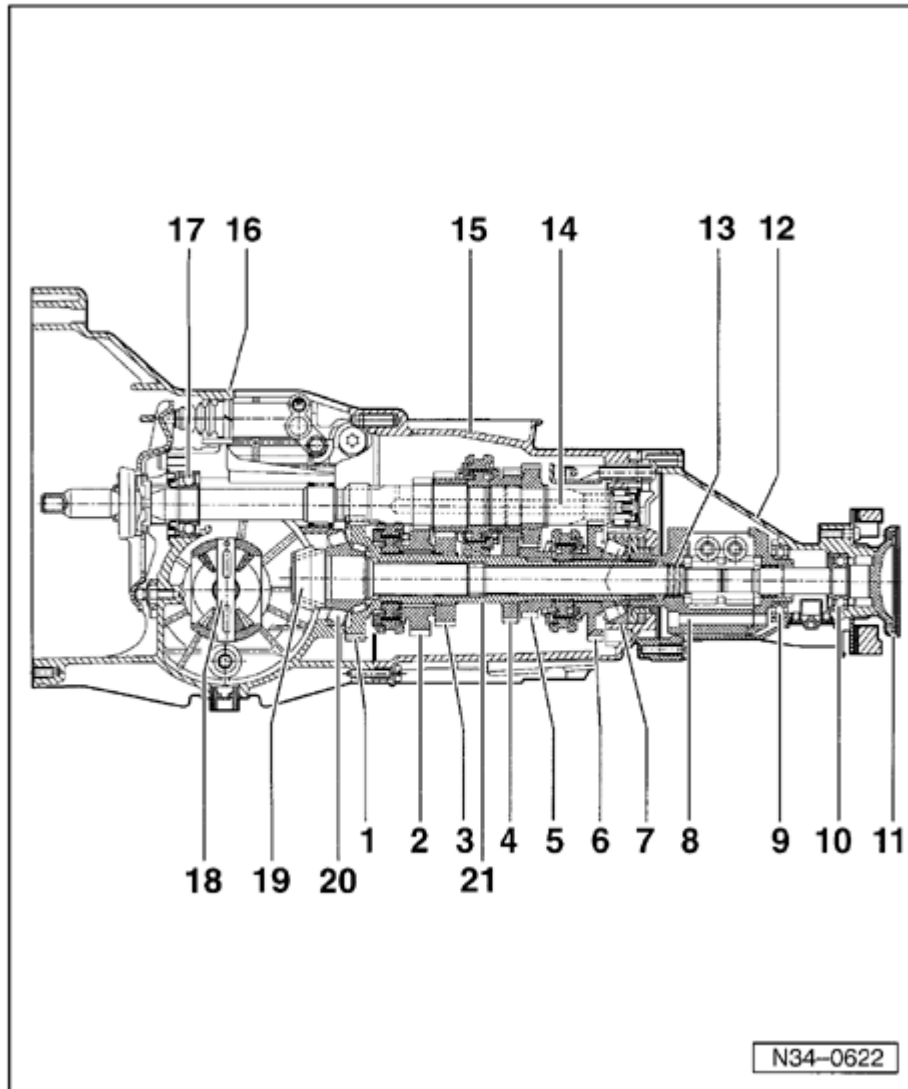


Transmission, disassembling and assembling

Disassembly sequence ⇒ [Page 34-55](#) .

Transmission overview

- 1 - 1st gear
- 2 - 2nd gear
- 3 - 3rd gear
- 4 - 4th gear
- 5 - 5th gear
- 6 - Reverse gear
 - ◆ Removing and installing reverse idler gear ⇒ [Page 35-44](#)
- 7 - Tapered roller bearing
 - ◆ Adjusting ⇒ [Page 39-39](#)



8 - Torsen differential

- ◆ Can only be serviced by manufacturer
- ◆ Removing and installing together with cover ⇒ [Page 34-39](#)

