
Workshop Manual

911

Carrera 4

The workshop manual is only for the internal use of the Porsche Dealer Organization.

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* No provisions are currently made for repair of the automatic section.

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Diagnosis

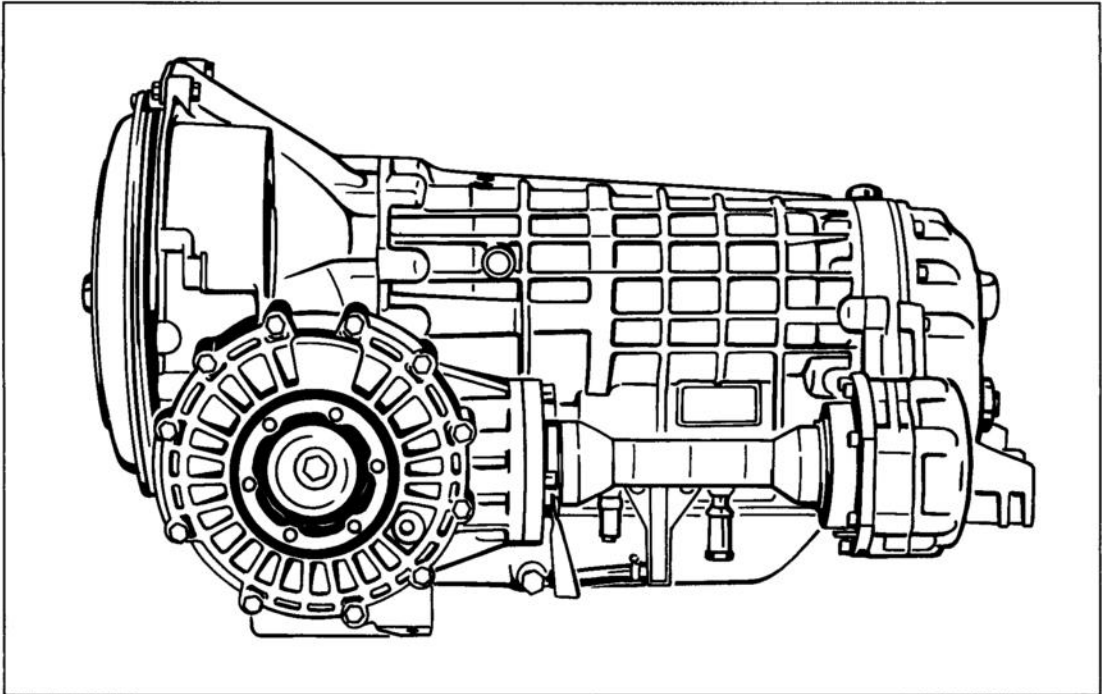
Tiptronic Diagnosis / Troubleshooting

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* No provisions are currently made for repair of the automatic section.

