

Workshop Manual

Fabia II 2007 ➤ , Fabia II 2009 ➤ ,
Fabia II 2011 ➤ , Rapid 2011 ➤ ,
Rapid NH 2013 ➤ , Rapid NH 2014 ➤ ,
Roomster 2006 ➤

Gearbox 02T

Edition 05.2014



List of Workshop Manual Repair Groups

Repair Group

00 - Technical data

30 - Clutch

34 - Controls, housing

35 - Gears, shafts

39 - Final drive - differential



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00 – Technical data

1 Identification of the gearbox

(SRL000700; Edition 05.2014)

Assignment Fabia II ⇒ [page 1](#) .

Assignment Roomster ⇒ [page 6](#) .

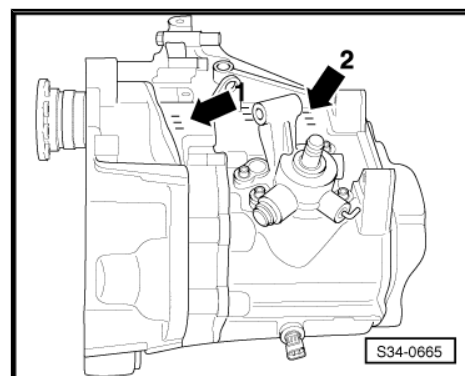
Assignment Rapid ⇒ [page 10](#) .

Assignment Rapid NH ⇒ [page 11](#) .

Location on the gearbox

Identification characters and production date -arrow 1-.

Identification of materials for the gearbox housing -arrow 2-.



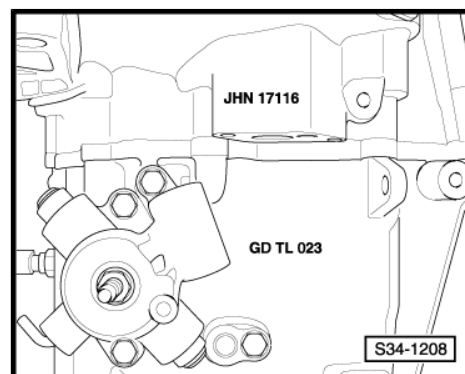
Identification characters and production date of the gearbox

Example:	JHN	17	11	6
	Identifica- tion charac- ters	Day	Month	Manufac- turing year (2006)

Additional data depend on the manufacturing.



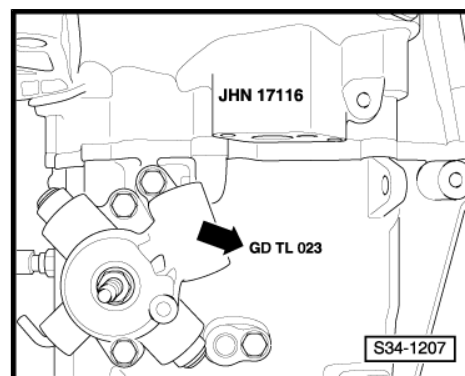
The gearbox identification characters also appear on the vehicle data stickers.



Identification of materials for the gearbox housing

There is lettering on aluminium gearboxes -arrow- -GD TL 023-, or -AlSi9Cu3- or -AlSi6Cu4-.

One can also use the gearbox identification characters to determine whether it is an aluminium or a magnesium gearbox.



1.1 Identification characters, aggregate assignment, ratios, filling capacities (Fabia II)

Manual gearbox	5 speed 02T			
Identification characters	JHN	LVC	JUS	LVG



Manual gearbox		5 speed 02T			
Manufactured	from	12.06	06.09	01.07	06.09
	to	05.09	03.10	05.09	03.10
Assignment:	Engine	1.2 ltr./44 kW		1.2 ltr./51 kW	
Ratio: Z ₂ :Z ₁	Final drive	67 : 16 = 4.188			
	1. gear	49 : 13 = 3.769			
	2. gear	44 : 21 = 2.095			
	3. gear	43 : 31 = 1.387			
	4. gear	40 : 39 = 1.026			
	5. gear	39 : 48 = 0.813	40 : 47 = 0.851		
	Reverse gear	35 : 24 x 24 : 11 = 3.182			
	Speedometer	electronic			
Filling capacity		2.0 litre			
Specification		⇒ Electronic Catalogue of Original Parts			
Gear oil change interval		Filled for life			
Clutch control		hydraulic			
Clutch disc Ø		⇒ Electronic Catalogue of Original Parts			
Drive shaft flange Ø		90 mm	100 mm	90 mm	100 mm



Note

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

Manual gearbox		5 speed 02T		
Identification characters		LVC		LNR
Manufactured	from	09.10		03.10
	to			
Assignment:	Engine	1.2 ltr./55 kW	1.2 ltr./44 kW	1.2 ltr./51 kW
Ratio: Z ₂ :Z ₁	Final drive	67 : 16 = 4.188		
	1. gear	49 : 13 = 3.769		
	2. gear	44 : 21 = 2.095		
	3. gear	43 : 31 = 1.387	41 : 32 = 1.281	
	4. gear	40 : 39 = 1.026	38 : 41 = 0.927	
	5. gear	39 : 48 = 0.813	37 : 50 = 0.74	
	Reverse gear	35 : 24 x 24 : 11 = 3.182		
	Speedometer	electronic		
Filling capacity		2.0 litre		
Specification		⇒ Electronic Catalogue of Original Parts		
Gear oil change interval		Filled for life		

Manual gearbox	5 speed 02T	
Clutch control	hydraulic	
Clutch disc \varnothing	⇒ Electronic Catalogue of Original Parts	
Drive shaft flange \varnothing	100 mm	90 mm

 **Note**

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

Manual gearbox	5 speed 02T	
Identification characters	MFX	LMG
Manufactured from	03.10	03.10
to		
Assignment: Engine	1.2 ltr./63 kW TFSI	1.2 ltr./77 kW TFSI
Ratio: Final drive	58 : 16 = 3.625	
Z ₂ :Z ₁ 1. gear	49 : 13 = 3.769	
2. gear	43 : 22 = 1.955	
3. gear	41 : 32 = 1.281	
4. gear	38 : 41 = 0.927	
5. gear	37 : 50 = 0.74	
Reverse gear	35 : 24 x 24 : 11 = 3.182	
Speedometer	electronic	
Filling capacity	2.0 litre	
Specification	⇒ Electronic Catalogue of Original Parts	
Gear oil change interval	Filled for life	
Clutch control	hydraulic	
Clutch disc \varnothing	⇒ Electronic Catalogue of Original Parts	
Drive shaft flange \varnothing	100 mm	

 **Note**

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

Manual gearbox	5 speed 02T			
Identification characters	JHQ	LVE	JHL	LVA



Manual gearbox		5 speed 02T			
Manufactured	from	02.07	06.09	04.07	06.09
	to	05.09		05.09	05.10
Assignment:	Engine	1.4 ltr./63 kW		1.6 ltr./77 kW	
Ratio:	Final drive	66 : 17 = 3.882		59 : 15 = 3.933	
Z ₂ :Z ₁	1. gear	49 : 13 = 3.769			
	2. gear	44 : 21 = 2.095			
	3. gear	43 : 31 = 1.387			
	4. gear	40 : 39 = 1.026			
	5. gear	39 : 48 = 0.813			
	Reverse gear	35 : 24 x 24 : 11 = 3.182			
		Speedometer	electronic		
Filling capacity		2.0 litre			
Specification		⇒ Electronic Catalogue of Original Parts			
Gear oil change interval		Filled for life			
Clutch control		hydraulic			
Clutch disc Ø		⇒ Electronic Catalogue of Original Parts			
Drive shaft flange Ø		90 mm		100 mm	

**Note**

- ◆ *Vehicles with ABS do not have the sender for speedometer - G22- .*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .*

Manual gearbox		5 speed 02T			
Identification characters		MAB		LNJ	
Manufactured	from	06.10		09.10	
	to	01.12		01.11	
Assignment:	Engine	1.6 ltr./77 kW			
Ratio:	Final drive	68 : 15 = 4.533		59 : 15 = 3.933	
Z ₂ :Z ₁	1. gear	38 : 11 = 3.455		49 : 13 = 3.769	
	2. gear	43 : 22 = 1.955		44 : 21 = 2.095	
	3. gear	41 : 32 = 1.281			
	4. gear	37 : 42 = 0.881			
	5. gear	35 : 52 = 0.673			
	Reverse gear	35 : 24 x 24 : 11 = 3.182			
		Speedometer	electronic		
Filling capacity		2.0 litre			
Specification		⇒ Electronic Catalogue of Original Parts			
Gear oil change interval		Filled for life			

Manual gearbox	5 speed 02T
Clutch control	hydraulic
Clutch disc \varnothing	⇒ Electronic Catalogue of Original Parts
Drive shaft flange \varnothing	100 mm

 **Note**

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

Manual gearbox	5 speed 02T	
Identification characters	NVS	
Manufactured from	02.12	
to		
Assignment: Engine	1.6 ltr./77 kW	
Ratio: Final drive	64 : 14 = 4.571	
Z2:Z1	1. gear	38 : 11 = 3.455
	2. gear	43 : 22 = 1.955
	3. gear	41 : 32 = 1.281
	4. gear	37 : 42 = 1.881
	5. gear	35 : 52 = 0.673
	Reverse gear	35 : 24 x 24 : 11 = 3.182
Speedometer	electronic	
Filling capacity	2.0 litre	
Specification	⇒ Electronic Catalogue of Original Parts	
Gear oil change interval	Filled for life	
Clutch control	hydraulic	
Clutch disc \varnothing	⇒ Electronic Catalogue of Original Parts	
Drive shaft flange \varnothing	100 mm	

 **Note**

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

Manual gearbox	5 speed 02T	
Identification characters	JQM	LVF



Manual gearbox		5 speed 02T	
Manufactured	from	02.07	06.09
	to	05.09	09.10
Assignment:	Engine	1.4 ltr./51 kW TDI-PD	
Ratio: Z ₂ :Z ₁	Final drive	64 : 19 = 3.368	
	1. gear	49 : 13 = 3.769	
	2. gear	44 : 21 = 2.095	
	3. gear	43 : 31 = 1.387	
	4. gear	40 : 39 = 1.026	
	5. gear	38 : 49 = 0.776	
	Reverse gear	35 : 24 x 24 : 11 = 3.182	
	Speedometer	electronic	
Filling capacity	2.0 litre		
Specification	⇒ Electronic Catalogue of Original Parts		
Gear oil change interval	Filled for life		
Clutch control	hydraulic		
Clutch disc Ø	⇒ Electronic Catalogue of Original Parts		
Drive shaft flange Ø	90 mm		

**Note**

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

1.2 Identification characters, aggregate assignment, ratios, filling capacities (Roomster)

Manual gearbox		5 speed 02T			
Identification characters		HZK	JHM	JHM	LVB
Manufactured	from	05.06	11.06	01.07	06.09
	to	11.06	12.06	05.09	03.10
Assignment:	Engine	1.2 ltr./47 kW		1.2 ltr./51 kW	
Ratio: Z ₂ :Z ₁	Final drive	69 : 14 = 4.929			
	1st gear	49 : 13 = 3.769			
	2nd gear	44 : 21 = 2.095			
	3rd gear	43 : 31 = 1.387			
	4th gear	40 : 39 = 1.026			
	5th gear	38 : 49 = 0.776			
	Reverse gear	35 : 24 x 24 : 11 = 3.182			
	Speedometer	electronic			

Manual gearbox	5 speed 02T
Filling capacity	2.0 l
Specification	⇒ Electronic Catalogue of Original Parts
Gear oil change interval	Filled for life
Clutch control	hydraulic
Clutch disc Ø	⇒ Electronic Catalogue of Original Parts
Drive shaft flange Ø	90 mm

 **Note**

- ◆ *Vehicles with ABS do not have the sender for speedometer - G22- .*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .*

Manual gearbox		5 speed 02T		
Identification characters		MKG	MFX	LMG
Manufactured	from	04.10	04.10	
	to			
Assignment:	Engine	1.2 ltr./51 kW	1.2 ltr./63 kW TFSI	1.2 ltr./77 kW TFSI
Ratio: Z ₂ :Z ₁	Final drive	69 : 14 = 4.929	58 : 16 = 3.625	
	1st gear	49 : 13 = 3.769	49 : 13 = 3.769	
	2nd gear	44 : 21 = 2.095	43 : 22 = 1.955	
	3rd gear	41 : 32 = 1.281	41 : 32 = 1.281	
	4th gear	37 : 42 = 0.881	38 : 41 = 0.927	
	5th gear	35 : 52 = 0.673	37 : 50 = 0.74	
	Reverse gear	35 : 24 x 24 : 11 = 3.182		
	Speedometer	electronic		
Filling capacity		2.0 ltr.		
Specification		⇒ Electronic Catalogue of Original Parts		
Gear oil change interval		Filled for life		
Clutch control		hydraulic		
Clutch disc Ø		⇒ Electronic Catalogue of Original Parts		
Drive shaft flange Ø		90 mm	100 mm	

 **Note**

- ◆ *Vehicles with ABS do not have the sender for speedometer - G22- .*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .*



Manual gearbox		5 speed 02T		
Identification characters		HZM	JHN	LVC
Manufactured	from	05.06	11.06	06.09
	to	11.06	05.09	
Assignment:	Engine	1.4 ltr./63 kW		
Ratio:	Final drive	67 : 16 = 4.188		
Z ₂ :Z ₁	1st gear	49 : 13 = 3.769		
	2nd gear	44 : 21 = 2.095		
	3rd gear	43 : 31 = 1.387		
	4th gear	40 : 39 = 1.026		
	5th gear	39 : 48 = 0.813		
	Reverse gear	35 : 24 x 24 : 11 = 3.182		
		Speedometer	electronic	
Filling capacity		2.0 ltr.		
Specification		⇒ Electronic Catalogue of Original Parts		
Gear oil change interval		Filled for life		
Clutch control		hydraulic		
Clutch disc Ø		⇒ Electronic Catalogue of Original Parts		
Drive shaft flange Ø		90 mm	100 mm	

**Note**

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

Manual gearbox		5 speed 02T				
Identification characters		HXL	JHL	LVA	MAB	
Manufactured	from	05.06	11.06	06.09	06.10	
	to	11.06	05.09	05.10	01.12	
Assignment:	Engine	1.6 ltr./77 kW				
Ratio:	Final drive	59 : 15 = 3.933		68 : 15 = 4.533		
Z ₂ :Z ₁	1st gear	49 : 13 = 3.769		38 : 11 = 3.455		
	2nd gear	44 : 21 = 2.095		43 : 22 = 1.955		
	3rd gear	43 : 31 = 1.387		41 : 32 = 1.281		
	4th gear	40 : 39 = 1.026		37 : 42 = 0.881		
	5th gear	39 : 48 = 0.813		35 : 52 = 0.673		
		Reverse gear	35 : 24 x 24 : 11 = 3.182			
		Speedometer	electronic			
Filling capacity		2.0 l				

Manual gearbox	5 speed 02T
Specification	⇒ Electronic Catalogue of Original Parts
Gear oil change interval	Filled for life
Clutch control	hydraulic
Clutch disc Ø	⇒ Electronic Catalogue of Original Parts
Drive shaft flange Ø	100 mm



Note

- ◆ *Vehicles with ABS do not have the sender for speedometer - G22- .*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .*

Manual gearbox	5 speed 02T			
Identification characters	NVS			
Manufactured from	02.12			
to				
Assignment: Engine	1.6 ltr./77 kW			
Ratio: Z ₂ :Z ₁	Final drive	68 : 15 = 4.533		
	1st gear	38 : 11 = 3.455		
	2nd gear	43 : 22 = 1.955		
	3rd gear	41 : 32 = 1.281		
	4th gear	37 : 42 = 0.881		
	5th gear	35 : 52 = 0.673		
	Reverse gear	35 : 24 x 24 : 11 = 3.182		
Speedometer	electronic			
Filling capacity	2.0 ltr.			
Specification	⇒ Electronic Catalogue of Original Parts			
Gear oil change interval	Filled for life			
Clutch control	hydraulic			
Clutch disc Ø	⇒ Electronic Catalogue of Original Parts			
Drive shaft flange Ø	100 mm			



Note

- ◆ *Vehicles with ABS do not have the sender for speedometer - G22- .*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .*



Manual gearbox		5 speed 02T		
Identification characters		HZL	JHP	LVD
Manufactured	from	08.06	11.06	06.09
	to	11.06	05.09	03.10
Assignment:	Engine	1.4 ltr./51 kW TDI-PD		
Ratio: Z ₂ :Z ₁	Final drive	65 : 18 = 3.611		
	1st gear	49 : 13 = 3.769		
	2nd gear	44 : 21 = 2.095		
	3rd gear	43 : 31 = 1.387		
	4th gear	40 : 39 = 1.026		
	5th gear	38 : 49 = 0.776		
	Reverse gear	35 : 24 x 24 : 11 = 3.182		
	Speedometer	electronic		
Filling capacity		2.0 ltr.		
Specification		⇒ Electronic Catalogue of Original Parts		
Gear oil change interval		Filled for life		
Clutch control		hydraulic		
Clutch disc Ø		⇒ Electronic Catalogue of Original Parts		
Drive shaft flange Ø		90 mm		

**Note**

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

1.3 Identification characters, aggregate assignment, ratios, filling capacities (Rapid)

Manual gearbox		5 speed 02T	
Identification characters		MAB	NVS
Manufactured	from	09.11	04.12
	to	03.12	
Assignment:	Engine	1.6 ltr./77 kW	
Ratio: Z ₂ :Z ₁	Final drive	68 : 15 = 4.533	64 : 14 = 4.571
	1. gear	38 : 11 = 3.455	
	2. gear	43 : 22 = 1.955	
	3. gear	41 : 32 = 1.281	
	4. gear	37 : 42 = 0.881	
	5. gear	35 : 52 = 0.673	

Manual gearbox	5 speed 02T
Reverse gear	35 : 24 x 24 : 11 = 3.182
Speedometer	electronic
Filling capacity	2.0 litre
Specification	⇒ Electronic Catalogue of Original Parts
Gear oil change interval	Filled for life
Clutch control	hydraulic
Clutch disc Ø	⇒ Electronic Catalogue of Original Parts
Drive shaft flange Ø	100 mm



Note

- ◆ Vehicles with ABS do not have the sender for speedometer - G22- .
- ◆ On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

1.4 Identification characters, aggregate assignment, ratios, filling capacities (Rapid NH)

Manual gearbox	5 speed 02T		
Identification characters	MKG	MFX	LGQ
Manufactured from	07.12	07.12	07.12
to			
Assignment: Engine	1.2 ltr./55 kW MPI	1.2 ltr./63 kW TSI	
Ratio: Final drive	69 : 14 = 4.928	58 : 16 = 3.625	
Z ₂ :Z ₁ 1st gear	49 : 13 = 3.769	49 : 13 = 3.769	
2nd gear	44 : 21 = 2.095	43 : 22 = 1.954	
3rd gear	41 : 32 = 1.281	41 : 32 = 1.281	
4th gear	37 : 42 = 0.881	38 : 41 = 0.927	
5th gear	35 : 52 = 0.673	37 : 50 = 0.74	
Reverse gear	35 : 24 x 24 : 11 = 3.182		
Speedometer	electronic		
Filling capacity	2.0 ltr.		
Specification	⇒ Electronic Catalogue of Original Parts		
Gear oil change interval	Filled for life		
Clutch control	hydraulic		
Clutch disc Ø	⇒ Electronic Catalogue of Original Parts		
Drive shaft flange Ø	90 mm	100 mm	

**Note**

- ◆ *Vehicles with ABS do not have the sender for speedometer - G22- .*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .*

Manual gearbox		5 speed 02T	
Identification characters		MAB	NVS
Manufactured	from	07.12	
	to		
Assignment:	Engine	1.6 ltr./77 kW MPI	
Ratio: Z ₂ :Z ₁	Final drive	68 : 15 = 4.533	64 : 14 = 4.571
	1. gear	38 : 11 = 3.455	
	2. gear	43 : 22 = 1.955	
	3. gear	41 : 32 = 1.281	
	4. gear	37 : 42 = 0.881	
	5. gear	35 : 52 = 0.673	
	Reverse gear	35 : 24 x 24 : 11 = 3.182	
	Speedometer	electronic	
Filling capacity		2.0 litre	
Specification		⇒ Electronic Catalogue of Original Parts	
Gear oil change interval		Filled for life	
Clutch control		hydraulic	
Clutch disc Ø		⇒ Electronic Catalogue of Original Parts	
Drive shaft flange Ø		100 mm	

**Note**

- ◆ *Vehicles with ABS do not have the sender for speedometer - G22- .*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .*

2 Overview of Transmission System

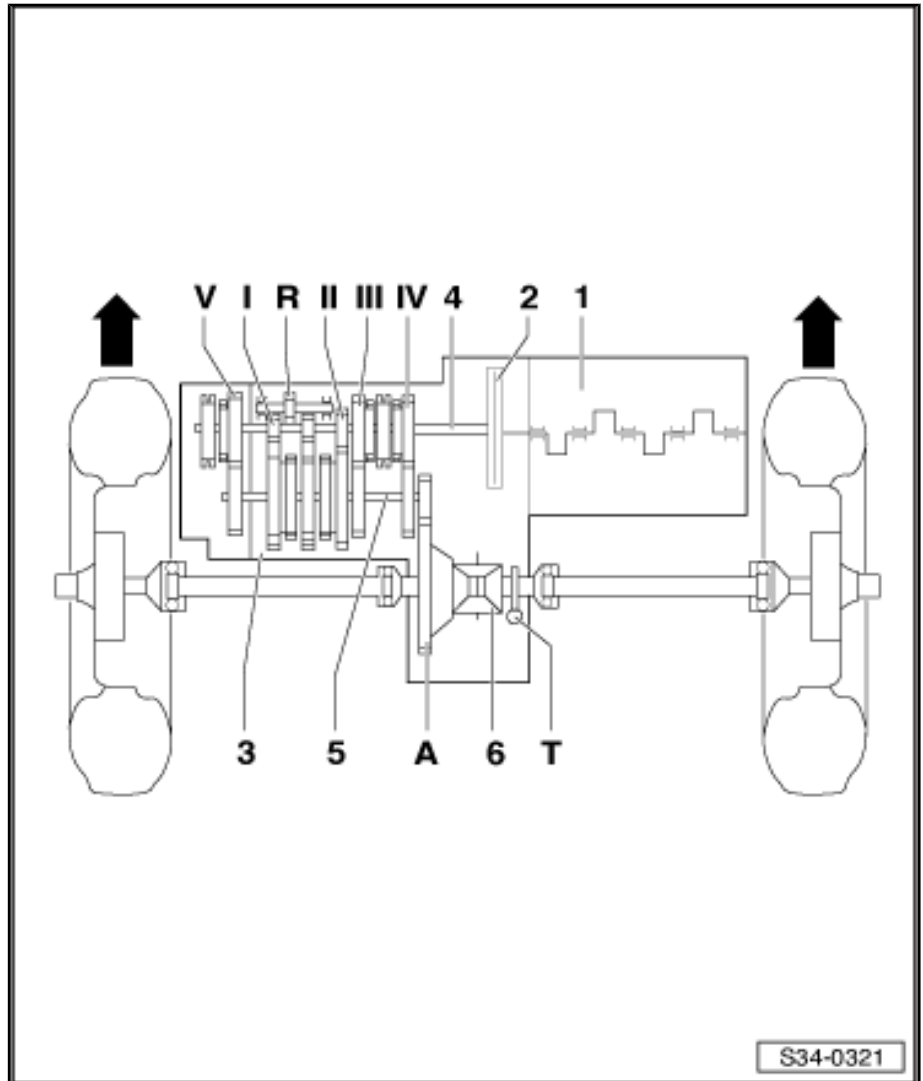
2.1 Designation of components and transmission ratio



Note

The arrow shows the direction of travel.

- 1 - Engine
- 2 - Clutch
- 3 - Manual gearbox
- 4 - Drive shaft
- 5 - Output shaft
- 6 - Differential gear
- I - 1. gear
- II - 2. gear
- III - 3. gear
- IV - 4. gear
- V - 5. gear
- R - Reverse gear
- A - Final drive
- T - Speedometer drive





3 General repair instructions

To ensure flawless and successful gearbox repairs, the greatest care and cleanliness as well as the use of good and proper tools are essential. Also note the basic rules on safety when performing repair procedures.

A number of generally valid notes for individual repair operations - which are otherwise listed several times at numerous points in the workshop manual - are summarized here. They apply for this particular workshop manual.

Gearbox

Gearboxes are constructed of aluminium and of magnesium
⇒ [page 1](#) .

- ◆ Gearbox housing and clutch housing are made of the same materials.
- ◆ Bolts and other attachments that come into direct contact with the gearbox can have varying finishes depending on whether the gearbox is made of aluminium or magnesium.
- ◆ On gearboxes which are made of magnesium, the screws must always be replaced for the following screw connections:
Cover for gearbox housing at gearbox housing and clutch housing at gearbox housing.
- ◆ The use of substitute components causes contact corrosion. This will result in damage to the gearbox.
- ◆ Bolts and other attachments should have a classification in the ⇒ [Electronic Catalogue of Original Parts](#) .
- ◆ When installing, ensure the dowel sleeves are correctly located between the engine and gearbox.
- ◆ When replacing the gearbox, pour in gear oil up to lower edge of filler hole.
- ◆ Filling capacity and specification (Fabia II) ⇒ [page 1](#) .
- ◆ Filling capacity and specification (Roomster) ⇒ [page 6](#) .
- ◆ Filling capacity and specification (Rapid) ⇒ [page 10](#) .
- ◆ Filling capacity and specification (Rapid NH) ⇒ [page 11](#) .

Gaskets and seals

- ◆ Clean contact surfaces thoroughly and apply sealant - AMV 188 200 03- .
- ◆ Apply sealant evenly - not too thickly.
- ◆ Replace O-rings.
- ◆ Replace radial shaft seals.

Before installing

Lightly lubricate the outside diameter of the gasket ring. Fill half the space between the sealing lips -arrow- with grease - G 052 128 A1- .

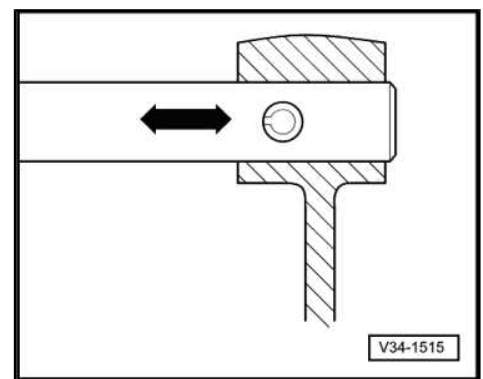
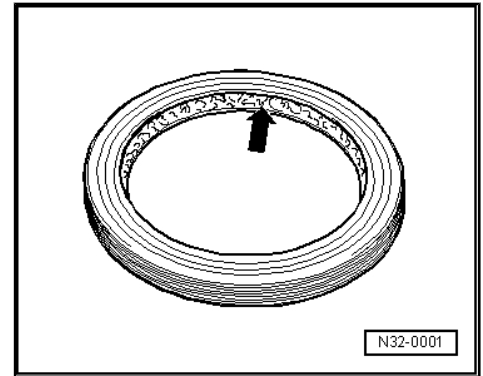
After installing

Check gear oil level, if necessary pour in oil up to lower edge of filler hole ⇒ [page 112](#) , specification:

- ◆ Fabia II ⇒ [page 1](#) .
- ◆ Roomster ⇒ [page 6](#) .
- ◆ Rapid ⇒ [page 10](#) .
- ◆ Rapid NH ⇒ [page 11](#) .

Locking elements

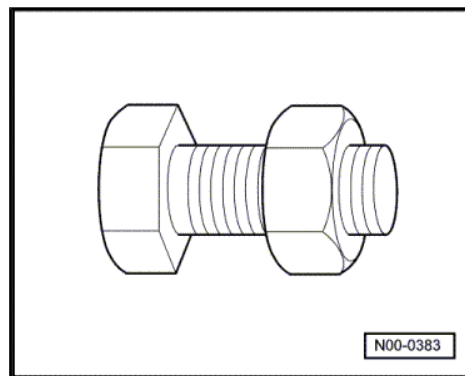
- ◆ Replace circlips.
- ◆ Do not over-tension the circlips.
- ◆ Circlips must be positioned in the base of the groove.
- ◆ Replace roll pins. Fitting position: Slot longitudinal to power flow -arrow-.





Nuts and bolts

- ◆ Slacken and tighten fixing screws and nuts of covers and housings diagonally across in stages.
- ◆ Do not twist particularly sensitive parts - e.g. clutch pressure plates - slacken and tighten diagonally across in stages.
- ◆ Specified torques given are for unlubricated nuts, bolts and screws.
- ◆ Always replace the self-locking screws and nuts ⇒ Electronic Catalogue of Original Parts .
- ◆ It is important to ensure at all bolted connections that the contact surfaces as well as the nuts and bolts are waxed only after being installed, should this be necessary.
- ◆ Clean all threaded holes into which self-locking bolts were screwed in, using a suitable thread tap to remove old locking agent residues. Otherwise there is the risk that the self-locking screw will shear when removing.



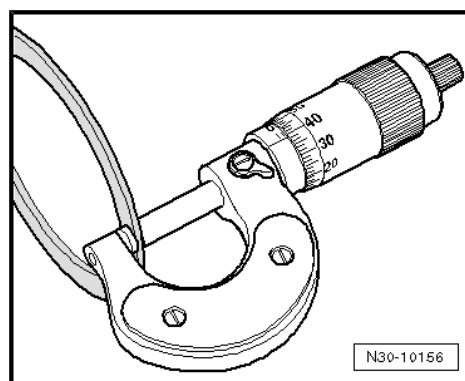
Bearings

- ◆ New taper roller bearings are fitted as supplied and do not require any additional lubrication.
- ◆ Fit needle bearings to the gearbox with some gearbox fluid.
- ◆ Replace all taper roller bearings belonging to one shaft at the same time. As far as possible use bearings of the same make.
- ◆ Before installing, heat the inner rings of the bearing on a heating plate or with the hot-air blower , e.g. -V.A.G 1416- , to approx. 100°C, when installing press in axial and play-free up to the stop.
- ◆ The temperature can be checked with a temperature measuring instrument.
- ◆ Do not exchange the outer and inner rings of bearings of the same size. The bearings are matched in pairs.
- ◆ Position needle bearing with the lettered side (thicker end) towards the drift pin.

Shims

- ◆ Gauge shims at several points with a micrometer. Different tolerances allow to measure the required thickness for each washer very precisely ⇒ electronic catalogue of original parts .
- ◆ Inspect washers for burrs and damage.
- ◆ Install only adjusting washers which are in perfect condition.

Synchronizer rings



- ◆ These are not interchangeable. If re-using, allocate synchronizer rings to the same sliding gear.
- ◆ Inspect for wear, replace if necessary ⇒ Electronic Catalogue of Original Parts .
- ◆ Check grooves -arrow 1- on synchronizer ring -A-, or check the inside of the ring for flattened parts (grooves worn).
- ◆ When installing the intermediate ring -B-, check outer contact surface -arrow 2- and inner contact surface -arrow 3- for grooves, blue coloring (caused by overheating) and other damages.
- ◆ Insert moist with some gearbox fluid.


Pinions

- ◆ Clean and heat on a heating plate or with the hot-air blower , e.g. -V.A.G 1416- to approx. 100°C before pressing on.
- ◆ The temperature can be checked with a temperature measuring instrument.
- ◆ Check fitting position.

Clutch control

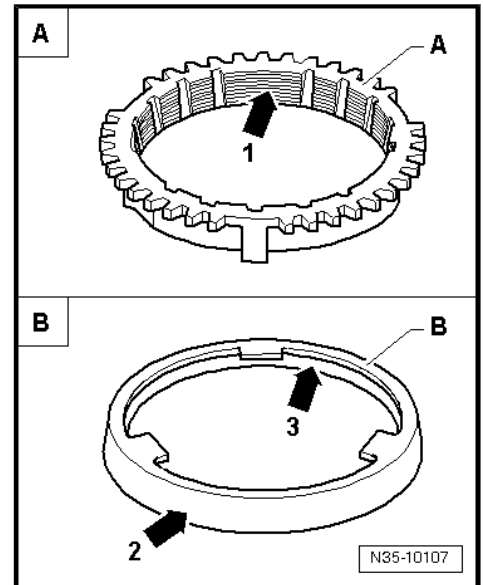
- ◆ When removing gearbox, remove slave cylinder, do not detach the hoses.
- ◆ If the slave cylinder with connected hydraulic line is removed, do not depress the clutch pedal. Otherwise the tappet is pressed out of the slave cylinder.
- ◆ Do not tilt the clutch pressure plate; release and tighten crosswise in small stages.
- ◆ If the clutch pedal does not return to its initial position after the coupling procedure - clutch pedal in home position - the clutch control must be bled ⇒ [page 65](#) (further measures ⇒ [page 57](#)).
- ◆ In order to reduce unpleasant odours if the clutch is burnt, thoroughly clean the clutch housing as well as the flywheel and the engine on the side of the gearbox.

Safety precautions for vehicles with start-stop system

 **WARNING**

On vehicles with start-stop system, there is the risk of injury from automatic engine start.

- ◆ *On vehicles with activated start-stop system (recognizable by a message in the dash panel insert), the engine can start automatically if required.*
- ◆ *It is therefore necessary to ensure that the start-stop system is deactivated when carrying out work on the vehicle (ignition switched off; if required switch ignition on again).*





30 – Clutch

1 Clutch control

Summary of components - foot controls (Fabia II 2007 ▶; Roomster 2006 ▶) ⇒ [page 19](#) .

Removing and installing, setting angular clutch pedal switch - F36- , (Fabia II 2007 ▶; Roomster 2006 ▶) ⇒ [page 20](#) .

Removing and installing, setting cylindrical clutch pedal switch - F36- , (Fabia II 2007 ▶; Roomster 2006 ▶) ⇒ [page 21](#) .

Removing and installing the crash strut for the clutch pedal (Fabia II 2007 ▶; Roomster 2006 ▶) ⇒ [page 22](#) .

Removing and installing the over-centre helper spring (Fabia II 2007 ▶; Roomster 2006 ▶) ⇒ [page 24](#) .

Removing and installing the clutch pedal (Fabia II 2007 ▶; Roomster 2006 ▶) ⇒ [page 27](#) .

Summary of components - foot controls (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶) ⇒ [page 29](#) .

Summary of components - Foot controls (Rapid) ⇒ [page 36](#) .

Removing and installing the bracket with the master cylinder (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶) ⇒ [page 38](#) .

Removing and installing the bracket with the master cylinder (Rapid 2011 ▶) ⇒ [page 41](#) .

Removing and installing the bracket without the master cylinder (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶) ⇒ [page 43](#) .

Removing and installing the bracket without the master cylinder (Rapid 2011 ▶) ⇒ [page 44](#) .

Removing and installing the clutch pedal with the over-centre helper spring (Fabia II 2011 ▶; Roomster 2011 ▶) ⇒ [page 46](#) .

Removing and installing the clutch pedal with the over-centre helper spring (Rapid) ⇒ [page 48](#) .

Removing and installing the clutch pedal with the tension spring (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶) ⇒ [page 49](#) .

Summary of components - Hydraulic (Fabia II ▶; Roomster ▶; Rapid NH ▶) ⇒ [page 51](#) .

Summary of components - Hydraulic (Rapid 2011 ▶) ⇒ [page 54](#) .

Check hydraulic clutch control ⇒ [page 57](#) .

Removing and installing the master cylinder (Fabia II 2007 ▶; Roomster 2006 ▶) ⇒ [page 58](#) .

Removing and installing the master cylinder (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶) ⇒ [page 61](#) .

Remove and install slave cylinder ⇒ [page 61](#) .

Bleed the clutch control ⇒ [page 65](#) .

1.1 Summary of components - foot controls (Fabia II 2007 ▶; Roomster 2006 ▶)

Note

- ◆ *Summary of components - Hydraulics ⇒ [page 51](#) .*
- ◆ *If the battery earth strap is disconnected and connected, carry out additional operations ⇒ *Electrical System*; Rep. gr. 27 .*
- ◆ *Grease all bearing points and contact surfaces with grease - G 000 450 02- .*
- ◆ *Prior to working on the foot controls remove the storage area on the driver's side ⇒ *Body Work*; Rep. gr. 70 .*

1 - Support/Front wall

- for master cylinder and bracket

2 - Gasket

- always replace ⇒ Electronic Catalogue of Original Parts

3 - Bearing bracket

4 - Screw

5 - Gas/brake foot controls

6 - 28 Nm

- always replace ⇒ Electronic Catalogue of Original Parts

7 - Clutch pedal switch -F36-

- Difference between clutch pedal switch ⇒ [page 20](#)
- assign according to the ⇒ Electronic catalogue of original parts .
- Removing and installing ⇒ [page 20](#) angular clutch pedal switch
- Removing and installing ⇒ [page 21](#) cylindrical clutch pedal switch

8 - Over-centre helper spring

- removing and installing ⇒ [page 24](#)

9 - Bushing

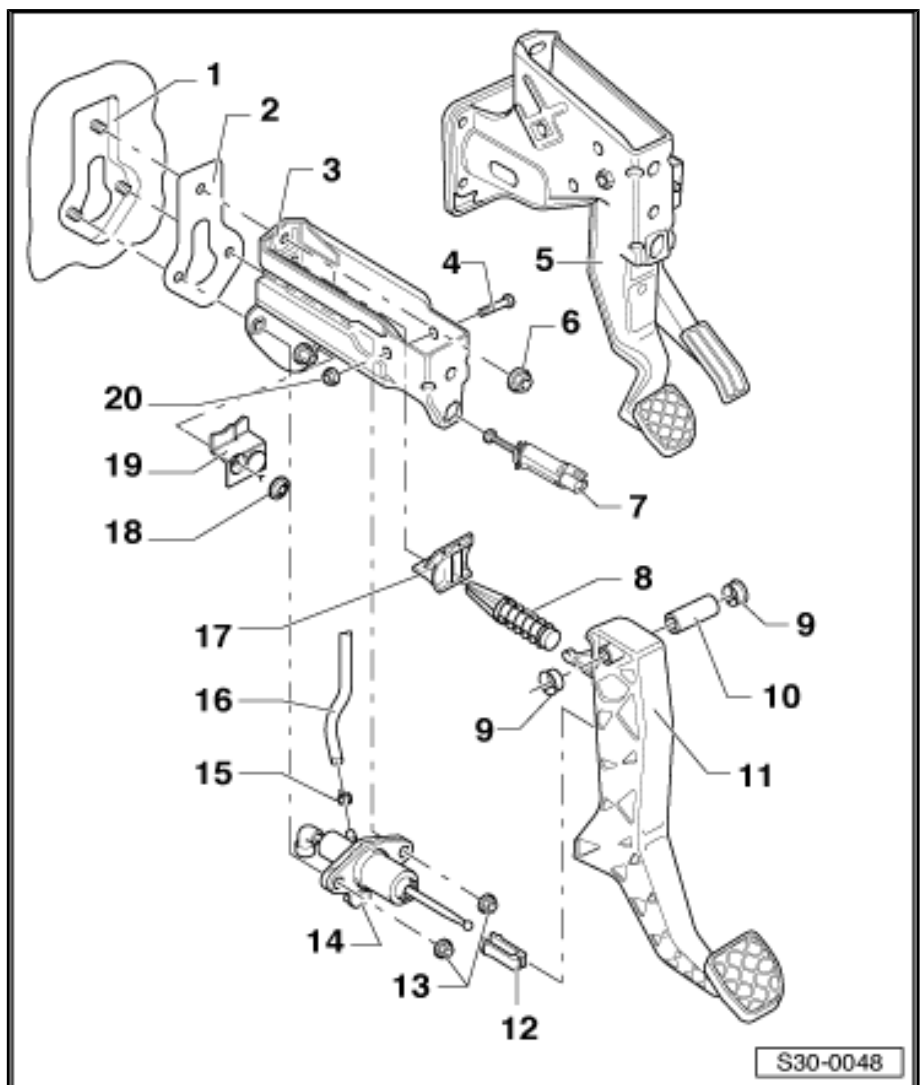
10 - Bearing pins

11 - Clutch pedal

- removing and installing ⇒ [page 27](#)

12 - Support

- removing and installing ⇒ [page 27](#)



13 - 28 Nm

- always replace ⇒ Electronic Catalogue of Original Parts

14 - Master cylinder

- removing and installing ⇒ [page 58](#)
- test tightness ⇒ [page 57](#)

15 - Spring strap clamp

16 - Supply hose

- out of rubber
- as of 12.05 on certain vehicles out of plastic ⇒ [page 54](#)
- if the return hose is made out of plastic, do not use hose clamp - MP7-602-
- test tightness ⇒ [page 57](#)

17 - Bearings

- insert in bearing bracket
- always replace ⇒ Electronic Catalogue of Original Parts

18 - Screw

- Pedal stop on bracket -Pos. 3-

19 - Pedal stop

- screw with screw -Pos. 18- onto bracket -Pos. 3-

20 - 25 Nm

- always replace ⇒ Electronic Catalogue of Original Parts

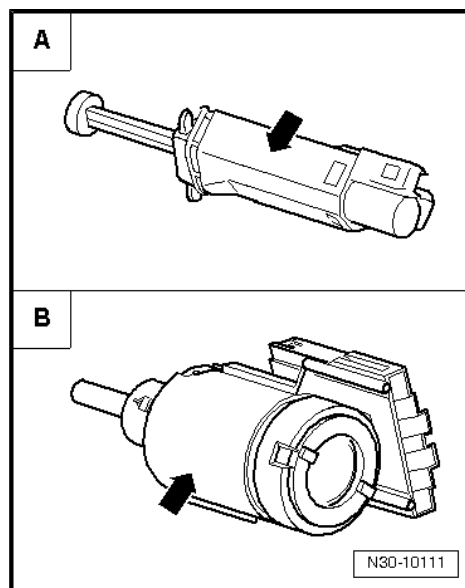
Difference between clutch pedal switch -F36-

- ◆ -A- Switch with angular housing

Removing and installing ⇒ [page 20](#)

- ◆ -B- Switch with cylindrical housing

Removing and installing ⇒ [page 21](#)



1.2 Removing and installing, setting angular clutch pedal switch - F36- , (Fabia II 2007 ▶; Roomster 2006 ▶)



Note

The clutch pedal switch - F36- may only be installed once to ensure that it has an adequately tight fit in the bracket.

Removing

- Remove the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .
- Unplug connector from the clutch pedal switch - F36- .
- Turn clutch pedal switch - F36- 90° to the left and remove it from the support.

Installing and setting

- Remove tappet up to the stop
- Press down the clutch pedal by hand as far as possible.
- Insert clutch pedal switch into the support and turn switch 90° to the right.
- Insert connector for the clutch pedal switch - F36- .
- Install the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .

1.3 Removing and installing, setting cylindrical clutch pedal switch - F36- , (Fabia II 2007 ▶; Roomster 2006 ▶)

Note

The clutch pedal switch - F36- may only be installed once to ensure that it has an adequately tight fit in the bracket.

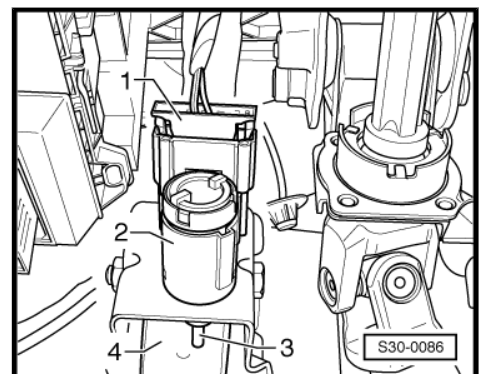
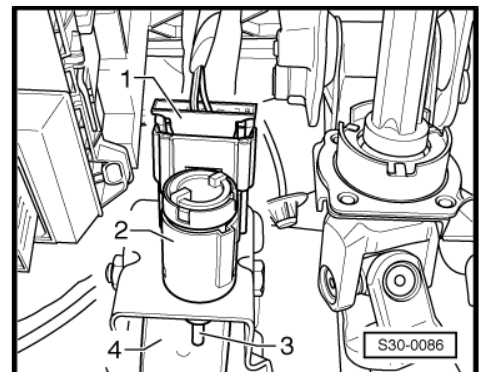
- Remove the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .
- Unplug connector -1- from the clutch pedal switch - F36- .
- Turn clutch pedal switch - F36- -2- in the bracket 45° to the left and remove it from the support.

Note

The clutch pedal remains in the off position in this case (do not depress).

Installing and setting

- Before installing the clutch pedal switch - F36- pull out tappet -3- fully.
- Clutch pedal -4- in the off position.
- Guide the clutch pedal switch - F36- through the assembly opening, press against the clutch pedal and attach by turning it 45° to the right.
- Insert connector for the clutch pedal switch - F36- .
- Install the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .





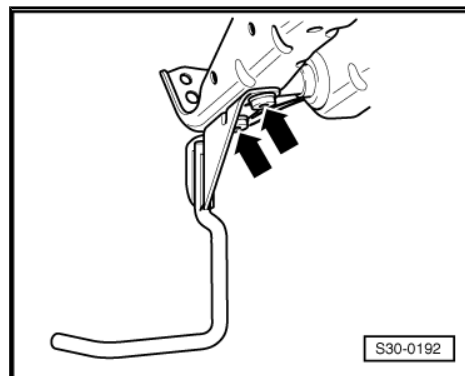
1.4 Removing and installing the crash strut for the clutch pedal (Fabia II 2007 ▶; Roomster 2006 ▶)

Removing

- Remove the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .
- Release screws -arrows-.

Install

Installation is carried out in the reverse order.





Tightening torque

Crash strut to steering column	9 Nm
--------------------------------	------

1.5 Removing and installing the over-centre helper spring (Fabia II 2007 ▶; Roomster 2006 ▶)

Special tools and workshop equipment required

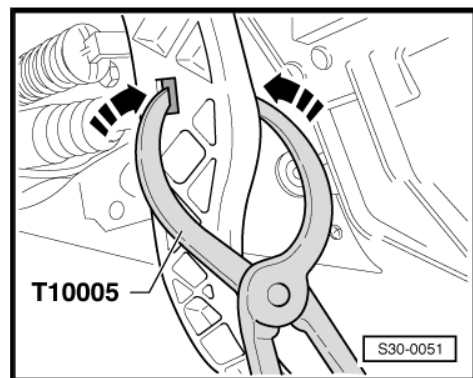
- ◆ Pliers - T10005-
- ◆ Polycarbamide grease - G 052 142 A2-

Removing

- Remove the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .
- Remove crash strut (if present) ⇒ [page 22](#) .
- Remove clutch pedal switch ⇒ [page 19](#) -Pos. 7-, if provided.
- Unlock the actuating rod/master cylinder from the clutch pedal.

Unlock the actuating rod/master cylinder from the clutch pedal as follows:

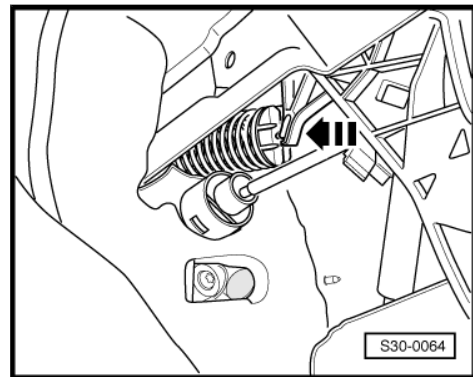
- Insert pliers - T10005- in the clutch pedal recesses.
- Press together support and separate the clutch pedal from the master cylinder.