9 - Bearing

10 - Bearing

11 - Flange shaft

12 - Torsen differential cover

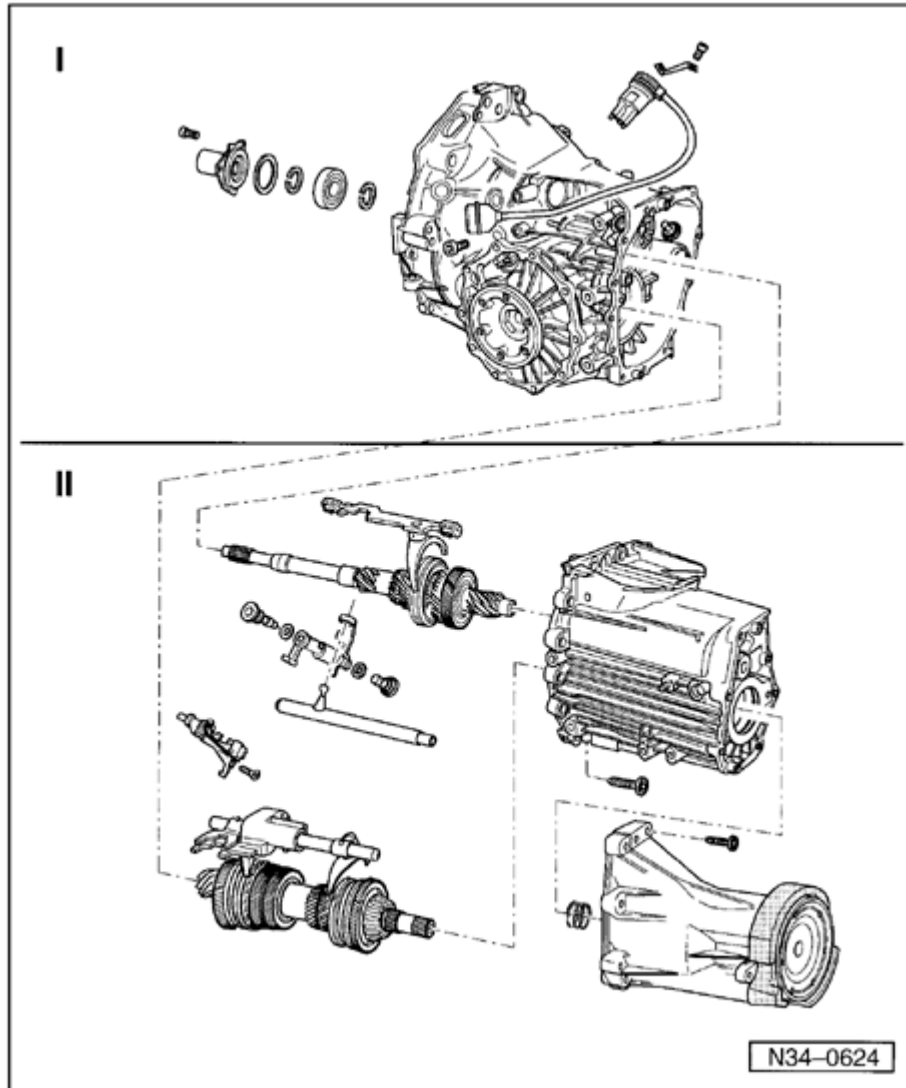
13 - Compression spring

- ◆ Between Torsen differential and hollow shaft

14 - Input shaft

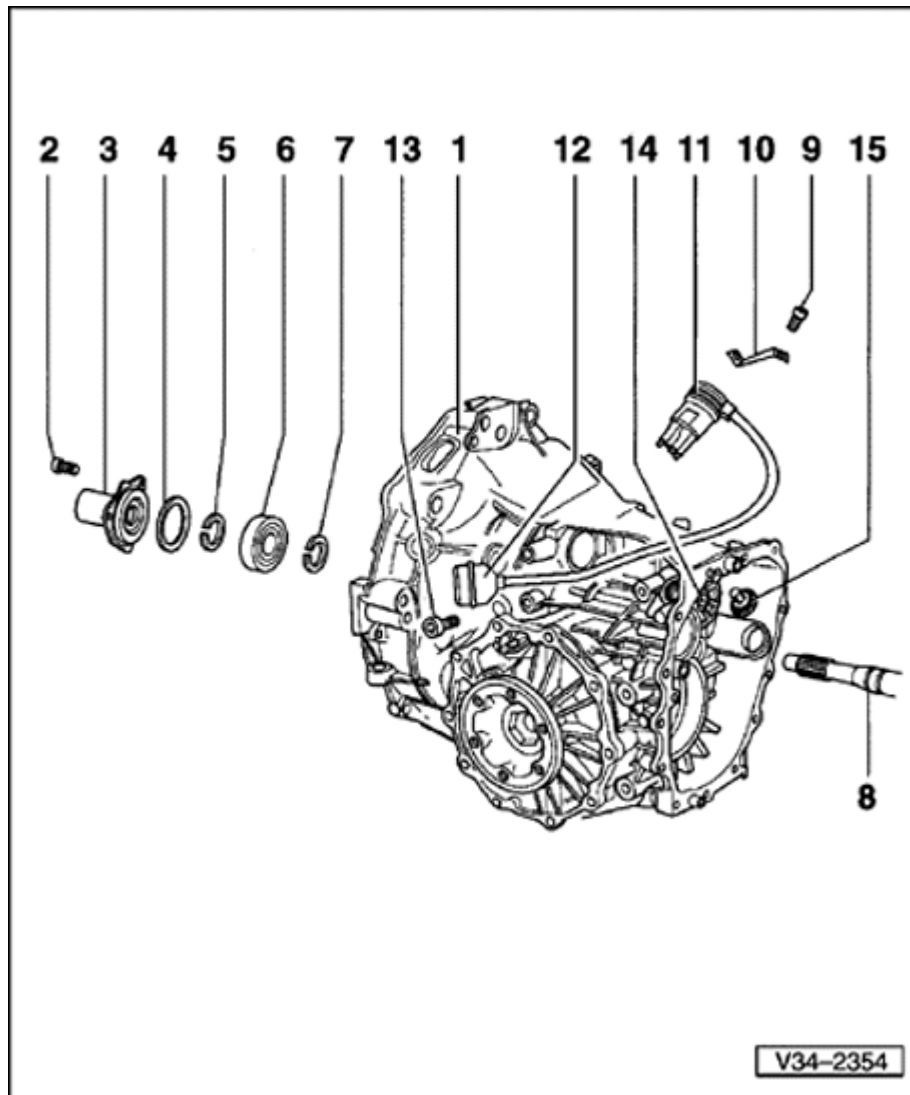
- ◆ Disassembling and assembling ⇒ [Page 35-1](#)

15 - Transmission cover



Assembly overview

- I - Input shaft ball bearing and multi-function switch, removing and installing ⇒ [Page 34-47](#)
- II - Input shaft, drive pinion, hollow shaft, selector rods, transmission cover and Torsen differential cover, removing and installing ⇒ [Page 34-51](#)



Input shaft ball bearing and multi-function switch, removing and installing

1 - Transmission housing

- ◆ With differential and flange shafts
- ◆ Removing and installing flange shafts ⇒ [Page 39-1](#)
- ◆ Removing and installing differential ⇒ [Page 39-16](#)
- ◆ Removing and installing speedometer Vehicle Speed Sensor (VSS) ⇒ [Page 39-13](#)
- ◆ Removing and installing speedometer drive gear ⇒ [Page 39-14](#)
- ◆ Breather installation position ⇒ [Fig. 1](#)

2 - Torx[®] bolt

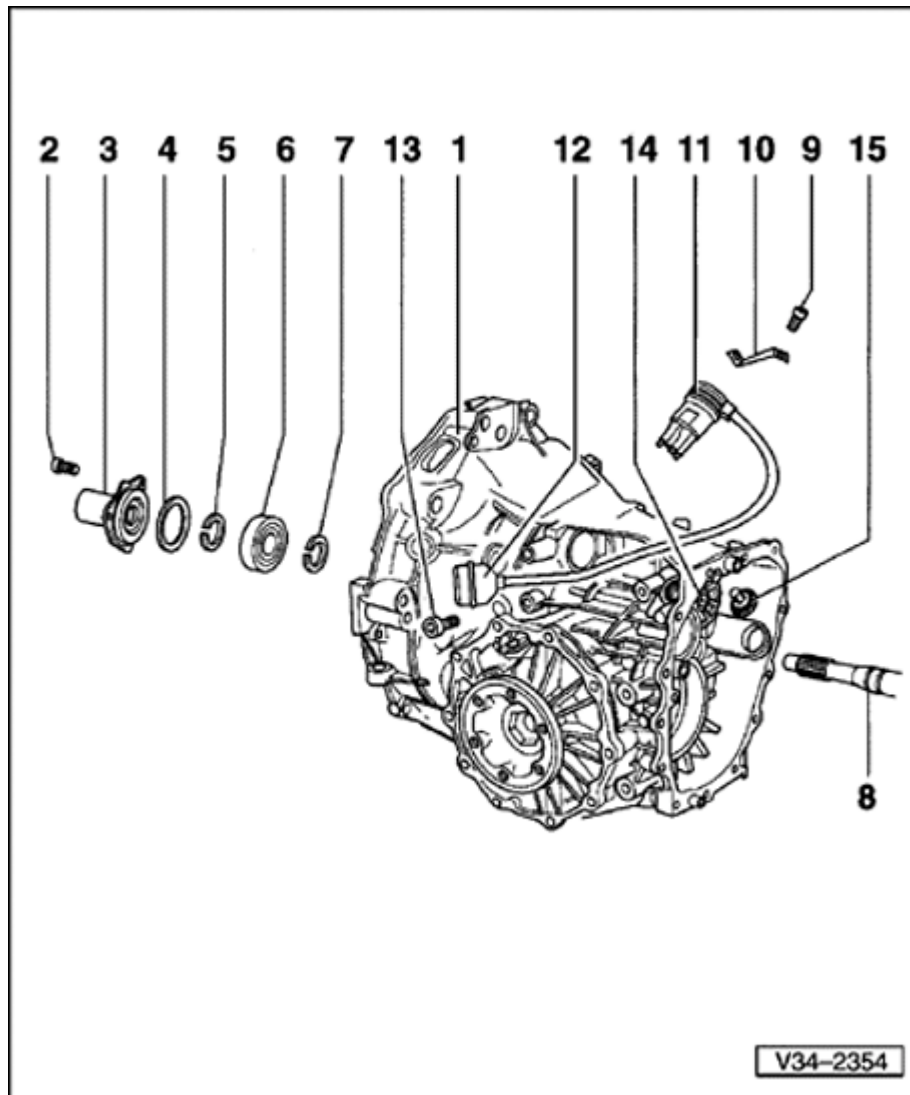
- ◆ Always replace
- ◆ 35 Nm (26 ft lb)
- ◆ Self-locking