Technical data

4-speed Tiptronic transmission A50

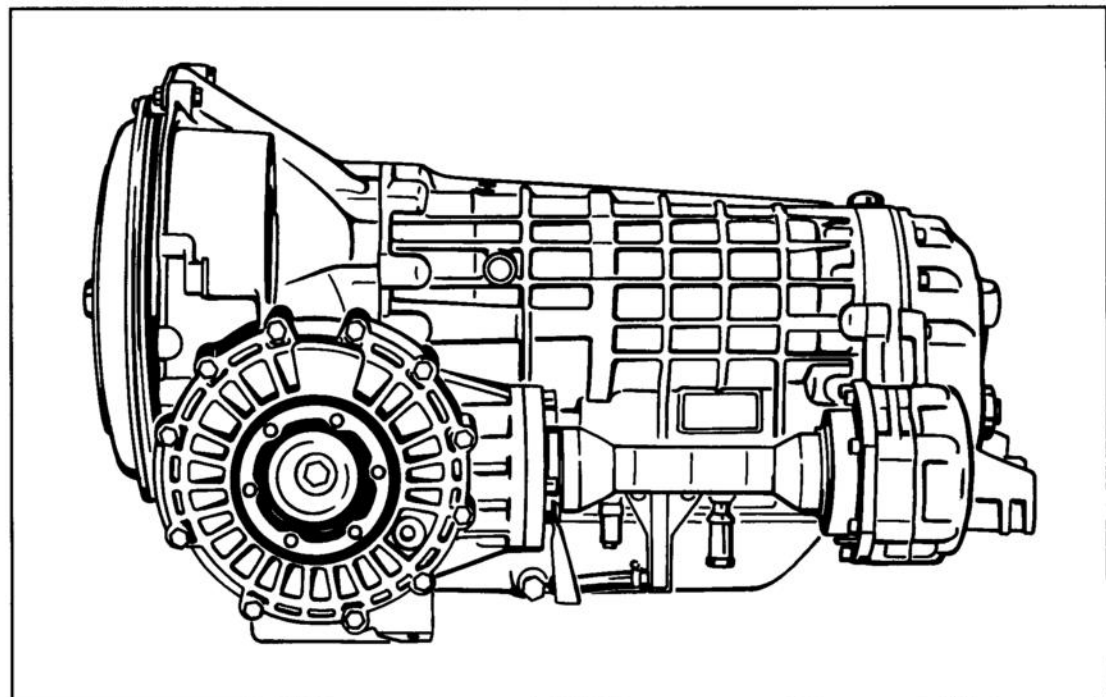


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Type	Identification code	Equipment	Installed in	Model year
A50/01		4-speed	911 Carrera 2 worldwide	90

Technical data

General data	A50/01	
Design	fully-automatic 4-speed planetary transmission (Tiptronic)	
Ratio		
Spur pinion	1.100	
1st gear	2.479	
2nd gear	1.479	
3rd gear	1.000	
4th gear	0.728	
Reverse gear	2.086	
Final drive	Hypoid bevel gear with 15 mm offset	
Final drive ratio	9:33	i = 3.667
Stall speed	2300 $\pm$ 200	
Capacity, rear axle final drive	approx. 0.9 l multi-grade transmission oil 75 W 90 API classification GL5 (MIL-L 2105 B), optionally SAE 90	
Capacity, automatic unit with converter	Total capacity approx. 9.0 l Change quantity approx. 3.0 l ATF-Dexron II D	

Technical data**4-speed Tiptronic transmission A50**

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Type	Identification code	Equipment	Installed in	Model year
A50/01		4-speed	911 Carrera 2 worldwide	90/91
A50/02		4-speed	911 Carrera 2 worldwide (except USA)	92/93/94
A50/03		4-speed	911 Carrera 2 USA	92/93/94

Technical data

General data	A50/01	A50/02	A50/03
Design	fully-automatic 4-speed planetary transmission (Tiptronic)		
Ratio			
Spur pinion	1.100		
1st gear	2.479		
2nd gear	1.479		
3rd gear	1.000		
4th gear	0.728		
Reverse gear	2.086		
Final drive	Hypoid bevel gear with 15 mm offset		
Final drive ratio	9:33	i = 3.667	9 : 32 i = 3,555
Stall speed	2300 – 400		
Capacity, rear axle final drive	approx. 0.9 l multi-grade transmission oil 75 W 90 API classification GL5 (MIL-L 2105 B), optionally SAE 90		
Capacity, automatic unit with converter	Total capacity approx. 9.5 l Change quantity approx. 3.5 l ATF-Dexron II D		

Removing and installing the torque converter

Removing

1. Remove transmission.
2. Remove converter, with transmission in horizontal position.

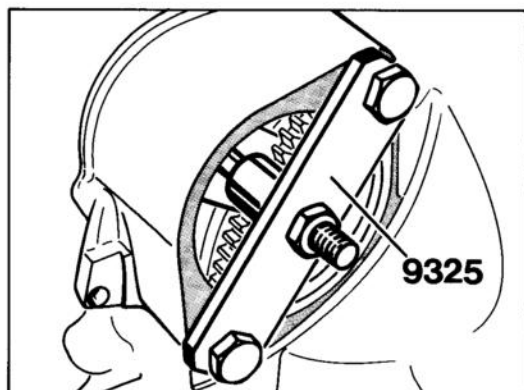
Note

Do not damage converter bearing assembly and rotary shaft seal.