- Push the over-centre helper spring against the bulkhead -in the direction of the arrow- and remove from the bracket from the bottom.

Install

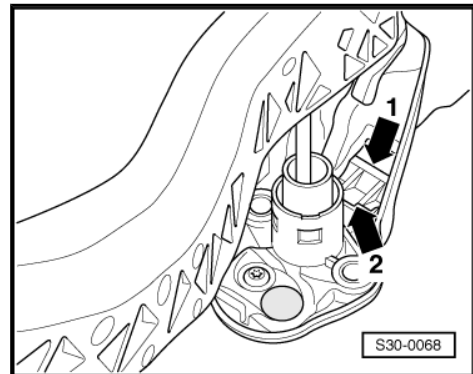
- Push the over-centre helper spring against the bulkhead -in the direction of the arrow- and remove from the bracket from the bottom.



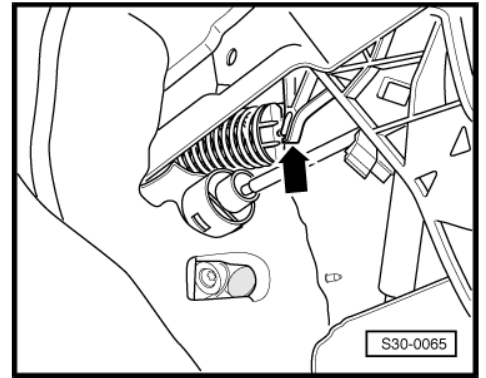
- Insert bearing for over-centre helper spring -arrow 1- in the bracket holder.

The peg of the bearing is located in the recess of the master cylinder -arrow 2-.

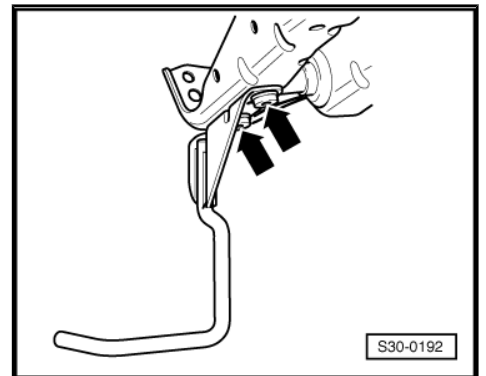
- Insert over-centre helper spring in the bearing.



- Press over-centre helper spring against the bearing and position on the support of the clutch pedal -arrow-.
- Position the clutch pedal with the master cylinder ⇒ [page 27](#) .
- Install clutch pedal switch ⇒ [page 19](#) -Pos. 7-.



- Install crash strut ⇒ [page 22](#) .
- Install the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .





Tightening torque

Crash strut to steering column [⇒ page 22](#)

1.6 Removing and installing the clutch pedal (Fabia II 2007 ▶; Roomster 2006 ▶)

Special tools and workshop equipment required

- ◆ Pliers - T10005-
- ◆ Polycarbamide grease - G 052 142 A2-

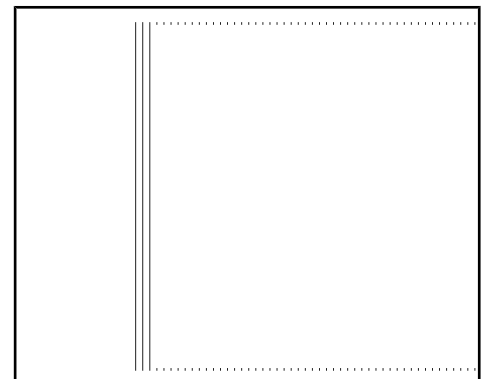
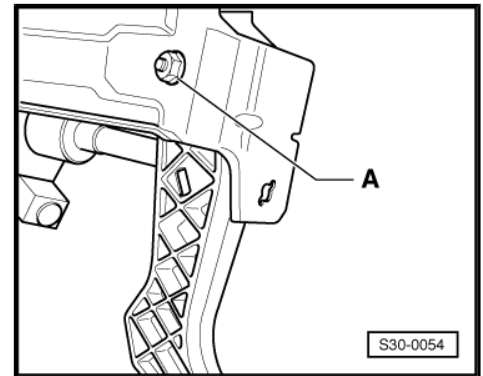
Removing

- Remove crash strut (if present) ⇒ [page 22](#) .
- Remove clutch pedal switch ⇒ [page 19](#) -Pos. 7-, if provided.
- Removing the over-centre helper spring ⇒ [page 24](#) .
- Put steering wheel in the lower position.
- Unscrew nut -A-.
- Slowly turn steering wheel in a suitable position.
- Pull screw out of the bracket.
- Remove clutch pedal.

Install

Installation is performed in the reverse order, pay attention to the following points:

- The support -A- must be located on the actuating rod -B- of the master cylinder.
- To click in the support push the clutch pedal towards the front wall -direction of the arrow- and make sure it catches correctly.





Tightening torques

Crash strut to steering column	⇒ page 22
Clutch pedal to bracket ¹⁾	⇒ page 19

1) Always replace self-locking nut ⇒ Electronic Catalogue of Original Parts .

1.7 Summary of components - foot controls (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶)



Note

- ◆ *Summary of components - Hydraulics* ⇒ [page 51](#).
- ◆ *After the battery earth strap is disconnected and connected, carry out additional operations* ⇒ *Electrical System; Rep. gr. 27*.
- ◆ *Grease all bearing points and contact surfaces with Polycarbamide Grease - G 052 142 A2-*.

1 - Front wall

- with mount for bearing bracket and master cylinder

2 - Bushing

- for the top location hole in the bracket
- The bushings for the bottom location hole in the bracket are located in the master cylinder

3 - Bearing bracket

- removing and installing with master cylinder ⇒ [page 38](#)
- removing and installing without master cylinder ⇒ [page 43](#)

4 - 25 Nm

- for bracket on front wall
- self-locking
- 3 pieces
- always replace ⇒ *Electronic Catalogue of Original Parts*

5 - Clutch pedal switch - F36-

- removing and installing ⇒ [page 31](#)

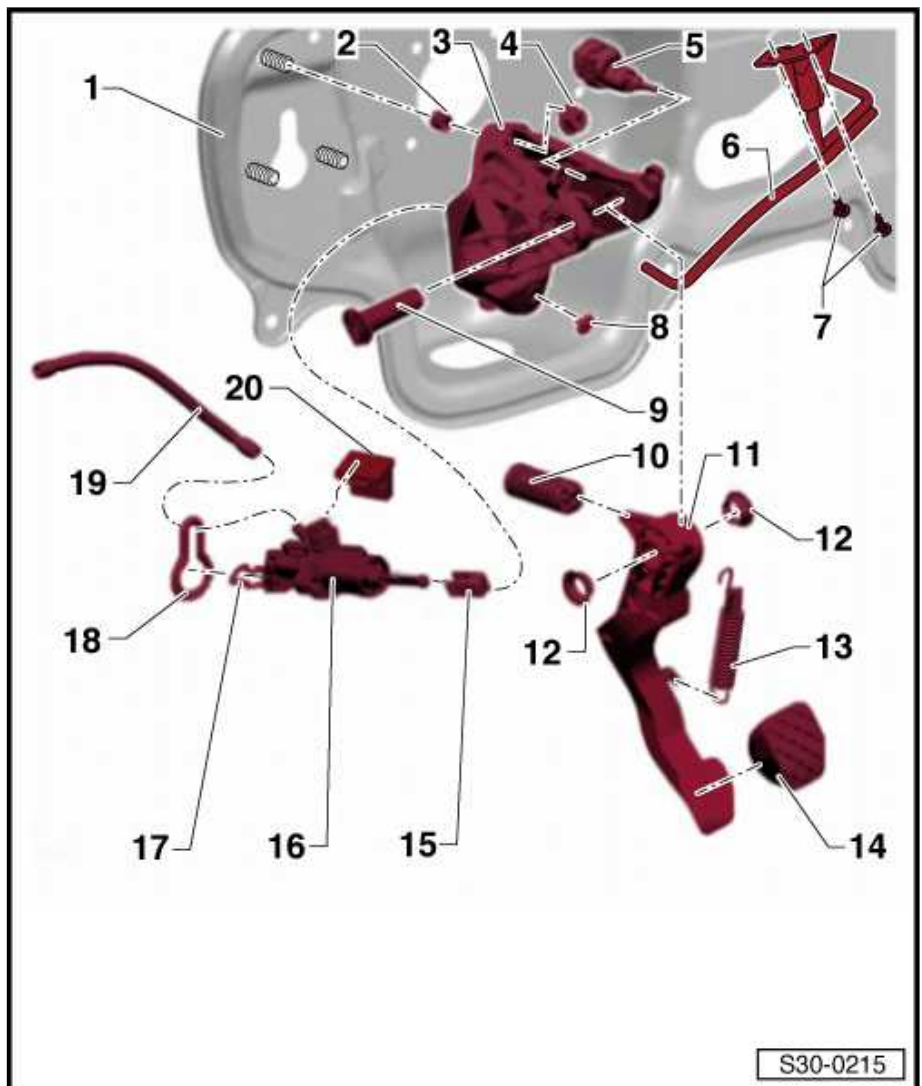
6 - Crash strut

- is attached to the steering column
- different versions ⇒ *electronic catalogue of original parts*
- removing and installing ⇒ [page 32](#)

7 - Screw

- for crash strut -Pos. 6- at steering column
- Tightening torque:

- ◆ Version with two screws - 9 Nm
- ◆ Version with one screw - 20 Nm



**8 - Stop**

- for the clutch pedal

9 - Bearing bolt

- always replace ⇒ Electronic Catalogue of Original Parts

10 - Over-centre helper spring

- depending on the equipment version, a tension spring or an over-centre helper spring is installed
- Assign components via the ⇒ Electronic catalogue of original parts
- removing and installing ⇒ [page 46](#)

11 - Clutch pedal

- removing and installing with over-centre helper spring ⇒ [page 46](#)
- removing and installing with tension spring ⇒ [page 49](#)

12 - Bushing**13 - Tension spring with vibration damper**

- depending on the equipment version, a tension spring or an over-centre helper spring is installed
- Assign components via the ⇒ Electronic catalogue of original parts
- is inserted on the bracket -Pos. 3- and on the clutch pedal
- removing and installing ⇒ [page 31](#)

14 - Cap**15 - Support**

- only replace if the master cylinder has been removed
- removing and installing ⇒ [page 51](#)

16 - Master cylinder

- removing and installing ⇒ [page 61](#)

17 - Clamp

- to remove and install the tube-hose line pull out retaining clip up to the stop
- is pulled out from the side on certain master cylinders

18 - Gasket

- always replace ⇒ Electronic Catalogue of Original Parts
- stick onto the master cylinder

19 - Supply hose

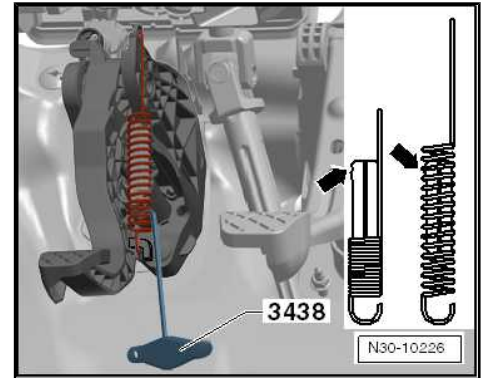
- out of plastic ⇒ [page 54](#)

20 - Clutch position sender - G476-

- for vehicles with start-stop system
- Assign components via the ⇒ Electronic catalogue of original parts
- removing ⇒ [page 39](#)
- installing ⇒ [page 40](#)
- can be checked in the “targeted fault finding” ⇒ Vehicle diagnostic tester

Removing and installing tension spring

- Removing and installing with hook - 3438- .
- Insert the vibration damper with the recess -arrows- as of the 2nd spring coil -arrows-.



1.7.1 Removing and installing clutch pedal switch - F36-

Note

The clutch pedal switch - F36- may only be installed once to ensure that it has an adequately tight fit in the bracket.

Removing

- Removing the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 80 .

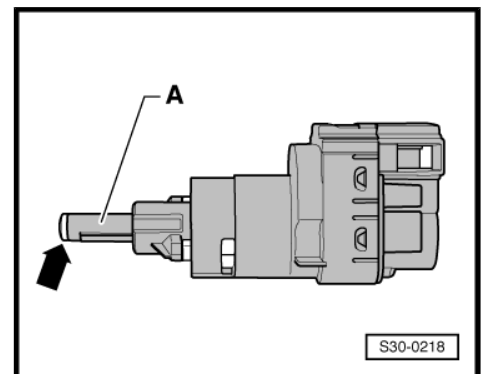
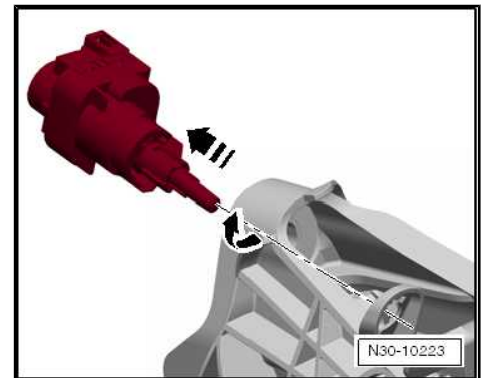
Note

The clutch pedal switch is installed from the front wall.

- Unplug connector from the clutch pedal switch - F36- .
- Turn the clutch pedal switch at the bracket 45° in -direction of arrow- and remove it from the support.

Install

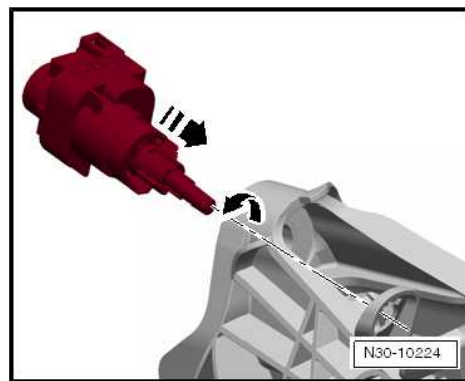
- The tappet -A- of the clutch pedal switch must not be pulled out.
- Grease the tappet head -arrow-.
- Assign the grease via the ⇒ Electronic Catalogue of Original Parts .
- When installing the clutch pedal switch the clutch pedal must always remain in the off position. During the complete assembly, the clutch pedal must only be touched with the tappet head -arrow- of the clutch pedal switch .





The clutch pedal switch is installed from the front wall.

- Insert the clutch pedal switch into the support of the bracket and turn it 45° in -direction of arrow-.
- Insert connector for the clutch pedal switch .
- Install the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 80 .



1.7.2 Removing and installing crash strut

The crash strut for the clutch pedal, which is installed on the steering column, is offered in two versions.

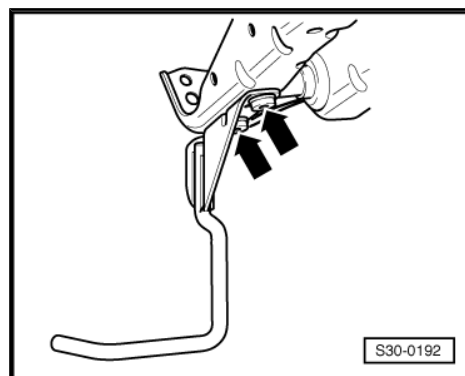
Version with two fixing screws

Removing

- Remove the storage area on the driver's side ⇒ Body Work; Rep. gr. 70 .
- Release screws -arrows-.

Install

Installation is carried out in the reverse order.





Tightening torque

Crash strut to steering column (2 screws)	9 Nm
---	------



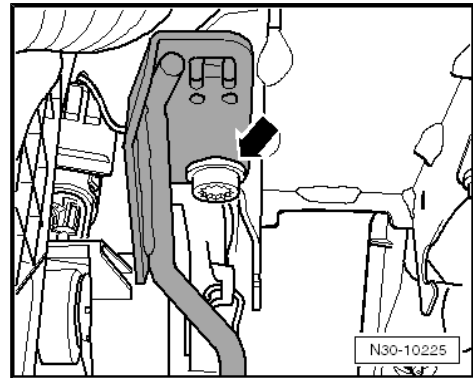
Version with one fixing screw

Removing

- Remove the storage area on the driver's side ⇒ Body Work;
Rep. gr. 70 .
- Release screw -arrow-.
- Unclip the crash strut from the steering column.

Install

Installation is carried out in the reverse order.





Tightening torque

Crash strut to steering column (1 screw)	20 Nm
--	-------



1.8 Summary of components - Foot controls (Rapid)



Note

- ◆ *Summary of components - Hydraulics ⇒ [page 54](#) .*
- ◆ *After the battery earth strap is disconnected and connected, carry out additional operations ⇒ [Electrical System; Rep. gr. 27](#) .*
- ◆ *Grease all bearing points and contact surfaces with Polycarbamide Grease - G 052 142 A2- .*

1 - Front wall

- with mount for bearing bracket and master cylinder

2 - Bushing

- for the top location hole in the bracket
- The bushings for the bottom location hole in the bracket are located in the master cylinder

3 - Bearing bracket

- removing and installing with master cylinder ⇒ [page 41](#)
- removing and installing without master cylinder ⇒ [page 44](#)

4 - 25 Nm

- for bracket on front wall
- self-locking
- 3 pieces
- always replace ⇒ [Electronic Catalogue of Original Parts](#)

5 - Clutch pedal switch - F36-

- removing and installing ⇒ [page 37](#)

6 - Stop

- for the clutch pedal

7 - Bearing bolt

- always replace ⇒ [Electronic Catalogue of Original Parts](#)

8 - Over-centre helper spring

- removing and installing ⇒ [page 48](#)

9 - Clutch pedal

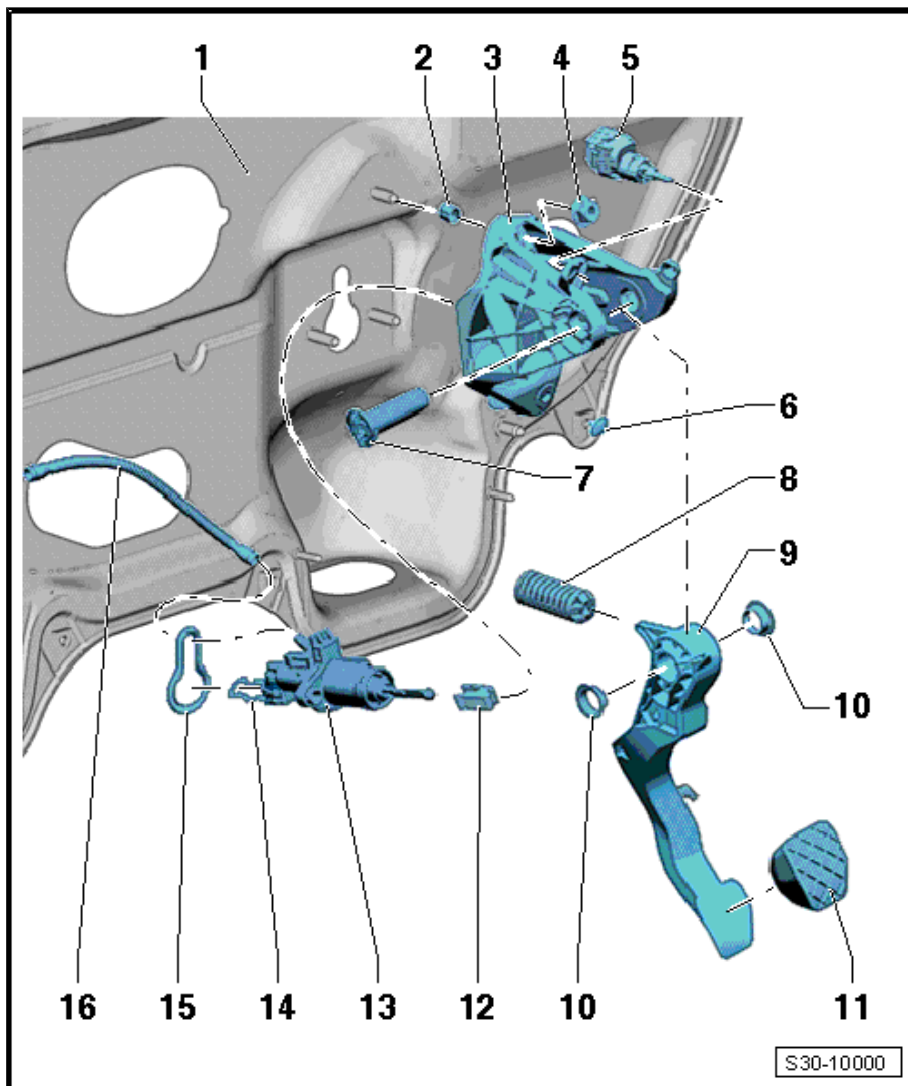
- removing and installing with over-centre helper spring ⇒ [page 48](#)

10 - Bushing

11 - Cap

12 - Support

- only replace if the master cylinder has been removed



- ❑ removing and installing ⇒ [page 54](#)

13 - Master cylinder

- ❑ removing and installing ⇒ [page 61](#)

14 - Clamp

- ❑ to remove and install the tube-hose line pull out retaining clip up to the stop
- ❑ is pulled out from the side on certain master cylinders

15 - Gasket

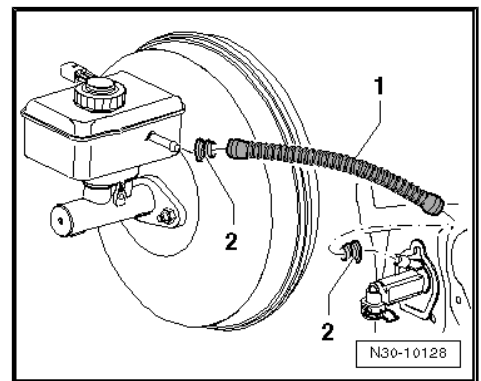
- ❑ always replace ⇒ Electronic Catalogue of Original Parts
- ❑ stick onto the master cylinder

16 - Supply hose

- ❑ out of plastic ⇒ [page 37](#)

Plastic return hose -1-

- The gaskets -2- must be located in the return hose.



1.8.1 Removing and installing clutch pedal switch - F36-



Note

The clutch pedal switch - F36- may only be installed once to ensure that it has an adequately tight fit in the bracket for clutch pedal.

Removing

- Removing the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 80 .



Note

The clutch pedal switch is installed from the front wall.

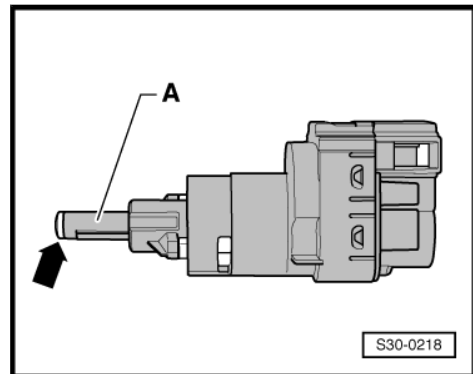
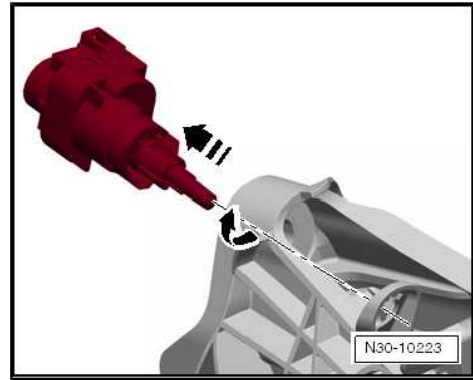
- Unplug connector from the clutch pedal switch - F36- .



- Turn the clutch pedal switch at the bracket 45° in -direction of arrow- and remove it from the support.

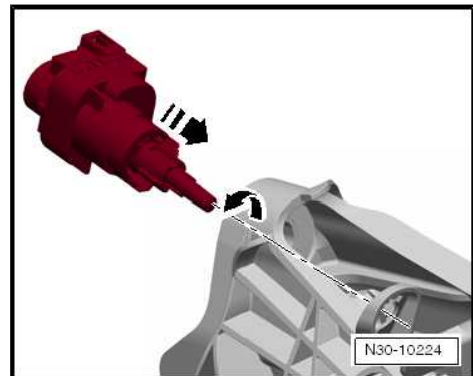
Install

- The tappet -A- of the clutch pedal switch must not be pulled out.
- Grease the tappet head -arrow-.
- Assign the grease via the ⇒ Electronic Catalogue of Original Parts .
- When installing the clutch pedal switch the clutch pedal must always remain in the off position. During the complete assembly, the clutch pedal must only be touched with the tappet head -arrow- of the clutch pedal switch .



The clutch pedal switch is installed from the front wall.

- Insert the clutch pedal switch into the support of the bracket and turn it 45° in -direction of arrow-.
- Insert connector for the clutch pedal switch .
- Install the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 80 .



1.9 Removing and installing the bracket with the master cylinder (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶)

Special tools and workshop equipment required

- ◆ Closing tool - T10249-

1.9.1 Removing



Note

After the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. gr. 27 .

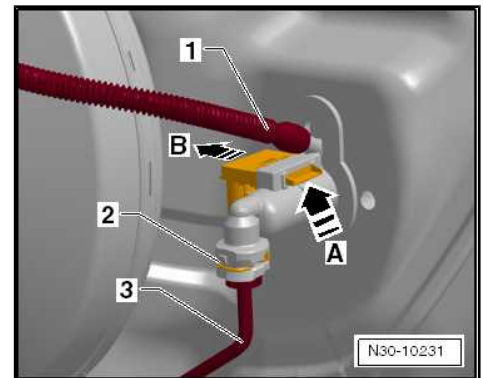
- If necessary, remove engine cover ⇒ Engine; Rep. gr. 10 .
- Remove battery ⇒ Electrical System; Rep. gr. 27 .
- Remove air filter housing ⇒ Engine; Rep. gr. 23 , or ⇒ Engine; Rep. gr. 24 .

- If the master cylinder is not accessible, remove the engine control unit from the front wall => Engine; Rep. gr. 23 or => Engine; Rep. gr. 24 .
- Lay a cloth under the master cylinder.
- Detach return hose -1- at master cylinder and close with a suitable tool, e.g. closing tool - T10249/1- .

i Note

- ◆ Do not use the hose clamp - MP7-602- , otherwise the return hose -1- will be damaged.
- ◆ During the following work, ensure that no brake fluid lands on longitudinal member or gearbox. If this is the case, these points must be cleaned thoroughly.

- Pull out the locking clip -2- on the master cylinder up to the stop.



i Note

On certain master cylinders, the locking clip -2- can also be pulled out from the side.

- Pull the tube-hose line -3- out of the master cylinder and close.

Vehicles with start-stop system

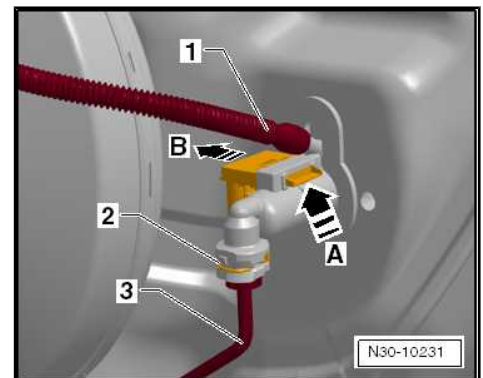
- Unclip clutch position sender - G476- at master cylinder -arrow A- and -arrow B-.
- Remove the clutch position sender with fitted electrical plug connectors from the master cylinder.

Continued for all vehicles

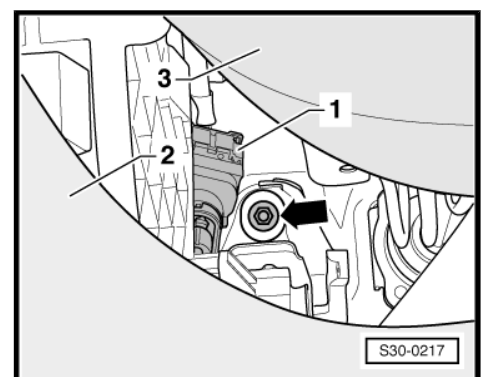
i Note

When performing work in the footwell, put cloths on the carpet to protect it from possible brake fluid spills.

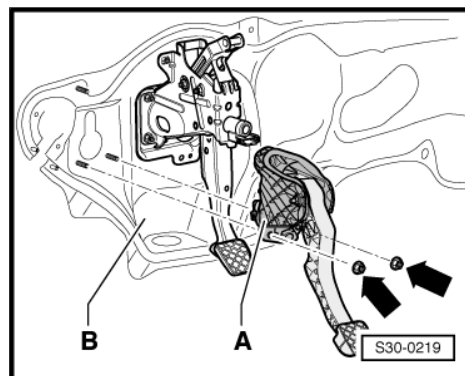
- Removing the footwell vent => Heating and Air Conditioning; Rep. gr. 87 .
- If present, remove crash strut => [page 32](#) .
- Put steering wheel in the highest position.



- Remove clutch pedal switch - F36- -1- => [page 31](#) .
- Unscrew the top fixing nut -arrow- for the bracket. To do so, position an long extension on the nut in the opening between the dash panel -2- and the bottom steering column trim panel -3-.



- Unscrew the two lower fixing nuts -arrows-.
- Remove the bracket -A- from the front wall -B-.



1.9.2 Install

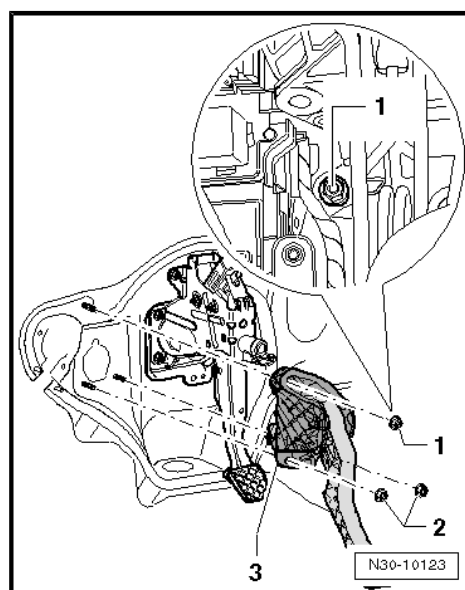
Installation is performed in the reverse order, pay attention to the following points:



Note

Position self-locking nuts -1- and -2- for bracket -3- on front wall.

- Install the clutch pedal switch - F36- ⇒ [page 31](#) .
- If present, install the crash strut ⇒ [page 32](#) .
- Install the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 87 .

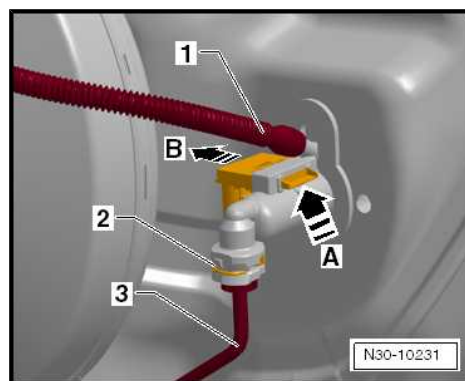


Vehicles with start-stop system

- Insert the clutch position sender - G476- with fitted electrical plug connectors up to the stop on the master cylinder.
- The clutch position sender must lock in place -arrow A-.
- For checking, pull at clutch position sender -arrow B-.

Continued for all vehicles

- Press in tube-hose line -3- onto the connection of the master cylinder, until the locking clip -2- is heard to click into position.
- Fit return hose -1- on the master cylinder.
- For checking, pull on the line.
- Bleed the clutch control ⇒ [page 65](#) .
- If removed, install the engine control unit at the front wall ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Install battery ⇒ Electrical System; Rep. gr. 27 .
- Install air filter housing ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .



Tightening torques

Bracket/clutch pedal to front wall ¹⁾	⇒ page 29 -Position 4-
Master cylinder to front wall ¹⁾	⇒ page 29 -Position 4-

1) Replace self-locking nut.

1.10 Removing and installing the bracket with the master cylinder (Rapid 2011 ▶)

Special tools and workshop equipment required

- ◆ Closing tool - T10249-

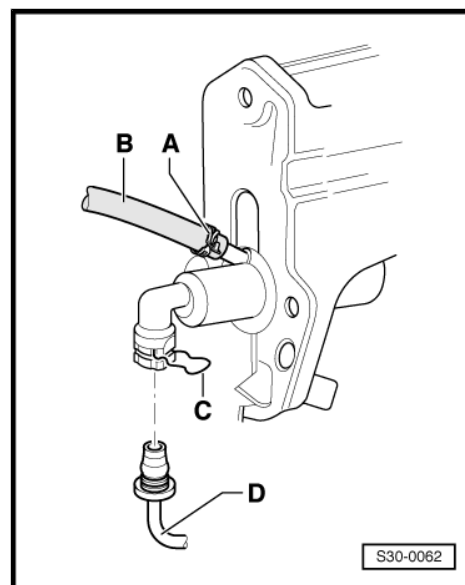
1.10.1 Removing

- Lay a cloth under the master cylinder.
- Using an extraction bottle extract as much brake fluid as possible from the brake fluid reservoir.
- Detach return hose -A- at master cylinder and close with a suitable tool e.g. closing tool - T10249/1- .



Note

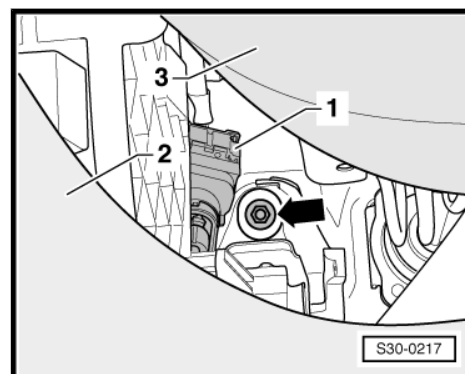
- ◆ *Do not use the hose clamp - MP7-602- , otherwise the return hose -A- will be damaged.*
- ◆ *During the following work, ensure that no brake fluid lands on longitudinal member or gearbox. If this is the case, these points must be cleaned thoroughly.*
- Remove the locking clip -B- on the master cylinder up to the stop.
- Release and cut the tube-hose line -C- out of the master cylinder.



Note

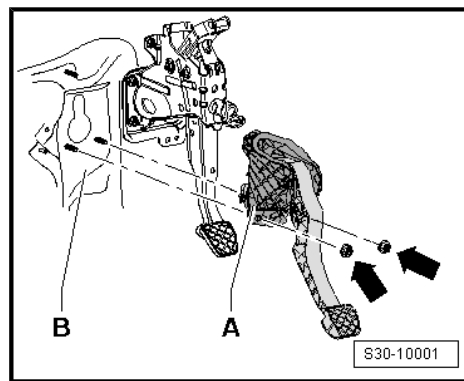
When performing work in the footwell, put cloths on the carpet to protect it from possible brake fluid spills.

- Removing the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 87 .
- Put steering wheel in the highest position.
- Unplug connector from the clutch pedal switch - F36- .
- Unscrew the top fixing nut -arrow- for the bracket. To do so, position an long extension on the nut in the opening between the dash panel -2- and the bottom steering column trim panel -3-.





- Unscrew the two lower fixing nuts -arrows-.
- Remove the bracket -A- from the front wall -B-.



1.10.2 Install

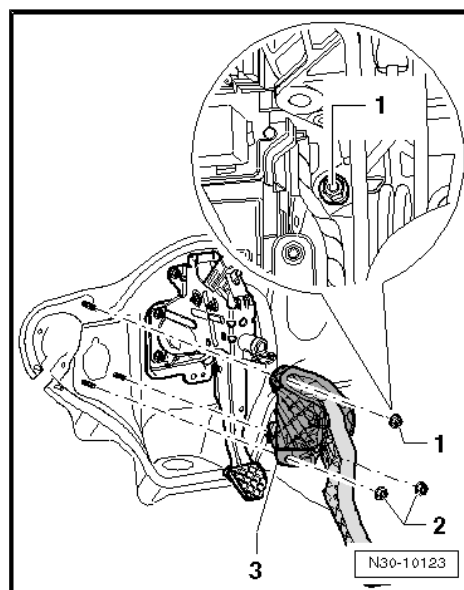
Installation is performed in the reverse order, pay attention to the following points:



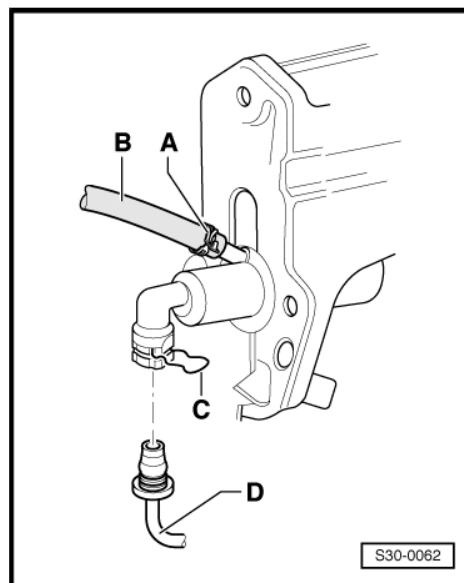
Note

Position self-locking nuts -1- and -2- for bracket -3- on front wall and tighten.

- Connect the connector to the clutch pedal switch - F36- .



- Install the footwell vent => Heating and Air Conditioning; Rep. gr. 87 .
- Press in tube-hose line -C- onto the connection of the master cylinder, until the locking clip -B- is heard to click into position.
- Fit return hose -A- on the master cylinder.
- For checking, pull on the line.
- Bleed the clutch control => [page 65](#) .



Tightening torques

Bracket/clutch pedal to front wall ¹⁾	=> page 36 -Position 4-
--	---

Master cylinder to front wall ¹⁾

⇒ [page 36](#) -Position 4-

1) Replace self-locking nut.

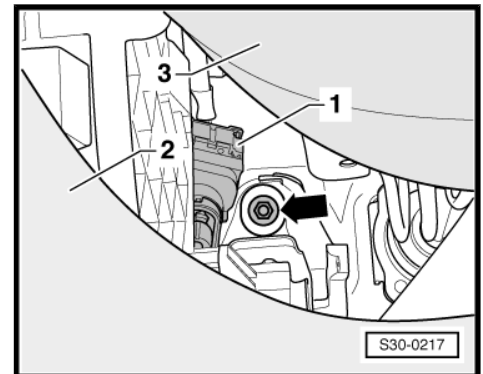
1.11 Removing and installing the bracket without the master cylinder (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶)

Special tools and workshop equipment required

◆ Pliers - T10005-

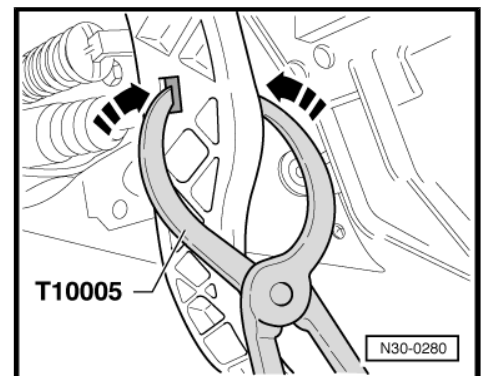
Removing

- Removing the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 87 .
- If present, remove crash strut ⇒ [page 32](#) .
- Put steering wheel in the highest position.
- Remove clutch pedal switch - F36- -1- ⇒ [page 31](#) .
- Unscrew the top fixing nut -arrow- for the bracket. To do so, position an long extension on the nut in the opening between the dash panel -2- and the bottom steering column trim panel -3-.



Unlock the actuating rod/master cylinder from the clutch pedal as follows:

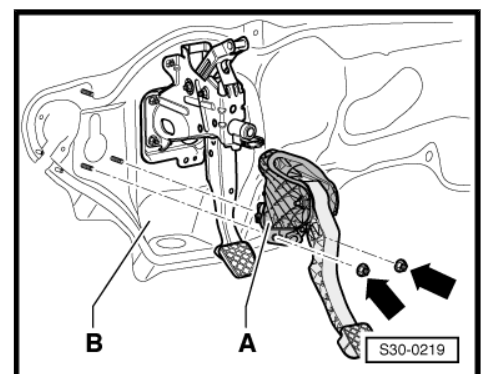
- Pull clutch pedal slightly into the passenger compartment.
- Press together both sides of the support using the pliers - T10005- -arrows-.



- Unscrew the two lower fixing nuts -arrows-.
- Remove the bracket -A- from the front wall -B-.
- The master cylinder is locked into position with the bracket.
- When removing the bracket, the master cylinder in the engine compartment must be held by a 2nd mechanic.

Install

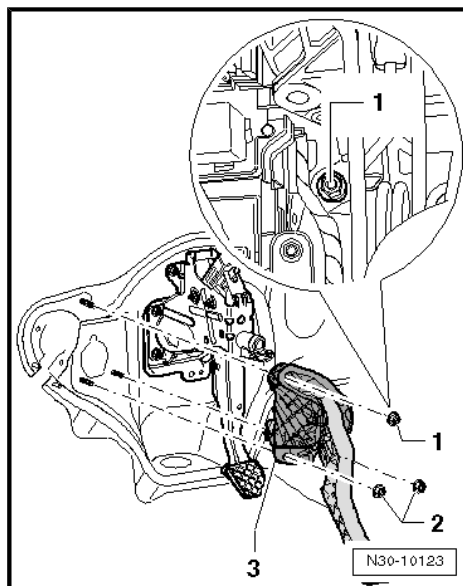
Installation is performed in the reverse order, pay attention to the following points:



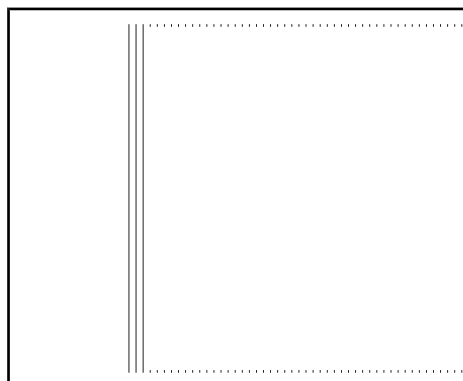


Note

Position self-locking nuts -1- and -2- for bracket -3- on front wall.



- The support -A- must be located on the actuating rod -B- of the master cylinder.
- To click in the support -A-, press the clutch pedal towards the front wall in -direction of arrow-. While doing so, make sure it catches correctly in the support.
- Install the clutch pedal switch - F36- ➔ [page 31](#) .
- If present, install the crash strut ➔ [page 32](#) .
- Install the footwell vent ➔ Heating and Air Conditioning; Rep. gr. 87 .



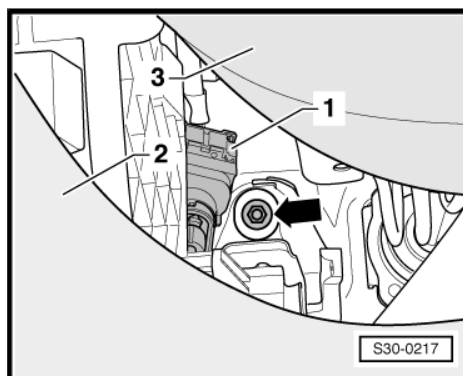
1.12 Removing and installing the bracket without the master cylinder (Rapid 2011 ➤)

Special tools and workshop equipment required

- ◆ Pliers - T10005-

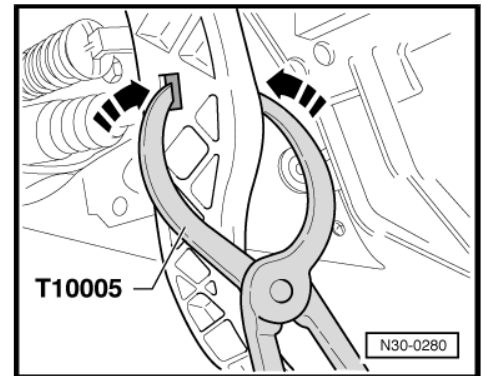
Removing

- Removing the footwell vent ➔ Heating and Air Conditioning; Rep. gr. 87 .
- Put steering wheel in the highest position.
- Unplug connector from the clutch pedal switch - F36- .
- Unscrew the top fixing nut -arrow- for the bracket. To do so, position an long extension on the nut in the opening between the dash panel -2- and the bottom steering column trim panel -3-.



Unlock the actuating rod/master cylinder from the clutch pedal as follows:

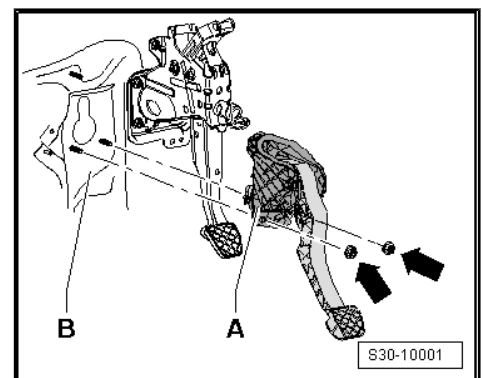
- Pull clutch pedal slightly into the passenger compartment.
- Press both sides of the support inwards using the pliers - T10005- -arrows-



- Unscrew the two lower fixing nuts -arrows-.
- Remove the bracket -A- from the front wall -B-.
- The master cylinder is locked into position with the bracket.
- When removing the bracket, the master cylinder in the engine compartment must be held by a 2nd mechanic.

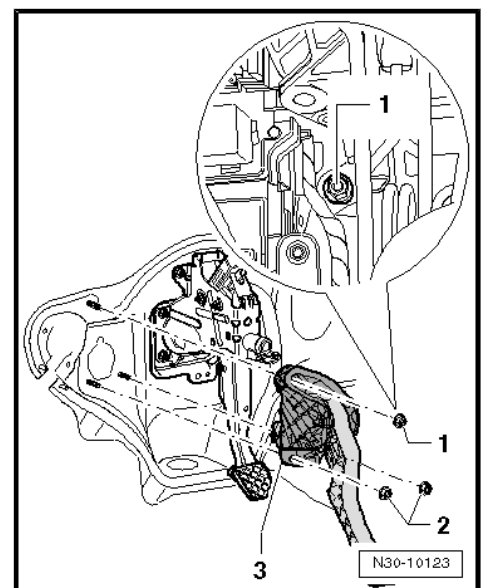
Install

Installation is performed in the reverse order, pay attention to the following points:

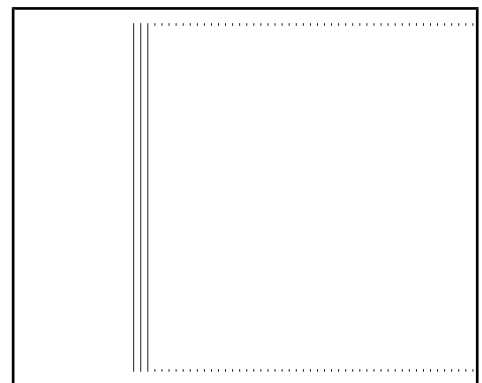


Note

Position self-locking nuts -1- and -2- for bracket -3- on front wall and tighten.



- The support -A- must be located on the actuating rod -B- of the master cylinder.
- To click in the support -A-, press the clutch pedal towards the front wall in -direction of arrow-. While doing so, make sure it catches correctly in the support.
- Connect the connector to the clutch pedal switch - F36- .
- Install the footwell vent => Heating and Air Conditioning; Rep. gr. 87 .