3 - Guide sleeve

- ◆ Installed with O-ring and seal for input shaft ⇒ [Page 30-20](#)

4 - Dished washer

- ◆ Smaller diameter (convex side) faces guide sleeve



5 - Circlip

- ◆ Determining thickness and input shaft, adjusting ⇒ [Page 35-17](#)

6 - Input shaft ball bearing

- ◆ Removing and installing ⇒ [Page 34-55](#)

7 - Circlip

- ◆ Determining thickness and input shaft, adjusting ⇒ [Page 35-17](#)

8 - Input shaft

- ◆ Removing and installing ⇒ [Page 34-51](#)
- ◆ Disassembling and assembling ⇒ [Page 35-1](#)
- ◆ Adjusting ⇒ [Page 35-17](#)
- ◆ Servicing input shaft ball bearing ⇒ [Page 35-1](#)

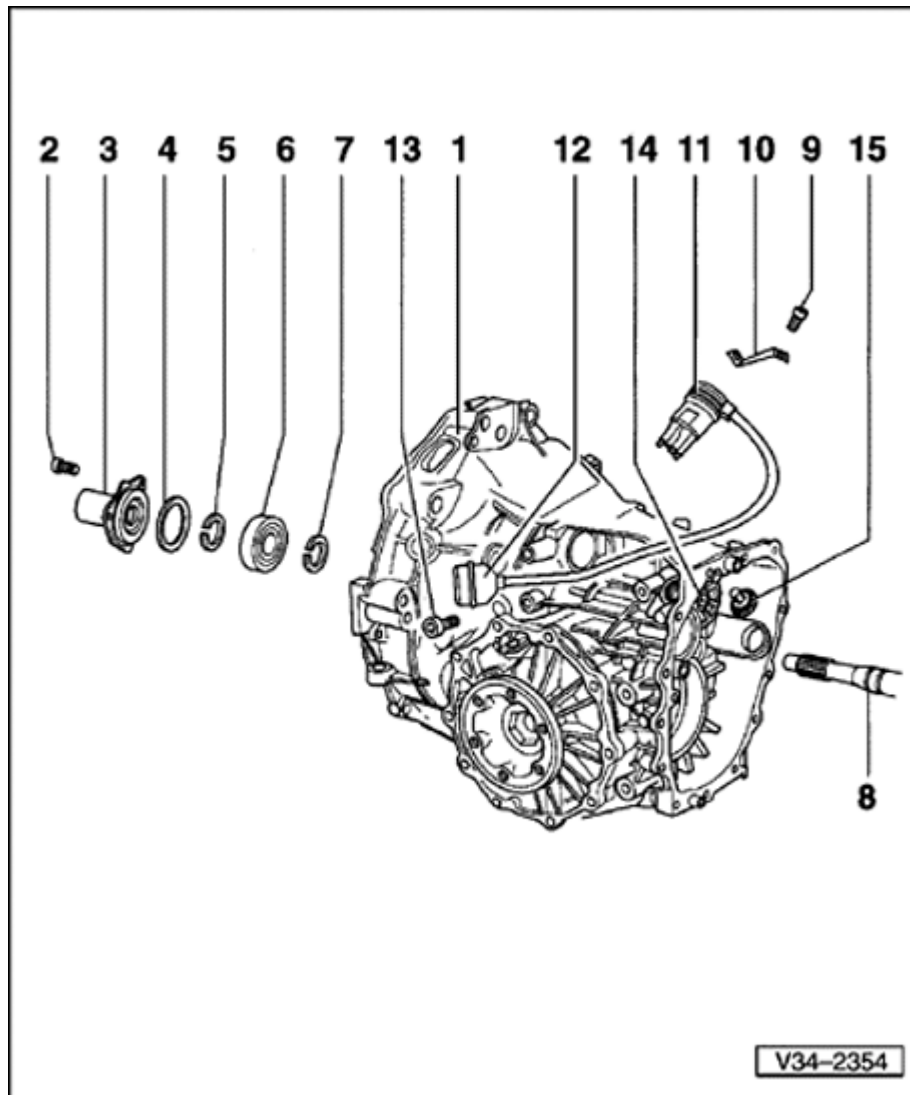
9 - Socket-head bolt

- ◆ 25 Nm (18 ft lb)

10 - Locking plate

- ◆ For multi-function switch

11 - Multi-function switch



12 - Multi-function switch harness connector

13 - Socket-head bolt

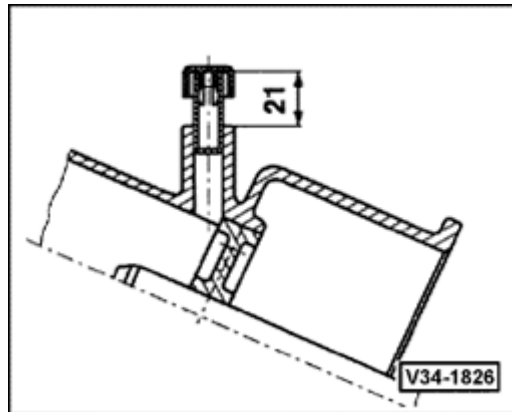
◆ 10 Nm (7 ft lb)

14 - Cover for shift rod

◆ Removing and installing ⇒ [Page 34-79](#)

