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Drive pinion, removing, installing, disassembling and assembling

Special tools, testers and auxiliary items

- Press plate VW 401
- Press plate VW 402
- Press tool VW 407
- Press tool VW 408 A
- Press tool VW 412
- Support rails VW 457
- Mandrel VW 460/2
- Tube VW 519
- Engine and transmission support VW 540
- Thrust plate 30-205

- Installing ring 2003/3
- Pinion assembly appliance 2052/2
- Thrust plate 3005

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- Thrust pad 3062
- Drift 3138
- Fitting appliance 3253 with 3253/3 and 3253/4
- Retainer 3304
- Engine/transmission jack V.A.G 1383 A
- Universal support V.A.G 1359/2
- Separating tool Kukko 17/2
- Two-arm puller Kukko 21/7
- Counter-support Kukko 22/2
- Torque gauge 0-600 Ncm
- Socket attachment (long), 32 mm A/F

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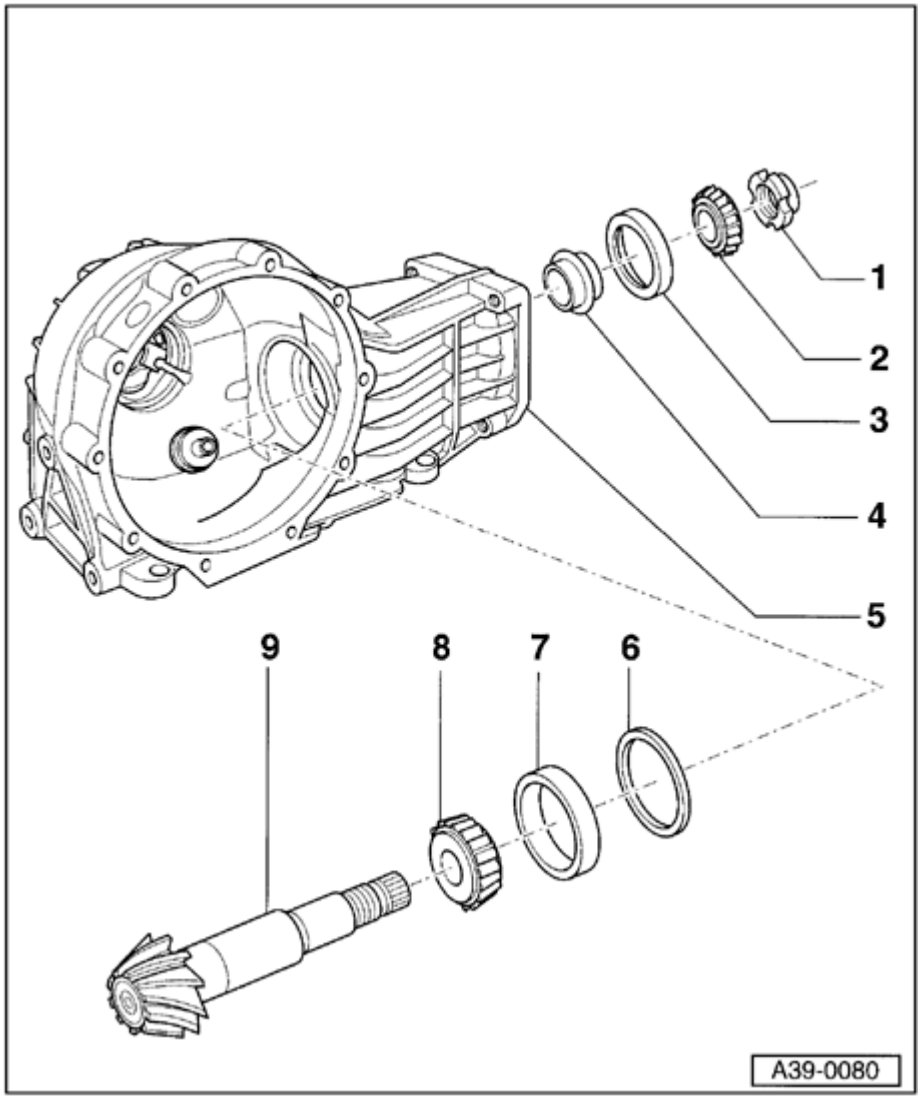
Note:

- *General repair instructions ⇒ Page 00-11 .*
- *Removing drive flange housing from rear final drive with final drive installed ⇒ Page 39-82 .*
- *Removing drive flange housing from rear final drive with final drive removed ⇒ Page 39-111 .*
- *Replace both tapered roller bearings together. Use same make if possible.*
- *Do not additionally oil new tapered roller bearings for friction torque measurement. The bearings have already been treated with a special oil by the manufacturer.*
- *Removing differential ⇒ Page 39-112 .*
- *Adjustments are required when replacing components marked with a 1) ⇒ Page 39-150 , Adjustment overview*

39-137



1 - Nut

- Always replace
- Removing ⇒ Fig. 1 and ⇒ Fig. 2
- Installing ⇒ Fig. 11
- Measuring friction torque ⇒ Fig. 12
- Securing ⇒ Fig. 13

2 - Inner race for small tapered roller bearing 1)

- Pressing out drive pinion ⇒ Fig. 3
- Installing ⇒ Fig. 10

3 - Outer race for small tapered roller bearing 1)

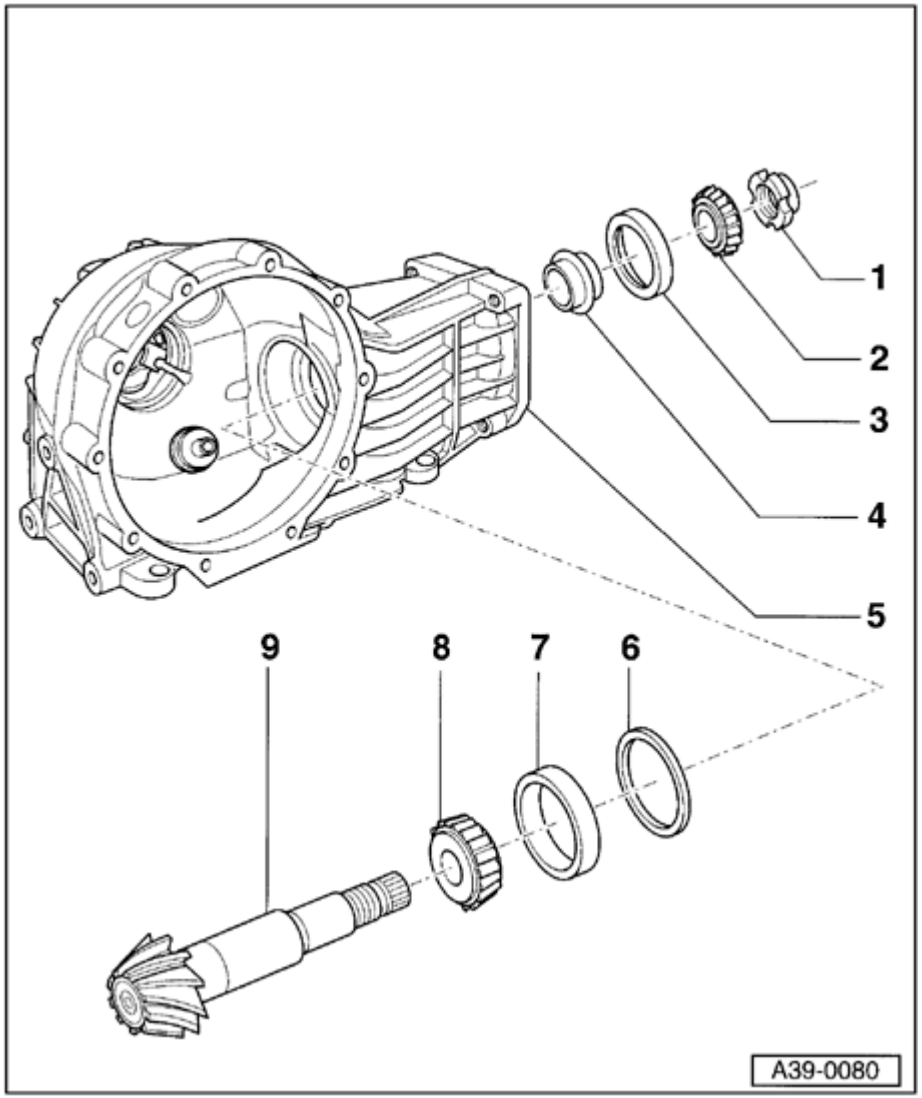
- Pulling out ⇒ Fig. 4
- Pressing in ⇒ Fig. 9