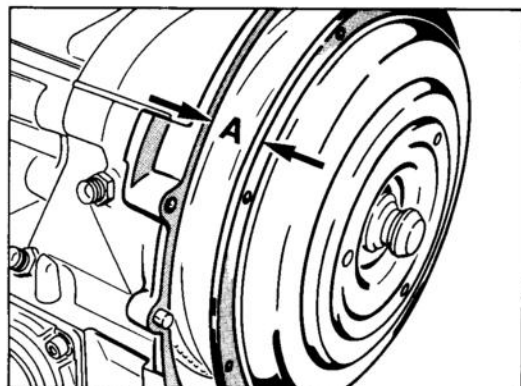
Installing

1. Carefully insert converter, with transmission in horizontal position. Turn the converter to and fro until the gear tooththing engages and the installation position is reached.

2. Secure converter against falling out with special tool 9325



413-32



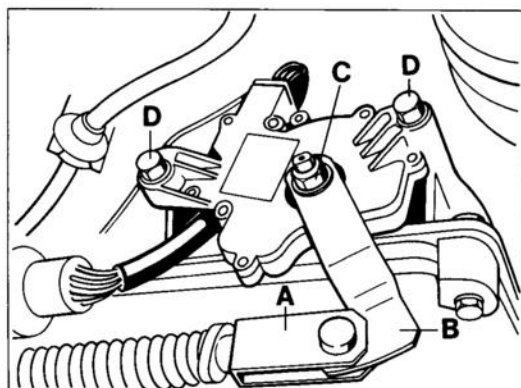
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A = approx. 25 mm

Removing and installing the position switch on transmission

Removing

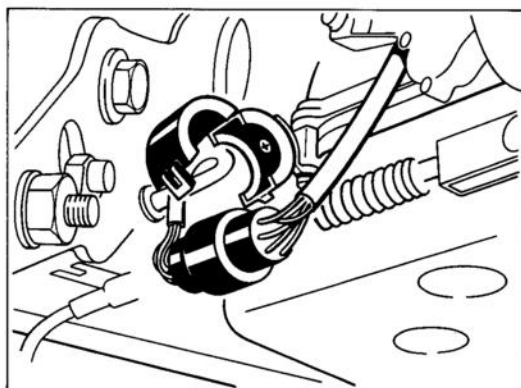
1. Move selector lever to position "N".
2. Remove transmission underbody cladding.
3. Disconnect selector lever cord pull at actuating lever.
4. Remove actuating lever.



381-37a

- A = Selector lever cord pull
 B = Actuating lever
 C = Hexagon nut (M 8 x 1) with washer
 D = Fixing screws

5. Unlock cable holder, remove plug-in connection and disconnect.



397-37

6. Unscrew fixing screws for position switch and remove switch.

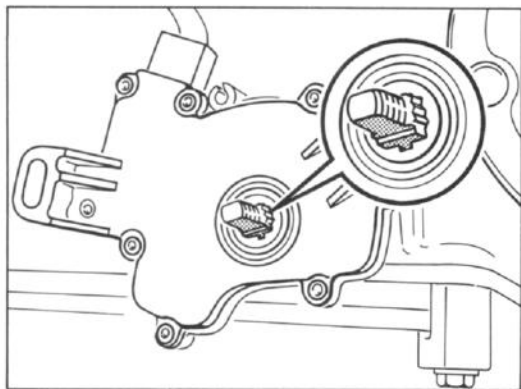
Installing

Installation takes place in reverse order.

Tightening torques:

- Position switch to transmission = 10 Nm
 Actuating lever to switching shaft = 15 Nm

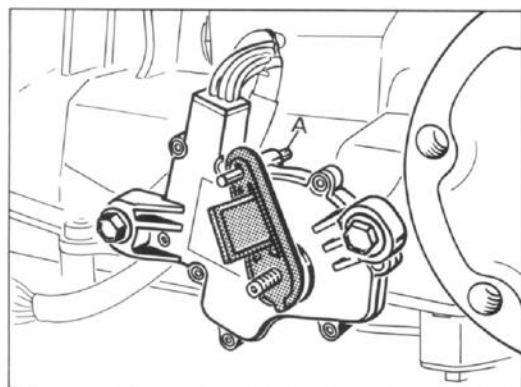
1. Set selector shaft to position "N" (turn shaft anti-clockwise up to the stop and then back two clicks) and place switch in the correct position.
2. Check, and if necessary adjust, setting of selector lever cable.