15 - Gear lock for 5th and reverse gear

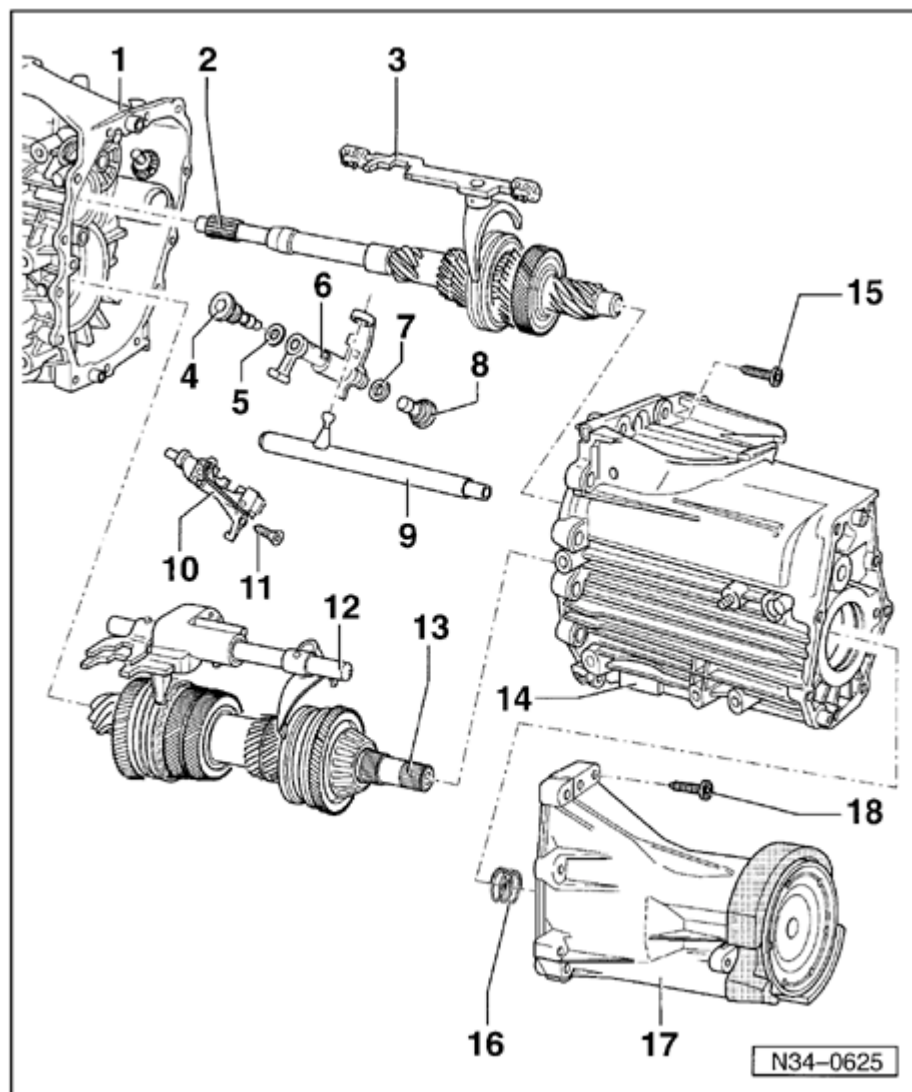
◆ Removing and installing ⇒ [Page 34-86](#)



A

Fig. 1 Breather installation position

After pressing in, the breather must project 21 mm (0.827 in.) out of the housing .



Input shaft, drive pinion, hollow shaft, shift rods, transmission cover and Torsen differential cover, removing and installing

1 - Transmission housing

2 - Input shaft

- ◆ Disassembling and assembling ⇒ [Page 35-1](#)
- ◆ Adjusting ⇒ [Page 35-17](#)
- ◆ Servicing input shaft bearings ⇒ [Page 35-1](#)

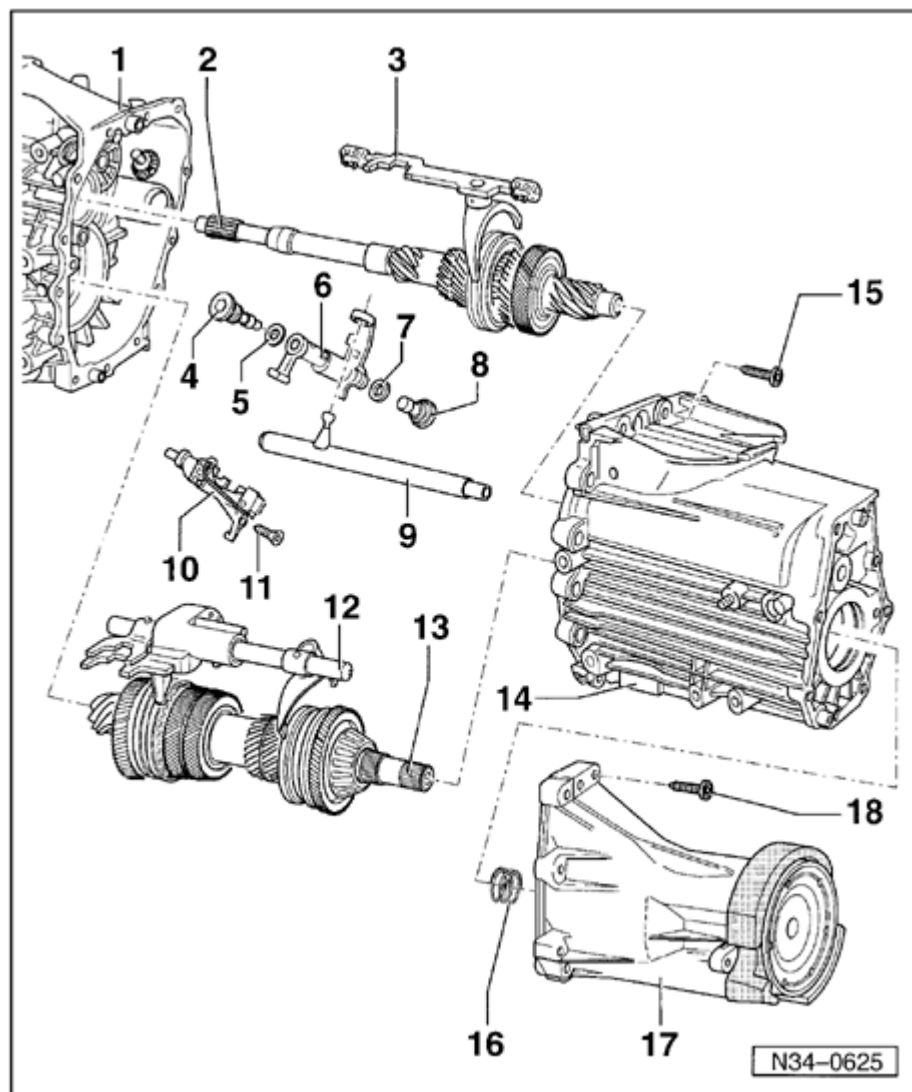
3 - Shift rod with shift fork for 3rd and 4th gear