1.13 Removing and installing the clutch pedal with the over-centre helper spring (Fabia II 2011 ▶; Roomster 2011 ▶)



Note

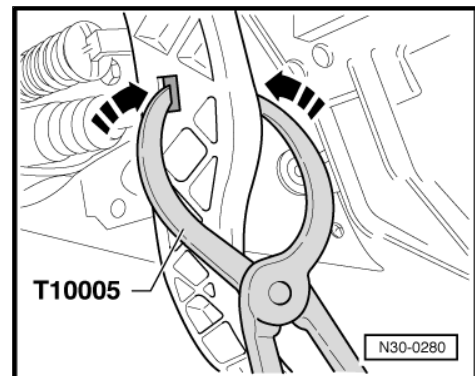
- ◆ Install clutch pedal with new bearing bolt.
- ◆ If only the over-centre helper spring should be removed, the clutch pedal must not be separated from the master cylinder.

Special tools and workshop equipment required

- ◆ Pliers - T10005-
- ◆ Allan key, wrench size 8 mm, commercially available

Removing

- Removing the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 87 .
- If present, remove crash strut ⇒ [page 32](#) .
- Remove clutch pedal switch - F36- ⇒ [page 31](#) .
- Unlock the actuating rod/master cylinder from the clutch pedal as follows:
- Pull clutch pedal slightly into the passenger compartment.
- Press together both sides of the support using the pliers - T10005- -arrows-.

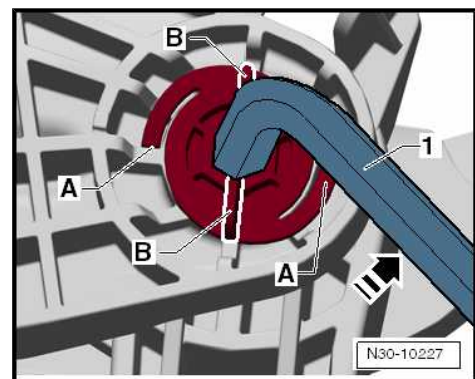


- Remove the bearing bolt for the clutch pedal.
- Turn the bearing bolt for the clutch pedal to the left -in direction of arrow-, for this purpose use the hexagon socket wrench -1-, wrench size 8 mm.

While doing so, the catches -A- are destroyed.

Then the bolts -B- are positioned horizontally.

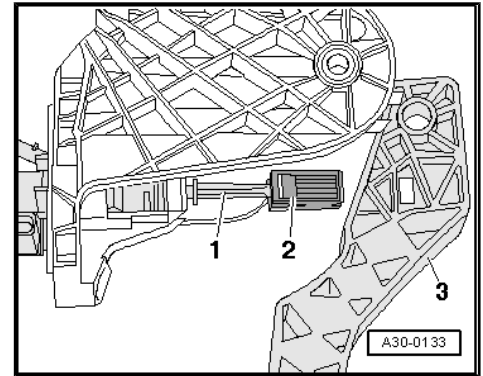
- Subsequently move the clutch pedal so that the bearing bolt can be pulled out.
- Remove over-centre helper spring.
- Remove clutch pedal from bracket.



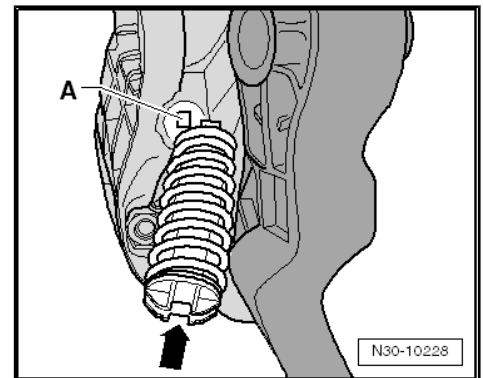
Install

- Install the clutch pedal with a new bearing bolt.

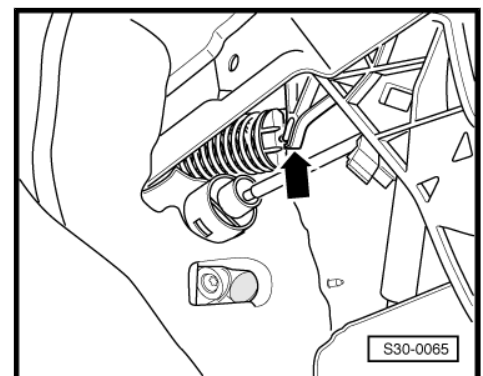
- The support -2- must be located on the actuating rod -1- of the master cylinder.
- Press the support -2- into the recess on the clutch pedal -3- until it clicks audibly into place.



- Insert the over-centre helper spring laterally from the bottom into the support -A- in the bracket next to the tappet of the master cylinder and next to the clutch pedal.
- The area of the support -arrow- for the bearing bolt of the clutch pedal must be vertical.



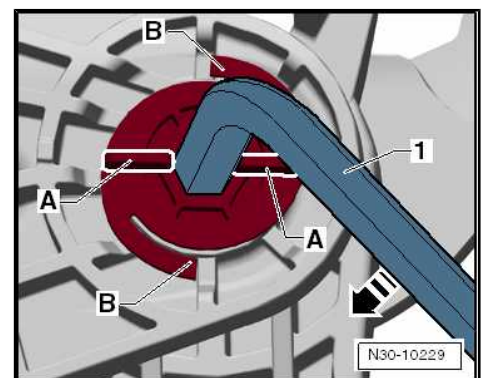
- Now position the over-centre helper spring on the centering pin of the clutch pedal -arrow-.



- Press on the clutch pedal slightly and insert a new bearing bolt.
- Position the bolts -A- horizontally.
- Turn the bearing bolt to the right -in direction of arrow-, for this purpose use the hexagon socket wrench -1-, wrench size 8 mm.
- The catches -B- must click audibly into place.

Then the bolts -A- are positioned vertically.

- Install the clutch pedal switch - F36- ⇒ [page 31](#) .
- If present, install the crash strut ⇒ [page 32](#) .
- Install the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 87 .



1.14 Removing and installing the clutch pedal with the over-centre helper spring (Rapid)



Install the clutch pedal with a new bearing bolt.

Special tools and workshop equipment required

- ◆ Pliers - T10005-
- ◆ Allan key, wrench size 8 mm, commercially available

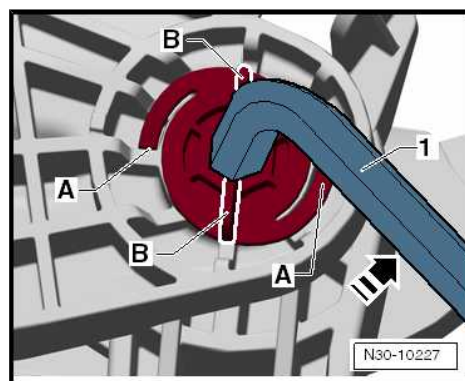
Removing

- Remove mounting bracket without master cylinder
⇒ [page 44](#) .
- Remove the bearing bolt for the clutch pedal.
- Turn the bearing bolt for the clutch pedal to the left -in direction of arrow-, for this purpose use the hexagon socket wrench -1-, wrench size 8 mm.

While doing so, the catches -A- are destroyed.

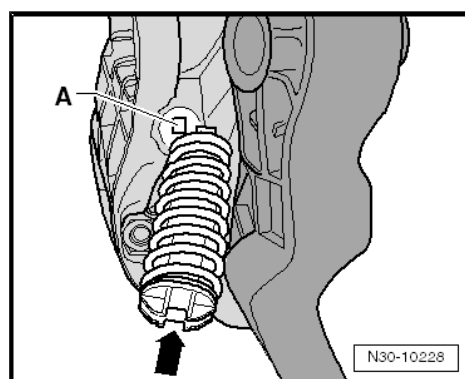
Then the bolts -B- are positioned horizontally to the fitting position.

- Subsequently move the clutch pedal so that the bearing bolt can be pulled out.
- Remove over-centre helper spring.
- Remove clutch pedal from bracket.

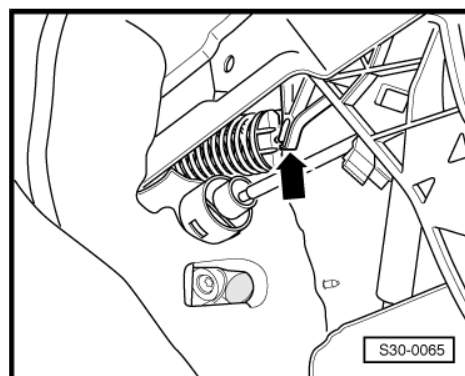


Install

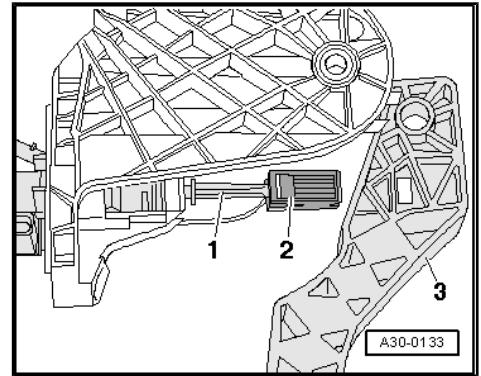
- Install the clutch pedal with a new bearing bolt.
- Insert the over-centre helper spring laterally from the bottom into the support -A- in the bracket next to the tappet of the master cylinder and next to the clutch pedal.
- The area of the support -arrow- for the bearing bolt of the clutch pedal must be vertical.



- Now position the over-centre helper spring on the centering pin of the clutch pedal -arrow-.



- The support -2- must be located on the actuating rod -1- of the master cylinder.
- Press the support -2- into the recess on the clutch pedal -3- until it clicks audibly into place.

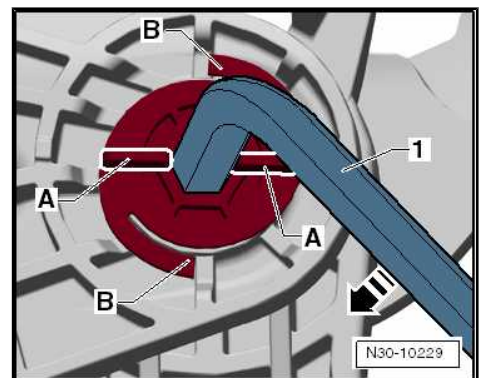


- Press on the clutch pedal slightly and insert a new bearing bolt.
- Position the bolts -A- horizontally.
- Turn the bearing bolt to the right -in direction of arrow-, for this purpose use the hexagon socket wrench -1-, wrench size 8 mm.

- The catches -B- must click audibly into place.

Then the bolts -A- are positioned vertically.

- Install bracket without master cylinder ⇒ [page 44](#) .



1.15 Removing and installing the clutch pedal with the tension spring (Fabia II 2011 ►; Roomster 2011 ►; Rapid NH 2013 ►)

Note

- ◆ *Install the clutch pedal with a new bearing bolt.*
- ◆ *If only the tension spring is removed, pay attention ⇒ [page 51](#) .*

Special tools and workshop equipment required

- ◆ Hook - 3438-
- ◆ Pliers - T10005-
- ◆ Allan key, wrench size 8 mm, commercially available

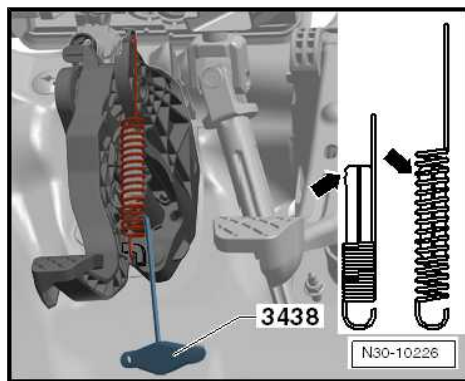
Removing

- Removing the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 87 .
- If present, remove crash strut ⇒ [page 32](#) .
- Remove clutch pedal switch - F36- ⇒ [page 31](#) .

- Unhook the tension spring e.g with hook - 3438- .

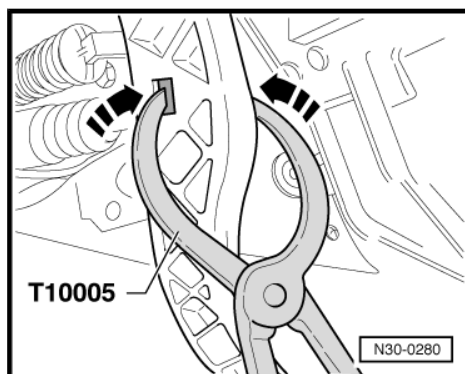
i Note

Only observe the right part of the fig. -arrows- when installing.



Unlock the actuating rod/master cylinder from the clutch pedal as follows:

- Pull clutch pedal slightly into the passenger compartment.
- Press together both sides of the support using the pliers - T10005- -arrows-.

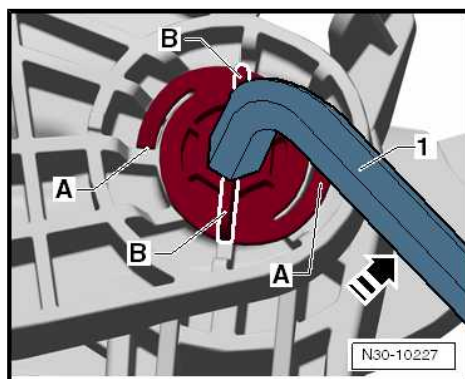


- Remove the bearing bolt for the clutch pedal.
- Turn the bearing bolt for the clutch pedal to the left -in direction of arrow-, for this purpose use the hexagon socket wrench -1-, wrench size 8 mm.

While doing so, the catches -A- are destroyed.

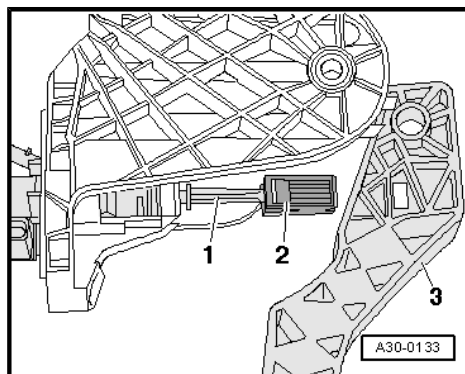
Then the bolts -B- are positioned horizontally.

- Subsequently move the clutch pedal so that the bearing bolt can be pulled out.
- Remove clutch pedal from bracket.



Install

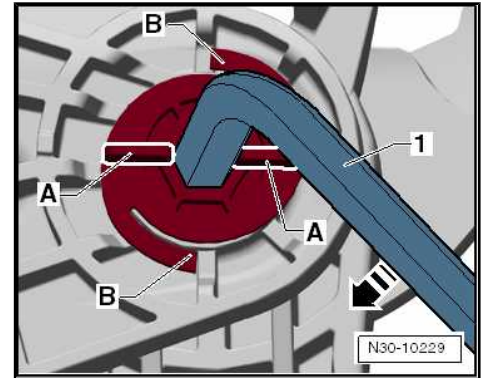
- Install the clutch pedal with a new bearing bolt.
- The support -2- must be located on the actuating rod -1- of the master cylinder.
- Insert a new bearing bolt in the bracket and the clutch pedal.



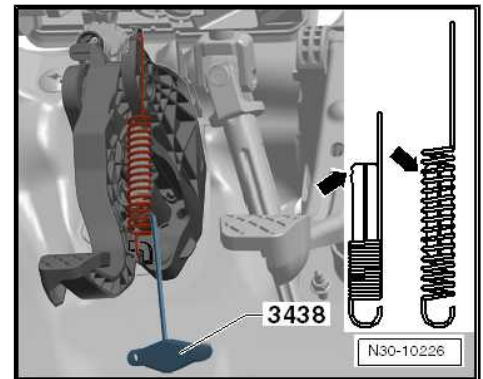
- Position the bolts -A- horizontally.
- Turn the bearing bolt to the right -in direction of arrow-, for this purpose use the hexagon socket wrench -1-, wrench size 8 mm.
- The catches -B- must click audibly into place.

Then the bolts -A- are positioned vertically.

- Lock the clutch pedal with the support on the actuating rod of the master cylinder.



- Hook in the tension spring.
- Insert the vibration damper with the recess -arrows- as of the 2nd spring coil -arrows-.
- Install the clutch pedal switch - F36- ⇒ [page 31](#) .
- If present, install the crash strut ⇒ [page 32](#) .
- Install the footwell vent ⇒ Heating and Air Conditioning; Rep. gr. 87 .



1.16 Summary of components - Hydraulic (Fabia II ►; Roomster ►; Rapid NH)



1 - Brake fluid reservoir

- test tightness
⇒ [page 57](#)

2 - Supply hose

- out of rubber
- as of 12.05 on certain vehicles out of plastic
⇒ [page 54](#)
- if the return hose is made out of plastic, do not use hose clamp - MP7-602-
- test tightness
⇒ [page 57](#)

3 - Master cylinder

- removing and installing (Fabia II 2007 ▶; Roomster 2006 ▶)
⇒ [page 58](#)
- removing and installing (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶) ⇒ [page 61](#)
- after installing, bleed the clutch control
⇒ [page 65](#)
- test tightness
⇒ [page 57](#)

4 - Locking clip

- to remove the tube-hose line -Pos. 9- pull out of the master cylinder
-Pos. 3- up to the stop

5 - Support

- only replace if the master cylinder -Pos. 3- has been removed
- removing ⇒ [page 53](#)
- installing ⇒ [page 53](#)

6 - Clutch pedal

- removing and installing ⇒ [page 27](#)

7 - 28 Nm

- always replace ⇒ Electronic Catalogue of Original Parts

8 - O-ring

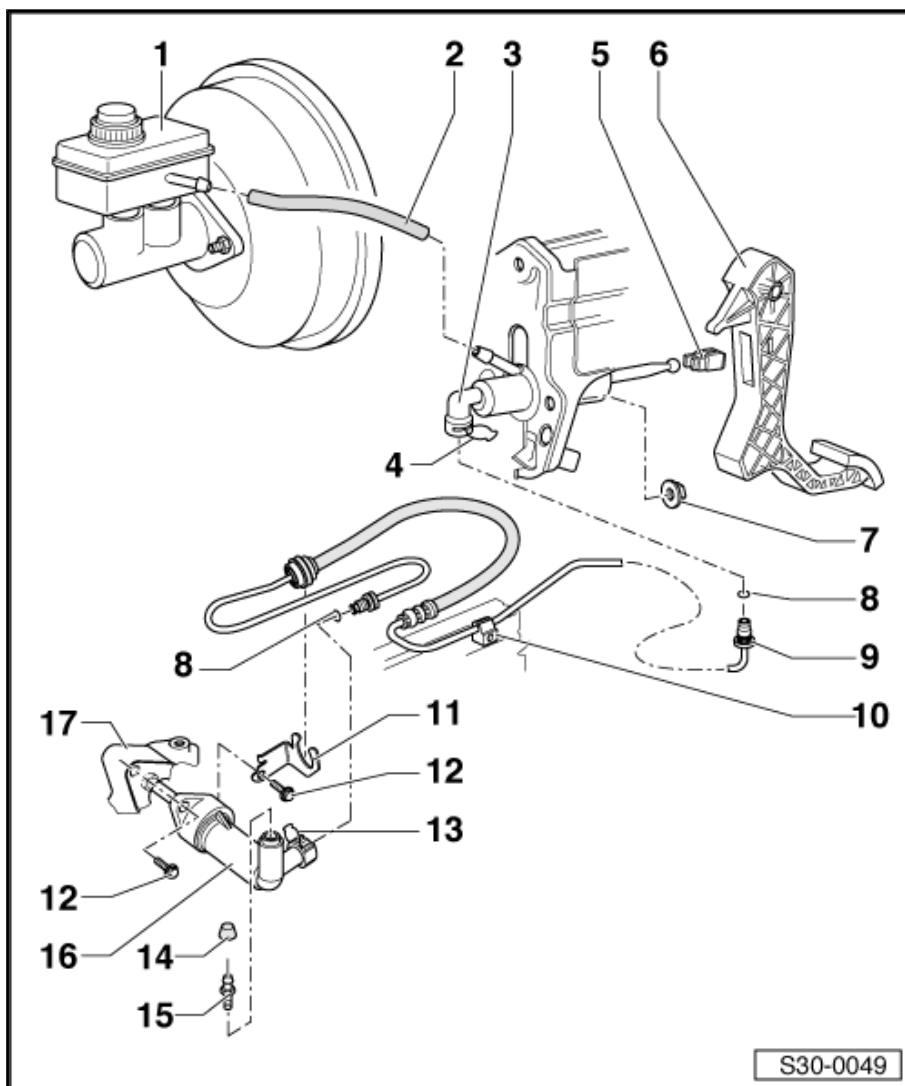
- always replace
- Difference between the O-rings ⇒ [page 53](#)
- assign according to the ⇒ Electronic catalogue of original parts .
- moisten with brake fluid before installing
- test tightness ⇒ [page 57](#)

9 - Tube-hose line

- assign according to the ⇒ Electronic catalogue of original parts .
- test tightness ⇒ [page 57](#)

10 - Support

- at front left frame side rails
- for clipping in the tube-hose line -Pos. 9-



11 - Support

- holds the tube-hose line -Pos. 9- on the gearbox
- not fitted to all vehicles

12 - 20 Nm

13 - Locking clip

- to remove the tube-hose line -Pos. 9- pull out of the slave cylinder -Pos. 16- up to the stop

14 - Dust cap

15 - Vent valve

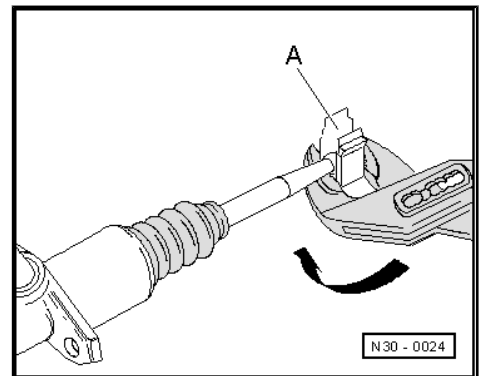
- Bleeding the clutch control ⇒ [page 65](#)

16 - Slave cylinder

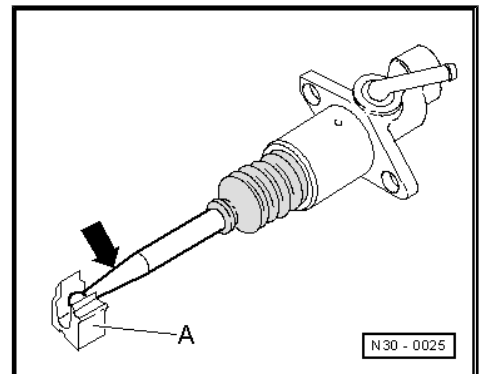
- removing and installing ⇒ [page 61](#)
- after installing, bleed the clutch control ⇒ [page 65](#)

17 - Gearbox

Lift off the support -A- in -the direction of the arrow-.



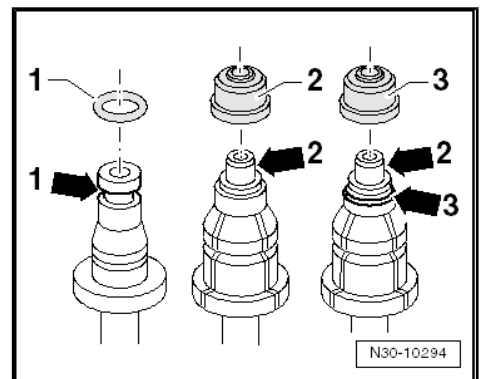
Push the actuator rod/master cylinder in the support -A- in -direction of the arrow-.



Difference between the O-rings

Pos.	Version of line connection
-1-	Line connection with round slot -arrow 1-
-2-	Line connection with shoulder -arrow 2-
-3-	Line connection with shoulder -arrow 2- and with round slot -arrow 3-

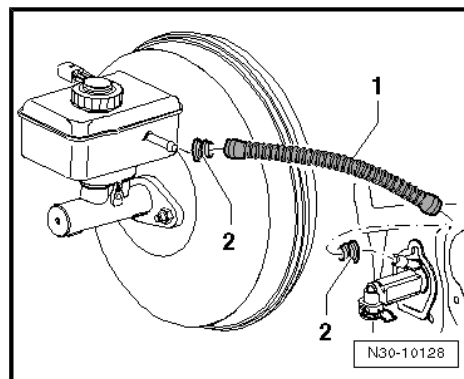
- In case of a line connection with round slot -arrow 1- and -arrow 3-, O-rings must be inserted into the slots.





As of 12.05 on certain vehicles plastic return hose -1-:

- ◆ Gaskets -2- must be present on the return hose.
- ◆ Do not use hose clamp - MP7-602-



1.17 Summary of components - Hydraulic (Rapid 2011 ▶)

1 - Brake fluid reservoir

2 - Spring strap clamp

3 - Supply hose

4 - Master cylinder

- removing and installing ⇒ [page 61](#)
- after installing, bleed the clutch control ⇒ [page 65](#)

5 - Support

- only replace if the master cylinder -Pos. 4- has been removed
- removing ⇒ [page 55](#)
- installing ⇒ [page 56](#)

6 - Clutch pedal

7 - Clamp

- to remove the tube-hose line -Pos. 14- pull it out of the master cylinder up to the stop

8 - 25 Nm

- self-locking
- always replace ⇒ Electronic Catalogue of Original Parts

9 - Brake lines

10 - Support

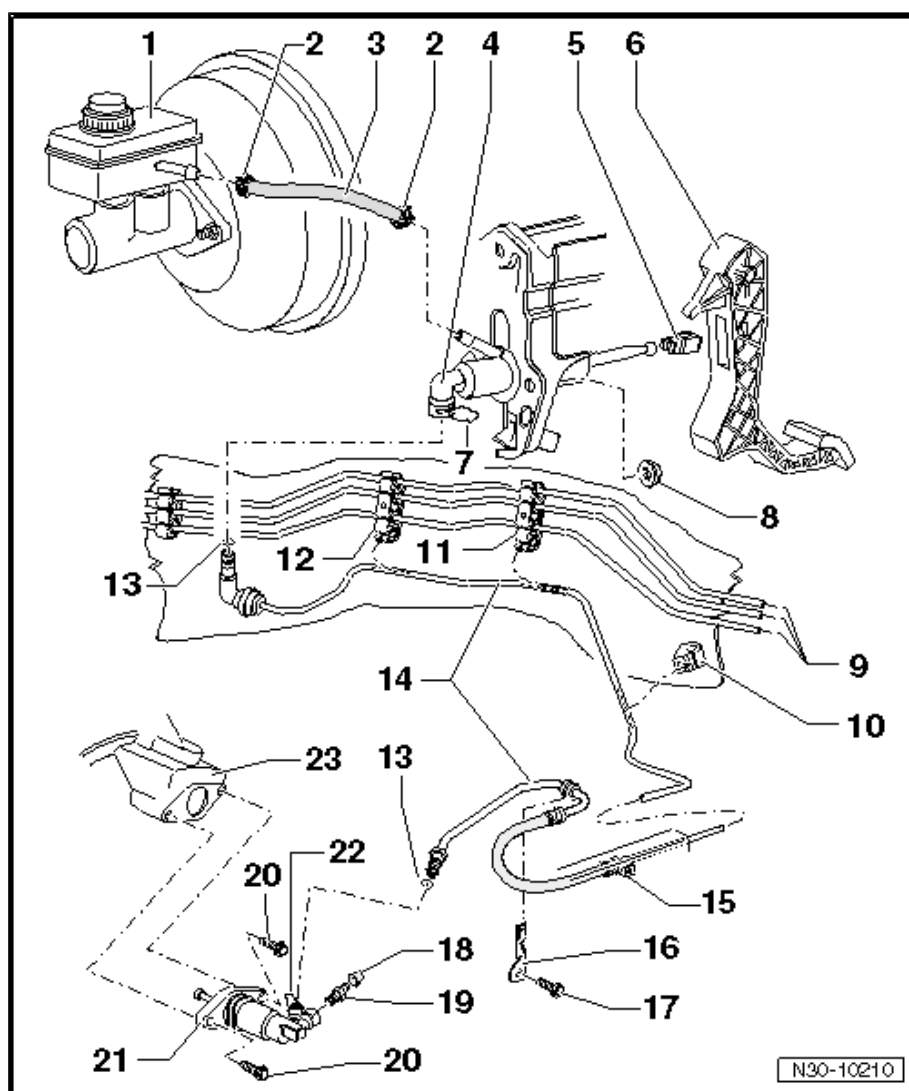
- attached to the vehicle body
- for tube-hose line -Pos. 14-

11 - Support

- attached to the vehicle body
- for tube-hose line -Pos. 14-

12 - Support

- attached to the vehicle body
- for tube-hose line -Pos. 14-



13 - Gasket ring/O-ring

- pull onto line connection
- insert with brake fluid
- Gasket rings/O-rings are adapted to the version of the line connection ⇒ [page 56](#)
- Assignment ⇒ Electronic Catalogue of Original Parts

14 - Tube-hose line

- Assignment ⇒ Electronic Catalogue of Original Parts

15 - Support

- fixed at front left frame side rail
- for tube-hose line -Pos. 14-

16 - Support

- for tube-hose line -Pos. 14- on the gearbox
- not fitted to all vehicles
- Assignment ⇒ Electronic Catalogue of Original Parts

17 - Screw, 20 Nm

- not fitted to all vehicles
- Assignment ⇒ Electronic Catalogue of Original Parts

18 - Dust cap

19 - Vent valve

- Bleeding the clutch control ⇒ [page 65](#)

20 - Screw, 20 Nm

21 - Slave cylinder

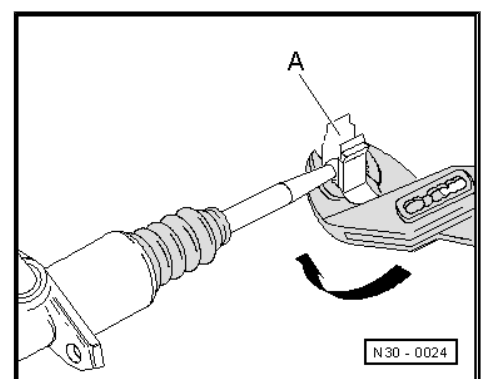
- removing and installing ⇒ [page 61](#)
- after installing, bleed the clutch control ⇒ [page 65](#)

22 - Clamp

- to remove the tube-hose line -Pos. 14- pull it out of the slave cylinder up to the stop

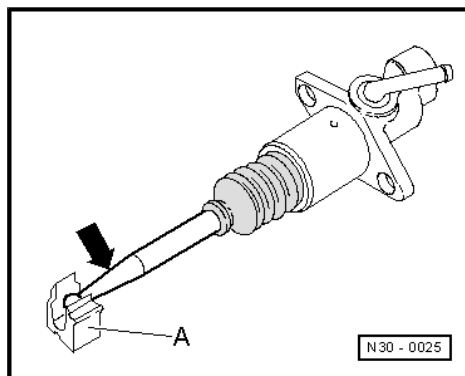
23 - Gearbox

Lift off the support -A- in -the direction of the arrow-.





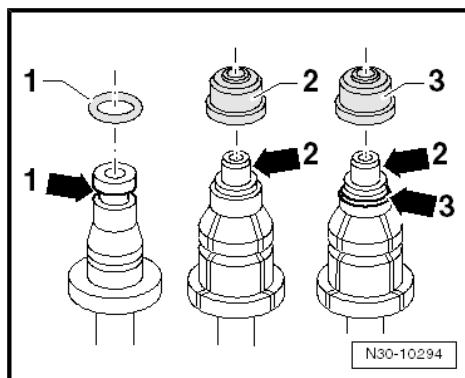
Push the actuator rod/master cylinder in the support -A- in -direction of the arrow-.



Gasket rings/O-rings for tube-hose lines

Pos.	Version of line connection
-1-	Line connection with round slot -arrow 1-
-2-	Line connection with shoulder -arrow 2-
-3-	Line connection with shoulder -arrow 2- and with round slot -arrow 3-

- In case of a line connection with round slot -arrow 1- and -arrow 3-, O-rings must be inserted into the slots.

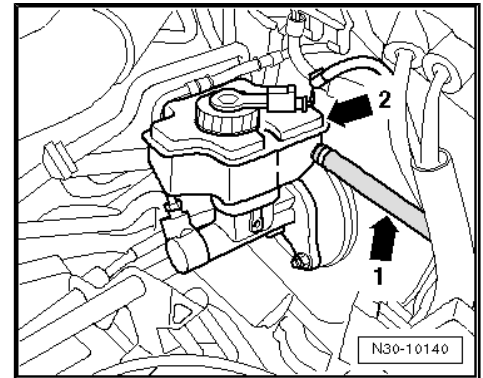


1.18 Check hydraulic clutch control



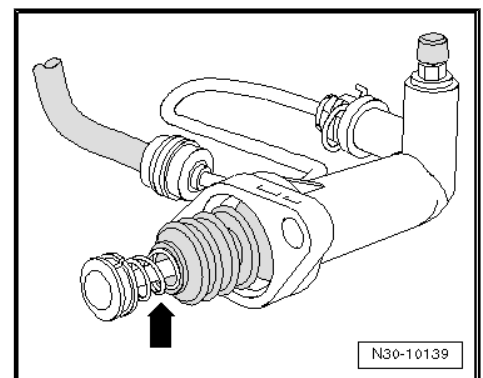
Note

- ◆ *If the master cylinder and/or slave cylinder must be replaced due to the predetermined fault, first of all check the hydraulic clutch control.*
- ◆ *If the slave cylinder with the connected tube-hose line is removed from the gearbox, do no longer depress the clutch pedal. Otherwise, the piston can be pressed out of the slave cylinder and thus be destroyed.*
- ◆ *The clutch hydraulic is connected to one of the chambers -arrow 2- of the brake fluid reservoir by the return hose -arrow 1-.*
- ◆ *If there is little or no brake fluid in this chamber, there is a leak in the system.*
- ◆ *Traces of brake fluid on or below the gearbox, as well as on the noise insulation under the gearbox is a result, amongst others, of an external leak.*
- ◆ *In case of leakage, the corresponding component must be replaced ⇒ Electronic Catalogue of Original Parts .*
- ◆ *Check the correct routing of the tube-hose line between the master and slave cylinder. The line must not be kinked or trapped.*
- ◆ *The brake pedal return must not be obstructed by moved or additional covers (floor coverings).*



Inspect the complete hydraulic system for leaks.

- Carry out a visual inspection of the following components of the hydraulic clutch control for leaks:
 - ◆ Check brake fluid level in the brake fluid reservoir.
 - ◆ Return hose between brake fluid reservoir and master cylinder.
 - ◆ Master cylinder.
 - ◆ Tube-hose line between master cylinder and slave cylinder.
 - ◆ Connection points (plug and screw connections) also in a non-visible area.
 - ◆ Slave cylinder.
- Remove the slave cylinder (do not open the line system) and check if no brake fluid drips out of the bellows, to do so remove the bellows from the rod -arrow-.
- If necessary, bleed the clutch control ⇒ [page 65](#) .
- Then depress the clutch pedal carefully, at the same time hold the pedal in five different positions for approx. 20s over the entire distance the pedal has to travel and check that the pedal does not fall through on its own while being held (in five positions). While doing so, a second mechanic must check if fluid is leaking from the other components of the hydraulic clutch control ⇒ [page 57](#) .





1.19 Removing and installing the master cylinder (Fabia II 2007 ▶; Roomster 2006 ▶)

Special tools and workshop equipment required

- ◆ Pliers - T10005-
- ◆ Hose clamp - MP7-602 (3094)-

1.19.1 Removing



Note

If the battery earth strap is disconnected and connected, carry out additional operations ⇒ *Electrical System; Rep. gr. 27* .

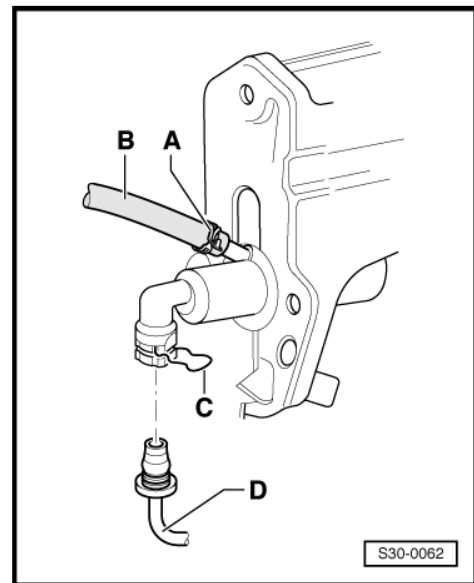
- Disconnect the battery-earth strap with the ignition off ⇒ *Electrical System; Rep. gr. 27* .
- Remove engine cover ⇒ *engine; Rep. gr. 10* .
- Remove air filter ⇒ *Engine; Rep. gr. 23* or ⇒ *Engine; Rep. gr. 24* .
- Remove battery and battery tray ⇒ *Electrical System; Rep. gr. 27* .
- Pinch off return hose -A- to master cylinder with hose clamp -MP7-602 (3094)- (if the return hose is made out of plastic, do not use the hose clamp -MP7-602- , otherwise the return hose can get damaged).
- Release the return hose -A- to the brake fluid reservoir and shut it off in a suitable manner.
- Pull locking clip -B- out of the master cylinder.
- Release and cut the tube-hose line -C- out of the master cylinder.
- Remove the storage area on the driver's side ⇒ *Body Work; Rep. gr. 70* .
- Remove crash strut for clutch pedal (if present) ⇒ [page 22](#) .
- Remove clutch pedal switch, if provided, ⇒ [page 19](#) , -Pos. 7-



Note

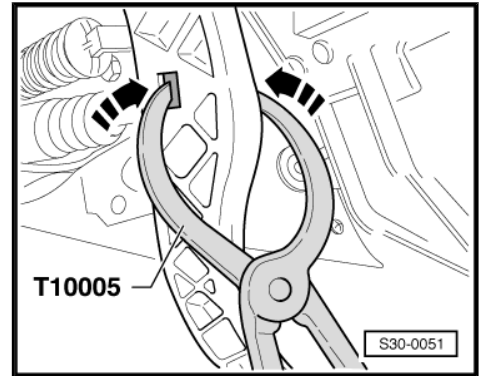
To remove the master cylinder completely remove the clutch control. Before removing first separate the master cylinder from the clutch pedal.

- Unlock the actuating rod/master cylinder from the clutch pedal.

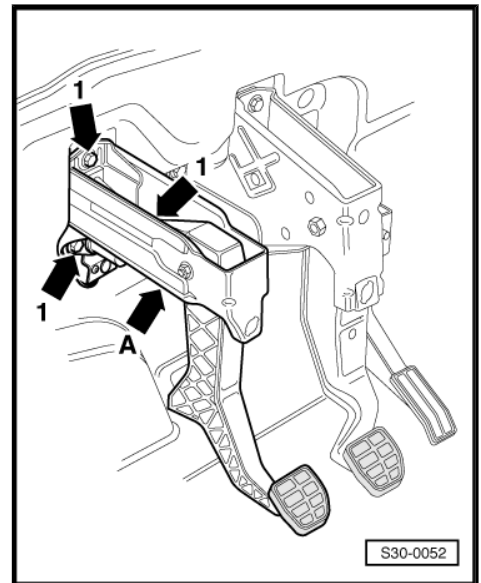


Unlock the actuating rod/master cylinder from the clutch pedal as follows:

- Insert pliers - T10005- in the clutch pedal recesses.
- Press together support and separate the clutch pedal from the master cylinder.
- Removing the over-centre helper spring ⇒ [page 24](#) .



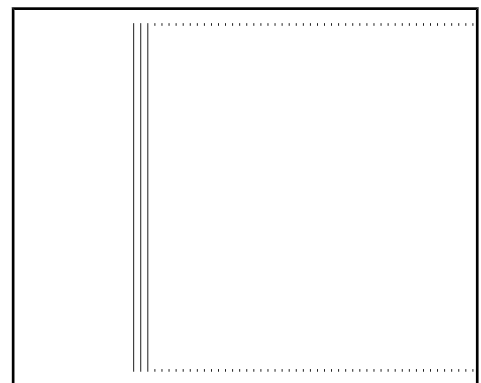
- Unscrew the nuts -arrows 1- and remove the clutch controls -arrow A- together with the master cylinder.
- Unscrew pedal stop ⇒ [page 19](#) , -Pos. 19-.
- Remove the master cylinder.



1.19.2 Install

Installation is performed in the reverse order, pay attention to the following points:

- The support -A- must be located on the actuating rod -B- of the master cylinder.
- To click in the support push the clutch pedal towards the front wall in the -direction of the arrow-; while doing so make sure it catches correctly.
- After installing the master cylinder bleed the clutch control ⇒ [page 65](#) .





Tightening torques

Crash strut to steering column	⇒ page 22
Clutch pedal to bracket ¹⁾	⇒ page 19

1) Always replace self-locking nut ⇒ Electronic Catalogue of Original Parts .

1.20 Removing and installing the master cylinder (Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶; Rapid NH 2013 ▶)

Special tools and workshop equipment required

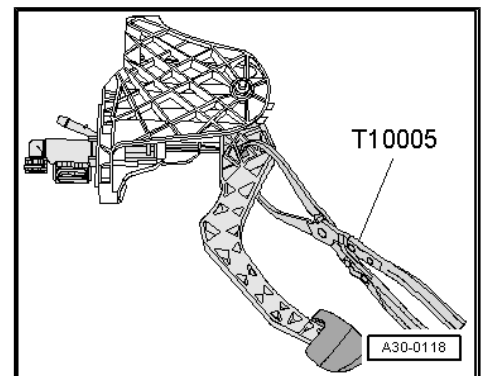
- ◆ Pliers - T10005-
- ◆ Polycarbamide grease - G 052 142 A2-

Removing

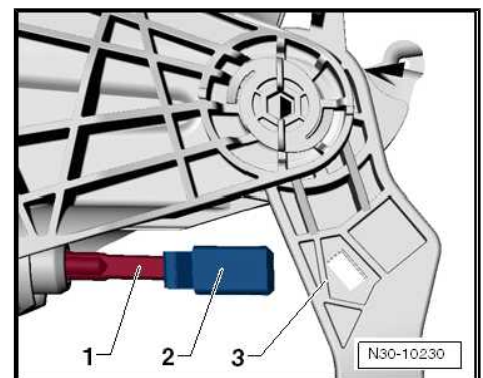
- Remove bracket with master cylinder:
- ◆ Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶
⇒ [page 38](#) .
- ◆ Rapid 2011 ▶ ⇒ [page 41](#) .
- Unlock the clutch pedal from the master cylinder with the pliers - T10005- .
- Remove master cylinder from mounting bracket.

Install

- Insert the master cylinder in the bracket.



- The bracket -2- must be located on the actuating rod -1-.
- Press the support -2- into the recess on the clutch pedal -3- until it clicks audibly into place.
- Install bracket with master cylinder:
- ◆ Fabia II 2011 ▶; Roomster 2011 ▶; Rapid NH 2013 ▶
⇒ [page 38](#) .
- ◆ Rapid 2011 ▶ ⇒ [page 41](#) .



1.21 Removing and installing the slave cylinder

Special tools and workshop equipment required

- ◆ Hose clamp - MP7-602 (3094)-
- ◆ Grease - G 000 100-

**Note**

- ◆ If the slave cylinder must be replaced due to a predetermined fault, first of all check the hydraulic clutch control ⇒ [page 57](#) .
- ◆ If the slave cylinder with the connected tube-hose line is removed from the gearbox, do no longer depress the clutch pedal. Otherwise, the piston can be pressed out of the slave cylinder and thus be destroyed.
- ◆ When performing the following work, make sure no brake fluid comes into contact with the gearbox. If this is the case, these points must be cleaned thoroughly.

1.21.1 Removing

**Note**

If the battery earth strap is disconnected and connected, carry out additional operations ⇒ *Electrical System; Rep. gr. 27* .

- Disconnect the battery-earth strap with the ignition off ⇒ *Electrical System; Rep. gr. 27* .
- If present, remove engine cover ⇒ *Engine; Rep. gr. 10* .
- Remove air filter ⇒ *Engine; Rep. gr. 23* or ⇒ *Engine; Rep. gr. 24* .
- Remove battery and battery tray ⇒ *Electrical System; Rep. gr. 27* .
- Remove circlip -arrow 1- for shift cable from gearbox shift lever -A-.

Vehicles Fabia II and Roomster up to 05.07 and vehicles Rapid (metal relay lever)

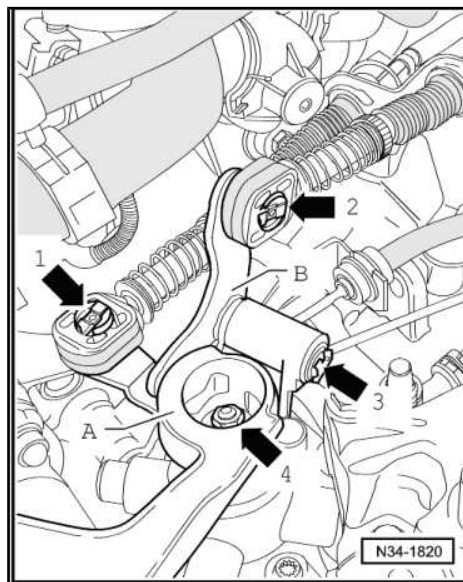
- Remove circlip -arrow 2- for selector cable from relay lever -B-.
- Remove selector cable and shift cable from the studs.
- Detach circlip -arrow 3- from the relay lever -B- and remove relay lever.

Vehicles Fabia II and Roomster as of 06.07 and vehicle Rapid NH (plastic relay lever)

- Pull off shift cable from the stud.
- Remove relay lever together with cable lock ⇒ [page 87](#) .

Continued for all vehicles

- Remove the gearshift lever -A-, for this step unscrew nut -arrow 4-.



- Disconnect the Bowden cable support from gearbox -arrows-.
- Tie up shift cable and selector cable.
- Place a non-fluffing cloth under the slave cylinder.

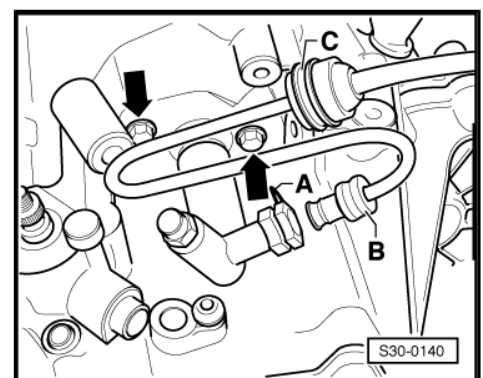
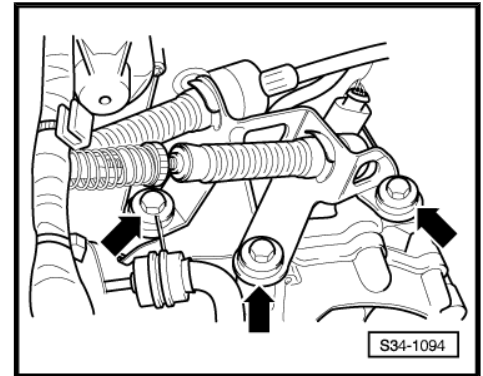
i Note

Make sure no brake fluid comes into contact with the gearbox. If this is the case, this point must be cleaned thoroughly.