1884-37

2. Adjusting multifunctional switch.

- Push pointer of special tool **9326** onto the selector shaft and turn the switch until the locating pin can be pushed into the fixing hole of the switch. Tighten the mounting screws to **10 Nm** (7 ftlb.) in this position.



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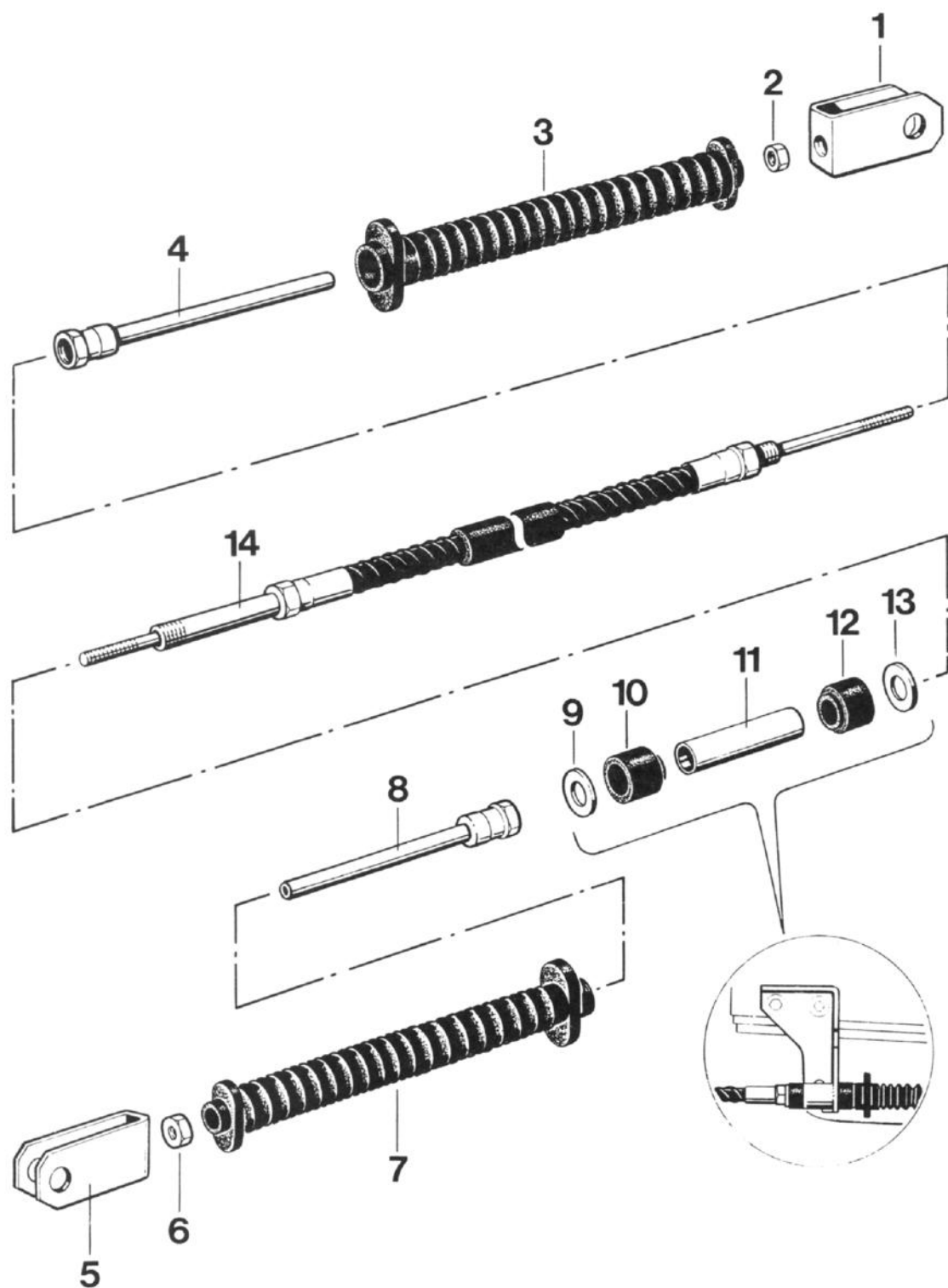
A = locating pin

Adjusting cable for selector device

1. Move selector lever to position "1".
2. Move multi-function switch to position "1" by pushing forward operating lever on switch by maximum amount.
3. Push cable forward and adjust position of fork head until bore holes of fork head and operating lever on gearbox lie exactly one over the other. From this position rotate fork head a further two turns onto thread of cable.
4. Check adjustment by shifting through all the gears and confirming that gear is displayed on speedometer. In addition change gate from "D" to "M". This must be possible with one smooth, straightline movement.