- ◆ Disassembling and assembling ⇒ [Page 34-79](#)
- ◆ Replacing bushings ⇒ [Page 34-84](#)

4 - Left stop bolt

- ◆ 40 Nm (30 ft lb)

5 - Sealing washer

**6 - Relay shaft**

- ◆ Installation position ⇒ [Page 34-79](#)

7 - Sealing washer**8 - Right stop bolt**

- ◆ 40 Nm (30 ft lb)

9 - Shift rod

- ◆ Installation position ⇒ [Page 34-79](#)
- ◆ Replacing shift rod sealing washer ⇒ [Page 34-79](#)

10 - Shift detent

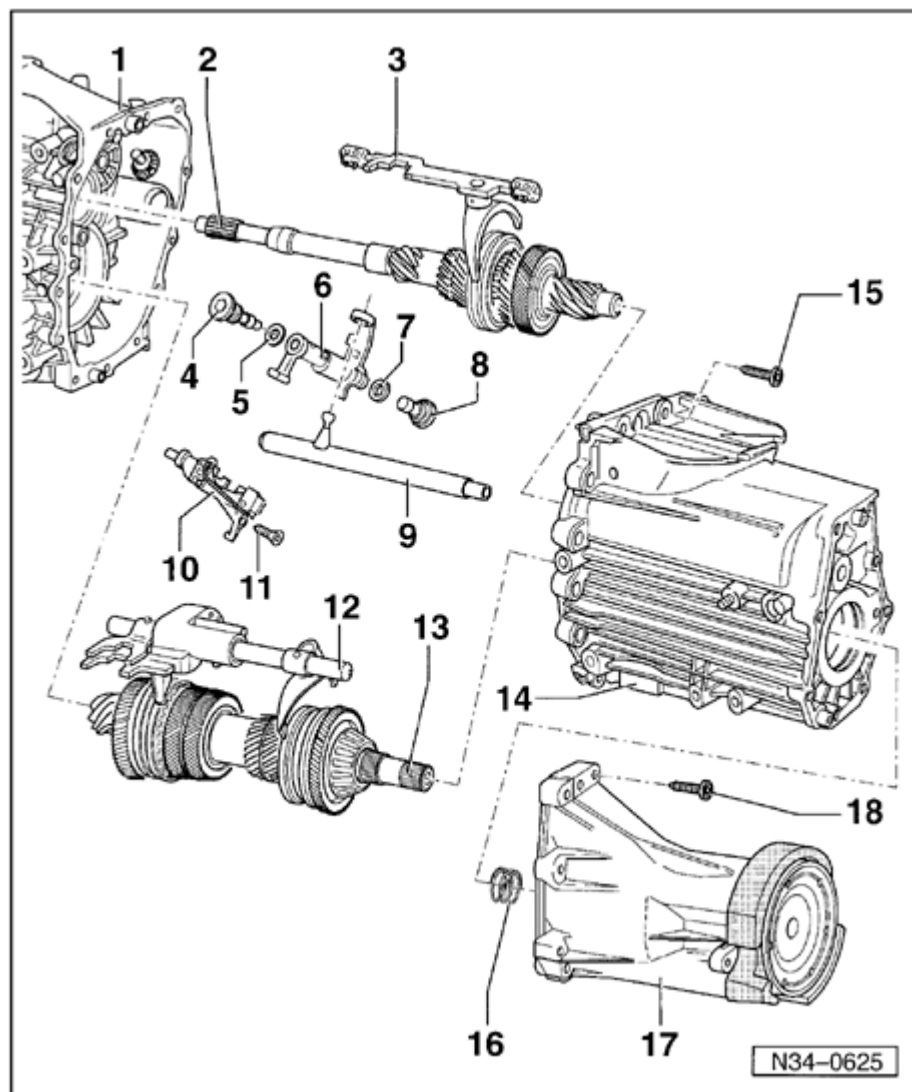
- ◆ Installation position ⇒ [Page 34-79](#)

11 - Torx® bolt

- ◆ 25 Nm (18 ft lb)
- ◆ With shoulder to secure shift detent spring

12 - Shift rod with 1st/2nd/5th and reverse gear shift fork

- ◆ Disassembling and assembling ⇒ [Page 34-79](#)
- ◆ Removing and installing ball sleeve ⇒ [Page 34-83](#)



13 - Drive pinion with hollow shaft

- ◆ Disassembling and assembling ⇒ [Page 35-21](#)
- ◆ Adjusting ⇒ [Page 39-34](#)
- ◆ Servicing drive pinion and hollow shaft bearings ⇒ [Page 35-21](#)

14 - Transmission cover

- ◆ Removing and installing oil collector tray ⇒ [Fig. 1](#)

15 - Torx® bolt

- ◆ 22 Nm (16 ft lb)

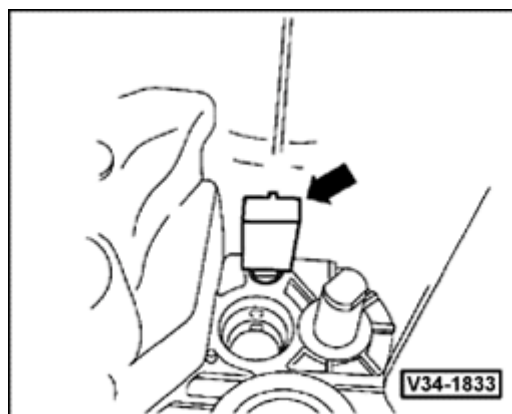
16 - Compression spring

17 - Torsen differential cover

- ◆ Removing and installing with transmission installed ⇒ [Page 34-39](#)
- ◆ Removing and installing Torsen differential from cover ⇒ [Page 34-68](#)
- ◆ Servicing cover ⇒ [Page 34-68](#)

18 - Torx® bolt

- ◆ 22 Nm (16 ft lb)



A **Fig. 1** Removing and installing oil collector tray

Removing

- Turn oil collector tray (arrow) and pull out.

Installing

- Push oil collector tray into transmission, until it snaps in.
Oil collector tray faces upward in transmission cover.