- Pinch off the tube-hose line to the master cylinder with the hose clamp - MP7-602 (3094)- (if the tube-hose line to the master cylinder is made out of plastic, do not use the hose clamp - MP7-602-).
- Pull retaining clip -A- for tube-hose line out of the slave cylinder up to the stop.
- Pull tube-hose line out of the support -C-.
- Pull tube-hose line -B- out of the slave cylinder and close opening in a suitable manner.
- Unscrew slave cylinder -arrows- and take out.

i Note

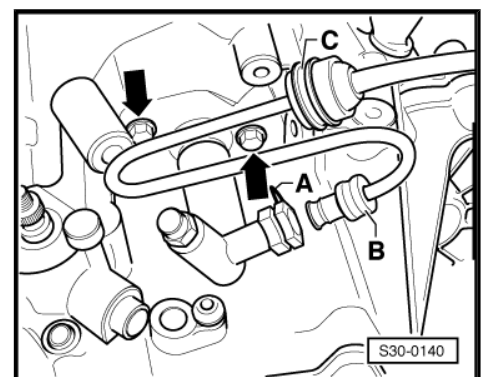
Do not depress the clutch pedal.



1.21.2 Install

Installation is performed in the reverse order, pay attention to the following points:

- Grease tappet head with grease - G 000 100- .
- Install slave cylinder and tighten screws -arrows- to the given tightening torque.
- Insert tube-hose line -B- into the slave cylinder up to the stop.
- Press in retaining clip -A- for attaching the tube-hose line up to the stop.
- Press tube-hose line up to the stop into the support -C- at the gearbox.
- After installing the slave cylinder bleed the clutch control ⇒ [page 65](#) .
- Installing Bowden cable support, relay lever and gearshift lever:
- ◆ For vehicles Fabia II, Roomster and Rapid NH ⇒ [page 89](#) .
- ◆ For vehicles Rapid ⇒ [page 94](#) .
- Setting the shift mechanism ⇒ [page 96](#) .
- Install the battery tray and battery ⇒ Electrical System; Rep. gr. 27 .
- Install air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Connect earth strap of battery ⇒ Electrical System; Rep. gr. 27 .



**Tightening torques**

Slave cylinder to gearbox	Fabia II, Roomster, Rapid NH ⇒ page 51 Rapid ⇒ page 54
Cable support to gearbox	⇒ page 84
Gearbox shift lever to gearbox	⇒ page 84

1.22 Bleeding the clutch control

Special tools and workshop equipment required

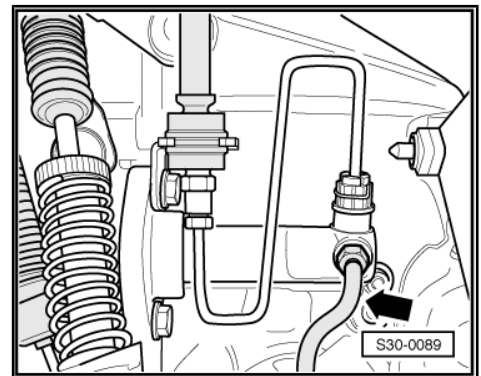
- ◆ Brake filling and bleeding device , e. g. -VAS 5234-

Note

- ◆ *If the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. gr. 27 .*
- ◆ *During the following work, ensure that no brake fluid lands on longitudinal member or gearbox.*
- ◆ *A pre-filling of the system is not necessary!*

Brake fluid specification ⇒ Chassis; Rep. gr. 00 .

- If present, remove engine cover ⇒ Engine; Rep. gr. 10 .
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. gr. 27 .
- Remove air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27 .
- Connect the brake filling and bleeding device.
- Fit the bleeder hose -A- on the vent valve of the slave cylinder -arrow- and open the valve.
- Activate system with a brake fluid pressure of 0.2 MPa.
- Allow approx. 100 cm³ of brake fluid to flow out until no more air bubbles are visible.
- Close vent valve.
- Rapidly operate pedal from stop to stop 10 to 15 times.
- Open vent valve.
- Activate system with a brake fluid pressure of 0.2 MPa.
- Allow another approx. 50 cm³ of brake fluid to flow out.
- Close vent valve.
- After completing the bleeding procedure activate the clutch pedal repeatedly.
- If necessary, bleed the clutch control once again ⇒ [page 65](#) .
- Disconnect bleeding device.





2 Repairing the clutch release mechanism

Special tools and workshop equipment required

- ◆ Grease - G 000 100-

1 - Clutch release bearing

- Do not wash the bearing, just wipe clean
- replace noisy bearings ⇒ Electronic Catalogue of Original Parts
- removing and installing ⇒ [page 67](#)
- remove and install together with the clutch release lever -Pos. 3- and guide bushing -Pos. 5- ⇒ [page 67](#)
- grease contact points on the clutch release lever with grease - G 000 100-

2 - 5 Nm + 90° further

- always replace ⇒ Electronic Catalogue of Original Parts

3 - Clutch release lever

- remove and install together with the clutch release lever -Pos. 1- and guide bushing -Pos. 5- ⇒ [page 67](#)
- Original grease must be removed from the contact surface of the clutch release lever
- Grease contact surface on the ball stud with grease - G 000 100-

4 - Retaining spring

- attach to clutch release lever

5 - Guide bushing for clutch release bearing

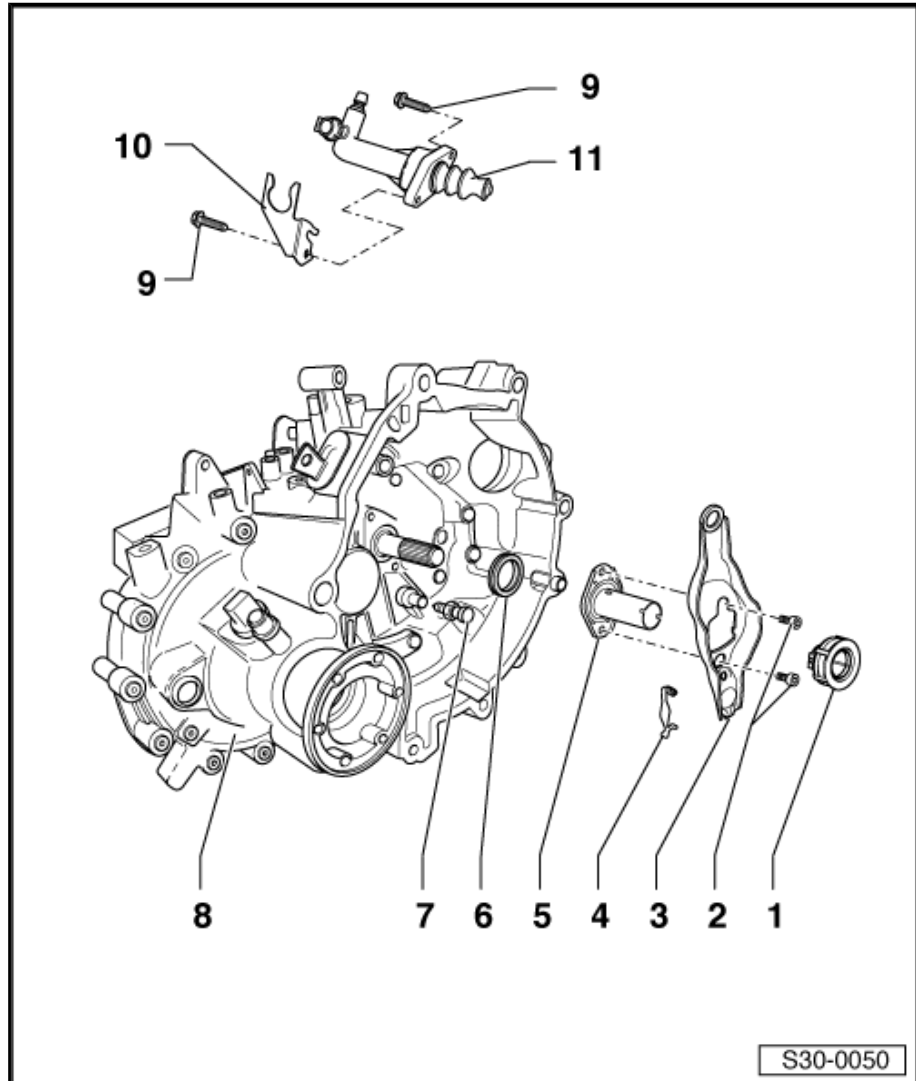
- removing and installing ⇒ [page 67](#)
- remove and install together with the clutch release lever -Pos. 3- and clutch release bearing -Pos. 1- ⇒ [page 67](#)
- Grease guide bushing in the area of the release lever with grease - G 000 100-

6 - Gasket ring for drive shaft

- replace ⇒ [page 126](#)

7 - Ball stud, 20 Nm

- Original grease must be removed from the contact surface of the clutch release lever
- grease with grease - G 000 100-



8 - Gearbox

9 - 20 Nm

10 - Support

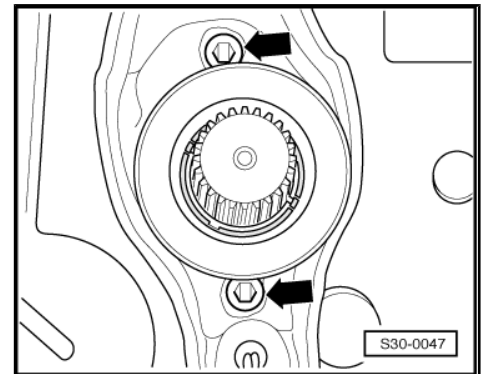
11 - Slave cylinder

- ❑ removing and installing ⇒ [page 61](#)
- ❑ Grease tappet head with grease - G 000 100-

Remove and install the clutch release lever together with the release bearing and guide bushing

- Release screws -arrows-.
- Separate the clutch release lever together with the release bearing and guide sleeve from the drive shaft and ball stud.

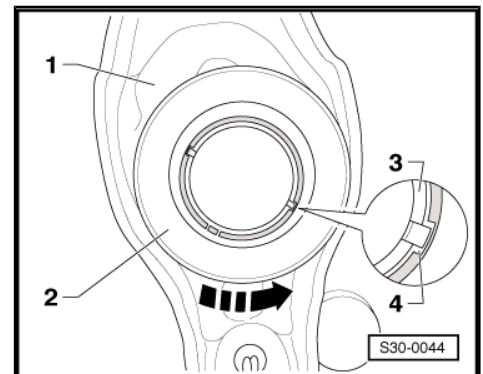
Installation is carried out in the reverse order.



Removing and installing the guide sleeve

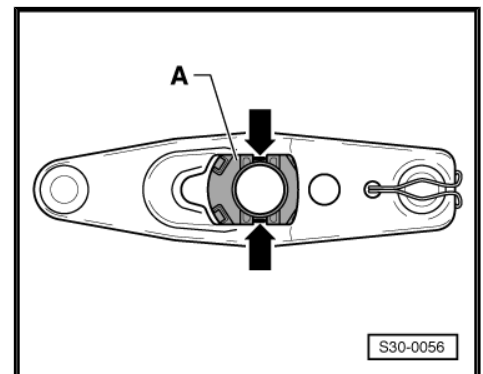
- Rotate the guide bushing -3- opposite the release bearing -2- by approx. 90° in the -direction of the arrow- until the catch pegs of the guide bushing are aligned with the slots -4- of the release bearing.
- In this position remove the guide sleeve from the release bearing.

Installation is carried out in the reverse order.



Removing and installing the release bearing

- Press the catch pegs -arrows- together and remove clutch release bearing -A- from the clutch release lever.
- To install press clutch release bearing -A- into the clutch release lever until the catch pegs -arrows- lock into position.





3 Repairing clutch

Fault finding power transmission - problems with the clutch and clutch control ⇒ [page 70](#) .

Special tools and workshop equipment required

- ◆ Counterholder - MP1-223 (3067)-
- ◆ Centering mandrel - T10086-
- ◆ Centering mandrel - MP3-475A (3190A)-
- ◆ Grease - G 000 100-

(Gearbox removed)



Note

- ◆ *Observe the fault finding of the power transmission before replacing the clutch disc and the pressure plate - problems with the clutch and clutch control ⇒ [page 70](#) .*
- ◆ *Replace the clutch discs and pressure plates if the riveting is damaged or loose.*
- ◆ *Assign the clutch disc and pressure plate in accordance with engine identification characters ⇒ *Electronic Catalogue of Original Parts* .*
- ◆ *Clean the drive shaft serration and hub serration on used clutch discs. Remove corrosion and only apply a very thin layer of grease -G 000 100- on the drive shaft serration.*
- ◆ *Subsequently move the clutch disc up and down on the drive shaft until the hub fits smoothly on the shaft.*
- ◆ *Remove all excess grease.*
- ◆ *The pressure plates are protected against corrosion and are greased. Only clean the thrust surface as otherwise the life of the clutch may be considerably reduced.*
- ◆ *Check whether the dowel sleeves for centering the engine/gearbox are present in the cylinder block; insert if necessary.*
- ◆ *If the dowel sleeves are not installed, there are problems with the gearshift and the clutch or the gearbox is loud.*

1 - Flywheel

- make sure the centering pins are correctly fitted
- The locating face for the clutch lining must be free from grooves, oil and grease
- Removing and Installing ⇒ Engine; Rep. gr. 13

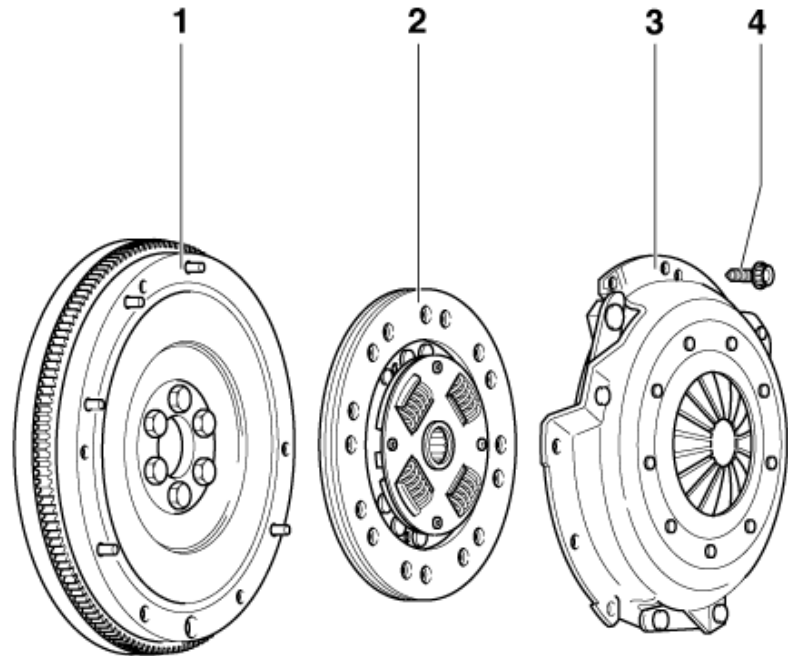
2 - Clutch disc

- Diameter ⇒ Electronic Catalogue of Original Parts
- Fitting position: The spring cage points towards the pressure plate
- centering for vehicles with 1.2 ltr and 1.4 ltr engines ⇒ [page 70](#)
- centring for vehicles with 1.4 ltr (TDI) and 1.6 ltr engines ⇒ [page 70](#)
- slightly grease the serration



Note

Clean the drive shaft serration and hub serration on used clutch discs, remove corrosion. Apply a very thin layer of grease - G 000 100- onto the serration. Subsequently move the clutch disc up and down on the drive shaft until the hub fits smoothly on the shaft. Remove all excess grease.



S30-0055

3 - Pressure plate

- removing and installing for vehicles with 1.2 ltr and 1.4 ltr engines ⇒ [page 70](#)
- removing and installing for vehicles with 1.4 ltr (TDI) and 1.6 ltr engines ⇒ [page 70](#)
- Check the extremities of the membrane spring ⇒ [page 70](#)

4 - Screw M6 - 13 Nm; screw M7 - 20 Nm

- loosen or tighten gradually and crosswise
- assign according to the ⇒ Electronic catalogue of original parts .



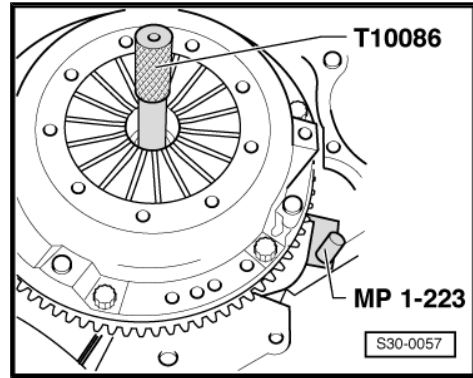
Centering the clutch disc and removing and installing the pressure plate for vehicles with 1.2 ltr and 1.4 ltr engines

- Release and tighten screws gradually and crosswise.
- When removing inverse the position of the pressure pad - MP1-223 (3067)- .



Note

- ◆ *The thrust surface of the pressure plate and the clutch disc lining must fully rest against the flywheel.*
- ◆ *Tighten the screws crosswise and uniformly so as not to damage the centering holes on the pressure plate and the centering pins of the flywheel.*



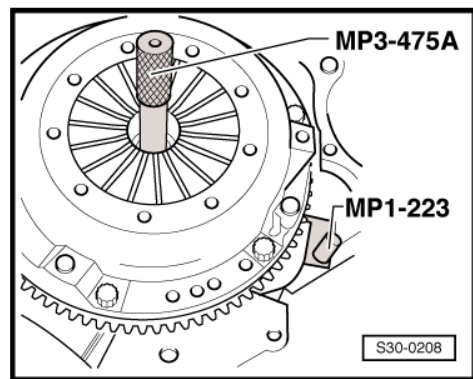
Centering the clutch disc and removing and installing the pressure plate for vehicles with 1.4 ltr (TDI) and 1.6 ltr. engines

- Release and tighten screws gradually and crosswise.
- When removing inverse the position of the pressure pad - MP1-223 (3067)- .



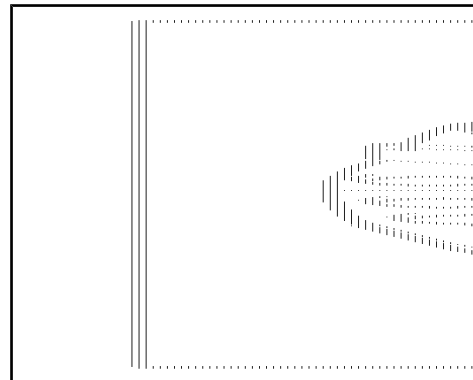
Note

- ◆ *The thrust surface of the pressure plate and the clutch disc lining must fully rest against the flywheel.*
- ◆ *Tighten the fixing screws crosswise and uniformly so as not to damage the centering holes on the pressure plate and the centering pins of the flywheel.*



Check the extremities of the membrane spring

- Wear is allowed up to half the membrane spring thickness.



3.1 Fault finding power transmission - problems with the clutch and clutch control



Note

Check hydraulic clutch control => [page 57](#) .

Before each clutch repair, examine and reconstruct the complaint of the customer. In each individual case, it must be determined if indeed there are problems with the clutch or the incorrect setting of the gearshift is cause for complaint.



Complaint	Fault description	Measure
Clutch pedal does not return to initial position.	◆ Air in line system.	– Vent air from the line system; top up with brake fluid.
	◆ Line system, master or slave cylinder leaking.	– Replace defective component, vent air from the line system; top up with brake fluid.
	◆ Release bearing is tilted on the guide bushing, seized.	– Replace guide bushing and release bearing.
	◆ Membrane spring of the pressure plate broken.	– Replace pressure plate.

Complaint	Fault description	Measure
Actuating force on the clutch pedal too high.	◆ Over-centre helper spring defective.	– Replace over-centre helper spring.
	◆ The clutch release force has increased through the wear of the clutch lining.	– Inform customer (higher release force with increased wear). – Replace the clutch disc if the distance base of the rivet is below 0.1 mm.
	◆ Release bearing is tilted on the guide bushing, seized.	– Replace defective components.
	◆ Pressure plate with wrong spring identification.	– Assign pressure plate via the ⇒ Electronic catalogue of original parts .
	◆ Mechanical fault at the pressure plate or the clutch disc.	– Replace defective components.
	◆ Clutch disc on the serration sluggish/jams.	– Check the hub for damage (burrs), if necessary replace clutch disc. – Clean the hub and the drive shaft serration from corrosion and residues of lubricant and grease with grease for plug serration of clutch disc - G 000 100- . Move clutch disc back and forth, remove excess grease.

Complaint	Fault description	Measure
Noises when operating the clutch.	◆ Release bearing defective, guide of clutch release bearing not in order, contact surface drained off.	– Always replace noisy release bearing. – Replace damaged guide bushing.
	◆ Contact surface of the pressure plate defective (tips of membrane spring bent, broken). Release bearing is off-center.	– Replace pressure plate. – Check release bearing and guide bushing, replace if necessary. – Check position of clutch release lever. – Check dowel sleeves.



Complaint	Fault description	Measure
	◆ Centre displacement of engine/gearbox.	- Check dowel sleeves.
	◆ Clutch disc installed the wrong way up.	- Correct installation.
	◆ Wrong clutch disc installed.	- Assign clutch disc via the ⇒ Electronic catalogue of original parts .

Complaint	Fault description	Measure
Rattling, scratching occurs when the forward or reverse gear is engaged, gears shift jams, is sluggish, shifting is not possible, clutch without operation.	◆ Air in the system, clutch does not separate fully.	- Bleed system; check system, top up with brake fluid.
	◆ Master cylinder or slave cylinder is leaking, line is leaking.	- Replace defective component, top up with brake fluid, bleed system.
	◆ The travel of the clutch pedal is not sufficient (carpet, foot mat under the foot controls), clutch is not fully depressed.	- Inform customer.
	◆ The pressure plate is bent due to incorrect installation, the clutch disc is deformed due improper handling.	- Check components, if necessary replace, make sure the centering pins are correctly fitted. - If scratching still occurs, check the serration of the clutch disc on the drive shaft for ease of movement, if necessary repair the gearbox.
	◆ Tips of membrane spring broken or bent (assembly fault, release bearing moves off-center).	- Replace pressure plate. - Check release bearing and guide bushing, replace if necessary. - Check dowel sleeves.
	◆ Clutch disc too thick.	- Assign clutch disc via the ⇒ Electronic catalogue of original parts .
	◆ Deposit of corrosion adhering to the flywheel (long immobilization time, high humidity).	- Slightly rub down friction surfaces of the clutch linings or replace completely the severely corroded parts.



Complaint	Fault description	Measure
	<ul style="list-style-type: none"> ◆ Clutch disc on the serration sluggish/jams. Corrosion on the hub, damage during the assembly. Hub profile knocked out on one side. 	<ul style="list-style-type: none"> – Check the hub for damage, if necessary replace the clutch disc. – Remove corrosion from the hub and the shaft as well as residues of lubricant. Grease shaft with grease for plug serration of clutch disc - G 000 100- . – Move clutch disc back and forth, remove excess grease. – Check position of dowel sleeves on knocked out hub profile. – Check release bearing, guide bushing and pressure plate, replace if necessary.
	<ul style="list-style-type: none"> ◆ Lifting of pressure plate too low (wrong pressure plate installed). 	<ul style="list-style-type: none"> – Assign pressure plate via the ⇒ Electronic catalogue of original parts .
	<ul style="list-style-type: none"> ◆ Displacement of engine/gearbox too large (dowel sleeves missing), support panel of clutch plate bent through this. 	<ul style="list-style-type: none"> – Insert dowel sleeves before gearbox has been fitted. – Check clutch disc and pressure plate for damage, if necessary replace.
	<ul style="list-style-type: none"> ◆ The lining is spalled off because of too high revs (shift back into lower gears during high speeds). ◆ When starting, linings are spalled off through slipping for too long a time. 	<ul style="list-style-type: none"> – Replace clutch disc. Inform customer.

Complaint	Fault description	Measure
Load change jolts when throttle is depressed and sudden reduction of the engine speed.	<ul style="list-style-type: none"> ◆ Assembly bracket too soft. 	<ul style="list-style-type: none"> – Inform customer. Assign hanger via the ⇒ Electronic catalogue of original parts .
	<ul style="list-style-type: none"> ◆ Irregular engine running. 	<ul style="list-style-type: none"> – Check engine power, correct.
	<ul style="list-style-type: none"> ◆ Clutch disc with predamper is built in against gear rattling. 	<ul style="list-style-type: none"> – Inform customer.
	<ul style="list-style-type: none"> ◆ Centre displacement of engine/gearbox. 	<ul style="list-style-type: none"> – Test dowel sleeves, replace if necessary.

Complaint	Fault description	Measure
Clutch slips through, no or bad pre-drive.	<ul style="list-style-type: none"> ◆ Wrong clutch disc fitted, wrong pressure plate installed. 	<ul style="list-style-type: none"> – Assign the clutch disc and pressure plate via the ⇒ Electronic catalogue of original parts .



Complaint	Fault description	Measure
	◆ Clutch disc worn out, burnt, pressure plate overheated, grooves, pressure plate deformed through incorrect assembly, compressive force of the pressure plate too low, driving error, natural wear.	<ul style="list-style-type: none"> - Replace clutch disc. - Replace pressure plate. - Inform customer.
	◆ Clutch disc, pressure plate, flywheel - oily. Radial shaft seal of the engine or the gearbox defective. Grease on the contact surface through excess greasing of the hub.	<ul style="list-style-type: none"> - Replace clutch disc. - Clean contact surfaces of pressure plate and flywheel. - Replace radial shaft seal, remove excess grease from the drive shaft.
	◆ Clutch disc installed the wrong way up.	<ul style="list-style-type: none"> - Correct installation, check clutch disc, replace if necessary.
	◆ Flywheel depth too large or excessive abrasion on the contact surface of the lining.	<ul style="list-style-type: none"> - Assign the sealing flange via the ⇒ electronic catalogue of original parts . - Inspect clutch disc and pressure plate, replace if necessary.
	◆ Slave cylinder leaking.	<ul style="list-style-type: none"> - Replace slave cylinder.

Complaint	Fault description	Measure
Clutch grabbing, unit shaking.	◆ Air in the system.	<ul style="list-style-type: none"> - Bleed system, check brake fluid level, check system for tightness. - Replace defective part.
	◆ Engine does not run clean.	<ul style="list-style-type: none"> - Check engine power, correct.
	◆ Driving error, starting speed is too low.	<ul style="list-style-type: none"> - Inform customer.
	◆ Wrong clutch disc installed.	<ul style="list-style-type: none"> - Assign clutch disc via the ⇒ Electronic catalogue of original parts .
	◆ Assembly bearing too soft, knocked out.	<ul style="list-style-type: none"> - Assign the assembly bracket via the ⇒ Electronic catalogue of original parts .
	◆ Clutch lining, contact surface of pressure plate and flywheel oily (oil leakage from the clutch housing).	<ul style="list-style-type: none"> - Check radial shaft seal of the drive shaft for clutch or check crankshaft, if necessary replace. - Replace clutch disc, clean pressure plate and flywheel.
	◆ Release bearing is tilted on the guide bushing (seized) (presses on one side onto the membrane spring of the pressure plate).	<ul style="list-style-type: none"> - Replace release bearing and guide bushing. - Check control elements and bearing for control elements.



Complaint	Fault description	Measure
	<ul style="list-style-type: none"> ◆ The contact surface of the pressure plate lifts off only unilaterally due to the tilted release bearing. ◆ Pressure plate housing deformed when installed. Contact surface of the pressure plate lifts off only unilaterally. ◆ Drive shaft too heavily greased (traces of grease on the clutch disc, pressure plate and flywheel). 	<ul style="list-style-type: none"> – Check the contact surface of the clutch lining on the flywheel, check pressure plate and membrane springs, replace pressure plate if necessary. – Replace release bearing and guide bushing. – Remove grease from pressure plate and flywheel, replace if damaged (traces of wear, traces of overheating, grooves). – Remove traces of grease from hub and shaft, grease shaft with grease for plug serration of clutch disc - G 000 100- . – Move clutch disc back and forth, remove excess grease.

Complaint	Fault description	Measure
Acoustic knock »klack« when coupling.	<ul style="list-style-type: none"> ◆ Carrier earth/drive shaft is accelerated with sudden coupling. The drive shaft serration of the pinions in mesh knocks, this noise is increased for clutch discs with noise insulation as the damping reaches the stop. 	<ul style="list-style-type: none"> – Inform customer.

Complaint	Fault description	Measure
Noises in idle.	<ul style="list-style-type: none"> ◆ Torsional damper spring kinked. 	<ul style="list-style-type: none"> – Replace clutch disc.
	<ul style="list-style-type: none"> ◆ Clutch disc fitted without pre-damper (idle rattling). 	<ul style="list-style-type: none"> – Assign clutch disc via the ⇒ Electronic catalogue of original parts .
	<ul style="list-style-type: none"> ◆ Pressure plate deformed, imbalance. 	<ul style="list-style-type: none"> – Replace pressure plate.
	<ul style="list-style-type: none"> ◆ Irregular engine running. 	<ul style="list-style-type: none"> – Check engine power, correct if necessary.
	<ul style="list-style-type: none"> ◆ Displacement of engine/gearbox too large (dowel sleeves missing). 	<ul style="list-style-type: none"> – Insert dowel sleeves before gearbox has been fitted.
	<ul style="list-style-type: none"> ◆ Intermediate plate grinds at flywheel. 	<ul style="list-style-type: none"> – Insert intermediate plate on sealing flange and push onto the dowel sleeves.



34 – Controls, housing

1 Shift mechanism

Installation position - selector mechanism ⇒ [page 76](#) .

Summary of components - Gearshift mechanism ⇒ [page 78](#) .

Summary of components - Gearshift knob with shift lever collar
⇒ [page 79](#) .

Remove and install gearshift knob and shift lever collar (Fabia II,
Roomster) ⇒ [page 79](#) .

Remove and install gearshift knob and shift lever collar (Rapid)
⇒ [page 80](#) .

Remove and install gearshift knob and shift lever collar (Rapid
NH) ⇒ [page 81](#) .

Summary of components - Shift lever and shift housing
⇒ [page 82](#) .

Summary of components - Control cables ⇒ [page 84](#) .

Plastic relay lever as of 06.07 (Fabia II, Roomster, Rapid NH)
⇒ [page 87](#) .

Remove and install shift mechanism (Fabia II, Roomster, Rapid
NH) ⇒ [page 89](#) .

Removing and installing shift mechanism (Rapid) ⇒ [page 94](#) .

Setting the shift mechanism ⇒ [page 96](#) .

1.1 Installation position - selector mechanism

Arrow A - Shift movement

Arrow B - Selector movement

A - Shift cable

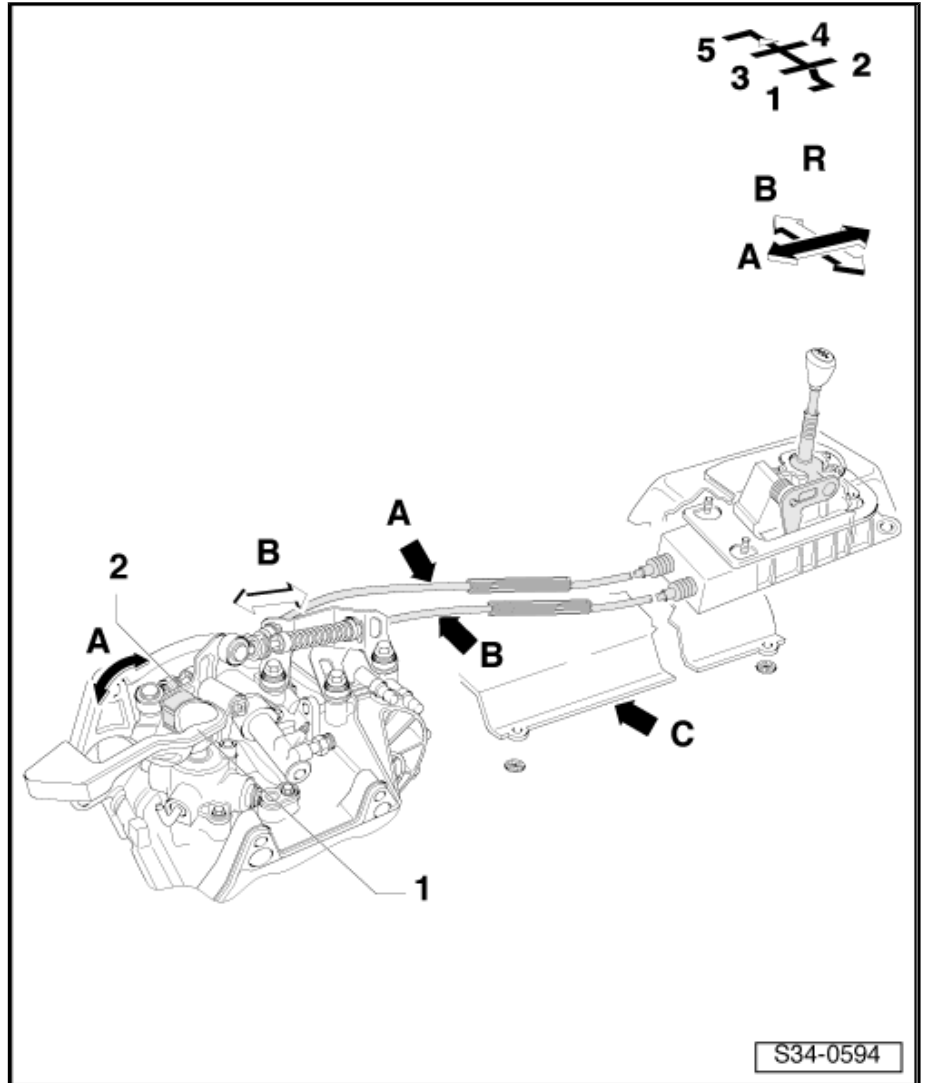
B - Selector cable

C - Heat shield

- take off before removing the shift mechanism

1 - Gearshift lever

2 - Reversing lever





1.2 Summary of components - Gearshift mechanism



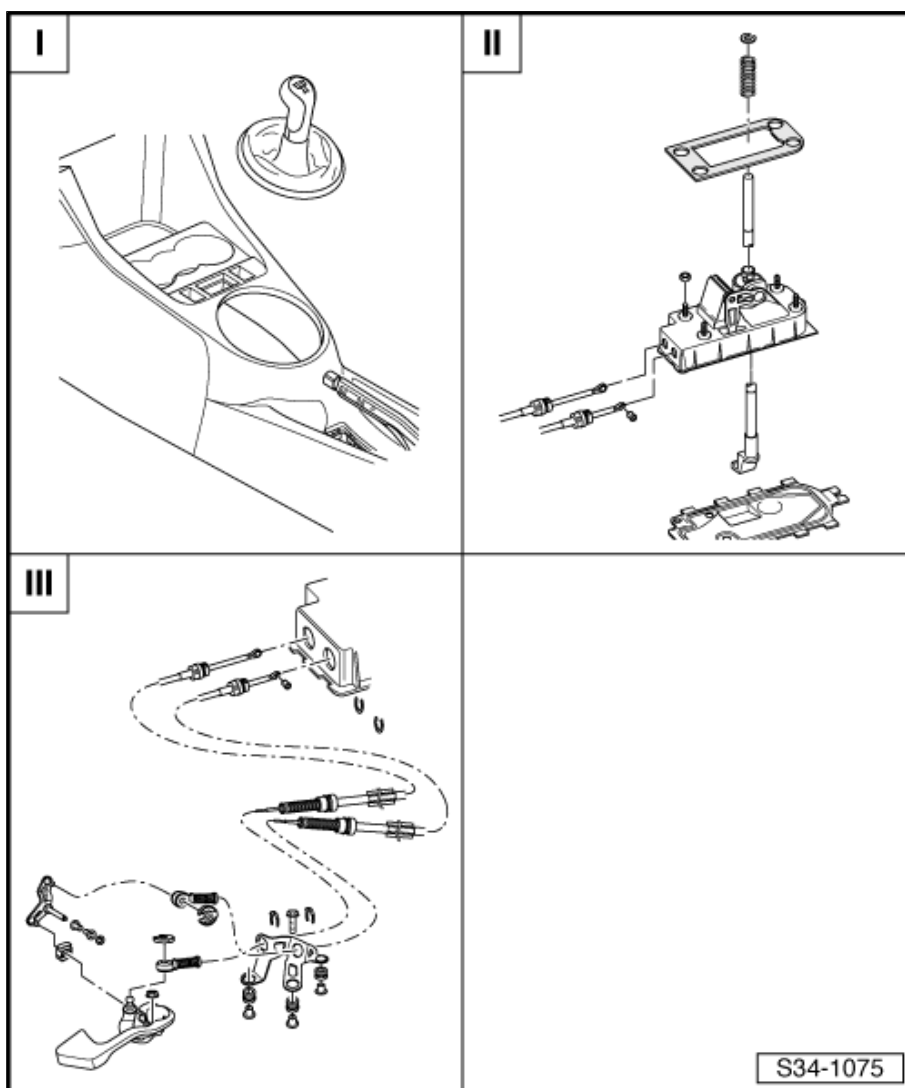
Note

- ◆ If the battery earth strap is disconnected and connected, carry out additional operations ⇒ *Electrical System; Rep. gr. 27* .
- ◆ Do not kink the control cables.
- ◆ Remove shift mechanism for replacing the control cables:
- ◆ *Fabia II, Roomster, Rapid NH* ⇒ [page 89](#) .
- ◆ *Rapid* ⇒ [page 94](#) .

I - Summary of components - Gearshift knob with shift lever collar ⇒ [page 79](#)

II - Assembly overview - shift mechanism ⇒ [page 82](#)

III - Summary of components - Control cables ⇒ [page 84](#)

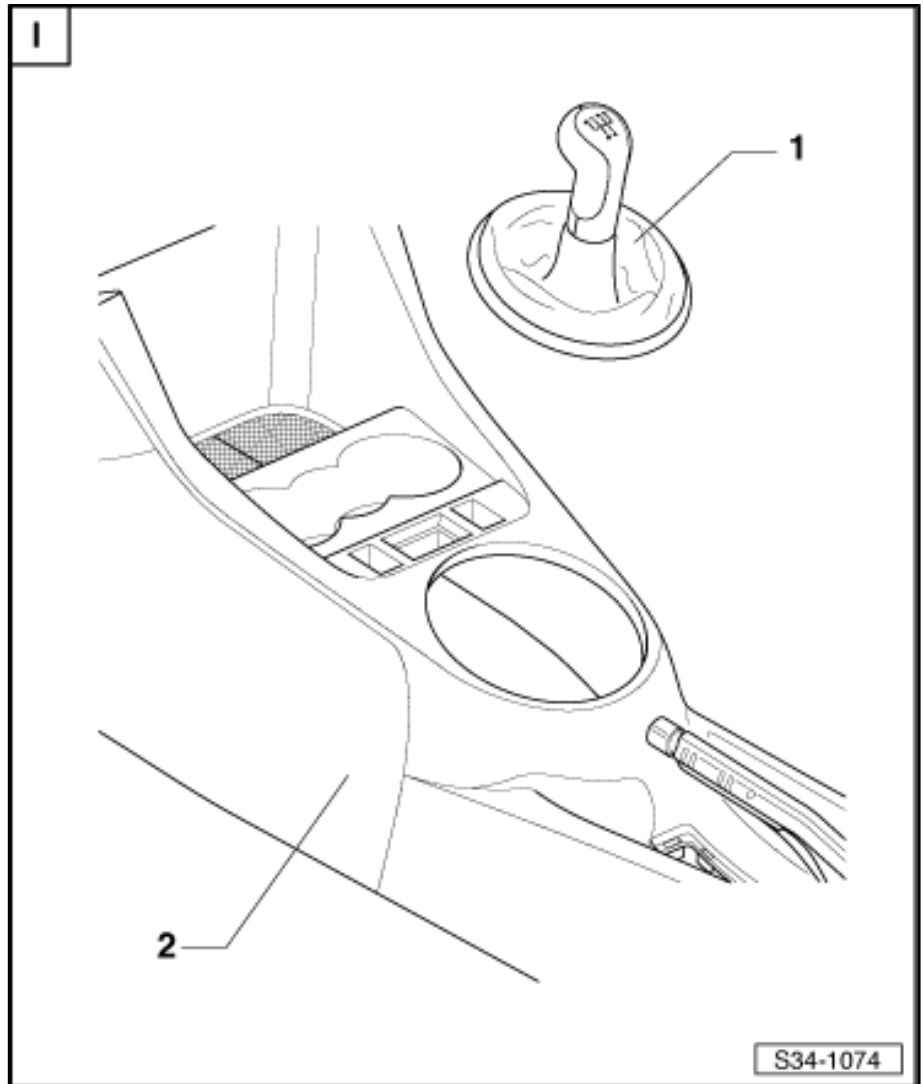


1.3 Summary of components - Gearshift knob with shift lever collar

1 - Gearshift knob

- with collar
- it can be different in shape on individual models
- It is not possible to separate the gearshift knob from the collar
- always replace together
⇒ Electronic Catalogue of Original Parts
- removing and installing:
 - ◆ Fabia II, Roomster
⇒ [page 79](#)
 - ◆ Rapid ⇒ [page 80](#)
 - ◆ Rapid NH ⇒ [page 81](#)
 - Plaque of gearshift lever can be separated from the gearshift knob e.g. with a screwdriver (2011 >)

2 - Centre console



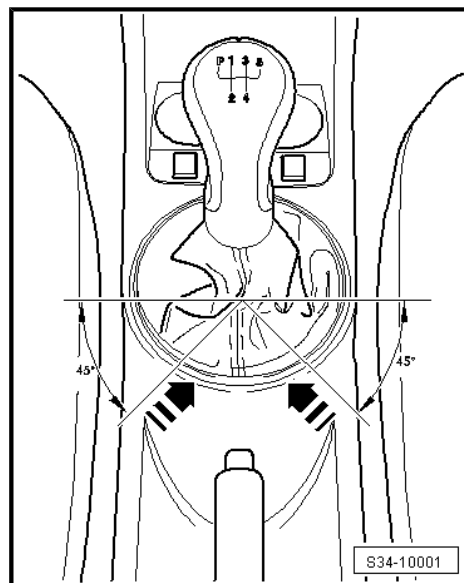
1.4 Removing and installing gearshift knob and shift lever collar (Fabia II, Roomster)

Special tools and workshop equipment required

- ◆ Disassembly wedge - 3409- (2 pieces)



- Lever off the collar with two disassembly wedges - 3409- out of the surround of the centre console in -direction of arrow-.
- Pull the collar upwards over the gearshift knob.

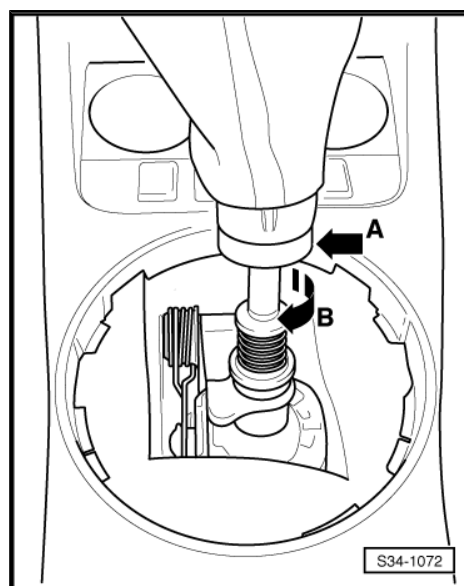


- Turn securing mechanism -arrow A- in -direction of arrow B- and pull off gearshift knob together with the collar.

Install

- Turn collar inside out.
- Position the gearshift knob together with the collar and secure with securing mechanism -arrow A- against the -direction arrow B-.

When inserting the gearshift knob on the shift lever the gearshift knob must lock into the round slot of the gearshift lever.

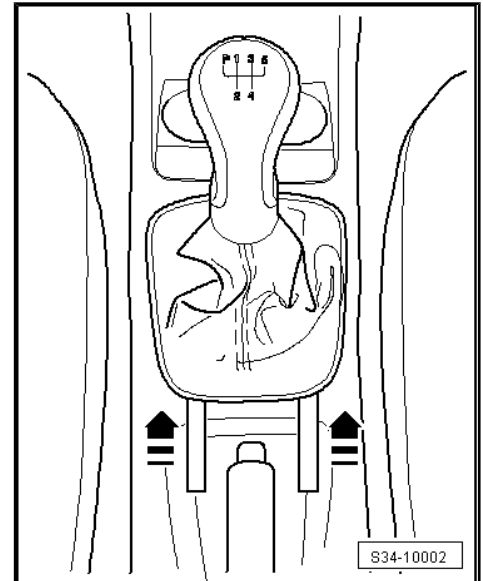


1.5 Remove and install gearshift knob and shift lever collar (Rapid)

Special tools and workshop equipment required

- ◆ Release tool - T30098- (2 pieces)

- Lever off the collar frame with the disassembly wedge - T30098- out of the surround for the centre console in -direction of arrow-.
- For this step, press on the frame -arrows- and at the same time raise the frame.
- Lift off the frame.
- Pull the collar upwards over the gearshift knob.



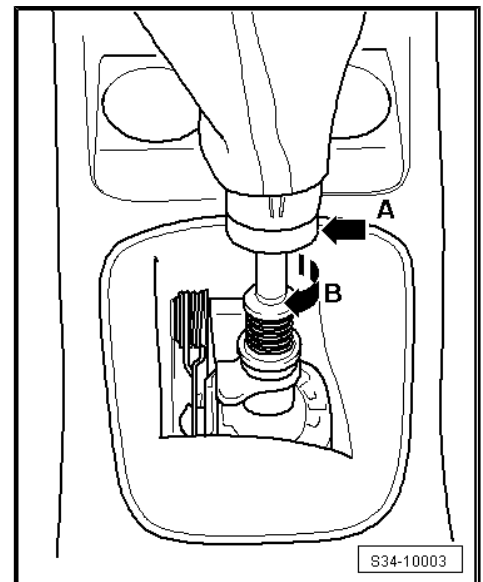
- Turn securing mechanism -arrow A- in -direction of arrow B- and pull off gearshift knob together with the collar.

Install

- Turn collar inside out.
- Position the gearshift knob together with the collar and secure with securing mechanism -arrow A- against the -direction arrow B-.

When inserting the gearshift knob on the shift lever the gearshift knob must lock into the round slot of the gearshift lever.

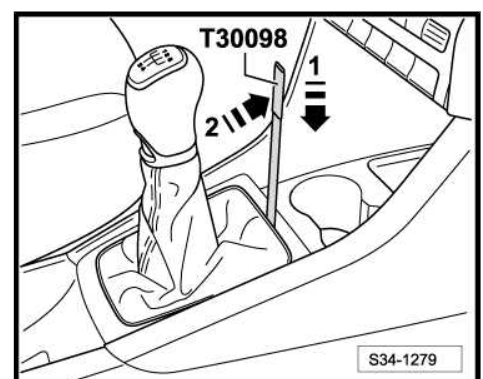
- Fit the frame with its catch pegs into the rear part of the centre console.
- Lock the frame into the cover of the centre console in the front part.



1.6 Remove and install gearshift knob and shift lever collar (Rapid NH)

Special tools and workshop equipment required

- ◆ Release tool - T30098-
- ◆ Hose strap pliers , e.g. -V.A.G 1275 A-
- Lever the collar frame out of the centre console. To do so, fit the release tool - T30098- between the collar frame and the cover of the centre console in the middle of the front side -arrow 1- and press it forwards in -direction of arrow 2-.
- Lift off the frame.
- Pull the collar upwards over the gearshift knob.





- Open clamp -arrow- and pull off gearshift knob together with the collar.