Removing and installing cable for selector mechanism

Removing and installing cable for selector mechanism

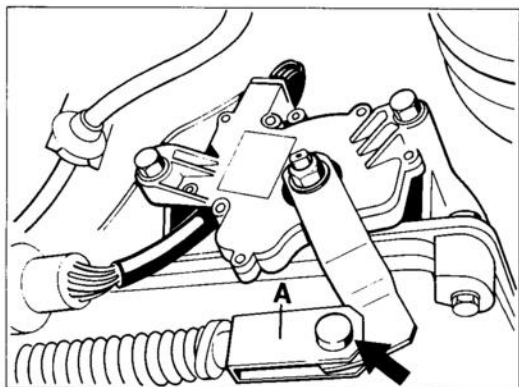


No.	Designation	Qty.	Note:	
			Removal	Installation
1	Fork head	1		Screw on to half length of thread on cable
2	Hexagon nut	1		Tighten to 6 Nm (4.4 ftlb)
3	Gaiter seal	1		
4	Guide tube	1		
5	Fork head	1		
6	Hexagon nut	1		Tighten to 6 Nm (4.4 ftlb)
7	Gaiter seal	1		
8	Guide tube	1		
9	Washer	1		
10	Rubber mount	1		Install in correct position
11	Spacer tube	1		
12	Rubber mount	1		Install in correct position
13	Washer	1		
14	Cable			Readjust

Instructions for removal and installation

Removal

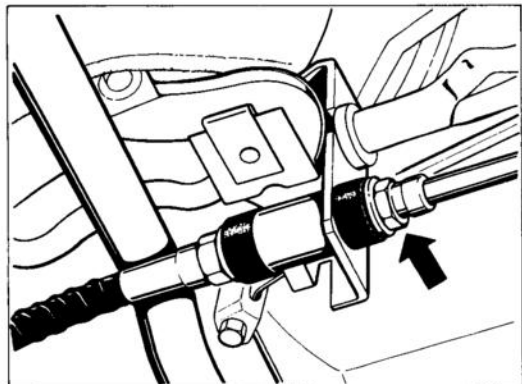
1. Remove underfloor paneling for gearbox and center underfloor paneling.
2. Disconnect cable on operating lever and remove fork head.



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A = Fork head

3. Disconnect guide tube on bracket



494-37

4. Disconnect cable on selector lever casing and disconnect guide tube.

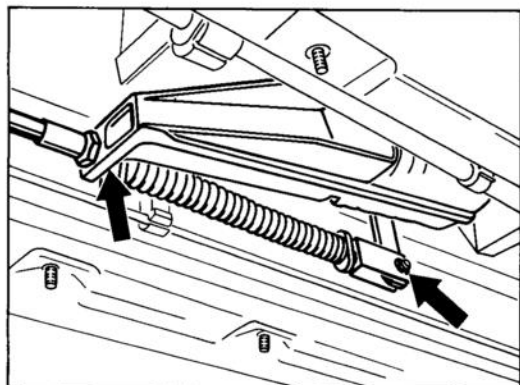
Installation

1. Installation is carried out in reverse order.
2. Adjust cable for selector mechanism (see P. 37 - 102a).

Removing and installing gear selecting system

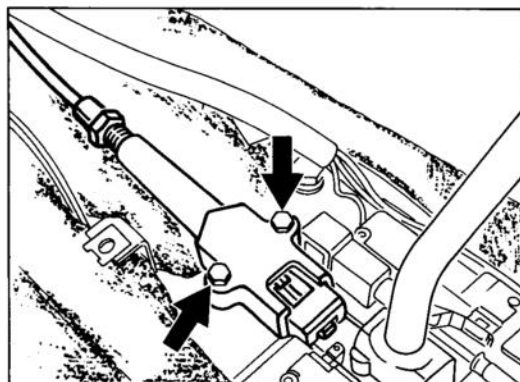
Removal

1. Disconnect battery.
2. Remove center underside panel.
3. Disengage selector lever cable from deflection lever and undo guide tube.