Input shaft ball bearing, multi-function switch, input shaft, drive pinion, shift rods, transmission cover and Torsen differential cover, removing and installing

Notes:

- ◆ *To remove the above-mentioned components it is not necessary to remove the differential.*
- ◆ *Removal is only necessary when adjustments have to be performed ⇒ [Page 39-37](#) , list of adjustments*

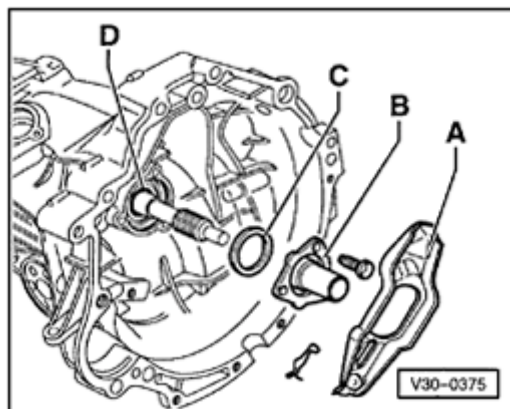
Special tools and equipment

- ◆ VW309 holding plate
- ◆ VW353 transmission support
- ◆ 3235 press device
- ◆ VAG1306 drip tray
- ◆ VAG1582 taper roller bearing puller

◆ VAG1582/3 attachment to VAG1582

Removing

- Place drip tray below transmission.
- Drain gear oil.
- Secure transmission to assembly stand ⇒ [Page 34-30](#) .

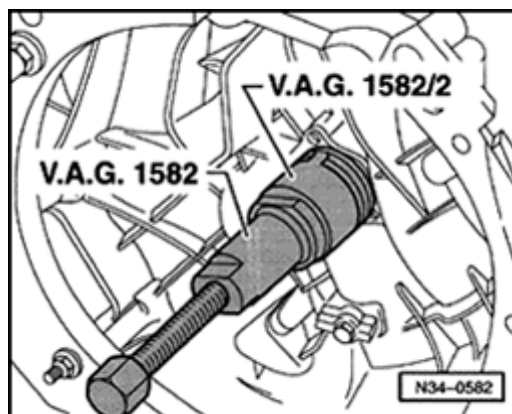
**A**

- Remove clutch release lever -A- with release bearing.

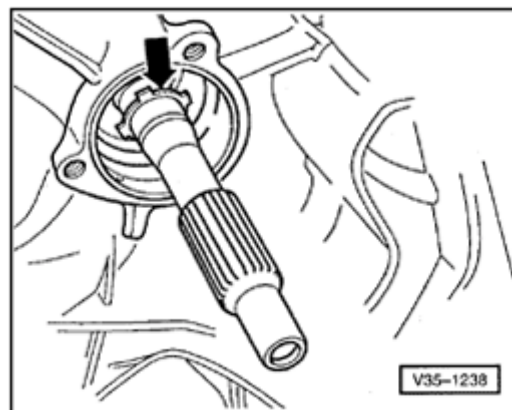
Notes:

- ◆ *Before removing the guide sleeve, slide a shrink tube over the input shaft splines to protect the seal.*
- ◆ *Remove the seal in the guide sleeve ⇒ [Page 30-20](#) .*
- Remove guide sleeve -B-.
- Remove dished washer -C-.
- Remove circlip -D- in front of input shaft ball bearing.
- Note thickness of circlip, if ball bearing, drive axle or transmission housing is not replaced.

34-57

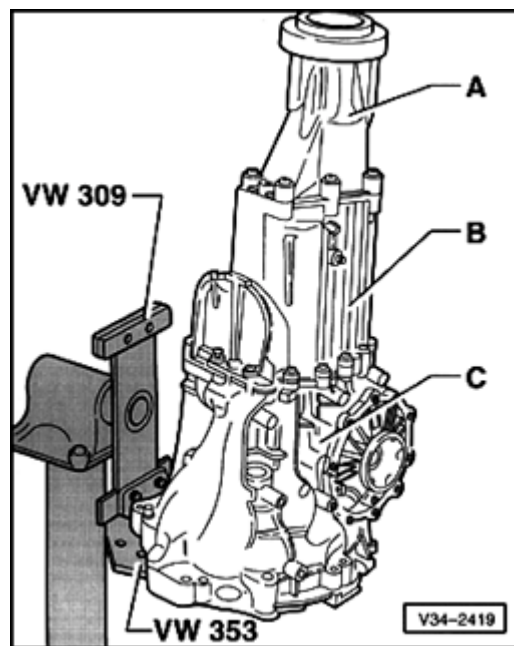


- A**
- Pull input shaft ball bearing out of transmission housing.

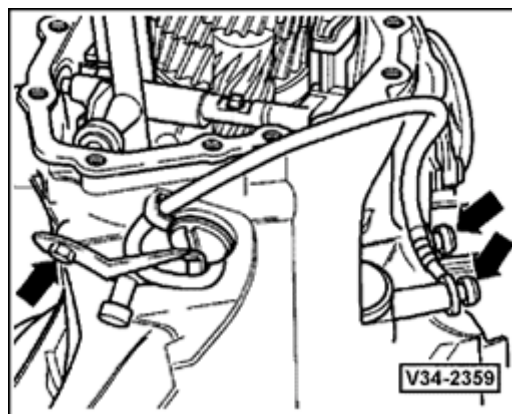


- A**
- Remove circlip (arrow) behind input shaft ball bearing.
 - Note thickness of circlip, if ball bearing, drive axle or transmission housing are not replaced.

34-58

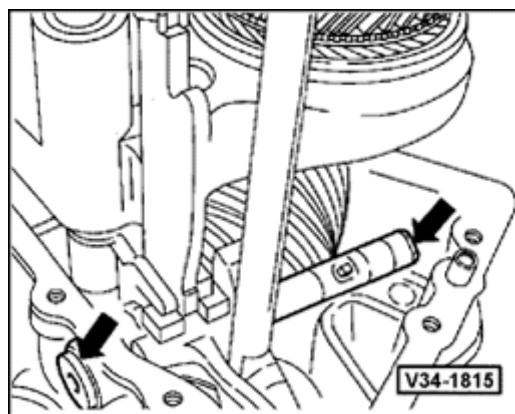


- A**
- Remove cover -A- together with Torsen differential from transmission cover -B-.
 - Remove compression spring from drive pinion.
 - Remove transmission cover -B- from transmission housing -C-.

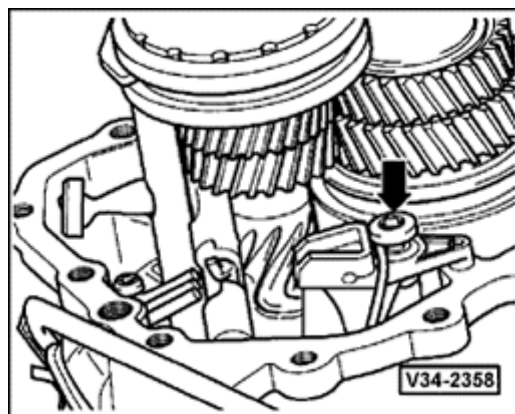


- A**
- Remove bolts (arrows) and pull out multi-function switch.