4 - Spacer sleeve 1)

- Always replace

5 - Final drive housing 1)

39-138



6 - Shim "S3"

- Note thickness
- Adjustment overview ⇒ Page 39-150

7 - Outer race for large tapered roller bearing 1)

- Driving out ⇒ Fig. 5
- Pulling in ⇒ Fig. 8

8 - Inner race for large tapered roller bearing 1)

- Pulling off ⇒ Fig. 6
- Pressing on ⇒ Fig. 7

9 - Drive pinion 1)

- Is mated with ring gear, always replace together as a set

39-139

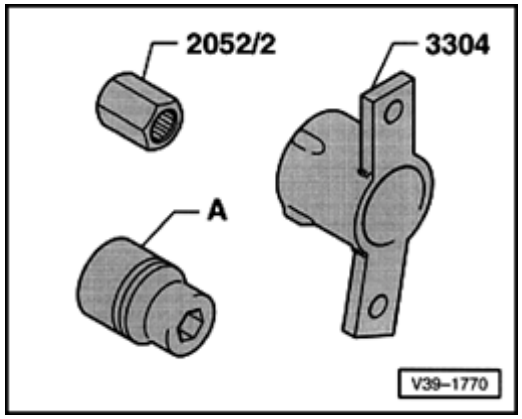


Fig. 1 Tools for loosening and tightening drive pinion nut

A - Socket (32 mm)

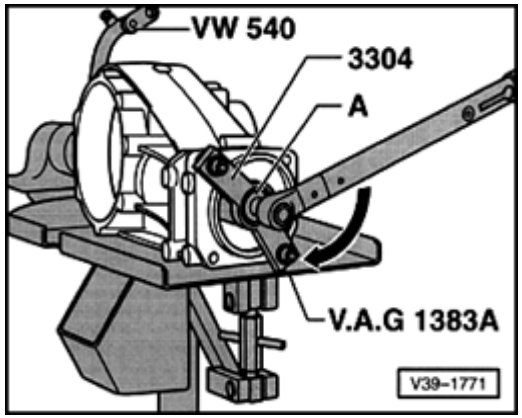


Fig. 2 Removing nut for drive pinion

- Secure retainer 3304 with two M8 x 30 hex bolts.
- Support final drive when loosening nut (e.g. using universal support V.A.G 1359/2 in combination with transmission jack V.A.G 1383 A).