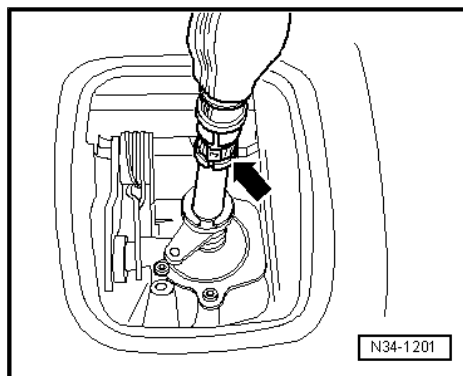
Install

- Turn collar inside out.

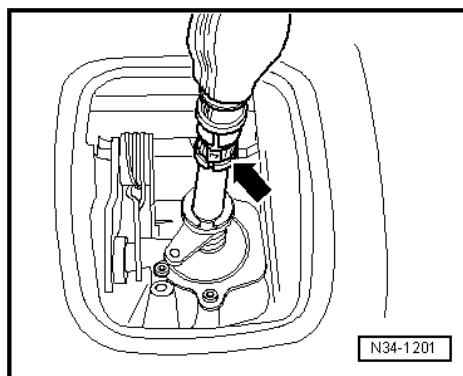


Note

When inserting the gearshift knob on the selector lever the gearshift knob must be pressed in up to the stop.



- Position the gearshift knob together with the collar and secure it with a new open warm-type clamp -arrow- by pressing it together.
- Fit the frame of the collar onto the pegs in the rear part of the centre console.
- Press the frame onto the cover of the centre console until it locks into the pegs in the front part.



1.7 Summary of components - Shift lever and shift housing



Note

Grease bearing and friction surfaces with grease - G 000 450 02- .

1 - Lock washer

- removing and installing
⇒ [page 84](#)

2 - Pressure spring

3 - Gasket

- between shift housing and body
- self-adhesive
- stuck onto the shift housing

4 - Shift lever

5 - Damping

- removing and installing
⇒ [page 84](#)

6 - Shift housing

7 - Insulating washer

- must be present in the round slot -arrow- at the shift lever -Pos. 4-

8 - Gasket

- replace ⇒ Electronic Catalogue of Original Parts

9 - Cover

- bend up tabs for removing
- replace ⇒ Electronic Catalogue of Original Parts

10 - Bush

11 - Selector cable

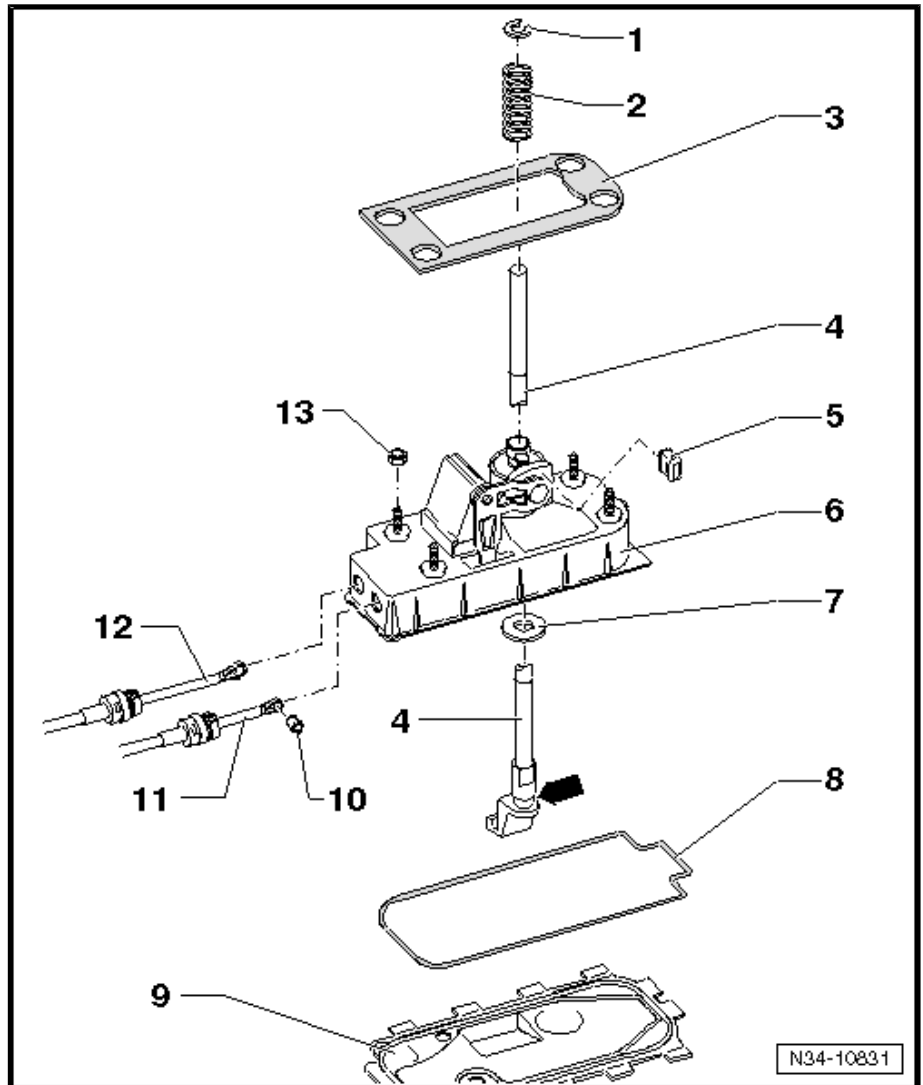
- pressed onto selector angle plate
- slacken from selector angle plate within the shift mechanism
- press onto selector angle plate within the shift mechanism
- Fitting position ⇒ [page 76](#)
- after installing set shift mechanism ⇒ [page 96](#)

12 - Shift cable

- pressed onto the shift lever guide
- slacken from the shift lever guide within the shift mechanism
- press onto the selector angle guide within the shift mechanism
- Fitting position ⇒ [page 76](#)
- after installing set shift mechanism ⇒ [page 96](#)

13 - 23 Nm

- 4 pieces





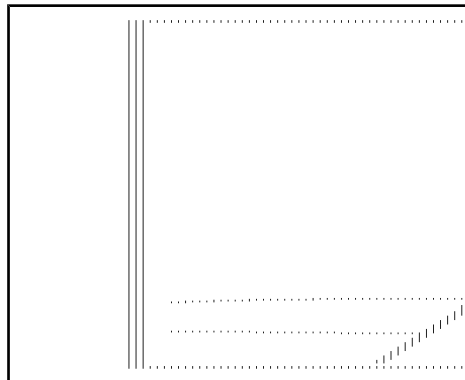
Removing and installing lock washer

- When removing and installing the circlip -A- pull the gearshift lever in the -direction of the arrow A- while simultaneously pressing the spring down with a screwdriver up to the stop in the -direction of the arrow B-.



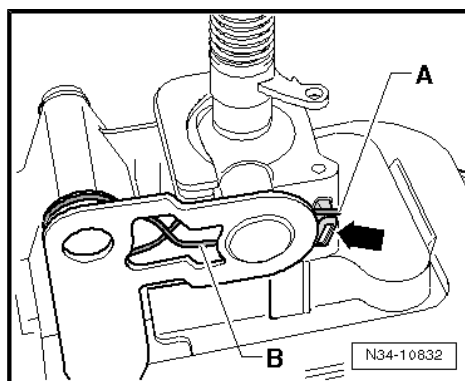
Note

- ◆ *The mounting slot in shift lever for circlip must be visible.*
- ◆ *Release spring carefully.*



Removing and installing damping -arrow-

- Press the pressure spring arm -A- as far as possible to the left until it is located outside the damping -arrow-.
- Press the shift lever to the lift and pull off the damping.
- After installing the damping, the pressure spring arms -A- and -B- must rest on the damping -Pfeil-.



1.8 Summary of components - Control cables



Note

Grease bearing and friction surfaces with grease - G 000 450 02- .

1 - Shift cable

- slacken from the shift lever guide within the shift mechanism
- press onto the selector angle guide within the shift mechanism
- connect with cable lock -Pos. 11-
- Fitting position
⇒ [page 76](#)
- after installing set shift mechanism
⇒ [page 96](#)

2 - Selector cable

- slacken from selector angle plate within the shift mechanism
- press onto selector angle plate within the shift mechanism
- at selector angle plate
- connect with cable lock -Pos. 10-
- Fitting position
⇒ [page 76](#)
- after installing set shift mechanism
⇒ [page 96](#)

3 - Bush

4 - Lock washer

- do not damage cables when removing
- always replace ⇒ Electronic Catalogue of Original Parts

5 - Shift housing

6 - Cable support

- can be made out of plastic or metal

7 - Bush

- for mounting of cable support to gearbox

8 - Spacer bush

9 - 20 Nm

- 3 pieces
- for cable support

10 - Cable lock

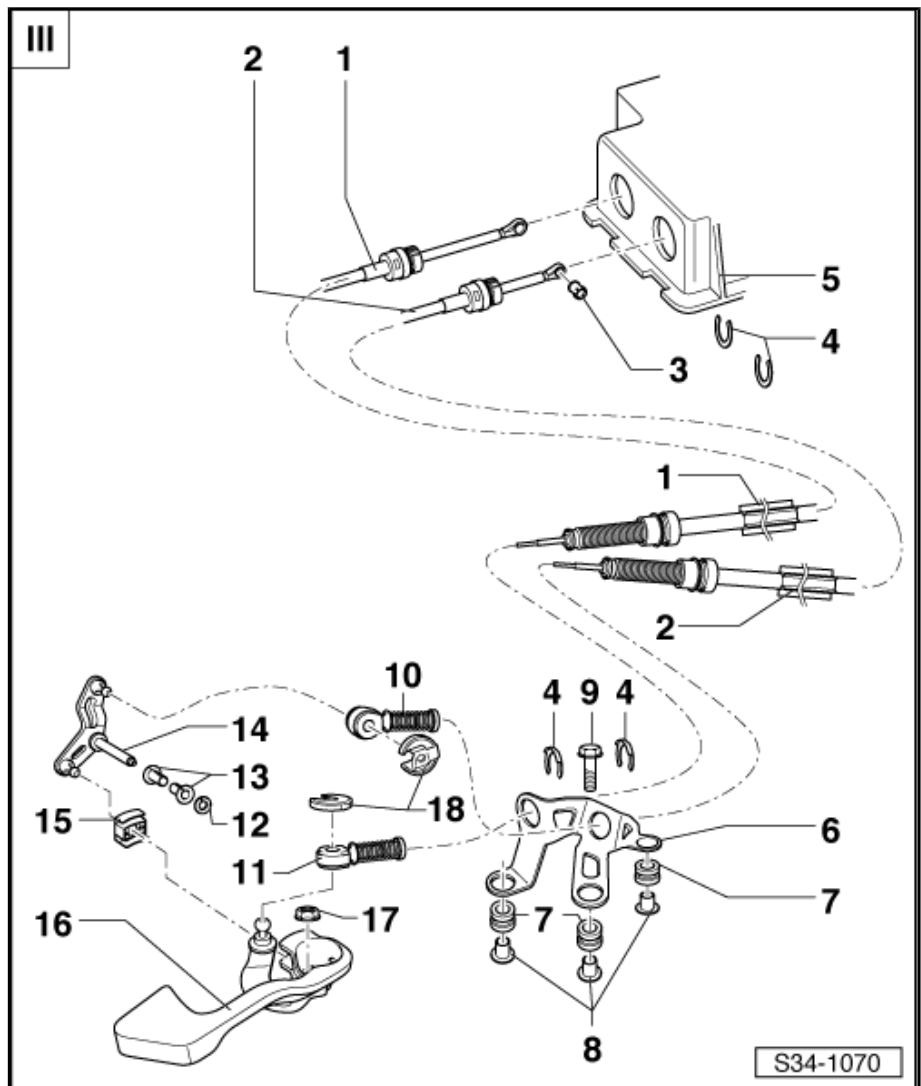
- for selector cable ⇒ [page 86](#)
- after installing set shift mechanism ⇒ [page 96](#)

11 - Cable lock

- for shift cable ⇒ [page 86](#)
- after installing set shift mechanism ⇒ [page 96](#)

12 - Lock washer

- always replace ⇒ Electronic Catalogue of Original Parts





- it is not necessary, if it is a plastic relay lever

13 - Bush

- it is not necessary, if it is a plastic relay lever

14 - Selector lever

- Fitting position ⇒ [page 87](#)
- after installing set shift mechanism ⇒ [page 96](#)
- as of 06.07 the relay level is made of plastic
- Removing and installing plastic relay lever together with cable lock ⇒ [page 87](#)
- If the relay lever is made of plastic, neither the bushings -Pos. 13- nor the lock washer -Pos. 12- are required

15 - Sliding shoe

16 - Gearshift lever

- with balancing weight
- Fitting position ⇒ [page 87](#)
- after installing set shift mechanism ⇒ [page 96](#)

17 - 20 Nm

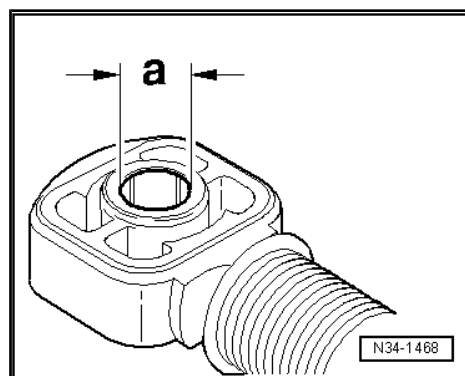
- always replace ⇒ Electronic Catalogue of Original Parts

18 - Lock washer

- always replace ⇒ Electronic Catalogue of Original Parts
- is not required on cable locks for selector cable at relay lever, if relay lever is made of plastic

Assign cable locks

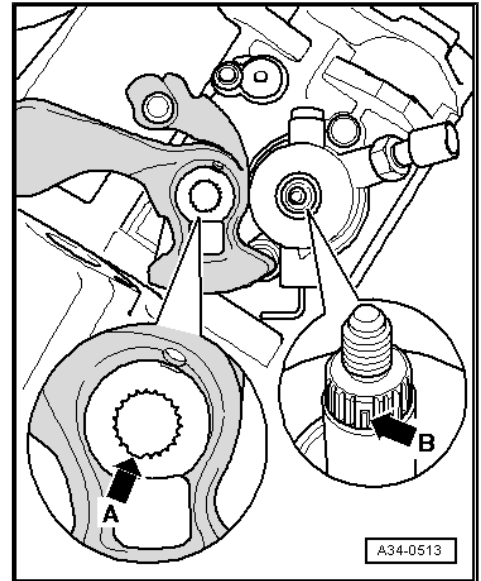
The holes in the cable locks have different diameters.



Cable lock	Dimension "a"
Shift cable at gearbox shift lever	10 mm
Selector cable at metal relay lever	8 mm
Selector cable at plastic relay lever	10 mm

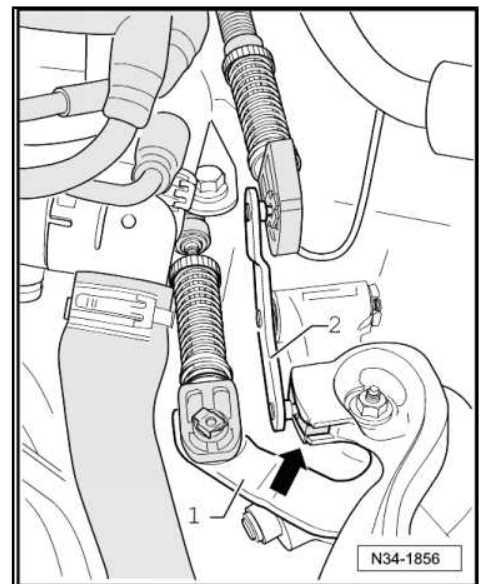
Fitting location of gearbox shift lever

- When inserting the gearbox shift lever, make sure that the tooth opening -arrow A- is located above the interrupted spacing of the teeth -arrow B- for the gearshift shaft.



Fitting location of relay lever

- 1 - Gearbox shift lever -1- with balancing weight
- 2 - The relay lever -2- is inserted over the sliding shoe -arrow- into the guiding nut of the gearbox shift lever



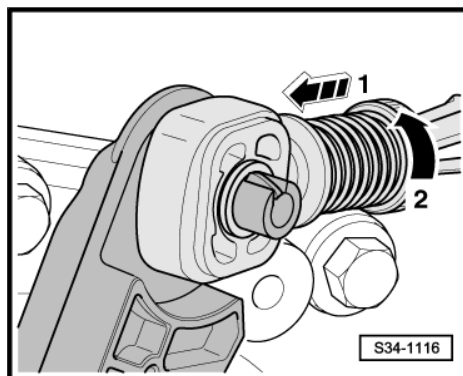
1.9 Plastic relay lever as of 06.07 (Fabia II, Roomster, Rapid NH)

Removing

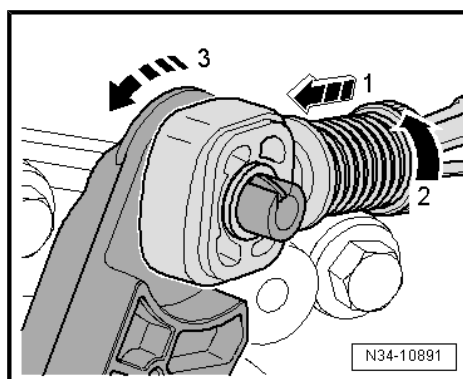
- Gearbox shift lever is located in the neutral position.
- Before removing the gearbox shift lever the cable lock must be separated from the selector cable in order to avoid damage to the selector cable.



- Pull forward the locking mechanism as far as the stop in -direction of arrow 1-, then lock by turning to the left in -direction of arrow 2-.

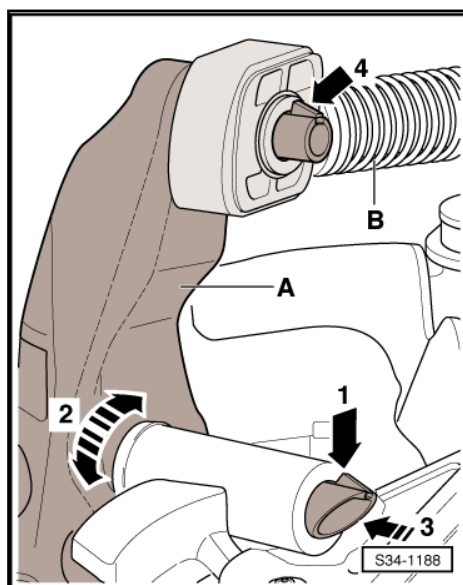


- Press the relay lever towards the front in the -direction of arrow 3-.



Relay lever with a catch

- Carefully press down the pin detent -arrow 1- as far as the stop.
- Carefully take the relay lever -A- together with the cable lock -B- out of its bearing point.



Relay lever with clip

- Remove clip -arrow^o1-.
- Carefully take the relay lever together with the cable lock out of its bearing point.

Continued for all versions

- Only remove cable lock on removed relay lever ⇒ [page 89](#) .

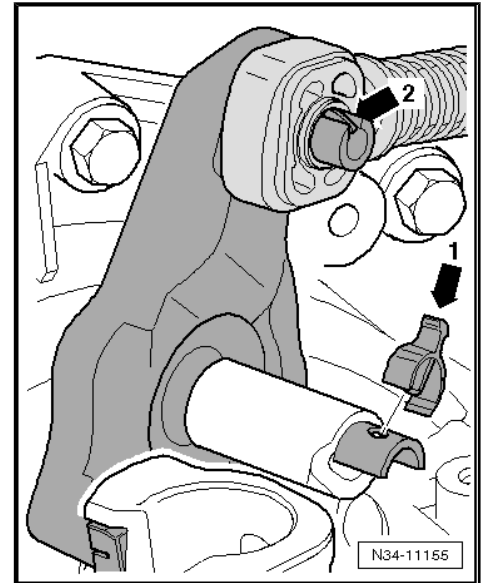
Install



Note

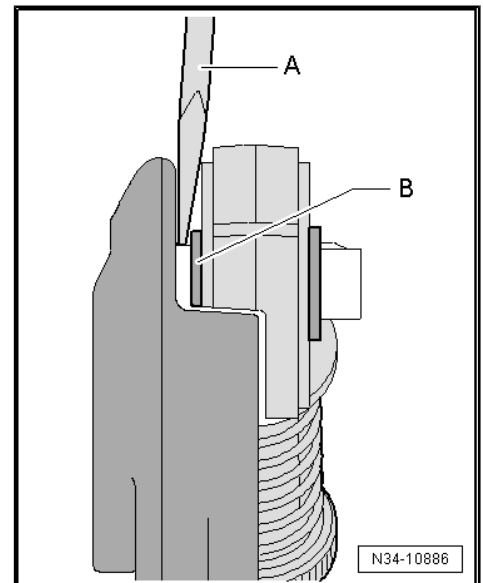
Before installing, grease bearing points and friction surfaces with grease - G 000 450 02- .

- Press cable lock onto the relay lever ⇒ [page 89](#) .
- Insert relay lever together with cable lock up to the stop in its bearing point.
- The cable lock must be located behind the catch -arrow 2-.
- The pin detent or the clip -arrow 1- secures the relay lever.



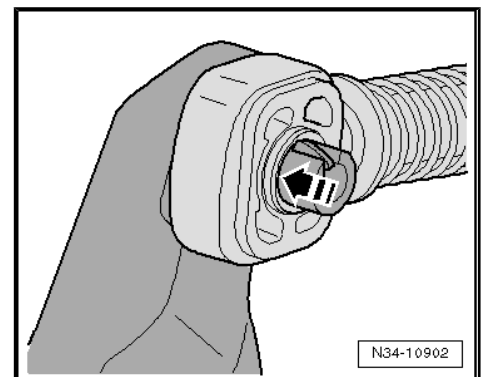
Lever off cable lock for selector cable from plastic relay lever

- Relay lever removed.
- Position a cross-head screwdriver -A- between bushing -B- and relay lever.



Press on cable lock

- Relay lever removed.
- The cable lock must only be pressed onto the bushing -arrow-.
- Cable lock must move freely on relay lever.
- The cable lock must be located behind the pin detent ⇒ [page 89](#) .



1.10 Remove and install shift mechanism (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required



- ◆ Disassembly wedge - 3409- (2 pieces) (Fabia II, Roomster)
- ◆ Release tool - T30098- (Rapid NH)
- ◆ Grease - G 000 450 02-

1.10.1 Removing



Note

If the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. gr. 27 .

- Remove air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27 .
- Remove circlip -3- for shift cable from gearbox shift lever -1-.

Metal relay lever

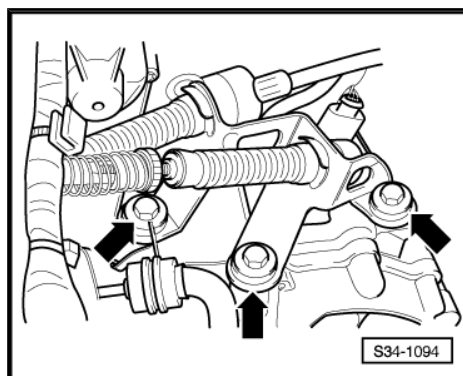
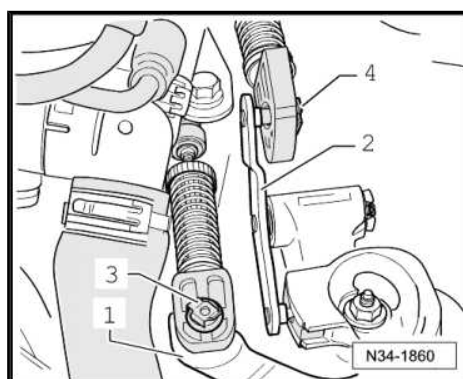
- Remove circlip -4- for selector cable from relay lever -2-.
- Remove selector cable and shift cable from the studs.

Plastic relay lever

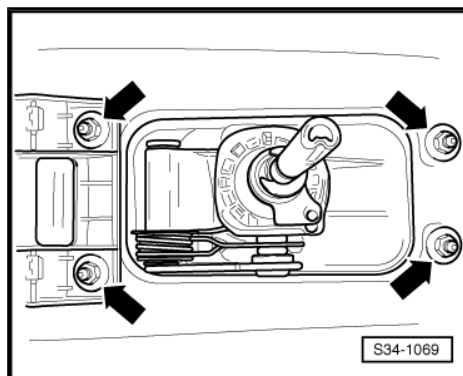
- Pull off shift cable from the stud.
- Remove relay lever together with cable lock ⇒ [page 87](#) .

Continued for all vehicles

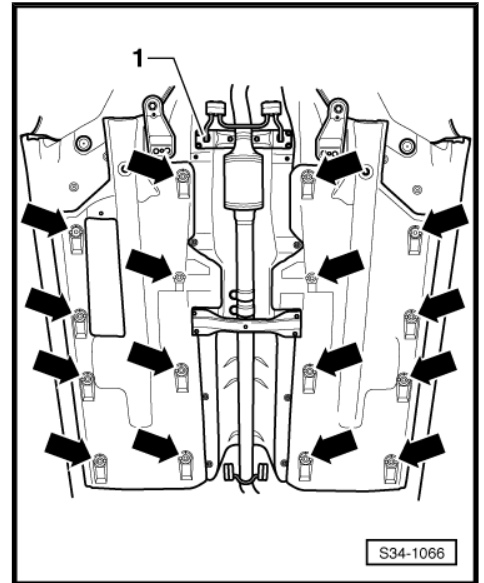
- Disconnect the Bowden cable support from gearbox -arrows-.
- Remove gearshift knob and shift lever collar:
 - ◆ Fabia II and Roomster ⇒ [page 79](#) .
 - ◆ Rapid NH ⇒ [page 81](#) .
- Remove the centre console cover ⇒ Body Work; Rep. gr. 68 .
- If present, remove noise insulation from shift housing.



- Unscrew fixing nuts -arrows- attaching the shift housing.
- Remove pre-exhaust pipe ⇒ Engine; Rep. gr. 26 .



- Remove underbody cover on right and left (if present) -arrows-.



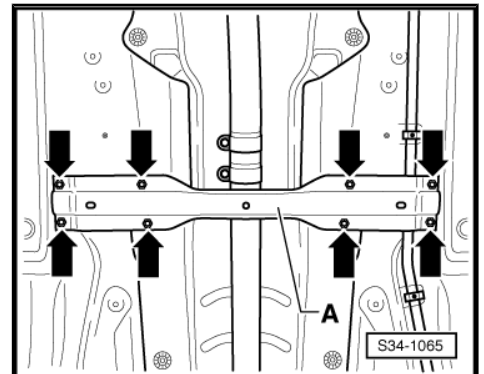
- Remove tunnel bridge -arrows-.

Vehicles Rapid NH

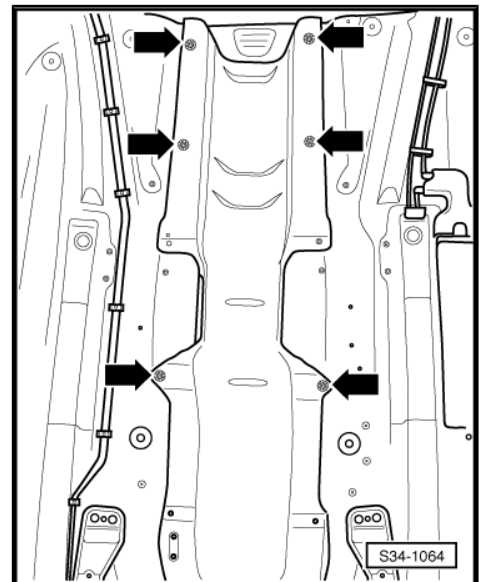
- Remove bracket for retaining straps of middle silencer from the body.

Continued for all vehicles

- Unhook rear silencer in such a way that it does not come in contact with the rear axle.



- Remove heat shield -arrows-.
- Swivel shift housing down and remove with control cables.



1.10.2 Install

Installation is carried out in the reverse order. However, pay attention to the following:



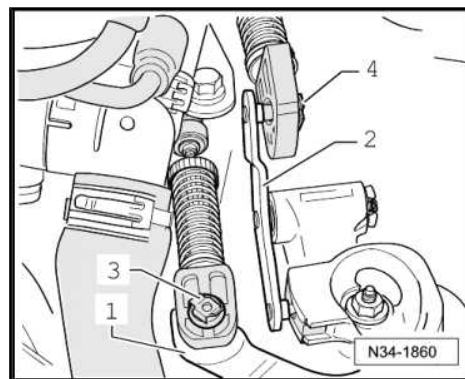
- Always replace lock washers -3- and -4- after each disassembly ⇒ Electronic Catalogue of Original Parts .
- Secure the shift cable with the lock washer -3- and the selector cable with the lock washer -4- (for metal relay lever).

Cable lock with plastic relay lever

- The relay lever and the cable lock must be mounted together ⇒ [page 87](#) .
- Insert the selector cable into the cable lock.

Continued for all gearshift mechanisms

- Align shift housing parallel to vehicle body.
- The distance to the vehicle body must be the same on both sides.
- Assemble exhaust system free of stress and attach tunnel bridges ⇒ Engine; Rep. gr. 26 .
- Install the noise insulation ⇒ Body Work; Rep. gr. 50 .
- Setting the shift mechanism ⇒ [page 96](#) .
- Install air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Connect earth strap of battery while paying attention to the notes in the ⇒ Electrical System; Rep. gr. 27 .





Tightening torques

Components	Tightening torque
Underbody cover	2 Nm
Shift housing to body	⇒ page 82
Cable support to gearbox	⇒ page 84
Tunnel bridge	⇒ Engine; Rep. gr. 26
Bracket for the exhaust system	⇒ Engine; Rep. gr. 26

1.11 Removing and installing shift mechanism (Rapid)

Special tools and workshop equipment required

- ◆ Release tool - T30098- (2 pieces)
- ◆ Grease - G 000 450 02-

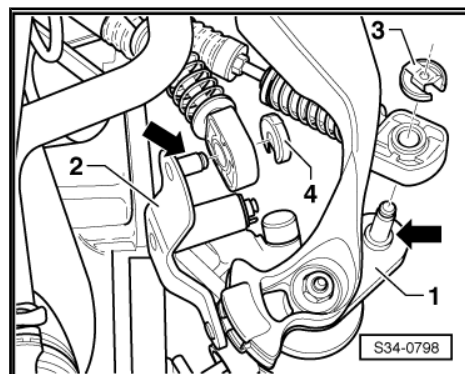
1.11.1 Removing



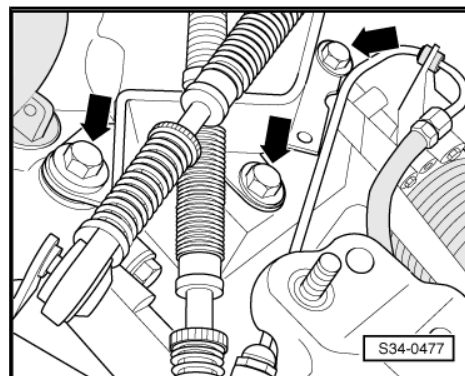
Note

After the battery earth strap is disconnected and connected, carry out additional operations ⇒ *Electrical System; Rep. gr. 27* .

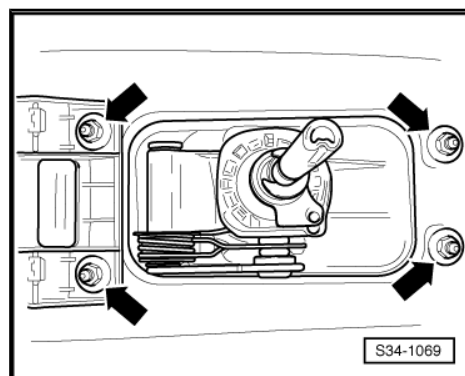
- Remove battery and battery tray ⇒ *Electrical System; Rep. gr. 27* .
- Remove air filter ⇒ *Engine; Rep. gr. 23* or ⇒ *Engine; Rep. gr. 24* .
- Remove circlip -3- for shift cable from gearbox shift lever -1-.
- Pull off shift cable from the stud -arrow-.
- Remove circlip -4- for the selector cable from relay lever -2-.
- Pull off the selector cable from the stud -arrow-.



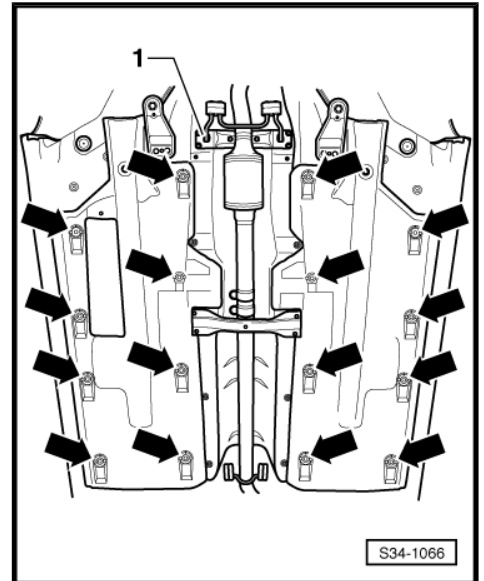
- Remove Bowden cable support -arrows-.
- Remove gearshift knob and shift lever collar ⇒ [page 80](#) .
- Remove the centre console ⇒ *Body Work; Rep. gr. 68* .
- If present, remove noise insulation from shift housing.



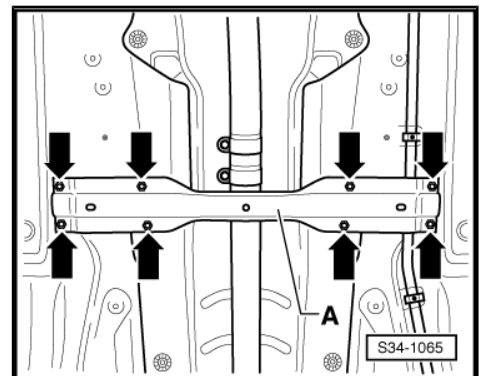
- Unscrew nuts -arrows- attaching the shift housing.
- Remove pre-exhaust pipe ⇒ *Engine; Rep. gr. 26* .



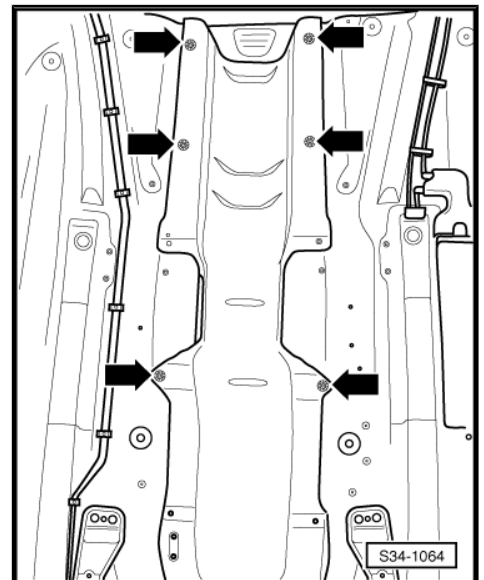
- Remove underbody cover on right and left (if present) -arrows-.



- Remove tunnel bridge -A- -arrows-.
- Unhook rear silencer in such a way that it does not come in contact with the rear axle.



- Remove heat shield -arrows-.
- Swivel shift housing down and remove with control cables.

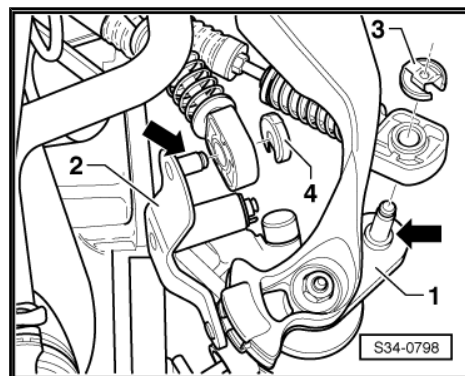


1.11.2 Install

Installation is performed in the reverse order, pay attention to the following points:

The holes in the cable locks have different diameters => [page 84](#)

- Apply a small quantity of grease - G 000 450 02- onto the studs -arrows- of the gearbox shift lever -1- and of the relay lever -2-.
- Always replace lock washers -3- and -4- after each disassembly ⇒ Electronic Catalogue of Original Parts .
- Secure the shift cable with the lock washer -3- and the selector cable (for metal relay lever) with the lock washer -4-.
- Align shift housing parallel to vehicle body.
- The distance to the vehicle body must be the same on both sides.
- Assemble exhaust system free of stress and attach tunnel bridges ⇒ Engine; Rep. gr. 26 .
- If present, position the noise insulation on the shift housing.
- Install centre console ⇒ Body Work; Rep. gr. 68 .
- Setting the shift mechanism ⇒ [page 96](#) .
- Install air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Install the battery tray and battery ⇒ Electrical System; Rep. gr. 27 .



i Note

After the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. gr. 27 .

Tightening torques

Components	Tightening torque
Underbody cover	2 Nm
Shift housing to body	⇒ page 82
Cable support to gearbox	⇒ page 84
Tunnel bridge	⇒ Engine; Rep. gr. 26
Bracket for pre-exhaust pipe	⇒ Engine; Rep. gr. 26

1.12 Setting the shift mechanism

Special tools and workshop equipment required

- ◆ Rig pin - T10027A-
- ◆ Disassembly wedge - 3409- (2 pieces - Fabia II, Roomster)
- ◆ Release tool - T30098- (2 pieces - Rapid, 1 piece - Rapid NH)

i Note

The following are required for correct setting of the shift mechanism:

- Gearbox, clutch and clutch control in perfect condition.
- Selector mechanism must move freely.
- Control elements and transmission elements of the shift mechanism are in perfect condition.

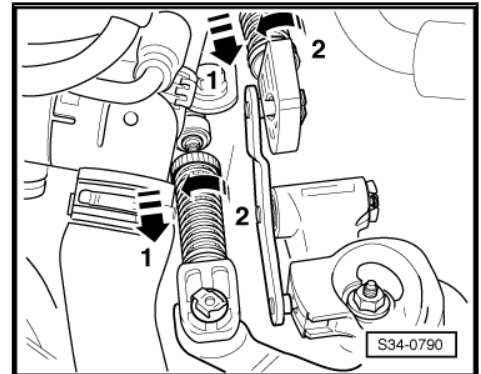
- Gearbox in Neutral.



Note

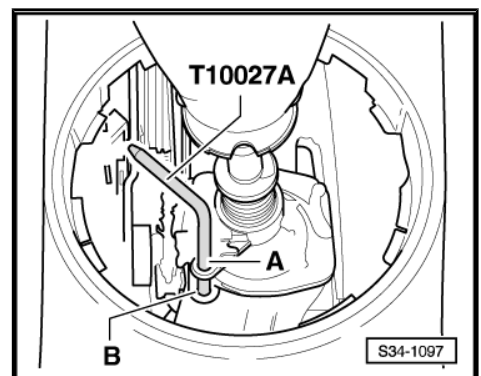
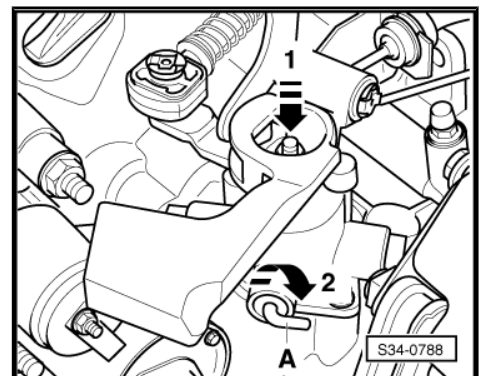
If the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. gr. 27.

- Remove air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27 .
- Pull forward the locking mechanism at shift cable and at selector cable as far as the stop in -direction of arrow 1-, then lock by turning to the left in -direction of arrow 2-.



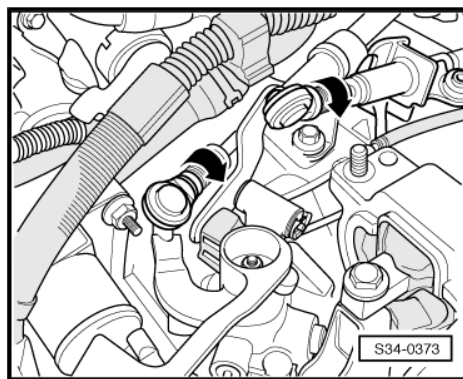
Fix the gearshift shaft as follows:

- Press down the gearshift shaft in -direction of arrow 1-.
- When pressing down the gearshift shaft turn angle lever -A- in -direction of arrow 2- and at the same time press it in carefully until it locks into the gearshift shaft.
- Remove shift lever collar:
 - ◆ Fabia II, Roomster ⇒ [page 79](#)
 - ◆ Rapid ⇒ [page 80](#)
 - ◆ Rapid NH ⇒ [page 81](#)
- Pull the collar upwards over the gearshift knob.
- Guide shift lever in Neutral position to the left into the 1st/2nd gear gate via the leg.
- Guide locking pin - T10027A- through hole -A- into hole -B-.



- Turn locking mechanism at shift cable and at selector cable to the right up to the stop -direction of arrow-.

The spring pushes the locking mechanism into the initial position.

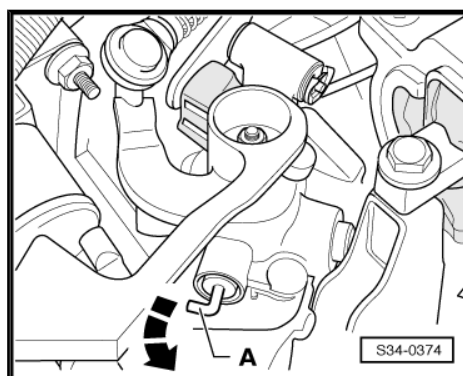


- Turn angle lever -A- back to the initial position -in direction of arrow-.

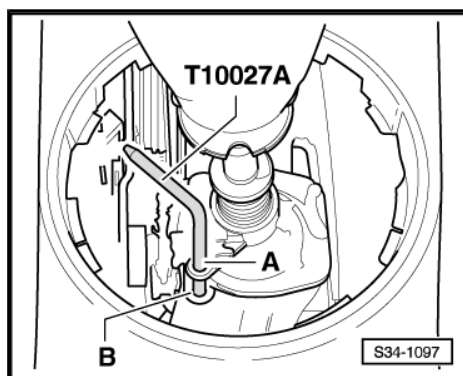


Note

The angle lever -A- must be pressed out of the gearbox housing and must point vertically upwards.



- Pull locking pin - T10027A- out of holes -A- and -B-.
- Perform a functional test of the shift mechanism ⇒ [page 98](#) .
- Fit collar into the surround for centre console.
- Install air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Install the battery tray and battery ⇒ Electrical System; Rep. gr. 27 .



1.12.1 Operation

- The shift lever must be positioned in Neutral position in the selector gear gate of the 3rd/4th gear.
- Depress clutch.
- Shift through all gears several times. Pay particular attention to proper operation of the reverse gear lock.

If a gear catches when engaged again, set the shift mechanism once again ⇒ [page 96](#) .

2 Removing and installing the gearbox

Removing the gearbox ⇒ [page 99](#) .

Installing the gearbox ⇒ [page 108](#) .

Tightening torques ⇒ [page 109](#) .

2.1 Removing the gearbox

Special tools and workshop equipment required

- ◆ Gearbox mount - 3282-
- ◆ Adjusting plate - 3282/31-
- ◆ Engine and gearbox jack , e.g. -V.A.G 1383/A-
- ◆ Gearbox attachment device - MP3-478 (3336)-
- ◆ Supporting device - MP9-200 (10-222A)-
- ◆ Cap - MP9-200/3 (10-222A/3)-
- ◆ Supporting device - T30099-
- ◆ Surface - T30099/1-
- ◆ Hook for MP9-200 and T30099 - MP9-200/10 (10-222A/10)-
- ◆ Grease - G 000 100-
- If present, remove engine cover ⇒ Engine; Rep. gr. 10 .



Note

- ◆ *All cable straps which are detached or cut open when removing, should be fitted on again in the same place when installing.*
- ◆ *If the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. gr. 27 .*
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. gr. 27 .
- Remove air filter ⇒ Engine; Rep. gr. 23 or ⇒ Engine; Rep. gr. 24 .
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27 .



- Remove circlip -arrow 1- for shift cable from gearbox shift lever -A-.
- Pull off shift cable from the stud.

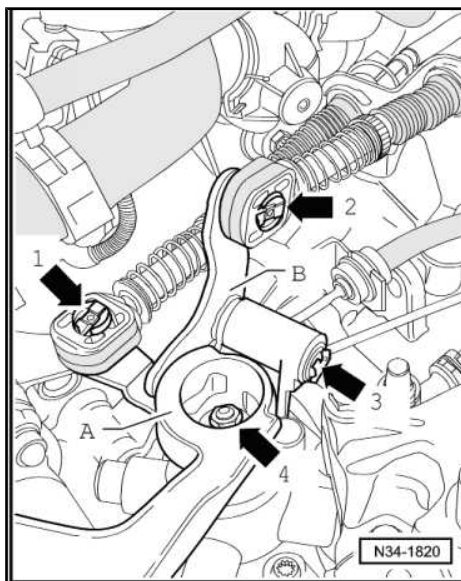
Metal relay lever

- Remove circlip -arrow 2- for selector cable from relay lever -B-.
- Pull selector cable off the stud.
- Detach circlip -arrow 3- from the relay lever -B- and remove relay lever.



Note

Always replace circlips => Electronic Catalogue of Original Parts .

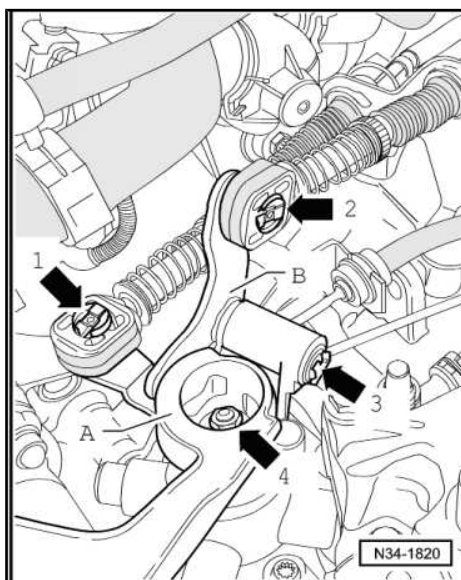
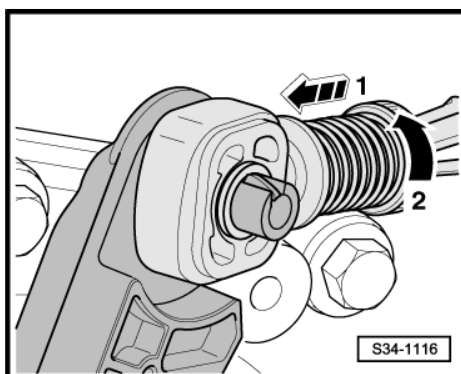


Plastic relay lever

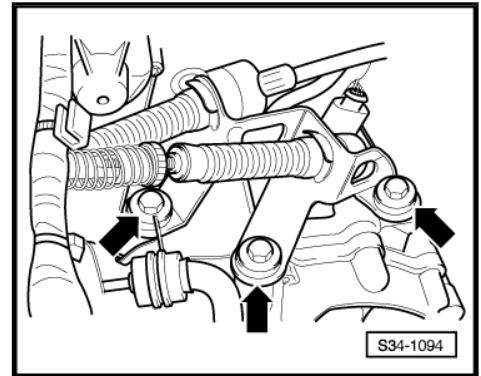
- In order to avoid damage at the selector cable, the catch must be separated from the selector cable before removal.
- Pull forward the locking mechanism as far as the stop in -direction of arrow 1-, then lock by turning to the left in -direction of arrow 2-.
- Remove relay lever together with cable lock => [page 87](#) .