34-59

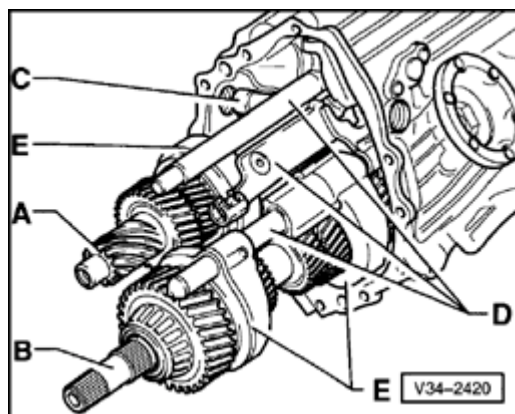


- A
- Remove relay shaft stop bolts (arrows) items 4, 8 ⇒ [Page 34-51](#) , and ⇒ [Page 34-52](#) .



- A
- Unbolt shift detent (arrow) and swing it out.

34-60

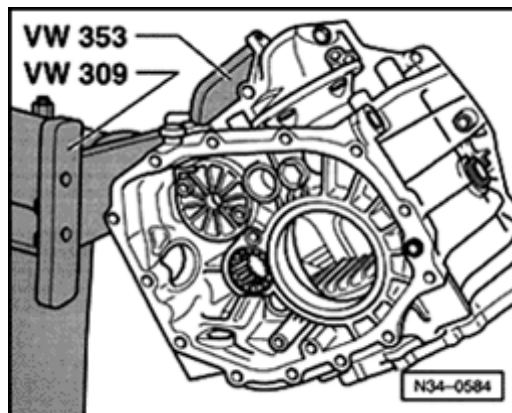
**A**

- Input shaft -A-, drive pinion -B-, relay shaft -C-, selector rods -D- with shift rod and selector forks -E- must all be carefully pulled out together.

Installing

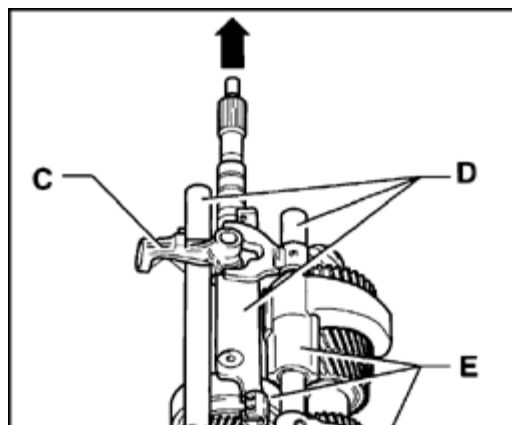
Note:

If the input shaft ball bearing, the input shaft or the transmission housing are replaced, it is necessary to re-determine the thickness of the circlips for the input shaft first, input shaft, adjusting ⇒ [Page 35-17](#) .



A

- For easier installation of following components, swing transmission housing into position shown.



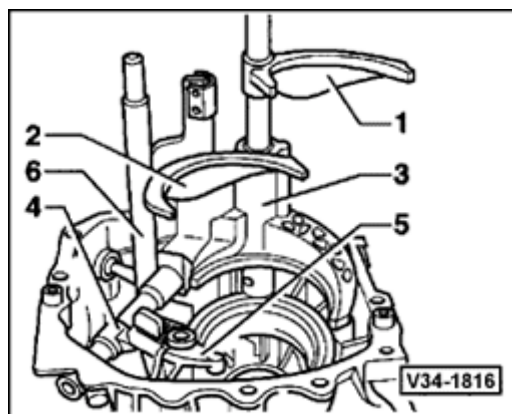
A

- Assemble input shaft -A-, drive pinion -B-, relay shaft -C-, selector rods -D- with shift rod and selector forks -E-.
- Install these components into transmission housing as a set.

Note:

The relay shaft -C- and the shift rod can also be installed later if necessary ⇒ [Page 34-62](#) , Illustration V34-1816 and ⇒ [Page 34-63](#) , illustration V34-2120

34-62

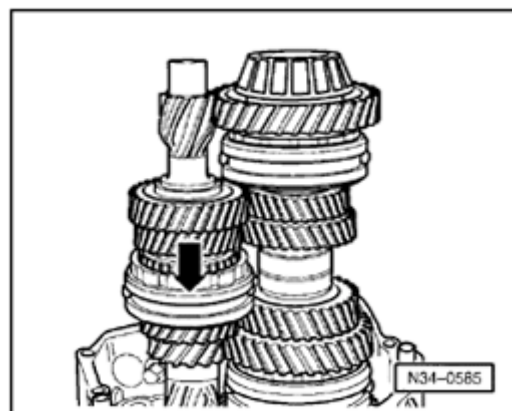


A Position of shift mechanism in transmission.

- 1 - Shift fork 5th and reverse gears
- 2 - Shift fork 3rd and 4th gears
- 3 - Shift fork 1st and 2nd gears
- 4 - Relay shaft
- 5 - Shift detent
- 6 - Shift rod

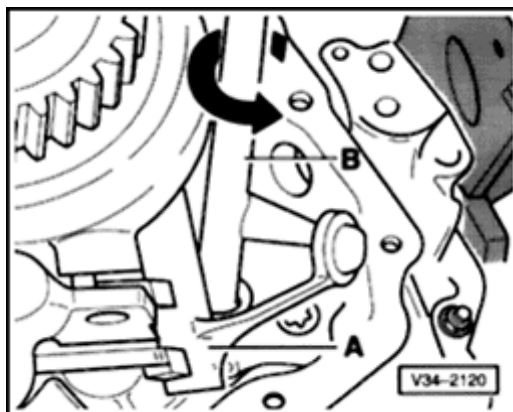
Note:

Illustration is shown without the drive axle and pinion.

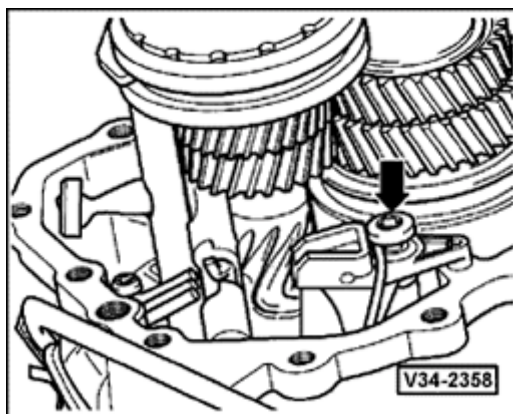


A - Move transmission housing and engage 3rd gear (direction of arrow).