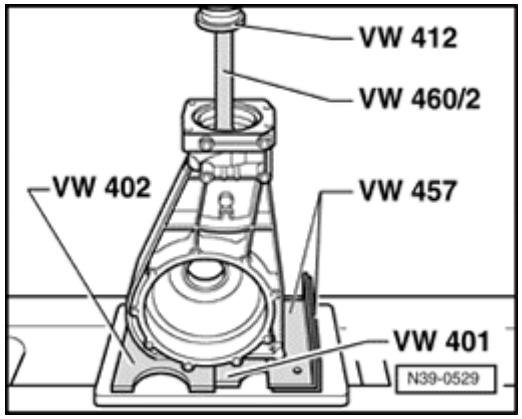


Fig. 3 Pressing drive pinion out of inner race for small tapered roller bearing

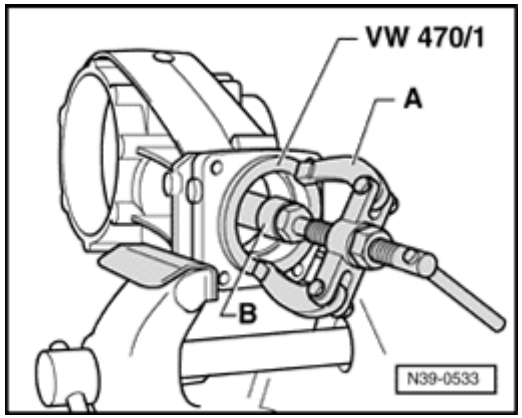


Fig. 4 Pulling out outer race for small tapered roller bearing

A - Counter support e.g. Kukko 22/2

B - Internal puller 46-58 mm, e.g. Kukko 21/7

39-141

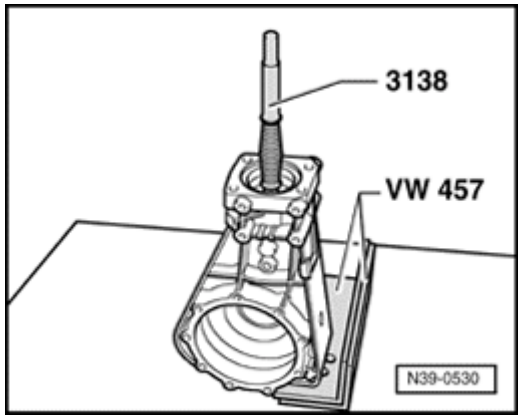


Fig. 5 Driving out outer race for large tapered roller bearing

- After removing check shims for damage.

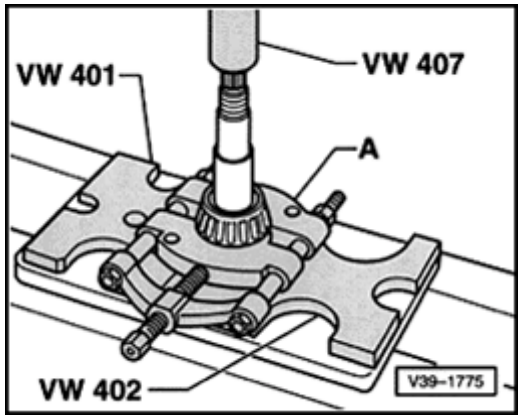


Fig. 6 Pressing inner race for large tapered roller bearing off drive pinion

A - Separating device 22-115 mm, e.g. Kukko 17/2

39-142

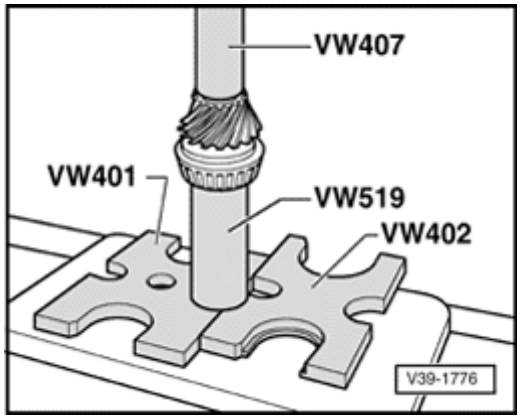


Fig. 7 Pressing inner race for large tapered roller bearing onto drive pinion

CAUTION!

Wear protective gloves.

- Heat bearing to approx. 100 ° C, fit in position and press home.

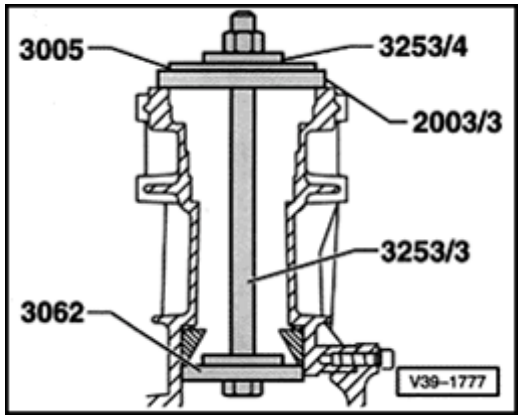


Fig. 8 Pulling in outer race for large tapered roller bearing

- Insert predetermined shim "S3" for drive pinion ⇒ Page 39-154 .

Note:

Inscription "Oben" faces the nut of the puller with thrust washer 3253/4.

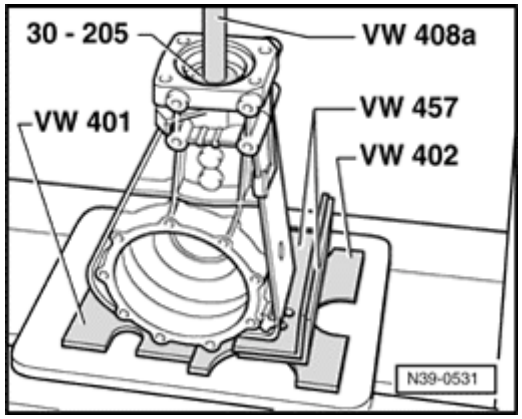


Fig. 9 Pressing in outer race for small tapered roller bearing

- Lubricate outer race with oil and fit using press tool VW 408 A and thrust plate 30-205.