1066-37

4. Unscrew release button and pull off selector knob.
5. Remove center console.
6. Disconnect cable valve body from switch plate (only for keylock models).



1067-37

7. Disconnect connectors for switch plate.
8. Unscrew four mounting screws (M 6) and take out selector lever operator from above.

Installation

Tightening torques:

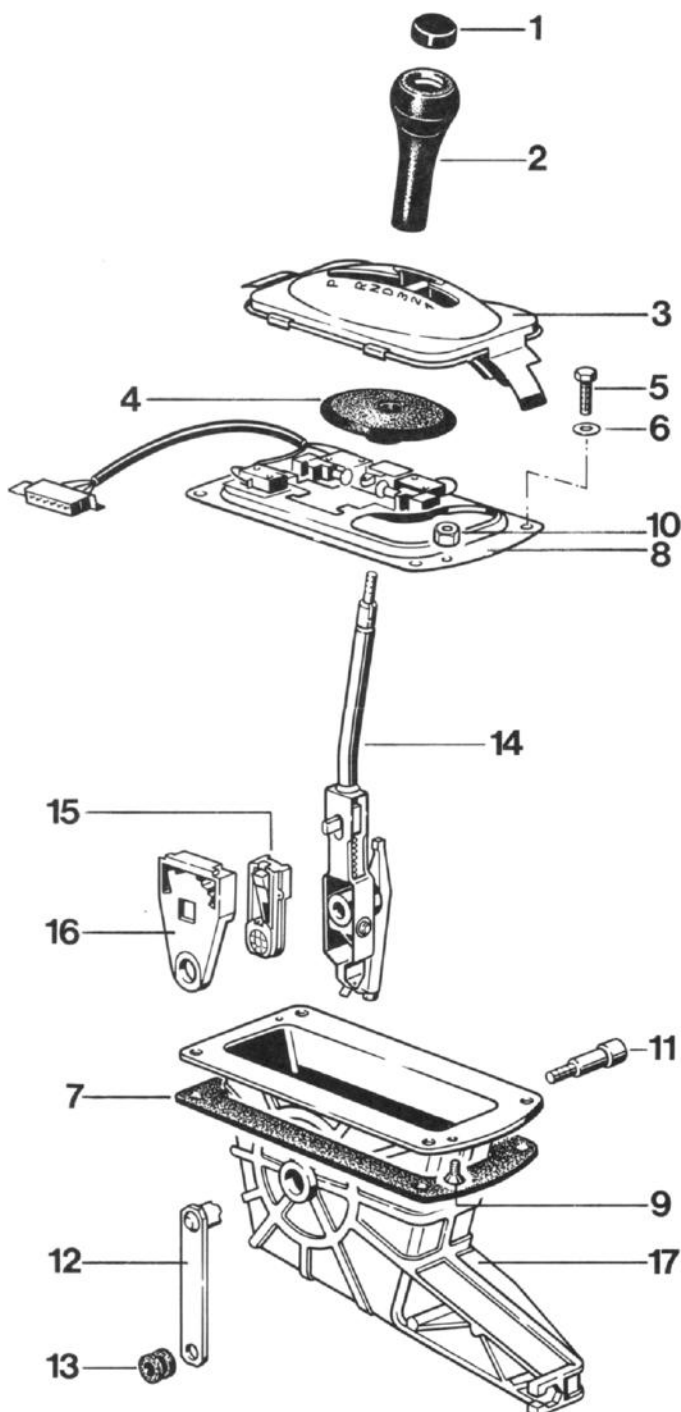
Gear selecting system to body = 10 Nm (7 ftlb)

Cable valve body to switch plate = 2,5 Nm (2 ftlb)

1. Install in reverse order.
2. Press selector knob manually until it is up against the stop, making sure the twist lock engages in the cutout in the selector lever.
3. Check release button for smooth operation. It must return into the home position by itself.
4. Check selector lever cable adjustment and readjust if required.
5. Check operation of keylock and shiftlock (if fitted).

Dismantling and assembling selector mechanism

Dismantling and assembling selector mechanism



492-37