Continued for all vehicles

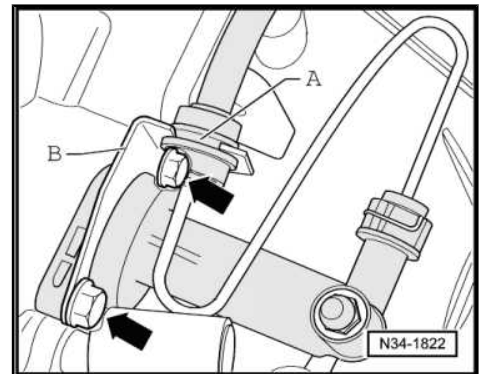
- Remove the gearshift lever -A-, for this step unscrew nut -arrow 4-.



- Remove Bowden cable support -arrows-.
- Tie up shift cable and selector cable.



- Pull the tube-hose line -A- out of the bracket -B- (if present) on the gearbox.
- Remove slave cylinder -B-, lay aside and secure with wire. Do not open line system.

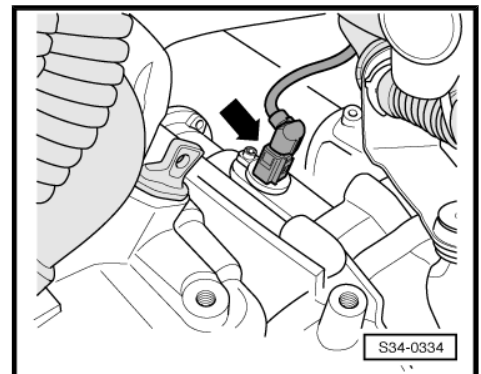


i Note

Do not depress the clutch pedal.

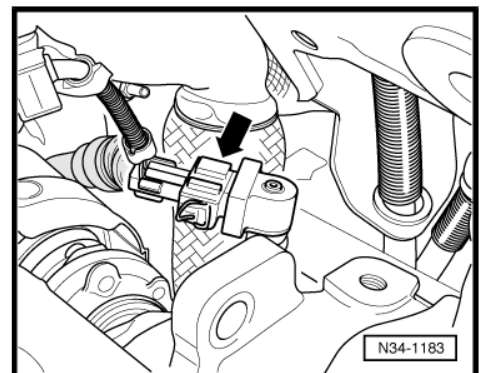
Vehicles with petrol engines

- Unplug connector -arrow- from speedometer sender - G22- (if available).



Vehicles with diesel engines

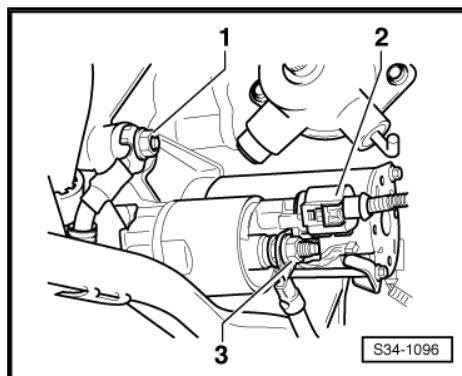
- Unplug connector -arrow- from speedometer sender - G22- (if available).



Continued for all vehicles



- Remove the earth strap from the engine/gearbox connecting screw -1- (on certain types of engines the earth strap is not connected).
- Unplug connector -2-.
- Remove the earth strap for starter -3-.
- Lay aside all electrical cables.
- Remove engine/gearbox connecting screws at the top.
- Remove fixing screw for starter at the top.



Supporting devices for vehicles with 1.2/63; 77 kW TFSI engines

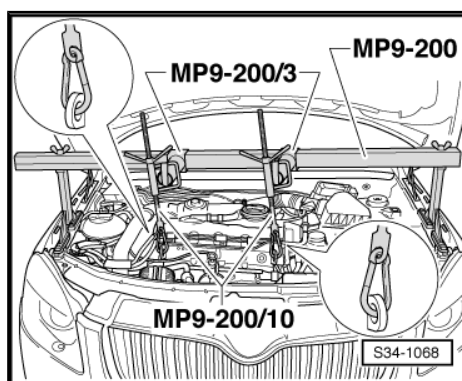
- Install supporting device - MP9-200 (10-222A)- → Engine; Rep. gr. 15 .

Supporting device for vehicles with engines with both engine lifting eyes at the front

- Install supporting device - MP9-200 (10-222A)- with adapter - MP9-200/3 (10-222A/3)- .

Note

When installing the lifting hooks of the supporting device, pay attention to hose and cable connections in the area of the lifting eyes of the engine to avoid damaging them.



Supporting devices for vehicles (one front engine lifting eye, one rear engine lifting eye)

Shorten the original spindle -I- of the supporting device - MP9-200 (10-222A)- by 100 mm:

I - Original spindle

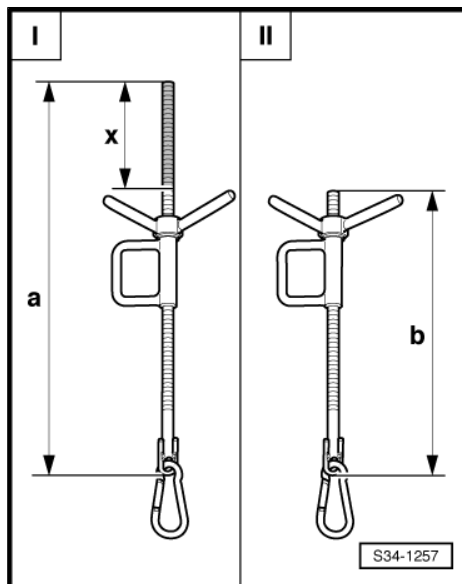
- ◆ Dimension -a- = 442 mm
- ◆ Dimension -x- = 100 mm

II - shortened spindle MP9-200/10 (10-222A/10)

- ◆ Dimension -b- = 342 mm

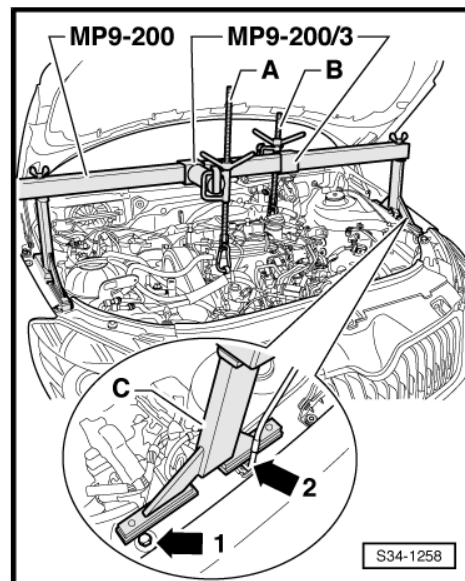
Note

In order for the original spindle -I- of the supporting device - MP9-200 (10-222A)- not to touch the engine hood, it must be shortened to the dimension -x- (100 mm).



- If hose and cable connections are located in the area of the engine lifting eye for the supporting device - MP9-200 (10-222A)- , these must now be removed.

- Install supporting device - MP9-200 (10-222A)- . For this purpose, position the supports -C- next to the screw -arrow 1- and the support for the engine hood -arrow 2- as shown.
- Hook the original spindle -A- into the front right engine lifting eye.
- Position the shortened spindle -B- on the adapter - 10-222 A/3- .

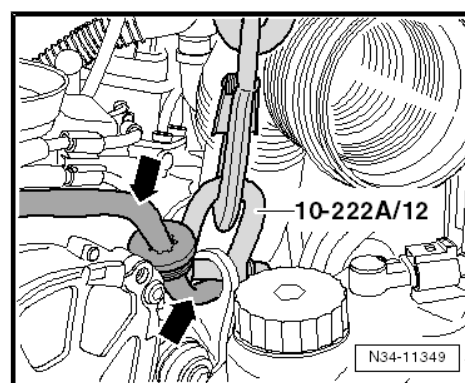


- Hook the rear left shackle - 10-222 A/12- into the engine lifting eye.

Caution

The vacuum hose must move freely in the lifting eye -arrows-.

It must not be damaged.



- Then connect the shackle - 10-222 A/12- with the shortened spindle ⇒ [page 102](#) .

Supporting device for vehicles Rapid NH

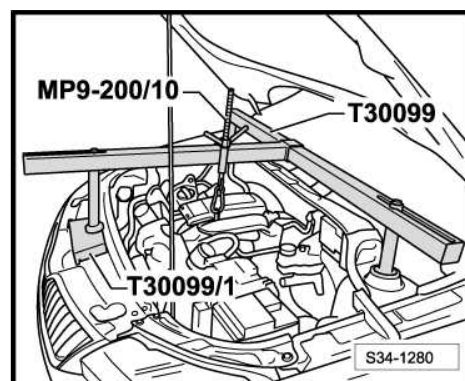
- Remove wiper arms ⇒ Electrical System; Rep. gr. 92 .
- Remove the cooling water tank cover ⇒ Body Work; Rep. gr. 66 .
- Remove plastic covers for upper shock absorber mounting.
- Install supporting device - T30099- with base - T30099/1- and hook for MP9-200 and T30099 - MP9-200/10- .

Note

Support supporting device - T30099- with base - T30099/1- and lock carrier.

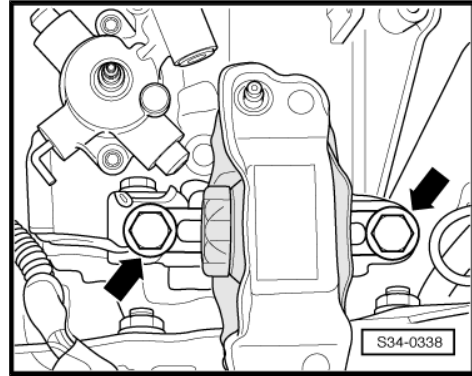
Continued for all vehicles

- Take up the weight of the engine/gearbox unit at the spindle.

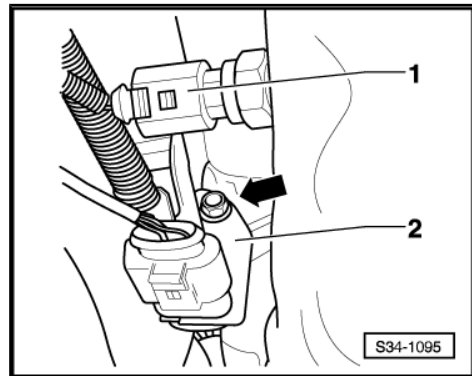




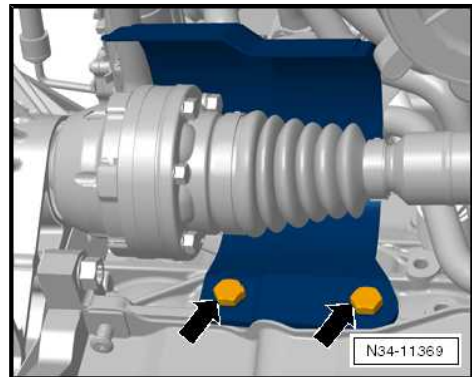
- Unscrew the fixing screws -arrows- from the gearbox mount.
- Remove front left wheel ⇒ Chassis; Rep. gr. 44 and raise vehicle:
 - ◆ ⇒ Maintenance ; Booklet Fabia II .
 - ◆ ⇒ Maintenance ; Booklet Roomster .
 - ◆ ⇒ Maintenance ; Booklet Rapid .
 - ◆ ⇒ Maintenance ; Booklet Rapid NH
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50 .
- Remove the front left wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
- Disconnect plug -1- from the reversing light switch .
- Unscrew bracket -2- from the gearbox -arrow- and lay aside together with the lines.
- Removing starter ⇒ Electrical System; Rep. gr. 27 .
- Remove pre-exhaust pipe ⇒ Engine; Rep. gr. 26 .



- Unscrew heat shield (if present) for inside right steering joint boot -arrows-.
- Disconnect the drive shafts from the flange shafts, turn steering wheel to the left.

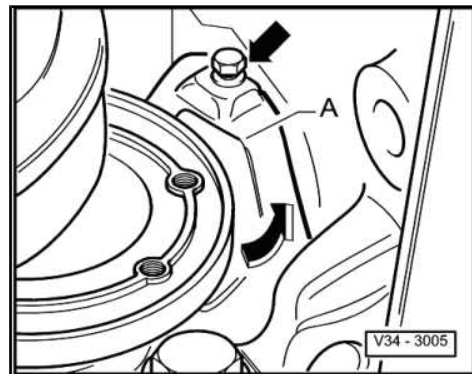


- Remove small cover plate -A- (if present) for flywheel behind the right flange shaft -arrows-.

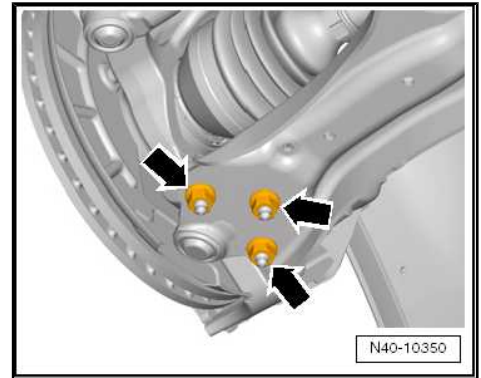


Note

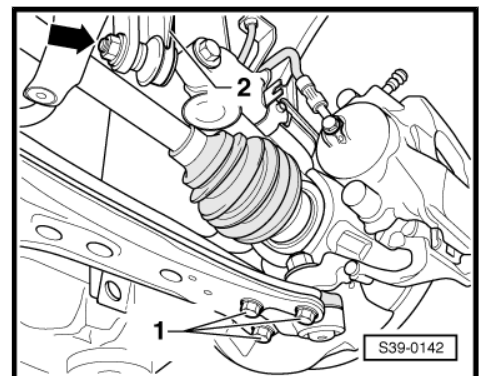
If only a one-piece intermediate plate is installed behind the engine flywheel, which prevents separating the complete gearbox from the engine, the right flange shaft must be removed from the gearbox ⇒ [page 154](#) .



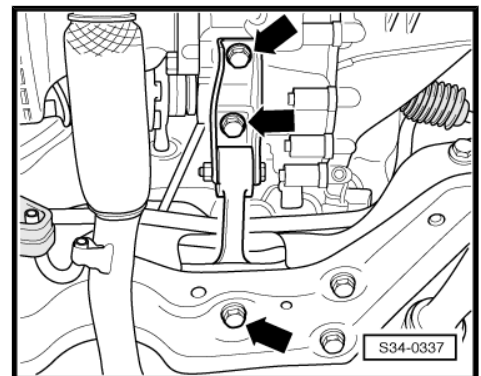
- Release the nuts -arrows- for the left steering joint => Chassis; Rep. gr. 40 (on certain vehicles release the screws, see fig. S39-0142).



- Release screws -1-.
- Unbolt coupling rod -2- -arrow-.
- Swivel out the wheel-bearing housing while guiding the drive shaft into the wheelhouse and secure to the suspension strut with e.g. wire.
- Tie up the right drive shaft as far as possible. Avoid damaging the paintwork on the drive shaft during this operation.



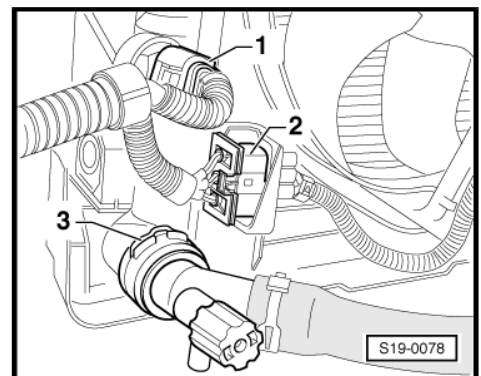
- Unbolt the pendulum support -arrows-.



- Separate plug connection -2-.

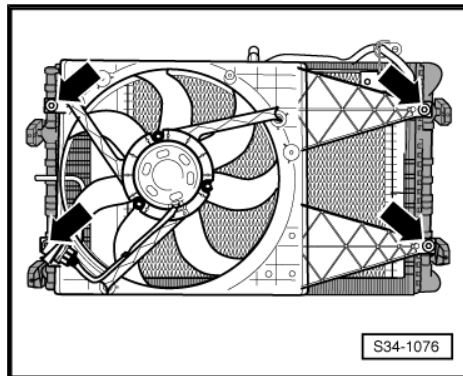
i Note

Unscrew bracket for AC pipe (if present) from the fan shroud.

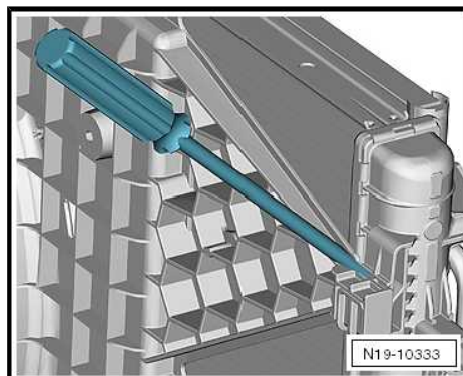




- Release the screws -arrows- and remove the fan shroud downwards (on newer models, the screws are no longer present and the fan shroud is only clipped in at the radiator, see fig. N19-10333).



- Unclip the fan shroud e.g. using a screwdriver and remove ⇒ Engine; Rep. gr. 19 .



- Detach gearbox mounting bracket -A- from the gearbox.

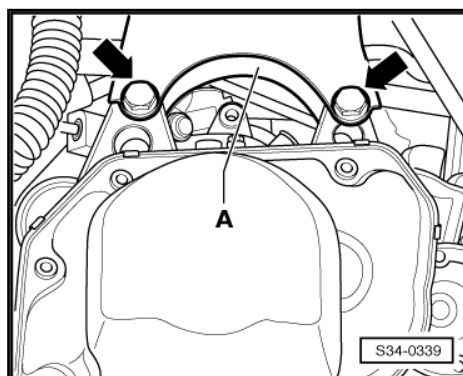
Remove the fixing screws -arrows- for the gearbox mounting bracket as follows:

- Lower engine/gearbox unit sufficiently at the two spindles until the fixing screws attaching the gearbox mounting bracket -A- are accessible from the left wheelhouse.



Note

When lowering the engine/gearbox unit, make sure the gearbox does not touch the assembly carrier.

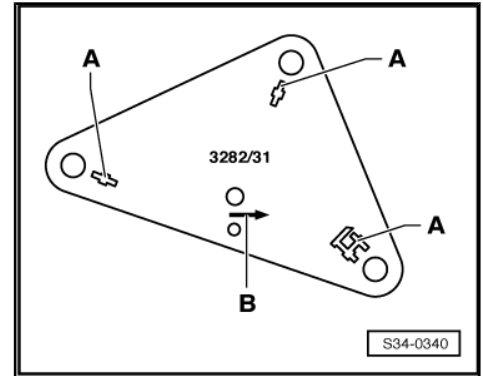


- Unscrew the engine/gearbox connecting screw above the right flange shaft.
- Insert engine mount - 3282- into engine and gearbox jack , e.g. -V.A.G 1383/A- .

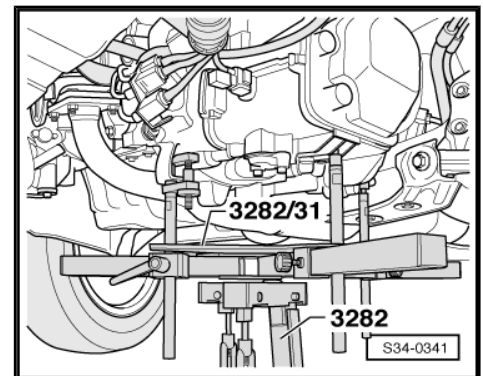
Complete engine/gearbox jack with gearbox mount - 3282- , adjusting plate - 3282/31- for gearbox "02T" and support elements:

- Position adjusting plate - 3282/31- on gearbox mount - 3282- (adjusting plate fits in only one position).
- Align arms of the gearbox mount to match the holes in the adjusting plate .

- Screw in the mounting elements -A- as shown on adjusting plate .



- Position engine/gearbox jack below vehicle, => Abb. S34-0340, arrow symbol -B- on adjusting plate points in the direction of travel/vehicle.
- Align adjusting plate parallel to the gearbox and lock securing mounts at gearbox.
- Remove the bottom fixing screws for the engine/gearbox.
- Press gearbox off the engine and swivel towards the assembly carrier.

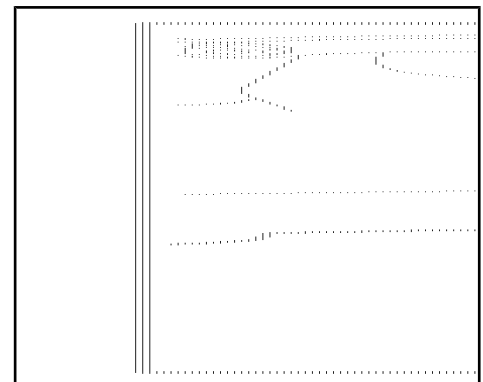


For vehicles fitted with a 1.4 ltr./51 kW engine

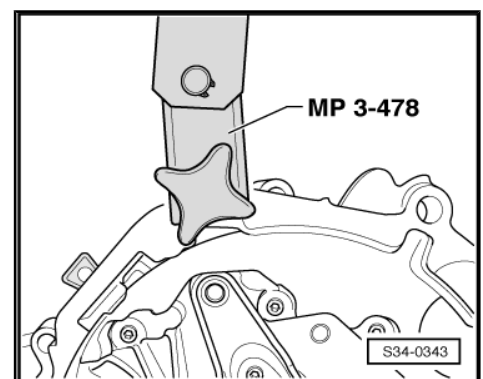
- When lowering the gearbox, if necessary remove the inserted intermediate piece -arrow-.

Continued for all vehicles

- Push the engine forwards (2nd mechanic).
- Carefully lower the gearbox.
- Change the gearbox position at the spindles of the gearbox mount - 3282- when lowering.



- Screw down gearbox suspension device - MP3-478 (3336)- onto clutch housing.

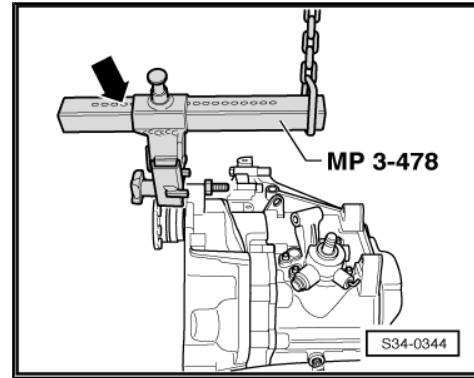




- Adjust supporting arm at slide with locking pin.

Number of visible holes -arrow- = 5.

- Lift gearbox using workshop crane and gearbox lifting tackle - MP3-478 (3336)- .
- Place down gearbox, e.g. in a transport container.



2.2 Installing the gearbox

- Before installing, unscrew plug for gearbox oil inspection and if necessary top up with gear oil ⇒ [page 112](#) .
- Capacity and specification:
 - ◆ Fabia II ⇒ [page 1](#) .
 - ◆ Roomster ⇒ [page 6](#) .
 - ◆ Rapid ⇒ [page 10](#) .
 - ◆ Rapid NH ⇒ [page 11](#) .

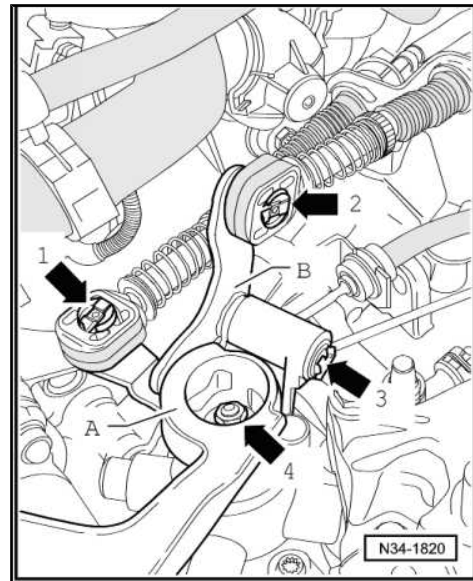
The gearbox is installed in the reverse order for removal. Observe the stress-free assembly bracket in the vehicle.

- Always replace lock washers -1-, -2- and -3- after each disassembly ⇒ electronic catalogue of original parts .
- After installing, check gear oil level ⇒ [page 112](#) .



Note

- ◆ Clean splines of drive shaft and apply a thin film of grease - G 000 100- .
- ◆ The clutch plate must slide freely up and down the drive shaft.
- ◆ If the gearbox is replaced, ensure the intermediate plate between the engine and gearbox is correctly installed.
- ◆ Check whether the dowel sleeves for centering the gearbox are present in the cylinder block, insert if necessary.
- ◆ Assemble exhaust system free of stress ⇒ Engine; Rep. gr. 26 .
- ◆ Installing starter and electrical cables ⇒ Electrical System; Rep. gr. 27 .
- ◆ If the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. gr. 27 .
- ◆ Setting the shift mechanism ⇒ [page 96](#) .



2.2.1 Tightening torques

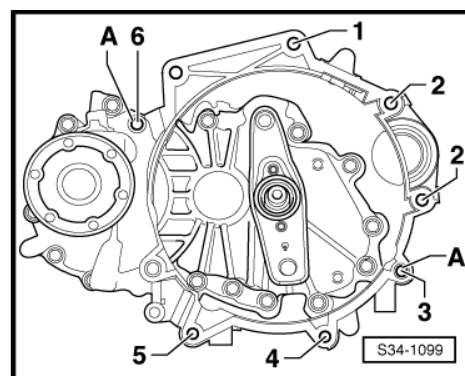
Gearbox to 1.2/44 kW, 1.2/47 kW, 1.2/51 kW and 1.2/55 kW engine (Fabia II, Roomster, Rapid NH)

Pos.	Screw	Piece	Nm
Pos. not assigned ¹⁾	M12 x 60	1	80
1	M12 x 60	1	80
2 ²⁾	M12 x 135	2	80
3	M12 x 60	1	80
4 ²⁾	M10 x 55	1	40
5	M10 x 60	1	40
6	M12 x 80	1	80

¹⁾ On certain types of engines, this position can be assigned by means of the screw, see table.

²⁾ Screw with threaded pin M8.

A Dowel sleeves for centering

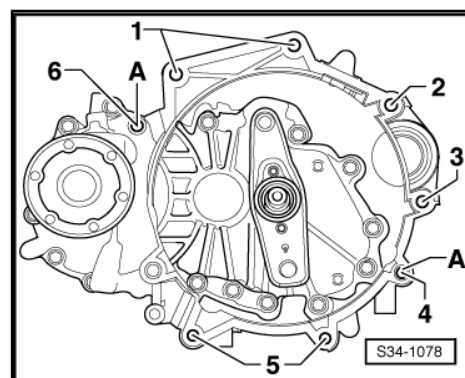


Gearbox to 1.2/63 kW and 1.2/77 kW engine (Fabia II, Roomster, Rapid NH)

Pos.	Screw	Piece	Nm
1	M12 x 60	2	80
2 ¹⁾	M12 x 135	1	80
3 ¹⁾	M12 x 135	1	80
4	M12 x 60	1	80
5	M10 x 30	2	40
6	M12 x 80	1	80

¹⁾ Screw with threaded pin M8.

A Dowel sleeves for centering

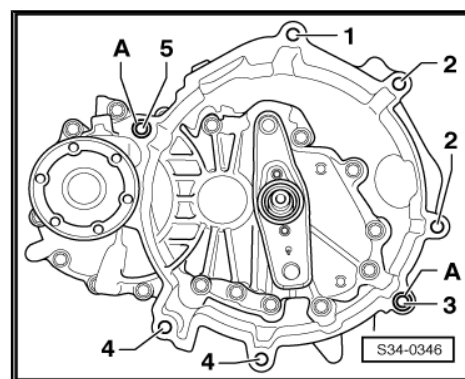


Gearbox to 1.4 ltr./63 kW engine (Fabia II, Roomster)

Pos.	Screw	Piece	Nm
1	M12 x 60	1	80
2 ¹⁾	M12 x 135	2	80
3	M12 x 60	1	80
4	M10 x 35	2	40
5	M12 x 80	1	80

¹⁾ Screw with threaded pin M8.

A Dowel sleeves for centering

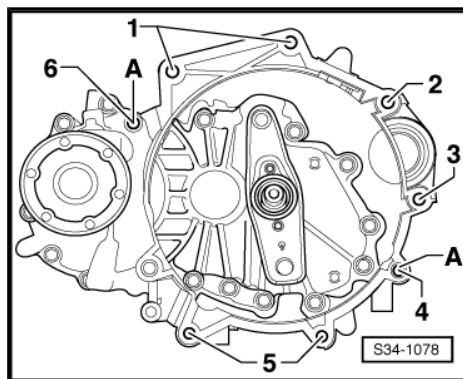


Gearbox to 1.6 ltr./77 kW engine (Fabia II, Roomster)

Pos.	Screw	Piece	Nm
1	M12 x 60	2	80
2 ¹⁾	M12 x 135	1	80
3 ¹⁾	M12 x 150	1	80
4	M12 x 60	1	80
5	M10 x 50	2	40
6	M12 x 80	1	80

1) Screw with threaded pin M8.

A Dowel sleeves for centering

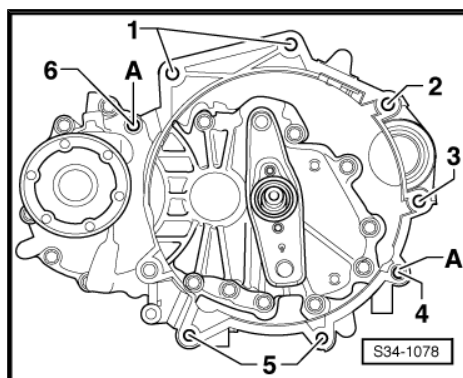


Gearbox on 1.6 ltr./77 kW engine (Rapid)

Pos.	Screw	Piece	Nm
1	M12 x 50	2	80
2 ¹⁾	M12 x 125	1	80
3 ¹⁾	M12 x 125	1	80
4	M12 x 60	1	80
5	M10 x 30	2	40
6	M12 x 70	1	80

1) Screw with threaded pin M8 x 12.

A Dowel sleeves for centering

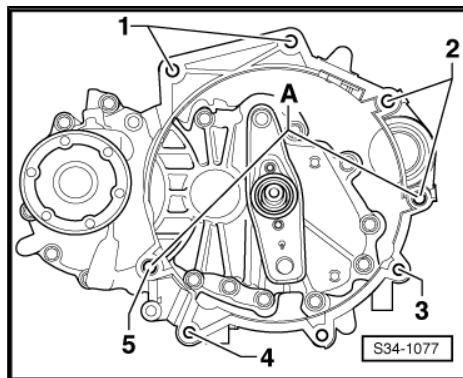


Gearbox to 1.4/51 kW TDI PD engine (Fabia II, Roomster)

Pos.	Screw	Piece	Nm
1	M12 x 70	2	80
2 ¹⁾	M12 x 150	2	80
3 ¹⁾	M10 x 70	1	40
4	M10 x 65	1	40
5	M12 x 80	1	80

1) Screw with threaded pin M8.

A Dowel sleeves for centering

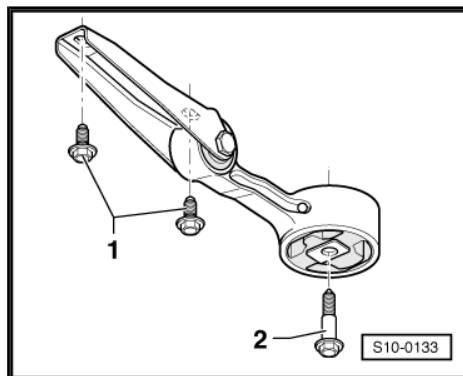


Pendulum support



Note

Position the screws -1- in the elongated holes of the pendulum support in such a way that there is maximum distance between the gearbox and the assembly carrier.



Components	Tightening torque
Gearbox console to gearbox ¹⁾	40 Nm + 90°



Components	Tightening torque
Fixing screws of gearbox mount ¹⁾	40 Nm + 90°
Cover plate for flywheel	10 Nm
Cable support to gearbox	⇒ page 84
Gearbox shift lever to gearbox	⇒ page 84
Slave cylinder to gearbox	⇒ page 66
Fixing screws of engine mount	⇒ Engine; Rep. gr. 10
Pendulum support	⇒ Engine; Rep. gr. 10
Noise insulation bracket	⇒ Engine; Rep. gr. 15
Pre-exhaust pipe with catalytic converter and clamping sleeve	⇒ Engine; Rep. gr. 26
Drive shaft to flange shaft	⇒ Chassis; Rep. gr. 40
Coupling rod to anti-roll bar	⇒ Chassis; Rep. gr. 40
Screen cap for drive shaft on engine	⇒ Chassis; Rep. gr. 40
Steering joint to track control arm	⇒ Chassis; Rep. gr. 40
Wheel bolts	⇒ Chassis; Rep. gr. 44

¹⁾ Always replace these screws ⇒ Electronic Catalogue of Original Parts .

3 Inspect the gear oil level in the gear-box

Special tools and workshop equipment required

- ◆ Socket wrench insert - T30023 (3357)-

Gearbox oil specification:

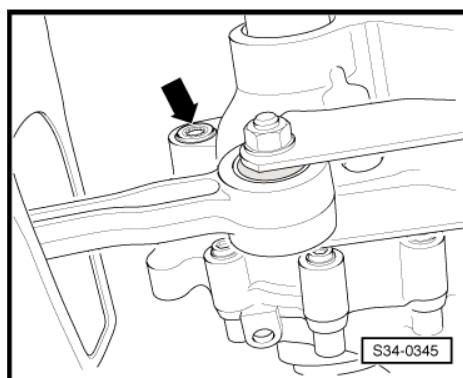
- ◆ Fabia II ⇒ [page 1](#) .
- ◆ Roomster ⇒ [page 6](#) .
- ◆ Rapid ⇒ [page 10](#) .
- ◆ Rapid NH ⇒ [page 11](#) .
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50 .
- Unscrew plug for inspecting gear oil -arrow-.

The oil is at the correct level if the gear is filled up to the lower edge of the oil filler hole.

- Tighten oil filler plug -arrow- to tightening torque ⇒ [page 112](#) .

If re-filling, do the following

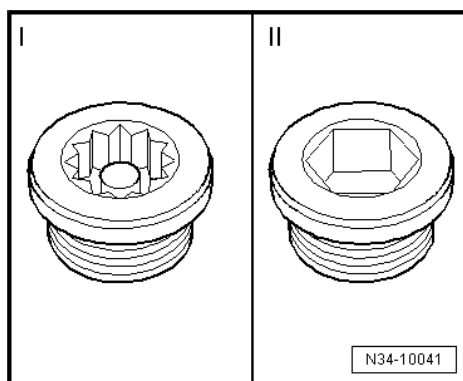
- Unscrew oil filler plug -arrow-.
- Pour in gear oil up to lower edge of the filler hole.
- Screw in plug -arrow-.
- Start engine, engage a gear and allow gearbox to rotate for about 2 minutes.
- Switch off engine and unscrew oil drain plug -arrow-.
- Pour in gear oil again up to lower edge of the filler hole.
- Tighten oil filler plug -arrow- to tightening torque ⇒ [page 112](#) .
- Install the noise insulation ⇒ Body Work; Rep. gr. 50 .



Different versions of oil filler plug or oil drain plug

I - Oil filler plug and oil drain plug with internal serration: 24 Nm

II - Oil filler plug and oil drain plug with hexagon socket head: 32 Nm



4 Disassembling and assembling the gearbox

Gearbox - Summary of components ⇒ [page 113](#) .

Summary of components ⇒ [page 114](#) .

Removing and installing gearbox housing cover and 5th gear ⇒ [page 115](#) .

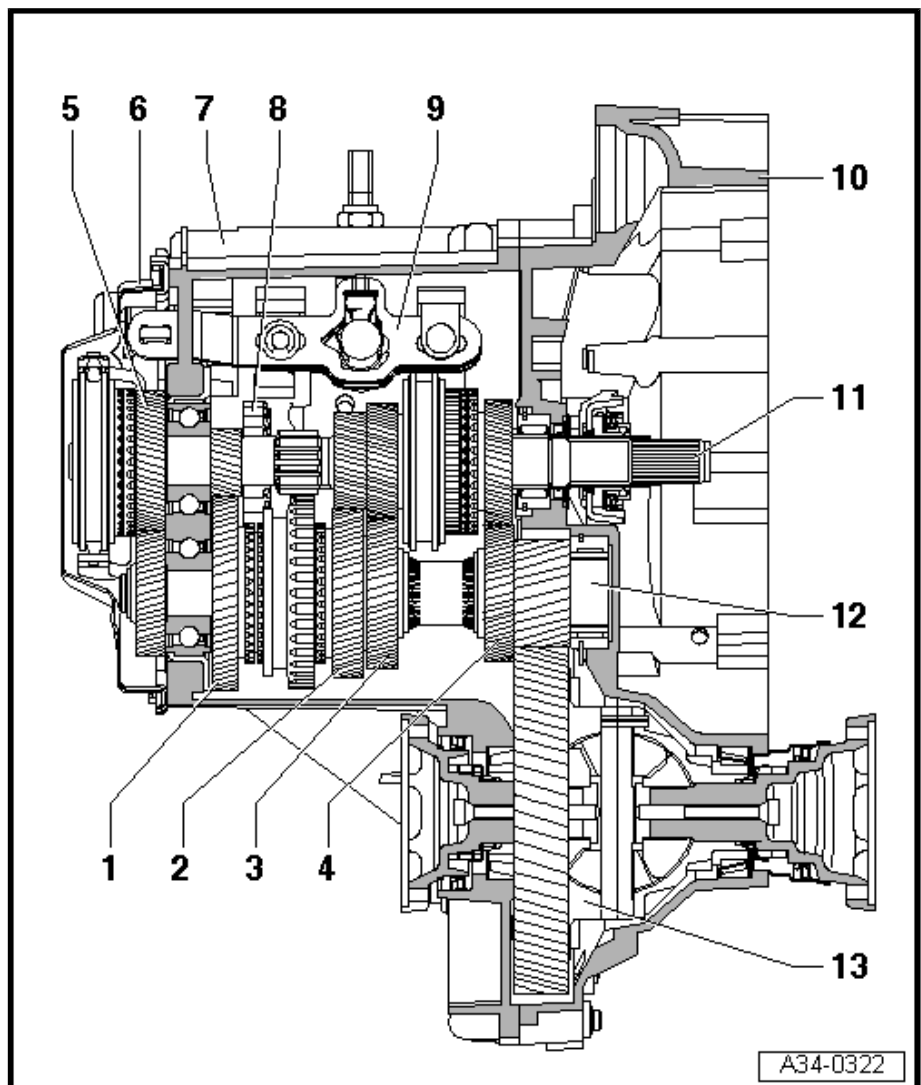
Detaching and attaching clutch housing ⇒ [page 116](#) .

Removing and installing the drive shaft, output shaft, differential gear, shift mechanism and gearshift forks ⇒ [page 117](#) .

Mounting sequence ⇒ [page 118](#) .

4.1 Gearbox - Summary of components

- 1 - 1. gear
- 2 - 2. gear
- 3 - 3. gear
- 4 - 4. gear
- 5 - 5. gear
- 6 - Cover for gearbox housing
 - ❑ removing and installing ⇒ [page 115](#)
- 7 - Gearbox housing
 - ❑ repairing ⇒ [page 126](#)
- 8 - Reverse gear
- 9 - Shift mechanism
 - ❑ Gearshift forks
 - ❑ removing and installing ⇒ [page 117](#)
 - ❑ disassembling and assembling ⇒ [page 132](#)
- 10 - Clutch housing
 - ❑ repairing ⇒ [page 126](#)
- 11 - Drive shaft
 - ❑ removing and installing ⇒ [page 117](#)
- 12 - Output shaft
 - ❑ removing and installing ⇒ [page 117](#)
- 13 - Differential gear
 - ❑ removing and installing ⇒ [page 117](#)



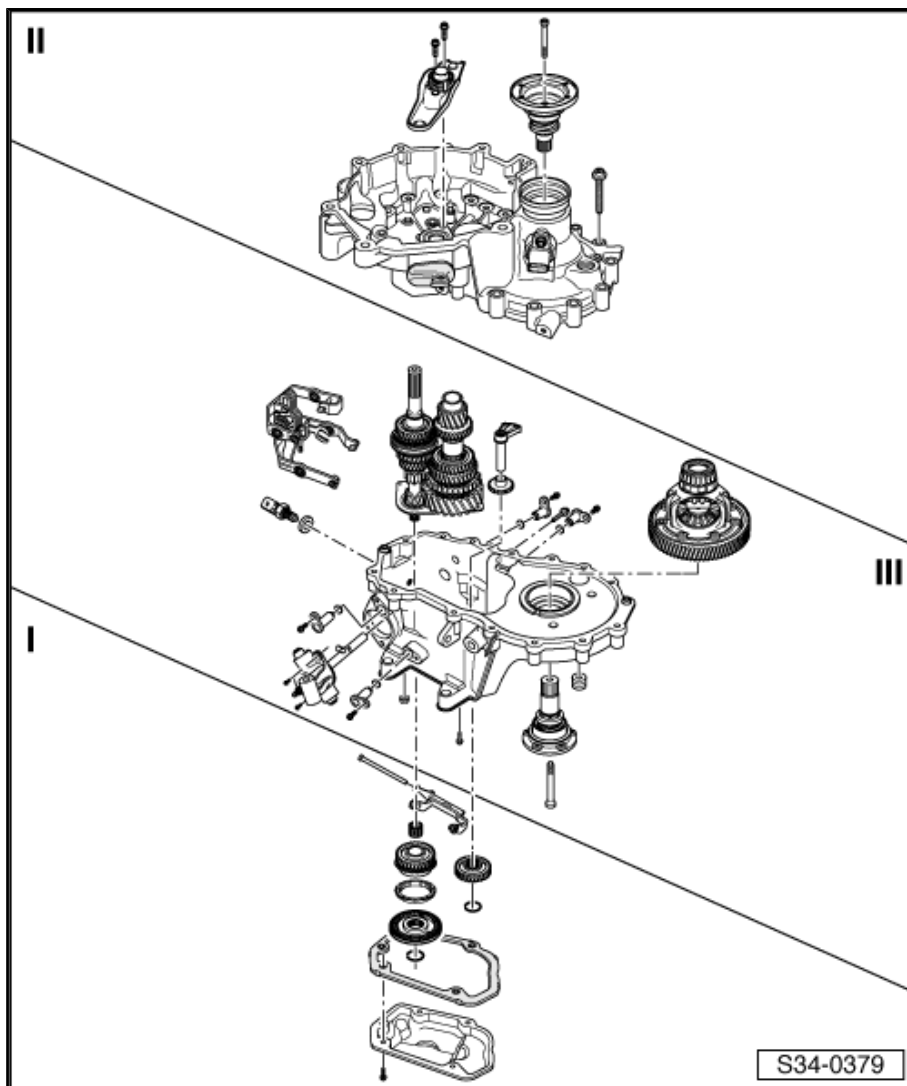


4.2 Summary of components

I - Removing and installing gearbox housing cover and 5th gear ⇒ [page 115](#)

II - Detaching and attaching clutch housing ⇒ [page 116](#)

III - Removing and installing the drive shaft, output shaft, differential gear, shift mechanism and gearshift forks ⇒ [page 117](#)



Mounting sequence ⇒ [page 118](#) .

4.3 Removing and installing gearbox housing cover and 5th gear

1 - Gearbox housing

- is made out of aluminium or magnesium
- Assignment ⇒ Electronic Catalogue of Original Parts
- repairing ⇒ [page 126](#)

2 - 5th gear pinion

- removing and installing ⇒ [page 118](#)
- Fitting position ⇒ [page 124](#)

3 - Lock washer

- always replace ⇒ Electronic Catalogue of Original Parts
- Determine thickness ⇒ [page 125](#)

4 - Gasket

5 - Cover for gearbox housing



Note

If the gearbox housing cover is fitted with the gearbox mounted, inspect the gear oil level, if necessary top up with oil ⇒ [page 112](#) .