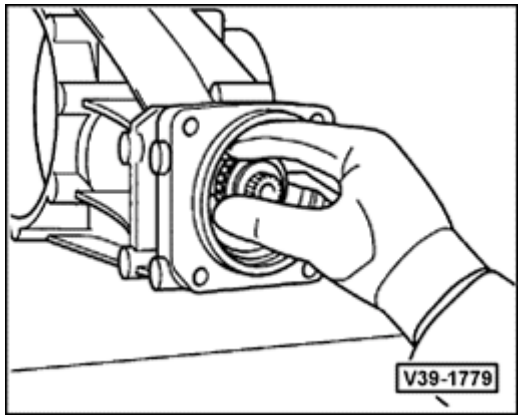


Fig. 10 Pressing on small tapered roller bearing inner race

CAUTION!

Wear protective gloves.

- Insert drive pinion with new spacer sleeve.
- Heat inner race for small tapered roller bearing to approx. 100 ° C and fit onto drive pinion.
- Press up drive pinion and insert bearing with thrust plate 40-21 onto stop.

39-144

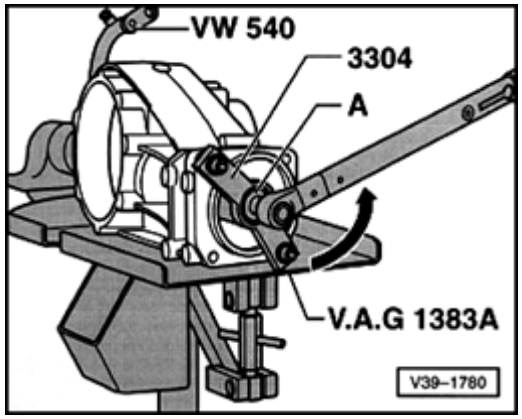


Fig. 11 Tightening nut for drive pinion and measuring friction torque

- Secure retainer 3304 with two M8 x 30 hexagon bolts.
- Support final drive when tightening nut (e.g. using universal support V.A.G 1359/2 in conjunction with transmission jack V.A.G 1383 A).
- Fit a new drive pinion nut.
- Tighten drive pinion nut just far enough so that no play can be felt at drive pinion.
- Gradually increase tightening torque, checking friction torque at regular intervals, until specified friction torque is obtained ⇒ Fig. 12 .

Note:

If the specified friction torque is exceeded, the spacer sleeve must be replaced and the adjustment repeated. A spacer sleeve which has been compressed too much cannot be reused.

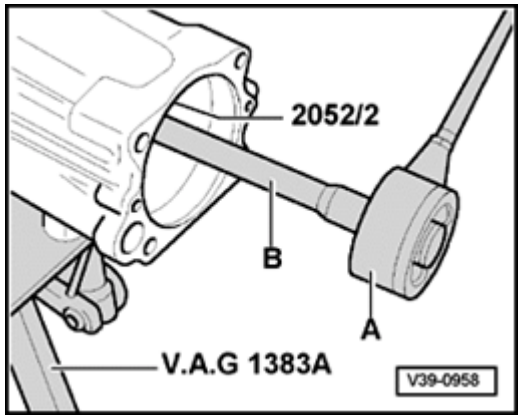


Fig. 12 Measuring friction torque

A - Torque gauge, commercially available, 0-600 Ncm

B - Extension with 32 mm socket

- The following friction torques should be set:

New bearings	Used bearings 1)
200-250 Ncm	30-60 Ncm

1) run at least 50 km (30 miles)

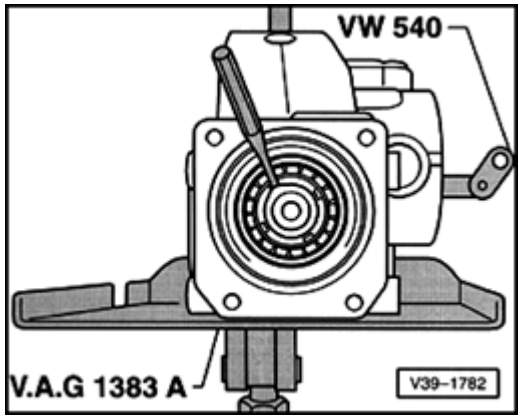


Fig. 13 Securing drive pinion nut

- Peen drive pinion nut with punch.