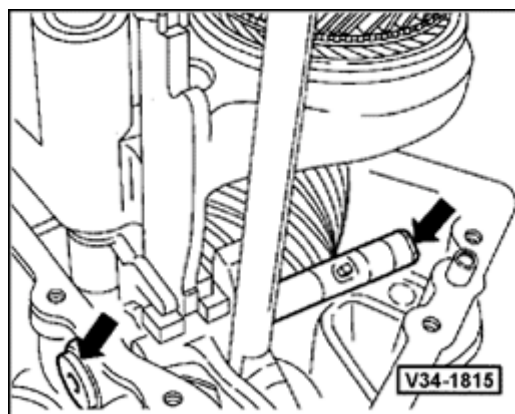
34-63



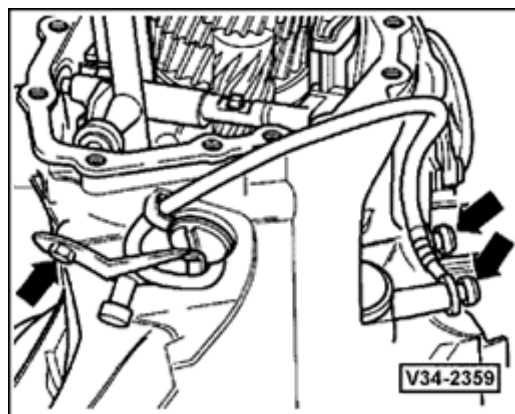
- A**
- Install relay shaft -A-.
 - Place inner shift rod -B- sideways into mounting hole in transmission housing and assemble into mounting eye.
 - Carefully turn shift rod in direction of arrow.



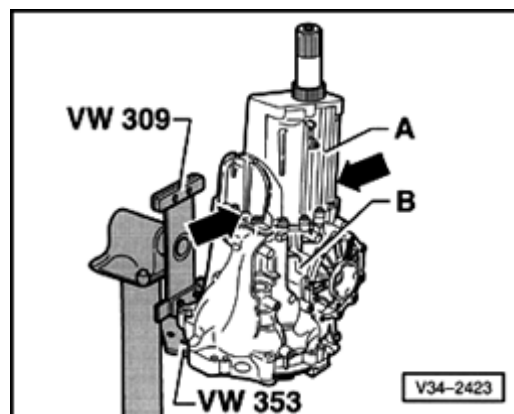
- A**
- Insert shift detent and tighten bolt (arrow) securely.



- A**
- Install relay shaft stop bolts (arrows).
 - Replace O-ring for multi-function switch.

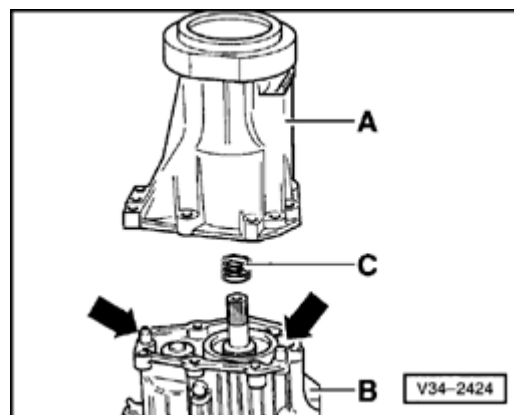


- A**
- Carefully insert multi-function switch and tighten (arrows).



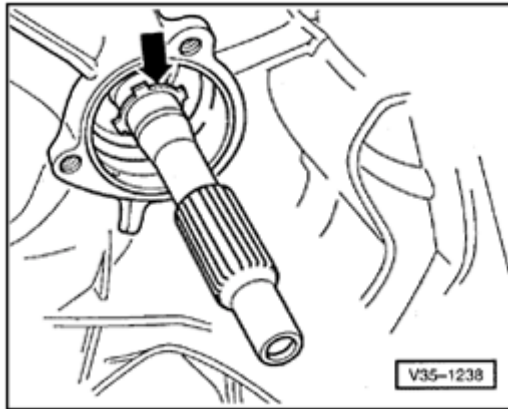
A

- Make sure dowel sleeves for transmission cover -A- are installed in transmission housing -B- (arrows).
- Install transmission cover onto transmission housing.

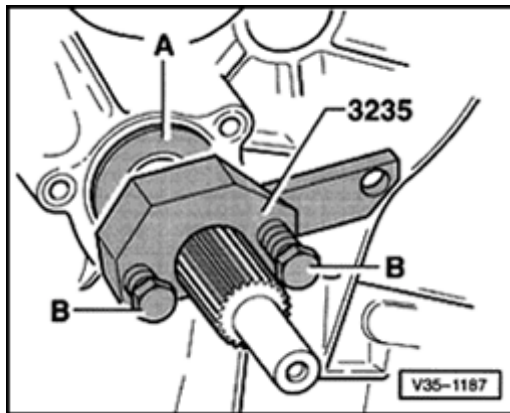


A

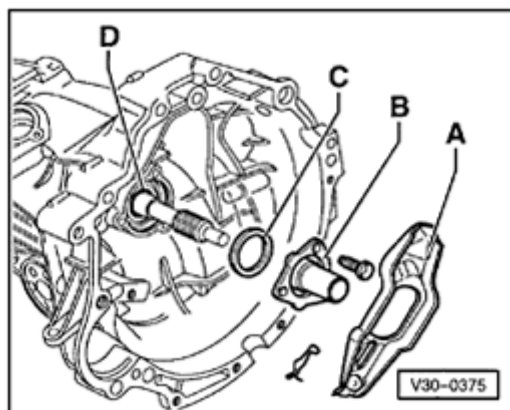
- Make sure dowel sleeves for cover -A- are installed in transmission cover -B- (arrows).
- Install compression spring -C-.
- Install Torsen differential cover -A- onto transmission cover -B-.



- A**
- Install rear circlip (arrow) for ball bearing onto input shaft.
 - Slide ball bearing onto input shaft.
- Closed side of ball cage faces toward transmission housing.



- A**
- Press in ball bearing.
 - Slide thrust piece -A- of press device onto input shaft.
 - Position press device behind splines for clutch plate.
 - Screw in bolts -B- and tighten slightly.
- The bolts bear against the indentations in thrust piece -A-.
- Press in ball bearing onto seat by alternately tightening bolts -B- (1/2-turn at a time) until stop is reached.



- A**
- Install front circlip -D- for input shaft ball bearing.
 - Install dished washer -C-.
- Position: convex side faces guide sleeve -B-.

Notes:

- ◆ *Before installing guide sleeve, cover splines on input shaft with a shrink-fit hose to protect the seal.*
 - ◆ *Installing seal in guide sleeve ⇒ [Page 30-20](#) .*
- Install guide sleeve -B- for clutch release bearing.
 - Install clutch release lever -A- and clutch release bearing.