6 - 5 Nm + 90° further

- always replace ⇒ Electronic Catalogue of Original Parts

7 - Lock washer

- always replace ⇒ Electronic Catalogue of Original Parts
- Determine thickness ⇒ [page 125](#)

8 - 5th gear synchronizer body

- with sliding sleeve and stop ring
- disassembling and assembling ⇒ [page 135](#)

9 - 5th gear synchronizer ring

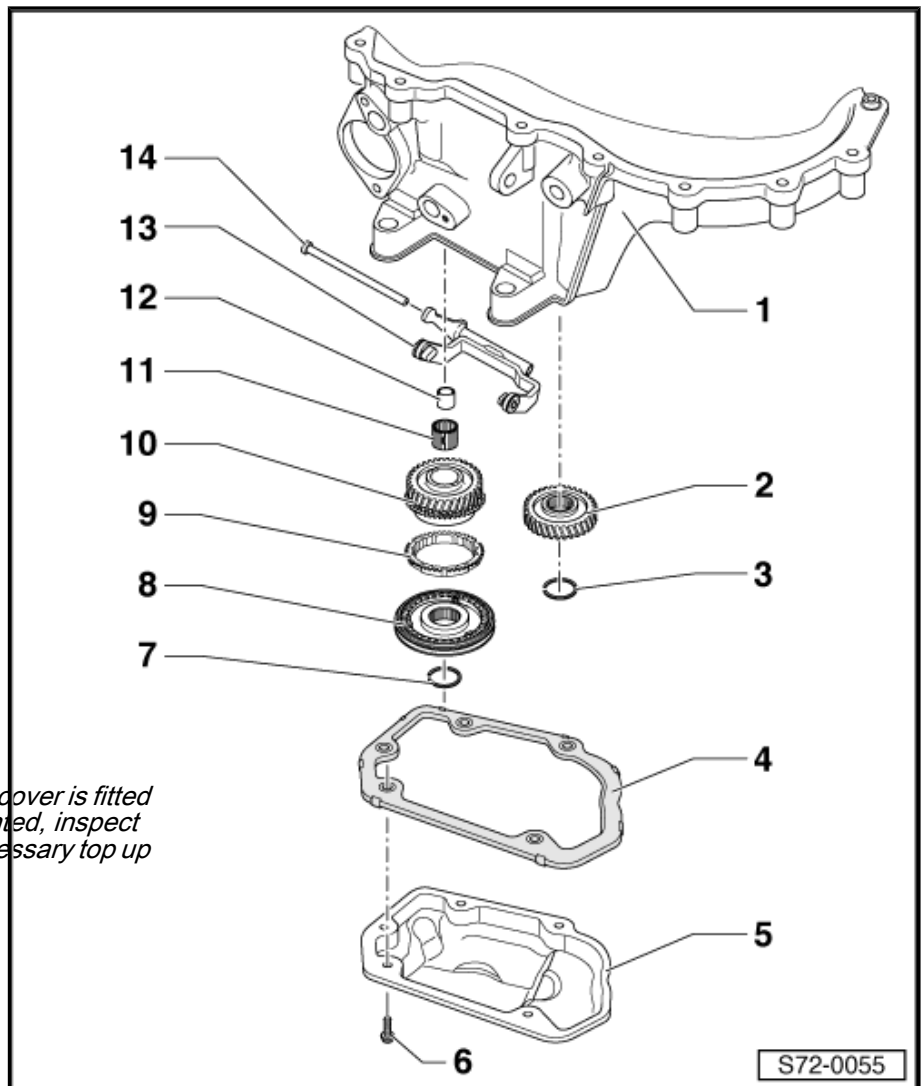
10 - 5th gear sliding gear

11 - Needle bearing

- 5. gear
- replace together with bushing -Pos. 12-

12 - Bushing

- for 5th gear needle bearing
- replace together with needle bearing -Pos. 11-
- press off with bearing support for grooved ball bearing ⇒ [page 135](#)
- pressing on ⇒ [page 135](#)



13 - 5th gear shift fork

- disassembling and assembling ⇒ [page 132](#)

14 - Bolt

- for 5th gear shift fork

4.4 Detaching and attaching clutch housing

Special tools and workshop equipment required

- ◆ Sealant - AMV 188 200 03-

1 - Conical screw, 25 Nm

2 - Flange shaft with pressure spring

- removing and installing ⇒ [page 118](#)
- complete ⇒ [page 154](#)

3 - 5 Nm + 90° further

- always replace ⇒ Electronic Catalogue of Original Parts

4 - Clutch housing

- is made out of aluminium or magnesium ⇒ [page 1](#)
- Assignment ⇒ Electronic Catalogue of Original Parts
- repairing ⇒ [page 126](#)

5 - Gearbox housing

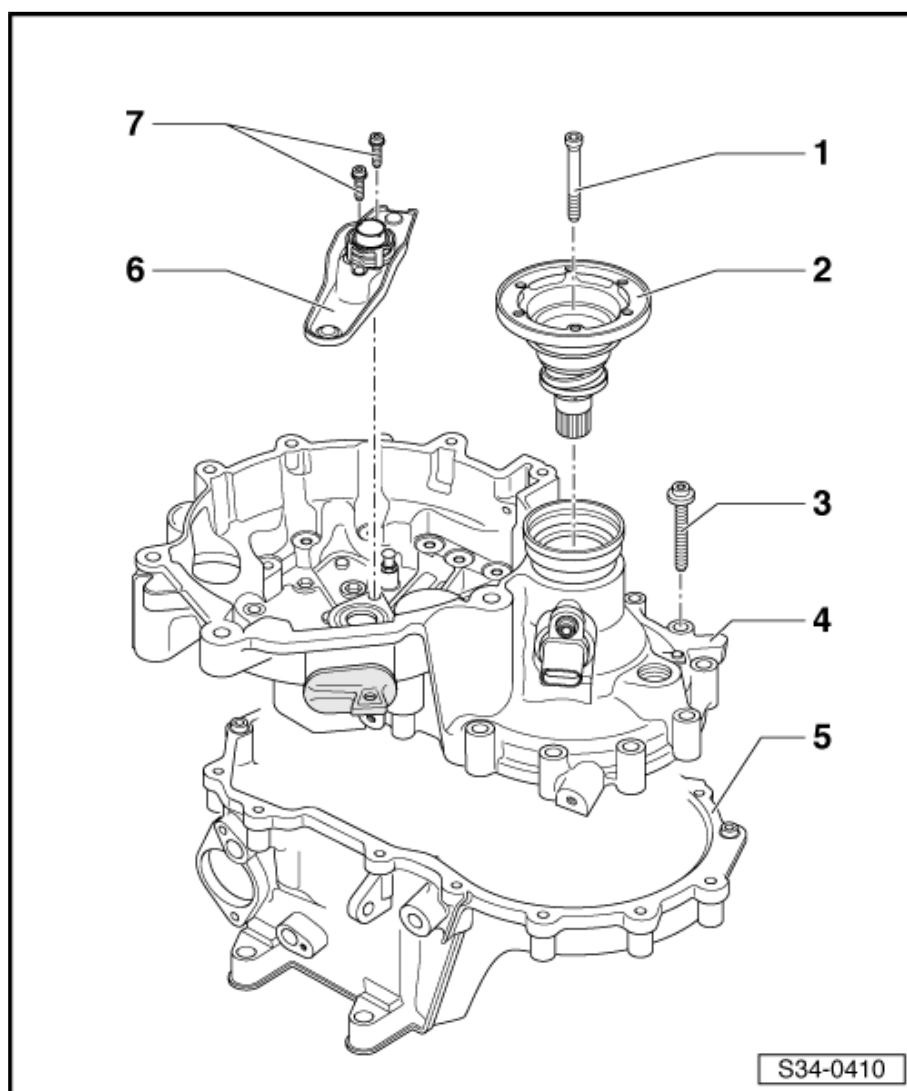
- is made out of aluminium or magnesium ⇒ [page 1](#)
- Assignment ⇒ Electronic Catalogue of Original Parts
- repairing ⇒ [page 126](#)

6 - Clutch release lever

- with guide bushing and clutch release bearing
- removing and installing ⇒ [page 118](#)

7 - 5 Nm + 90° further

- always replace ⇒ Electronic Catalogue of Original Parts



4.5 Removing and installing the drive shaft, output shaft, differential gear, shift mechanism and gearshift forks

1 - Differential gear

- disassembling and assembling ⇒ [page 154](#)

2 - Gearbox housing

- is made out of aluminium or magnesium ⇒ [page 1](#)
- on gearboxes made out of aluminium as of production date 12.06 the adjusting washer S₁ for outer ring/tapered-roller bearing is not fitted ⇒ [page 159](#)
- Bearing pedestal for outer ring/tapered-roller bearing is adapted
- Assignment ⇒ Electronic Catalogue of Original Parts
- repairing ⇒ [page 126](#)

3 - Oil drain plug

- different versions:
Oil drain plug with internal serration - 24 Nm

Oil drain plug with hexagon socket head - 32 Nm

4 - Flange shaft with pressure spring

- removing and installing ⇒ [page 118](#)
- complete ⇒ [page 154](#)

5 - Conical screw, 25 Nm

6 - 5 Nm + 90° further

- self-locking
- always replace ⇒ Electronic Catalogue of Original Parts
- to secure the bearing support for grooved ball bearing with the drive shaft and output shaft -Pos. 16-

7 - 23 Nm

- for gearshift mechanism -Pos. 15-
- self-locking
- always replace ⇒ Electronic Catalogue of Original Parts

8 - O-ring

- always replace ⇒ Electronic Catalogue of Original Parts

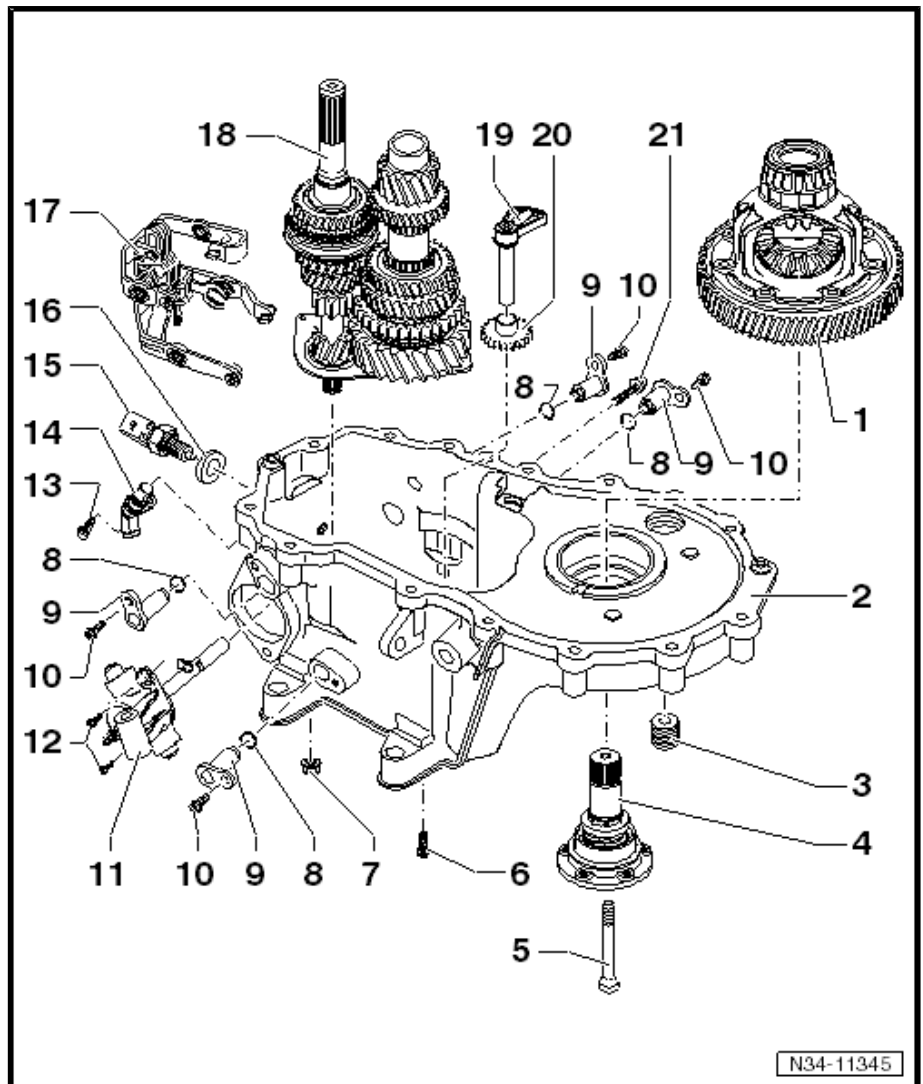
9 - Bearing pins

10 - 5 Nm + 90° further

- always replace ⇒ Electronic Catalogue of Original Parts

11 - Gearshift shaft with cover

- disassembling and assembling ⇒ [page 130](#)



**12 - 5 Nm + 90° further**

- always replace ⇒ Electronic Catalogue of Original Parts

13 - 5 Nm**14 - Transmission neutral sender - G701-**

- for vehicles with start-stop system

15 - Reversing light switch - F4- , 20 Nm**16 - Sealing ring**

- if present, replace ⇒ Electronic Catalogue of Original Parts

17 - Shift mechanism

- Gearshift forks
- disassembling and assembling ⇒ [page 132](#)

18 - Drive shaft and output shaft with bearing support for grooved ball bearings

- Always replace bearing support after removing ⇒ Electronic Catalogue of Original Parts
- pressing off and on bearing support ⇒ [page 135](#)
- Disassembling and assembling the drive shaft ⇒ [page 135](#)
- Disassembling and assembling the output shaft ⇒ [page 144](#)

19 - Reverse shaft support

- with support

20 - Reverse gear**21 - Screw**

- for reverse shaft support -Pos. 17-
- M6: 5 Nm + 90° further
- M8: 25 Nm + 45° further
- always replace ⇒ Electronic Catalogue of Original Parts

4.6 Mounting sequence

Removing and installing cover for gearbox housing, clutch housing, gearshift shaft with gearshift cover, drive shaft, output shaft, differential gear and gearshift mechanism

**Note**

On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date ⇒ Electronic Catalogue of Original Parts .

Special tools and workshop equipment required

- ◆ Assembly stand - MP9-101-
- ◆ Pressure plate - MP3-406 (VW 401)-
- ◆ Pressure plate - MP3-407 (VW 402)-
- ◆ Pressure spindle - MP3-408 (VW 412)-
- ◆ Guide bolt - T10079-
- ◆ Gearbox mount - T30012 (3221)-
- ◆ Insert base - T10083-
- ◆ Washer - T10083/1-

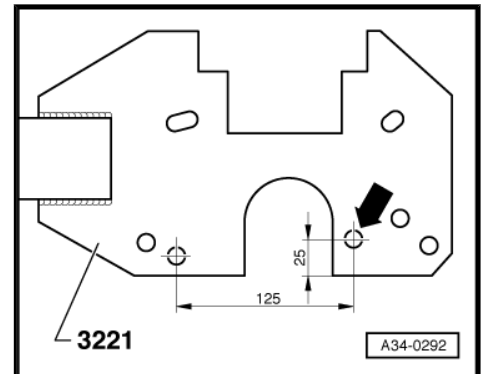
- ◆ Thrust piece - T10085-
- ◆ Sealant - AMV 188 200 03-

Change gearbox holder -T30012-

Drill a new hole in the gearbox holder - T30012 (3221)- to attach the Gearbox 02T.

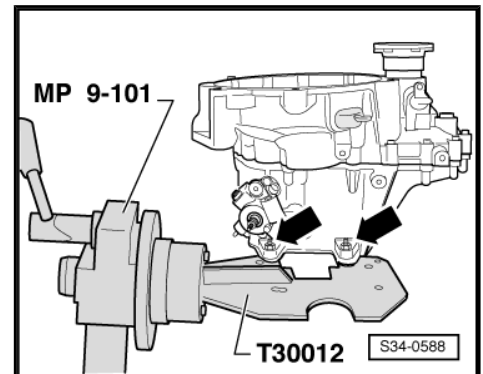
Dimensions in mm.

- Drill a hole \varnothing 11.0 mm -arrow-.

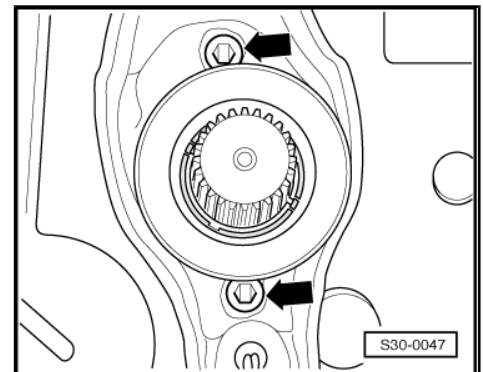


4.6.1 Removing

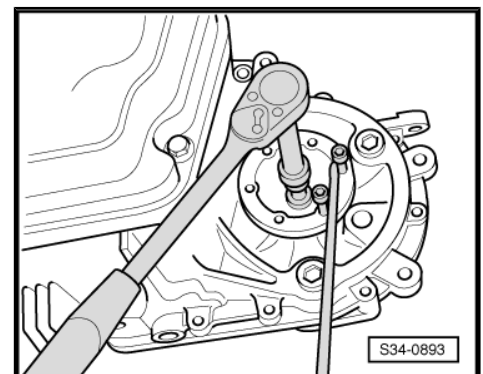
- Secure gearbox to the assembly stand -arrows-.
- Position catch pan underneath.
- Drain out gear oil.



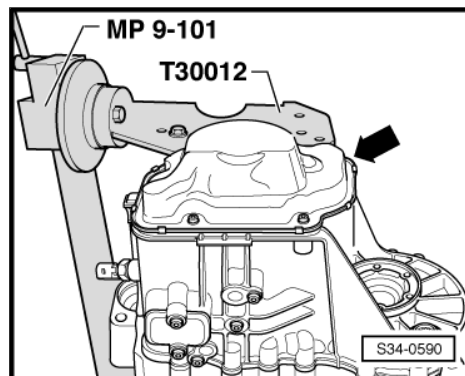
- Remove the clutch release lever together with the release bearing and guide bushing.
- Release screws -arrows-.
- Separate the clutch release lever together with the release bearing and guide sleeve from the drive shaft and ball stud.



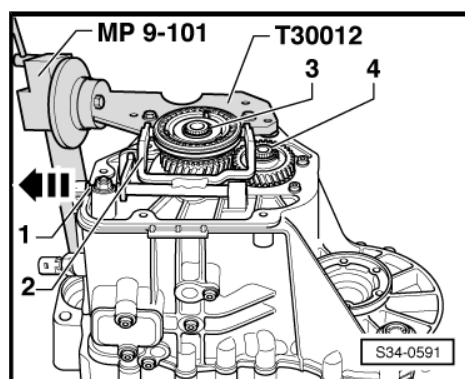
- Removing the right flange shaft.
- To this end insert two screws in the flange and counterhold the flange shaft using a tyre iron.
- Pull out the flange shaft with pressure spring, stop disc and conical ring.



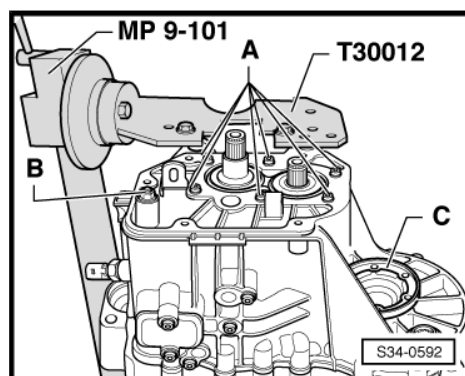
- Unscrew the cover -arrow- for the gearbox housing.



- Pull out the bearing bolt -1- for the 5th gear shift fork -2- and remove gearshift fork.
- Remove circlip -3- for 5th gear synchronizer body.
- Remove circlip -4- for 5th gear pinion.
- Remove gear pinions and 5th gear synchronizer body.



- Release the fixing screws -A- for the bearing support of the drive shaft and output shaft.
- Unscrew nut -B- for the reverse gear shift fork.
- Remove left flange shaft -C-.
- Turn the gearbox in the assembly stand so that the clutch housing is at the top.
- Release the connecting screws for the clutch housing and the gearbox housing.
- Carefully release the clutch housing from the projecting housing lands and make sure the sealing surfaces are not damaged in the process.



Note

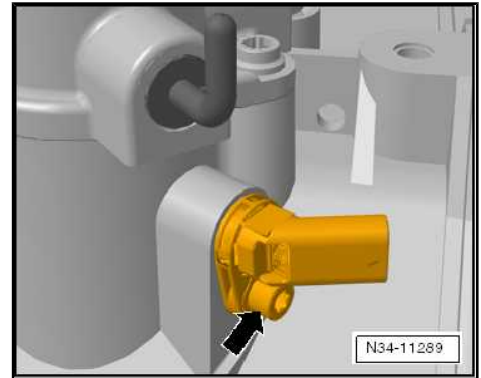
When removing, pay attention that the clutch housing does not tilt so that the roller bearings of the drive shaft and the output shaft do not get damaged.

- Remove the differential gear from the gearbox housing.

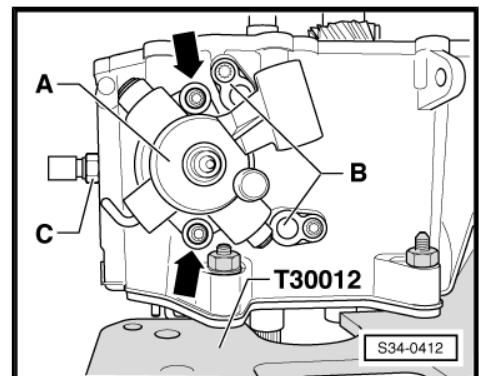
On gearboxes of vehicles with the start-stop system

- Remove transmission neutral sender - G701- -arrow-.

Continued for all gearboxes



- Remove the gearshift shaft with cover -A-; to do this, put the gearshift shaft in idle position. Subsequently unscrew screws -arrows- and remove the gearshift shaft from the gearbox housing.
- Remove the bearing pins -B- at the top of the gearbox.
- Unscrew the reversing lights switch - F4- -C-.

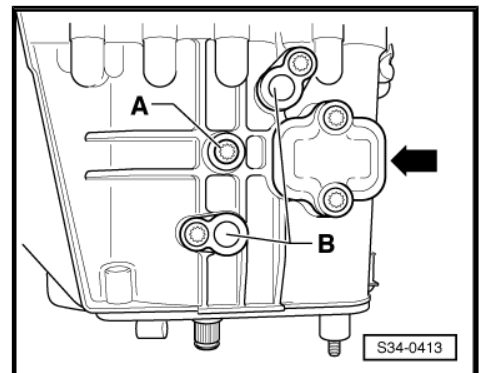


- Unscrew screw -A- for reverse shaft support.
- Remove the bearing pins -B- at the bottom of the gearbox.



Note

Do not remove the cover -arrow- to disassemble the gearbox.

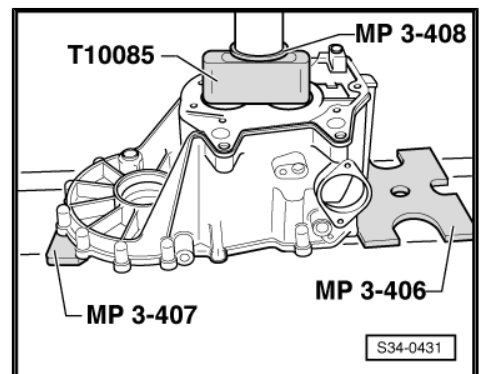


- Press off the drive shaft and output shaft together with the bearing support, shift forks and reverse gear.



Note

- ◆ *Position the gearbox housing on the pressure plates - MP3-406 (VW 401)- and -MP3-407 (VW 402)- in such a way that the dowel sleeves in the gearbox housing are not damaged.*
- ◆ *During the pressing off procedure request the assistance of second mechanic to prevent components from falling.*
- ◆ *Always replace bearing support for grooved ball bearing after removing => Electronic Catalogue of Original Parts*

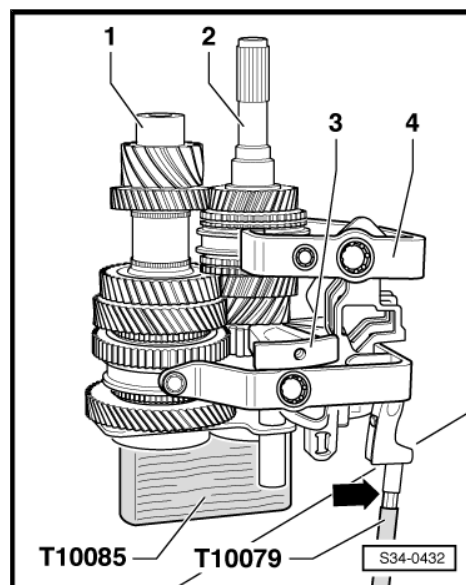


- Pressing off the drive and output shaft from the bearing support for grooved ball bearings => [page 135](#) .

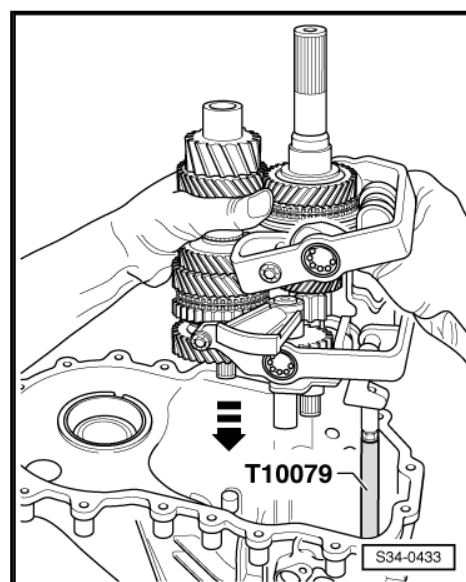
4.6.2 Install

- Pressing the drive and output shaft into the new bearing support for grooved ball bearings => [page 135](#) .

- Pressing the sleeve of the 5th gear sliding gear needle bearing onto the drive shaft ⇒ [page 135](#) .
- Place the drive shaft -2- and output shaft -1- with bearing support for grooved ball bearing in the pressure plate -T10085- .
- Insert the gearshift mechanism (shift forks) -4- in the sliding sleeves of the shaft.
- Insert the shaft for reverse gear -3- with the reverse gear.
- Screw the guide bolt -T10079- onto the reverse shaft support -arrow-.



- Insert the components together into the gearbox housing, by passing the guide bolt -T10079- through the fixing holes of the gearshift mechanism in the gearbox housing.
- Unscrew -T10079- guide bolt.
- Check before pressing on the bearing support:



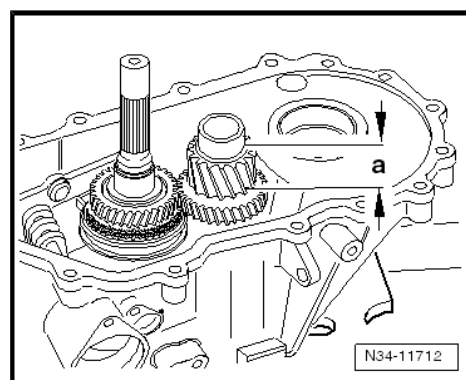
- ◆ To click in the shift forks into the sliding sleeves correctly.
- ◆ Dimension -a- of the output shaft serration.



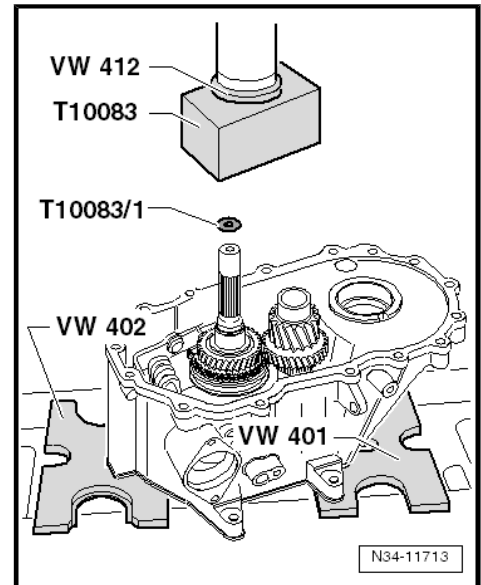
Note

- ◆ *The drive shafts of the individual gearboxes have different lengths due to the different heights of the serration, dimension -a-.*
- ◆ *In order to press in the drive shaft and the output shaft at the same time, a 3 mm thick washer - T10083/1- must be positioned onto the drive shaft, if necessary.*
- ◆ *Therefore, the dimension -a- of the output shaft serration must be measured.*

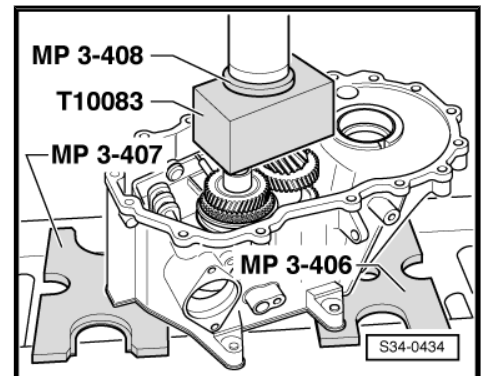
- Dimension -a- = 30.6 mm



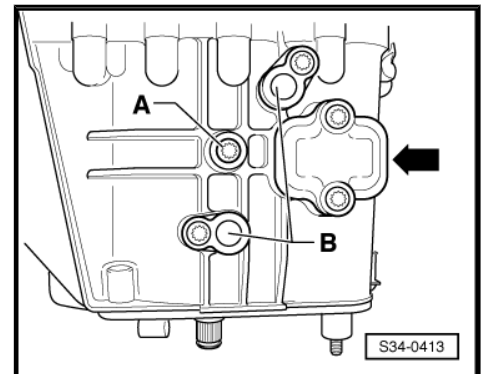
- Fit the washer - T10083/1- onto the drive shaft and carefully press in the bearing support together with the drive shaft and the output shaft up to the stop.



- Carefully press on the bearing support with the drive and output shaft up to the arrester.

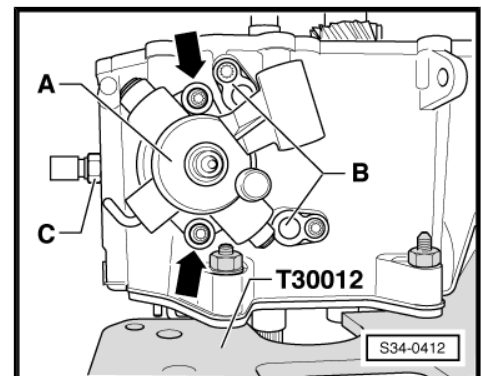


- Screw in screw -A- for reverse shaft support.
- Install the bearing pins -B- at the bottom of the gearbox.



- Screw on the reversing lights switch - F4- -C-.
- Install the bearing pins -B- at the top of the gearbox.
- Put the gearshift forks into Neutral.
- Apply sealant - AMV 188 200 03- uniformly on the sealing surfaces of the cover.
- Install the gearshift shaft with cover -A-. Tighten screws -arrows-.

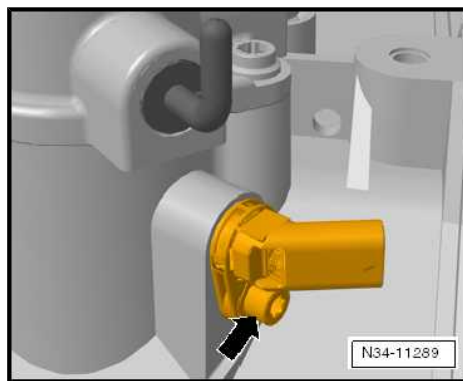
On gearboxes of vehicles with the start-stop system





- Remove transmission neutral sender - G701- -arrow-.

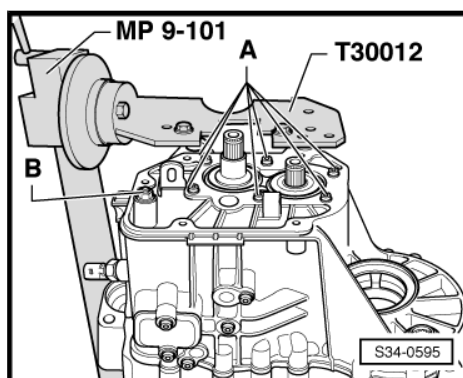
Continued for all gearboxes



- Screw in new screws -A- and tighten the bearing support of the drive shaft and output shaft.

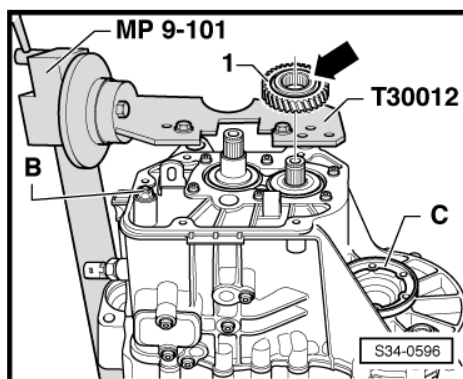
i Note

Gradually tighten the screws according to the corresponding torque starting from the middle and crosswise => [page 117](#) .



- Tighten hexagon nut -B- for the gearshift mechanism (shift forks) => [page 117](#) .
- Insert differential gear.
- Apply sealant - AMV 188 200 03- uniformly on the sealing surfaces.
- Screw down the clutch housing onto the gearbox housing.
- Turn the gearbox in the assembly stand with the clutch housing upwards.

- Fit the 5th gear pinion -1-.
- Fitting position of 5th °gear pinion:
 The high collar -arrow- points to the gearbox housing cover.
- Mount the 5th gear sliding gear with needle bearing.
- Position the 5th gear synchronizer ring on the sliding gear.
- Mount the synchronizer body 5th gear together with sliding sleeve and stop ring.



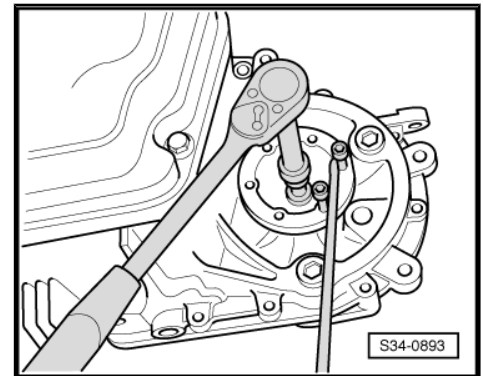
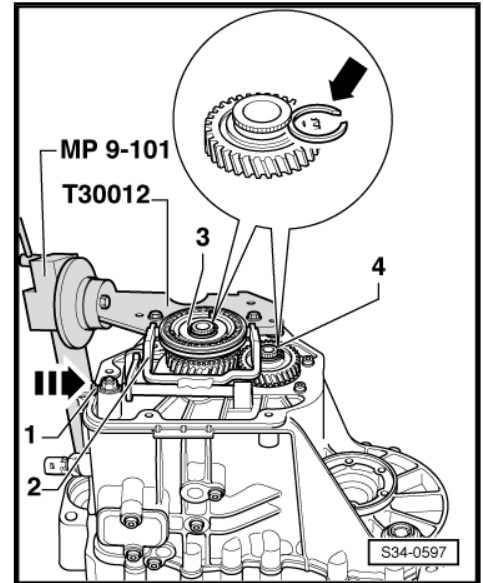
- Insert the 5th gear shift fork -2- and push the bearing pin -1- up to the stop.
- Determine the new circlips -arrow- .
- For the drive shaft -3- and output shaft -4- select the thickest possible circlip that may be installed, and fit.

The following circlips are available

Thickness (mm)	Part number
2.00	085 311 187
2.10	085 311 187 A
2.20	085 311 187 B

Assign the circlips via the ⇒ Electronic catalogue of original parts .

- Mount cover for gearbox housing ⇒ [page 115](#) .
- Install both flange shafts with pressure springs, stop discs and conical rings.
- Install the clutch release lever together with the release bearing and guide bushing ⇒ [page 66](#) .
- Pour in gear oil ⇒ [page 112](#) .



5 Repairing gearbox housing and clutch housing

Special tools and workshop equipment required

- ◆ Thrust piece - MP3-420 (3124)-
- ◆ Assembly device - MP3-434 (3066)-
- ◆ Pressure spindle - MP3-448 (VW 408 A)-
- ◆ Distance sleeve - MP3-458/2-
- ◆ Centering mandrel - MP3-463 (12-551)-
- ◆ Thrust piece - MP3-484 (30-555)-
- ◆ Gearbox mount - T30012 (3221)-
- ◆ Socket wrench insert - T30023 (3357)-
- ◆ Thrust piece - T40008-
- ◆ Separating device 12 - 75 mm, , e.g. -Kukko 17/1-
- ◆ Extractor, , e.g. -Kukko 18/1-
- ◆ Sealant - AMV 188 200 03-
- ◆ Grease - G 000 100-

1 - Clutch housing

- is made out of aluminium or magnesium
⇒ [page 1](#)
- when used: Adjusting differential gear
⇒ [page 159](#)
- Assignment ⇒ Electronic Catalogue of Original Parts

2 - Gasket ring for drive shaft

- release with a screwdriver
- installing ⇒ [page 128](#)

3 - Ball stud, 20 Nm

- grease with grease - G 000 100-

4 - Sealing ring

- for right flange shaft
- replace ⇒ [page 151](#)

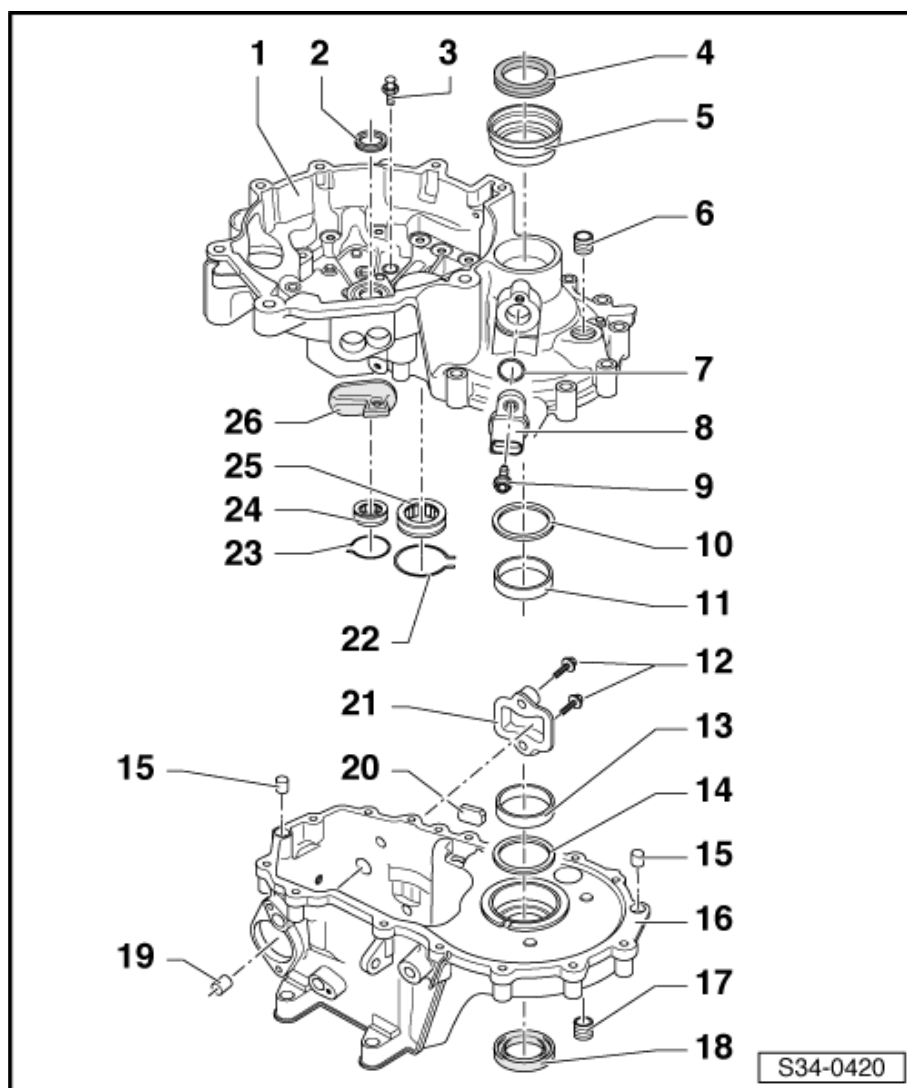
5 - Bushing

- for gasket ring
- removing ⇒ [page 129](#)
- installing ⇒ [page 129](#)

6 - Screw

- different versions:
⇒ [page 128](#)

Oil filler plug or oil drain plug with internal serration - 24 Nm





Oil filler plug or oil drain plug with hexagon socket head - 32 Nm

7 - O-ring

- only on vehicles without ABS
- always replace ⇒ Electronic Catalogue of Original Parts

8 - Speedometer sender -G22-

- only on vehicles without ABS

9 - 5 Nm + 90° further

- only on vehicles without ABS
- always replace ⇒ Electronic Catalogue of Original Parts

10 - Adjusting washer S₂

- for differential gear
- Determine thickness ⇒ [page 161](#)

11 - Outer ring/tapered-roller bearing

- for differential gear
- removing and installing ⇒ [page 154](#)
- if the bearing is replaced, set the differential gear ⇒ [page 159](#)

12 - 5 Nm + 90° further

- always replace ⇒ Electronic Catalogue of Original Parts

13 - Outer ring/tapered-roller bearing

- for differential gear
- removing and installing ⇒ [page 154](#)
- if the bearing is replaced, set the differential gear ⇒ [page 159](#)

14 - Adjusting washer S₁

- for differential gear
- always 1 mm thick
- on gearboxes made out of aluminium as of production date 12.06 the adjusting washer S₁ for outer ring/tapered-roller bearing is not fitted ⇒ [page 159](#)
- Bearing pedestal for outer ring/tapered-roller bearing is adapted
- Assignment ⇒ Electronic Catalogue of Original Parts

15 - Fitting sleeve

- (2 pieces)

16 - Gearbox housing

- is made out of aluminium or magnesium ⇒ [page 1](#)
- when used: Adjusting differential gear ⇒ [page 159](#)
- on gearboxes made out of aluminium as of production date 12.06 the adjusting washer S₁ (-Pos.14-) for outer ring/tapered-roller bearing is not fitted ⇒ [page 159](#)
- Bearing pedestal for outer ring/tapered-roller bearing is adapted
- Assignment ⇒ Electronic Catalogue of Original Parts

17 - Oil drain plug

- different versions: ⇒ [page 128](#)

Oil filler plug or oil drain plug with internal serration - 24 Nm

Oil filler plug or oil drain plug with hexagon socket head - 32 Nm

18 - Sealing ring

- for left flange shaft
- replace ⇒ [page 151](#)

19 - Bushing

- for gearshift shaft
- extracting ⇒ [page 129](#)
- inserting ⇒ [page 129](#)

20 - Magnet

- is held in position by the separator surface of the housing

21 - Screw cap

- Before screwing down cover sealing surface with sealant - AMV 188 200 03-

22 - Circlip

- inserted in the cylinder roller bearing groove -Pos. 25-

23 - Circlip

- inserted in the cylinder roller bearing groove -Pos. 24-

24 - Cylindrical-roller bearing

- for drive shaft
- removing and installing ⇒ [page 135](#)

25 - Cylindrical-roller bearing

- for output shaft
- removing and installing ⇒ [page 144](#)

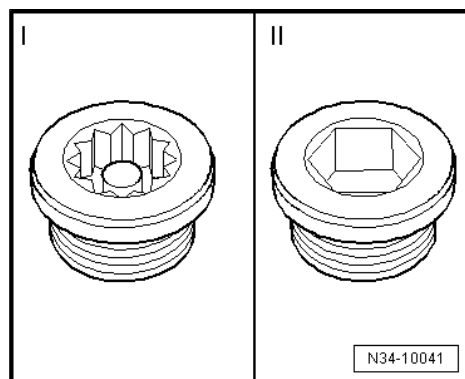
26 - Plug

- inserted in the hole in the clutch housing

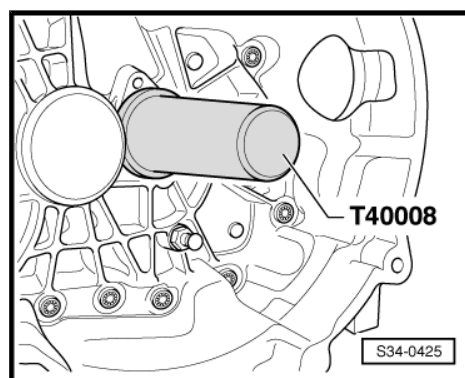
Different versions of oil filler plug or oil drain plug

I - Oil filler plug and oil drain plug with internal serration: 24 Nm

II - Oil filler plug and oil drain plug with hexagon socket head: 32 Nm



Install gasket ring for drive shaft

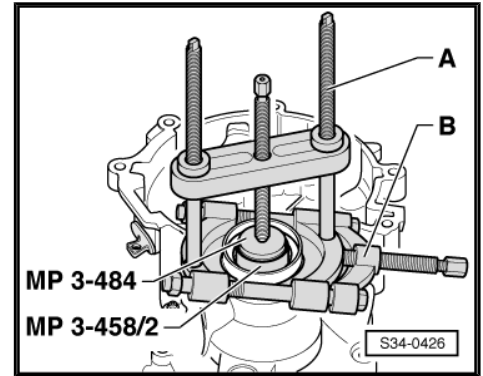


Remove bushing for gasket ring

- Position the distance sleeve - MP3-458/2- and thrust piece - MP3-484 (30-555)- on the differential gear.

A - Puller , e.g. -Kukko 18/1-

B - Separating device 12 to 75 mm , e.g. -Kukko 17/1-



Insert bushing for gasket ring

A - Threaded rod from assembly device - MP3-434 (3066)-

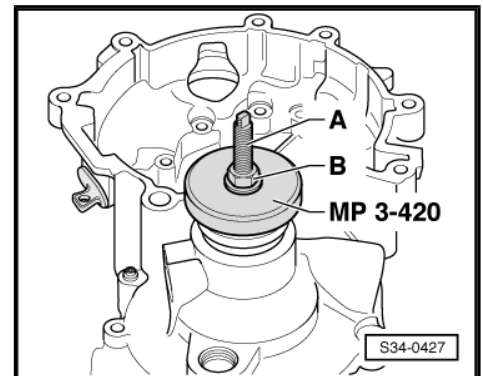
B - Nut M12 with washer

- Screw threaded rod from assembly device - MP3-434 (3066)- into the threaded part of the differential gear.
- By turning the nut -B- install the bushing over the pressure plate - MP3-420 (3124)- up to the stop.

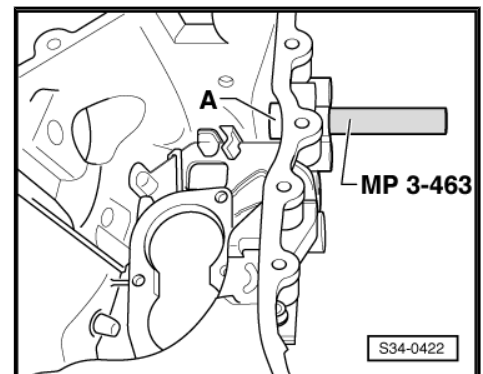


Note

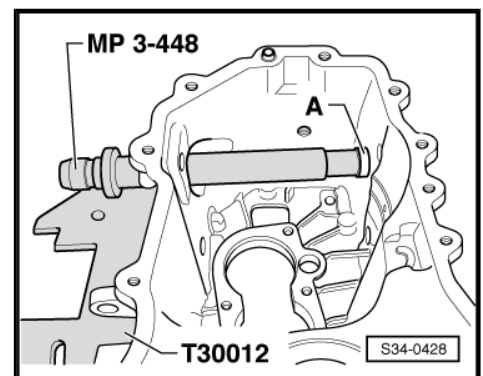
If the gearbox is disassembled press the bushing with pressure plate - MP3-420 (3124)- up to the stop.



