- 5 - Spacer ring (is installed additionally if spline diameter is 30 mm)

Note:

Needle bearings (polygon bearings) do not turn easily with drive flange removed. This does not indicate a bearing is malfunctioning.