Remove the bushing -A- for the shiftgear shaft



Insert the bushing -A- for the shiftgear shaft





6 Repairing shift mechanism

Special tools and workshop equipment required

- ◆ Thrust piece - T10203-
- ◆ Pipe section - MP3-479 (VW 423)-

1 - Bushing

- for gearshift shaft
- pressing in and pressing out ⇒ [page 126](#)

2 - Gearshift shaft with cover

- replace jointly

3 - Locking bolt

- for setting the gearshift mechanism
- removing ⇒ [page 131](#)
- inserting ⇒ [page 131](#)

4 - Reversing lever

- Fitting position ⇒ [page 84](#)
- as of 06.07 the relay level is made of plastic
- Removing and installing plastic relay lever together with cable lock ⇒ [page 87](#)
- If the relay lever is made of plastic, neither the bushings -Pos. 5- nor the lock washer -Pos. 10- are required

5 - Bushing

- is not required, if the relay lever is made of plastic

6 - Sealing ring

- release with a screwdriver
- installing ⇒ [page 131](#)

7 - Cap

- for gearbox bleeder

8 - Gearshift lever

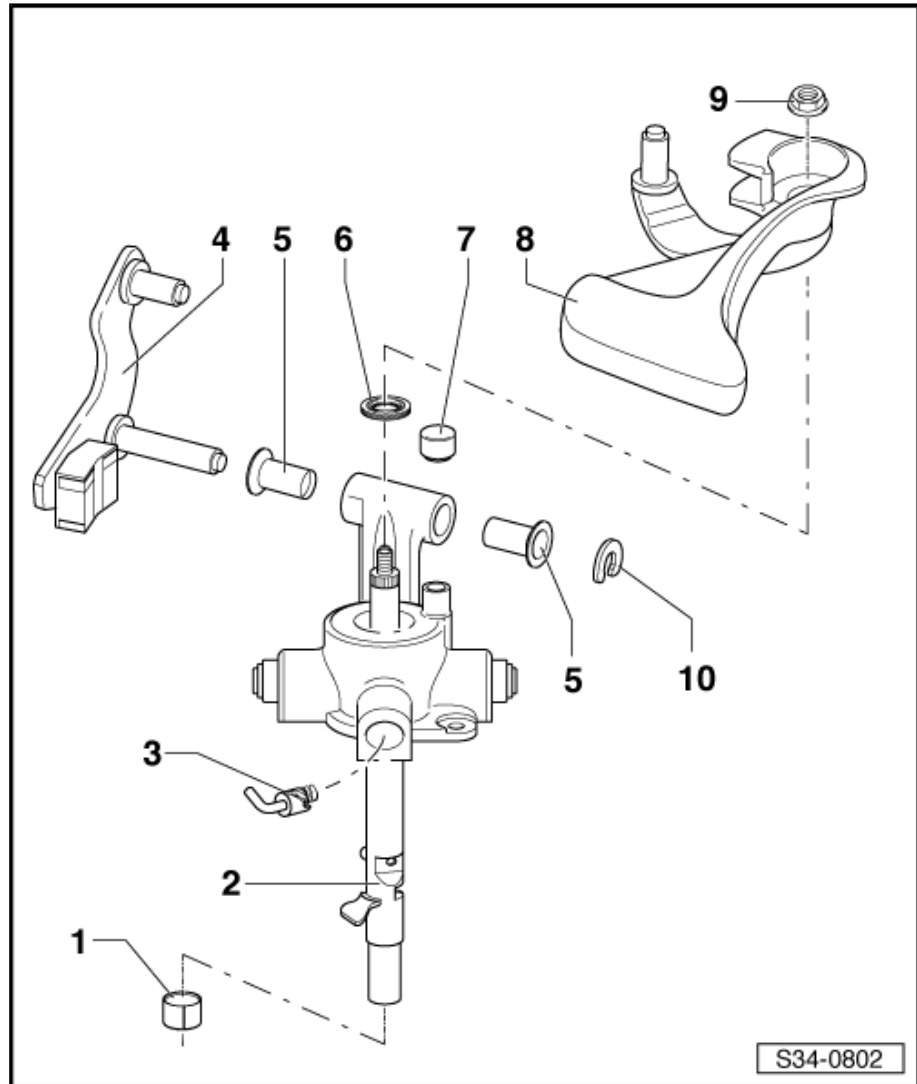
- insert in such a way that the interrupted spacing of the teeth matches the gearshift shaft
- may be replaced with the gearshift mechanism mounted
- Fitting position ⇒ [page 84](#)

9 - 20 Nm

- self-locking
- always replace ⇒ Electronic Catalogue of Original Parts

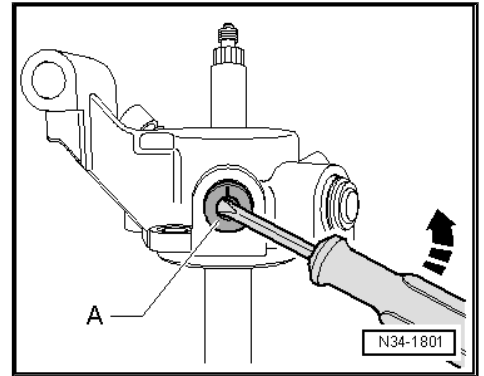
10 - Lock washer

- always replace ⇒ Electronic Catalogue of Original Parts
- is not required, if the relay lever is made of plastic



Remove locking bolt -A- from gearshift cover

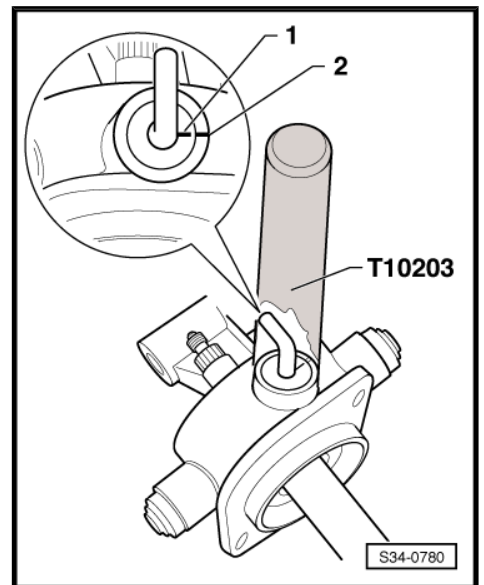
- Remove the outer part of the locking bolt.
- Then lever out locking bolt carefully with a screwdriver.



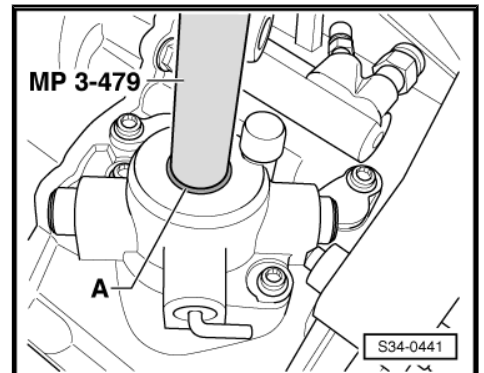
Drive locking bolt -A- into gearshift cover

Fitting position

The marking -1- points towards the marking -2- on the gearshift cover.



Press in the gasket -A- up to the stop





7 Disassembling and assembling the gearshift forks

Special tools and workshop equipment required

- ◆ Driver - MP1-304 (10-206)-
- ◆ Pressure plate - MP3-407 (VW 402)-
- ◆ Pressure spindle - MP3-448 (VW 408 A)-
- ◆ Thrust piece - MP3-453 (VW 431)-
- ◆ Pressure washer - MP3-455 (VW 447 H)-
- ◆ Distance sleeve - MP3-458 (VW 472)-
- ◆ Removal tool for inner lining of the door panel - MP8-602/1-



Note

The gearshift fork group with shift rails (-Pos. 1-) must not be disassembled for the disassembly and assembly of the shift segments, clamping plates and angular ball bearings.

1 - Gearshift fork group with shift rails

2 - 3rd/4th gear shift segment

- Identification ⇒ [page 133](#)
- It must still be possible to rotate the shift segment freely once fitted

3 - Angular ball bearing

- 4 pieces
- pressing off ⇒ [page 134](#)
- installing ⇒ [page 134](#)

4 - Circlip

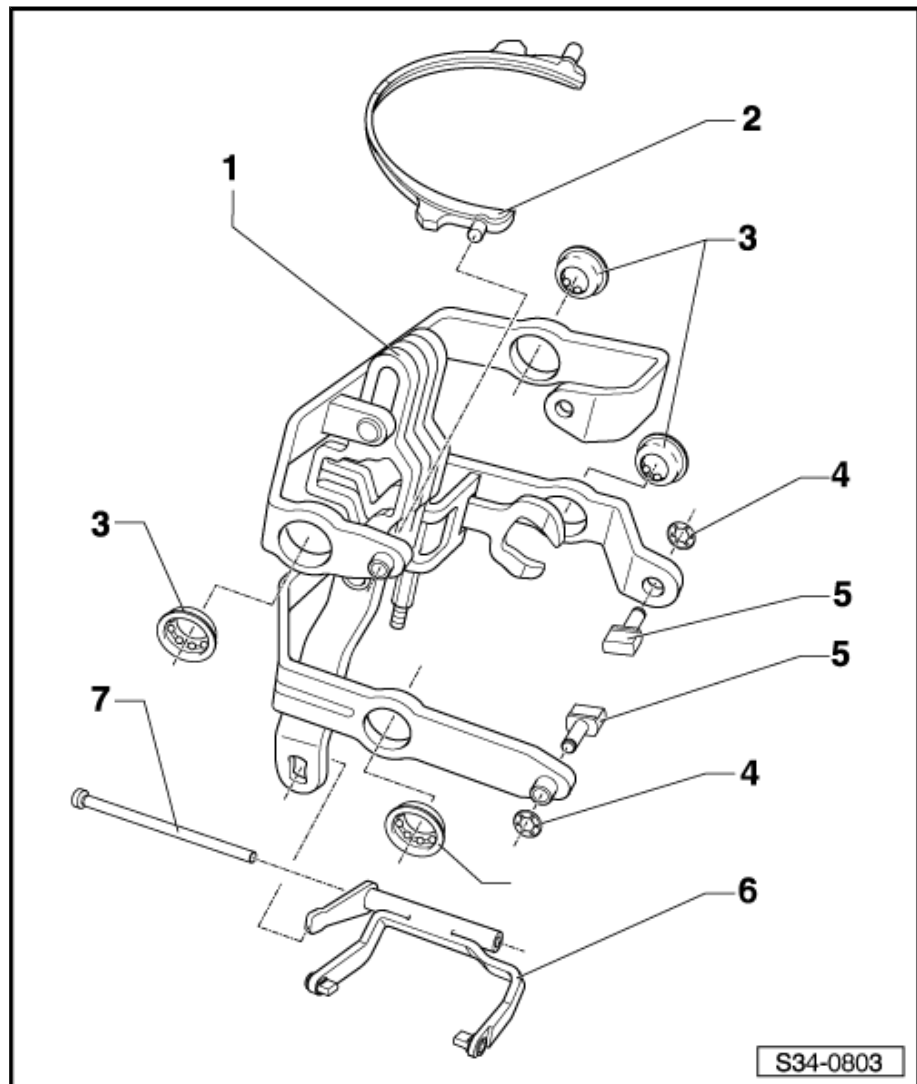
- always replace ⇒ Electronic Catalogue of Original Parts
- removing ⇒ [page 133](#)
- installing ⇒ [page 134](#)

5 - 1st/2nd gear shift segment

- Identification ⇒ [page 133](#)
- It must still be possible to rotate the shift segment freely once the circlip has been fitted
- Gearshift fork with shift segments

6 - 5th gear shift fork with shift segments

- Shift segments are connected inseparably with the gearshift fork
- Identification ⇒ [page 133](#)



S34-0803

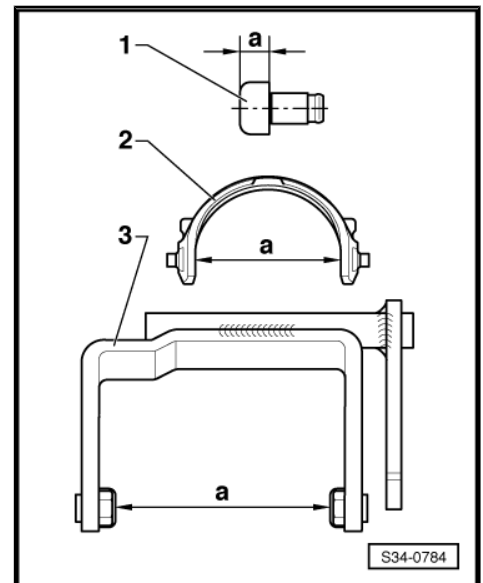
7 - Bearing bolt

- for 5th gear shift fork

Identification of shift segments and 5th gear shift fork with shift segments

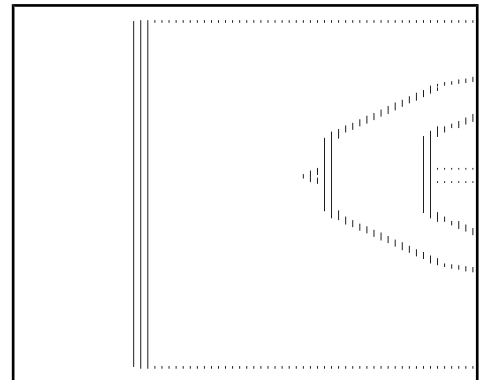
Dimension -a-

- 1 - Shift segments 1st/2nd gear = 10.2 mm
- 2 - 3rd/4th gear shift segment = 78.6 mm
- 3 - 5th gear shift fork with shift segments = 79.5 mm



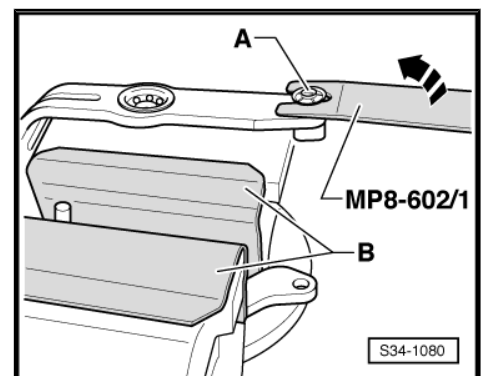
1st/2nd gear shift fork with shift segments

Dimension -a- = 75 mm



Removing the circlip

- Secure the shift fork in a vice fitted with protective jaws -B-.
- Lift off the circlip -A- in -direction of the arrow-.





Fitting the circlip

- Press the circlip with a handle wrench into the slot of the shift segment.

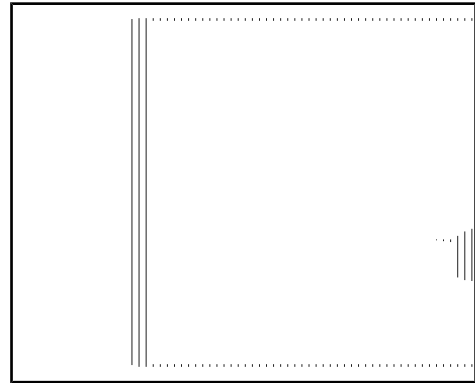


Note

It must still be possible to rotate the shift segment freely once the circlip has been fitted.

A - Handle wrench, wrench size 10

B - Protective jaws

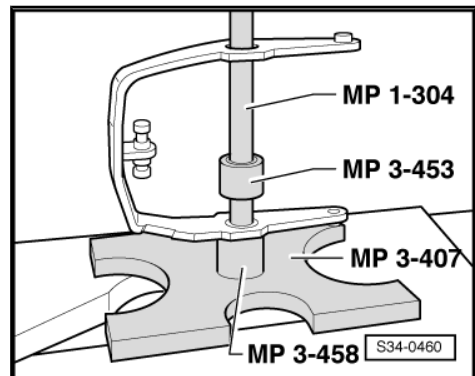


Pressing off angular ball bearing

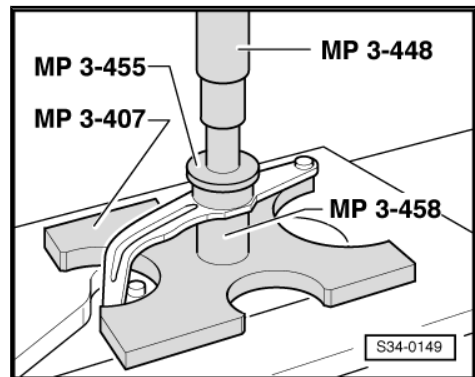


Note

Do not bend the shift forks when removing and installing the angular ball bearings.



Insert the angular ball bearing up to the stop into the gearshift fork



35 – Gears, shafts

1 Drive shaft

Disassembling and assembling the drive shaft ⇒ [page 135](#)

1.1 Disassembling and assembling the drive shaft

Special tools and workshop equipment required

- ◆ Drive bushing - MP1-316 (30-100)-
- ◆ Pressure plate - MP3-406 (VW 401)-
- ◆ Pressure plate - MP3-407 (VW 402)-
- ◆ Pressure spindle - MP3-408 (VW 412)-
- ◆ Pipe section - MP3-414 (VW 516)-
- ◆ Pressure spindle - MP3-423 (VW 407)-
- ◆ Thrust piece - MP3-431 (3002)-
- ◆ Pipe section - MP3-450 (VW 415 A)-
- ◆ Pipe section - MP3-451 (VW 422)-
- ◆ Distance sleeve - MP3-458/2-
- ◆ Flywheel type belt pulley fitting tool - MP9-400-
- ◆ Cap - T10080-
- ◆ Thrust piece - T10081-
- ◆ Insert base - T10083-
- ◆ Pressure plate - T10084A-
- ◆ Separating tool , e.g. -Kukko 17/1-
- ◆ Puller , e.g. -Kukko 18/1-
- ◆ Interior extractor , e.g. -Kukko 21/5-
- ◆ Countersupport , e.g. -Kukko 22/1-
- ◆ Hot air blower , e.g. -V.A.G 1416-



Note

When installing new pinions observe the technical data:

- ◆ Fabia II ⇒ [page 1](#) .
- ◆ Roomster ⇒ [page 6](#) .
- ◆ Rapid ⇒ [page 10](#) .
- ◆ Rapid NH ⇒ [page 11](#) .



Note

- ◆ *Insert all bearings, gears and synchronizer rings in the gearbox with gear oil.*
- ◆ *Do not interchange the synchronizer rings, if re-used always assign to the original sliding gear.*
- ◆ *On gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer), at the same time the synchronizer ring for 3rd and 4th gear is changed as of this date => *Electronic Catalogue of Original Parts* .*

1 - Circlip

- always replace => *Electronic Catalogue of Original Parts*
- Determine thickness => [page 115](#)

2 - Sliding sleeve with 5th gear synchronizer body

- removing and installing => [page 115](#)
- disassembling => [page 143](#)
- Assembling sliding sleeve/5th gear synchronizer body => [page 143](#) and => [page 140](#)
- on gearboxes as of production date 06.09, the springs -Pos. 27- are changed

3 - 5th gear synchronizer ring

- check for wear => [page 140](#)

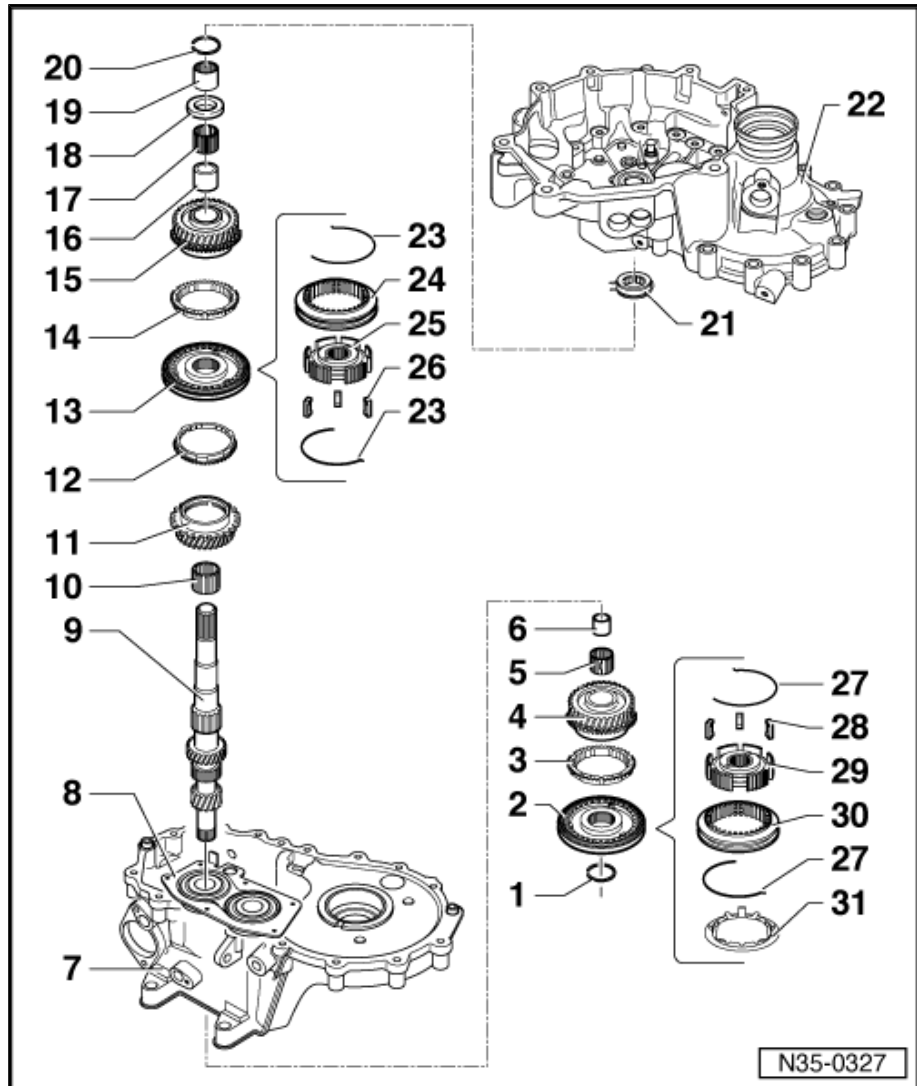
4 - 5th gear sliding gear

5 - Needle bearing

- 5. gear
- replace together with -Pos. 6-
- Assignment => *Electronic Catalogue of Original Parts*

6 - Bushing

- for 5th gear needle bearing
- replace together with -Pos. 5-
- press off with bearing support for grooved ball bearing => [page 139](#)
- pressing on => [page 142](#)
- Assignment => *Electronic Catalogue of Original Parts*





7 - Gearbox housing

8 - Bearing support for grooved ball bearing

- Always replace grooved ball bearing together with the bearing support
- If the bearing support is released from the gearbox housing, it must always be replaced
- pressing off ⇒ [page 139](#)
- pressing on ⇒ [page 142](#)

9 - Drive shaft

10 - Needle bearing

- for 3rd gear
- Assignment ⇒ Electronic Catalogue of Original Parts

11 - 3rd gear sliding gear

12 - 3rd gear synchronizer ring

- on gearboxes as of production date 06.09, the synchronizer ring for 3rd and 4th gear is changed ⇒ Electronic Catalogue of Original Parts
- check for wear ⇒ [page 140](#)

13 - Sliding sleeve with 3rd and 4th gear synchronizer body

- press off with 3rd gear sliding gear ⇒ [page 139](#)
- disassembling ⇒ [page 140](#)
- Fitting position sliding sleeve/synchronizer body ⇒ [page 140](#)
- Assemble sliding sleeve/synchronizer body ⇒ [page 140](#) and ⇒ [page 140](#)
- pressing on ⇒ [page 141](#)
- on gearboxes as of production date 06.09, the springs (-Pos. 23-) are changed

14 - 4th gear synchronizer ring

- on gearboxes as of production date 06.09, the synchronizer ring for 3rd and 4th gear is changed ⇒ Electronic Catalogue of Original Parts
- check for wear ⇒ [page 140](#)

15 - 4th gear sliding gear

16 - Bushing

- for 4th gear needle bearing
- replace together with -Pos. 17-
- removing ⇒ [page 139](#)
- installing ⇒ [page 139](#)
- Assignment ⇒ Electronic Catalogue of Original Parts

17 - Needle bearing

- for 4th gear
- replace together with -Pos. 16-
- Assignment ⇒ Electronic Catalogue of Original Parts

18 - Thrust washer

19 - Inner ring

- for cylindrical-roller bearing
- pull off with 4th gear sliding gear ⇒ [page 139](#)
- pressing on ⇒ [page 141](#)

20 - Circlip

- always replace ⇒ Electronic Catalogue of Original Parts
- Determine thickness ⇒ [page 141](#)

21 - Cylindrical-roller bearing

- with circlip



- removing ⇒ [page 138](#)
- pressing on ⇒ [page 138](#)
- Fitting position: The circlip in the bearing points towards the drive shaft

22 - Clutch housing

- repairing ⇒ [page 126](#)

23 - Spring

- on gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer)
- Fitting position ⇒ [page 140](#)

24 - Sliding sleeve 3rd and 4th gear

25 - Synchronizer body for 3rd and 4th gear

26 - Arresters for synchronizer body

- (3 pieces)

27 - Spring

- on gearboxes as of production date 06.09, the springs of the sliding sleeve with synchronizer body for 3rd, 4th and 5th gear are changed (the springs are longer)
- Fitting position ⇒ [page 140](#)

28 - Arresters for synchronizer body

- (3 pieces)

29 - 5th gear synchronizer body

30 - 5th gear sliding sleeve

31 - Supporting ring

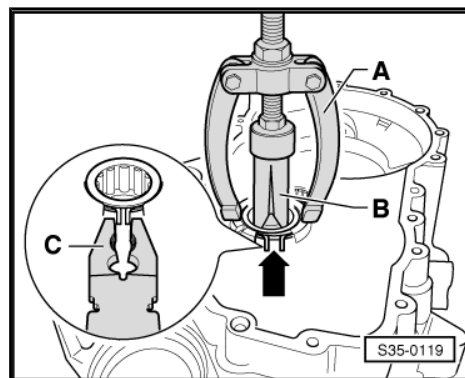
- prevents the arresters from wandering
- removing ⇒ [page 143](#)
- installing ⇒ [page 143](#)

Pull out the cylindrical-roller bearing from the clutch housing

- When removing compress circlip -arrow- of the cylindrical-roller bearing with pliers -C-.

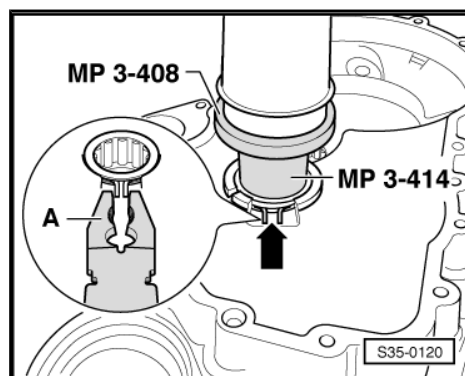
A - Countersupport , e.g. -Kukko 22/1-

B - Interior extractor 30 up to 37 mm , e.g. -Kukko 21/5-



Press the cylindrical-roller bearing into the clutch housing

- Support the clutch housing by positioning pipe section - MP3-450 (VW 415 A)- (not visible in figure) directly under the bearing support.
- When inserting compress circlip -arrow- of the cylindrical-roller bearing with pliers -A-.
- Remove pliers before the cylindrical-roller bearing is in fitting position. The circlip must lock into the clutch housing slot.

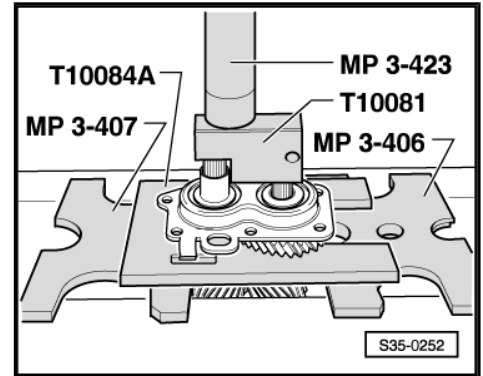


Press out the bearing support for grooved ball bearing

- Move the sliding sleeve for 1st and 2nd gear to 2nd gear.
- Slide the pressure plate - T10084A- sideways up to stop onto the drive shaft.
- Insert centering pins in pressure plate - T10081- in the holes of the drive shaft and output shaft.

i Note

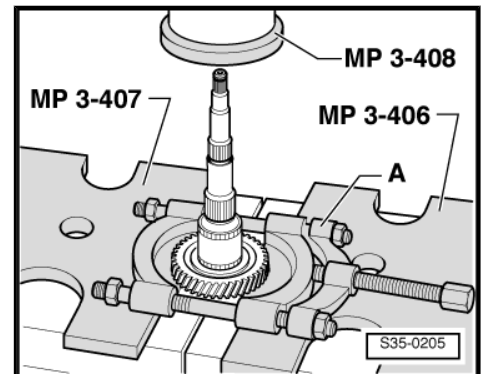
Always replace bearing support for grooved ball bearing.



Remove the bushing of the cylindrical-roller bearing with the 4th gear sliding gear

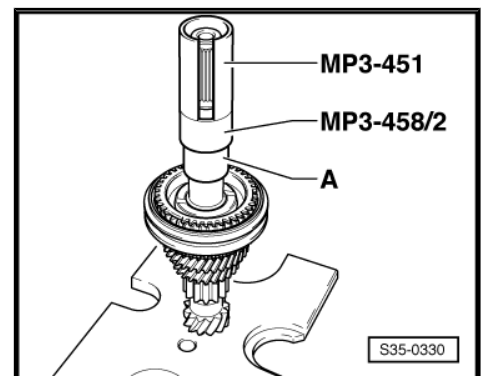
- Removing the circlip.
- Insert separating device -A- behind the running gearing (not the engaging gearing) of the 4th gear and press off.

A - Separating device 12 to 75 mm , e.g. -Kukko 17/1-



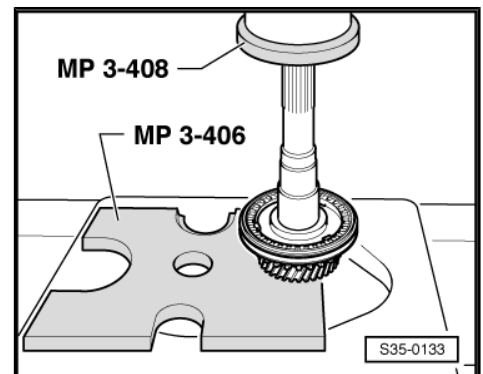
Install the bushing of the cylindrical-roller bearing/4th gear sliding gear

- Partly pressing on bushing -A-.
- Position cylindrical-roller bearing -Pos. 17- and 4th gear sliding gear.
- Press down sleeve -A- with thrust washer -Pos. 18- and inner ring/cylindrical-roller bearing -Pos. 19-.



Press off sliding sleeve and synchronizer body for the 3rd and 4th gear

- After removing the circlip jointly press off the 3rd gear sliding gear and the sliding sleeve/synchronizer body.



Disassembling and assembling the sliding sleeve/3rd and 4th gear synchronizer body

1 - Spring (as of production date 06.09 the springs are longer) => Electronic Catalogue of Original Parts

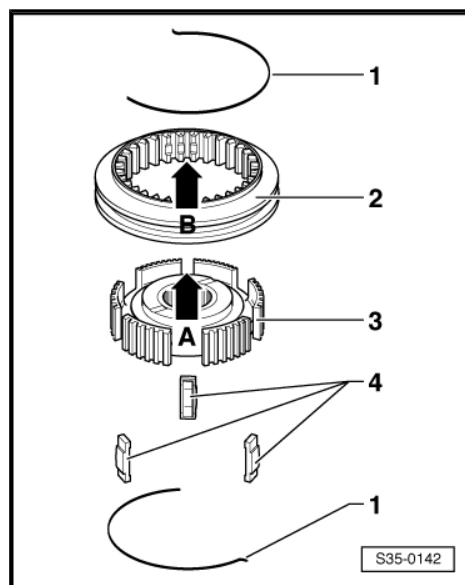
2 - Sliding sleeve

3 - Synchronizer body

4 - Arresters for synchronizer body

– Slide the sliding sleeve over the synchronizer body.

The deeper recesses -arrow A- of the arresters in the synchronizer body and the recesses -arrow B- in the sliding sleeve must be positioned above one another.

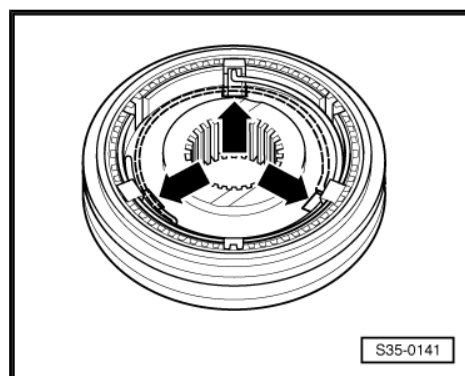


Assembling the sliding sleeve/3rd, 4th and 5th gear synchronizer body

The sliding sleeve is drawn over the synchronizer body.

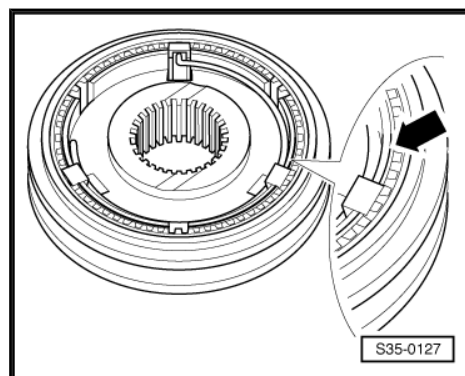
– Insert the arresters in the deeper recesses -arrows- and mount the springs by turning them 120°.

The angled end of the springs must grip into the hollow arrester of the synchronizer body.



Fitting position of the sliding sleeve/3rd and 4th gear synchronizer body

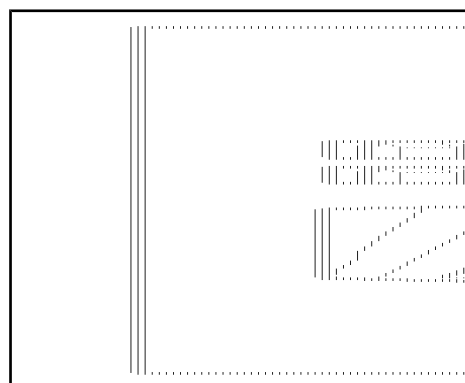
The groove on the front side -arrow- points towards the 4th gear.



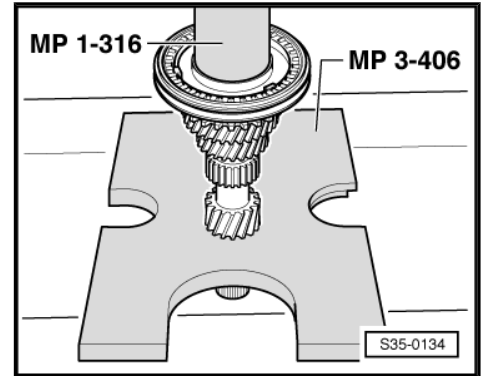
Check 3rd, 4th and 5th gear synchronizer rings for wear

– Press the synchronizer ring on the cone of the sliding gear and measure clearance -a- with a feeler gauge.

3.,4. and 5th gear	Installation dimension	Wear limit
Clearance -a-	1.1 to 1.7 mm	0.5 mm

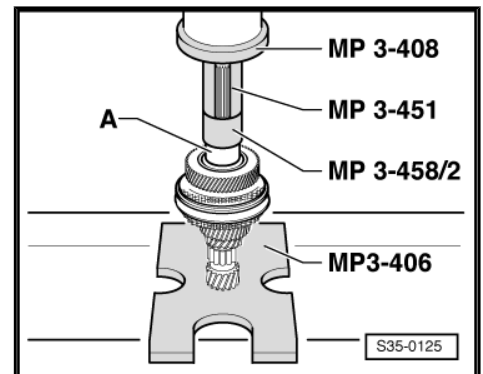


Press on the synchronizer body with the 3rd and 4th gear sliding sleeve



Press on the inner ring -A- for the cylindrical-roller bearing

- Insert the circlip.



Determining the circlip thickness

- Insert circlip with a thickness of 2.0 mm in the slot of the drive shaft and push upwards.
- Measure the dimension between the inner ring of the taper roller bearing and the positioned circlip using a feeler gauge.
- Remove the circlip used to take the measurement.
- Determine thickness of circlip according to the table.



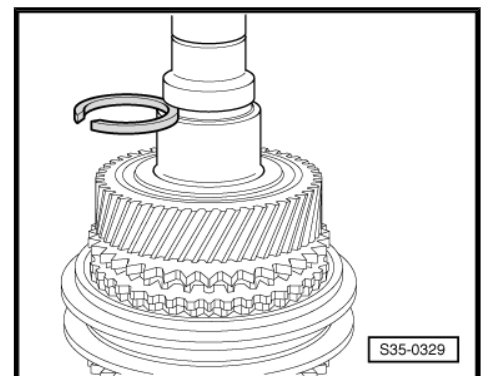
Note

Assign the circlips via the → *Electronic catalogue of original parts*.

The following circlips are available:

Measured value (mm)	Circlip thickness (mm)	Axial play (mm)
0.05...0.14	2.0	0.05...0.15
0.15...0.24	2.1	0.05...0.15
0.25...0.34	2.2	0.05...0.15
0.35...0.44	2.3	0.05...0.15
0.45...0.51	2.4	0.05...0.10

Press the bearing support for grooved ball bearings onto the input and output shafts

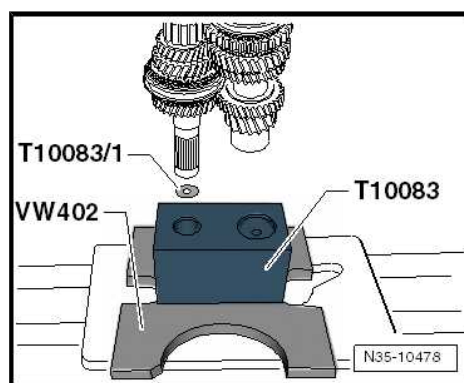
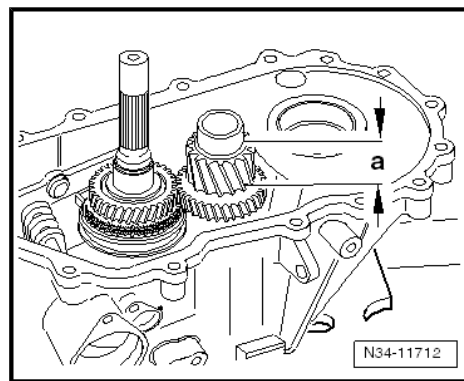


i Note

- ◆ The drive shafts of the individual gearboxes have different lengths due to the different heights of the serration, dimension -a-.
- ◆ In order to press in the bearing support evenly onto the shafts, it is necessary that the shafts are also positioned evenly on the insert base - T10083- .
- ◆ A 3 mm thick washer - T10083/1- must be inserted in the fastening opening of the drive shaft, if necessary ⇒ [page 142](#) .
- ◆ Therefore, the dimension -a- of the output shaft serration must be measured.

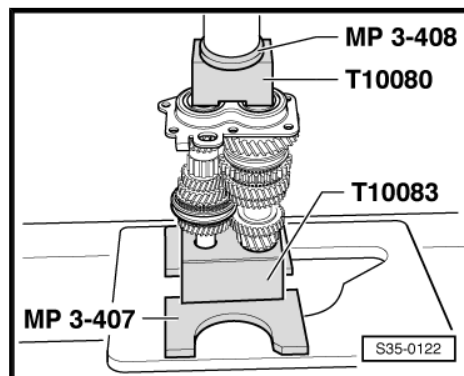
• Dimension -a- = 30.6 mm

Insert washer - T10083/1-

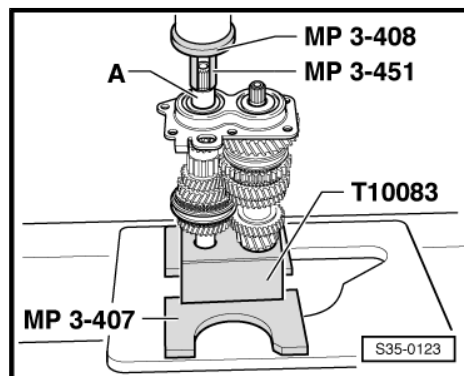


Press on the bearing support for grooved ball bearing

- Before pressing on the bearing support heat it to approximately 100 °C.

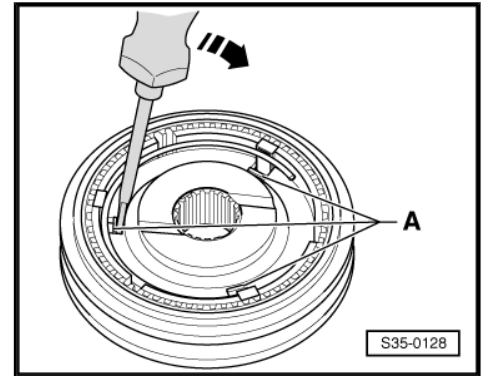


Press on the bushing -A- for the 5th gear needle bearing



Remove supporting ring

- Unclip the hook -A- of the supporting ring from the synchronizer body with a screwdriver.



Disassembling and assembling the sliding sleeve/5th gear synchronizer body

1 - Spring (as of production date 06.09 the springs are longer) ⇒ Electronic Catalogue of Original Parts

2 - Arresters for synchronizer body

3 - Synchronizer body; fitting position: The groove on the front side -arrow A- and the wide collar -arrow B- point towards the 5th gear.

4 - Sliding sleeve

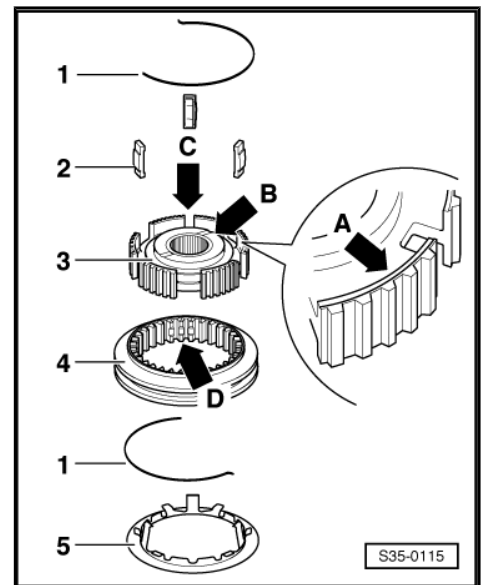
5 - Supporting ring

- Slide the sliding sleeve over the synchronizer body.

The deeper recesses -arrow C- of the arresters in the synchronizer body and the recesses -arrow D- in the sliding sleeve must be positioned above one another.

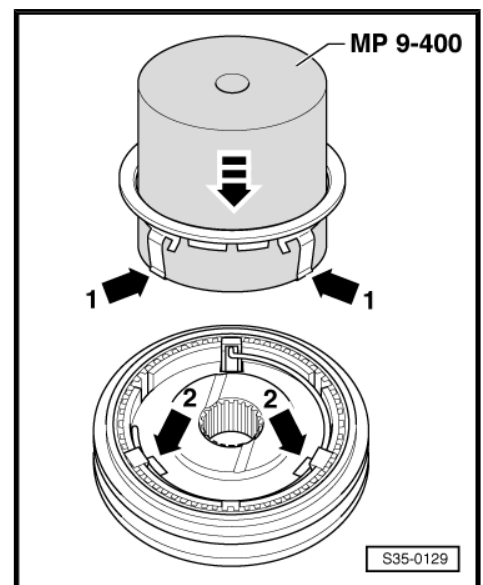
- Insert the arresters in the deeper recesses and mount the springs by turning them 120°.

The angled end of the springs must grip into the hollow arrester of the synchronizer body.



Install supporting ring

- Place the supporting ring onto the flywheel type belt pulley fitting tool -MP9-400- .
- Insert the supporting ring together with the fitting tool in the synchronizer body/5th gear sliding sleeve (Observe fitting position ⇒ [page 143](#)). Lock the hooks -arrow 1- in the recesses -arrow 2- of the synchronizer body arresters.
- Push the supporting ring down until the hooks click into position.





2 Output shaft

Disassembling and assembling the output shaft ⇒ [page 144](#)

2.1 Disassembling and assembling the output shaft

Special tools and workshop equipment required

- ◆ Pressure plate - MP3-407 (VW 402)-
- ◆ Pressure spindle - MP3-408 (VW 412)-
- ◆ Pressure spindle - MP3-423 (VW 407)-
- ◆ Pipe section - MP3-450 (VW 415 A)-
- ◆ Thrust piece - MP3-4014 (VW 432)-
- ◆ Drive bushing - MP3-427 (40-21)-
- ◆ Interior extractor, e.g. -Kukko 21/5-
- ◆ Countersupport e.g. -Kukko 22/1-



Note

When installing new pinions or a new output shaft observe the technical data:

- ◆ Fabia II ⇒ [page 1](#) .
- ◆ Roomster ⇒ [page 6](#) .
- ◆ Rapid ⇒ [page 10](#) .
- ◆ Rapid NH ⇒ [page 11](#) .



Note

- ◆ *Insert all bearings, gears and synchronizer rings in the gearbox with gear oil.*
- ◆ *Do not interchange the synchronizer rings, if re-used always assign to the original gear.*

1 - Clutch housing

- repairing ⇒ [page 126](#)

2 - Cylindrical-roller bearing

- with circlip
- removing ⇒ [page 147](#)
- installing ⇒ [page 147](#)
- Fitting position: The circlip in the bearing points towards the output shaft

3 - Output shaft

- if an inner ring is fitted as a bearing assembly for the cylindrical-roller bearing -Pos. 2-, it cannot be removed from the output shaft
- Inspect bearing assembly or inner ring for cylindrical-roller bearing for scoring and damage
- Replace output shaft and cylindrical-roller bearing together if there is scoring or damage on the bearing assembly or inner ring

4 - 4th gear pinion

- Fitting position: Collar points to the 3rd gear ⇒ [page 148](#)

5 - Circlip

- always replace ⇒ Electronic Catalogue of Original Parts

6 - Circlip

- always replace ⇒ Electronic Catalogue of Original Parts

7 - 3rd gear pinion

- Fitting position: Collar points to the 4th gear ⇒ [page 148](#)

8 - Circlip

- always replace ⇒ Electronic Catalogue of Original Parts

9 - 2nd gear sliding gear

10 - Needle bearing

- 2. gear

11 - Inner ring for 2nd gear

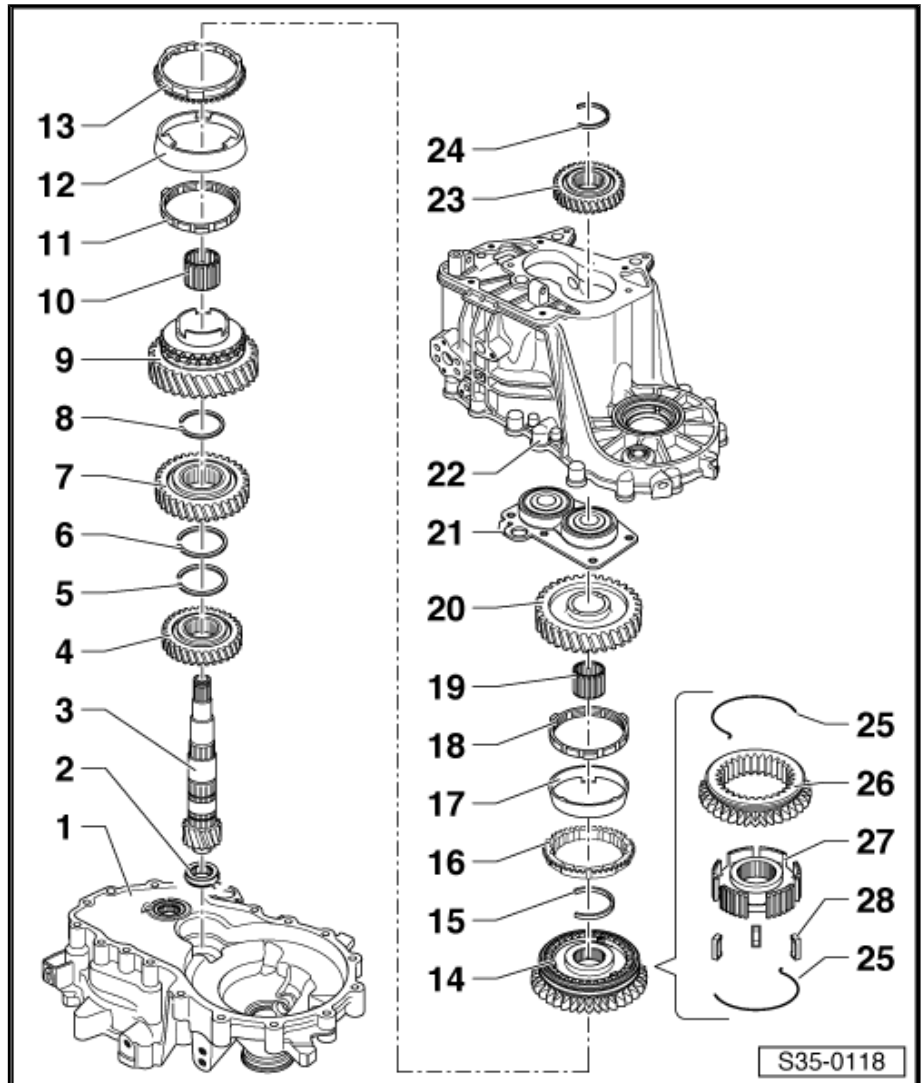
- check for wear ⇒ [page 148](#)
- Fitting position ⇒ [page 148](#)

12 - Outer ring for 2nd gear

- place onto the inner ring -Pos. 11-
- replace if there are any traces of scoring or friction
- Fitting position ⇒ [page 148](#)

13 - 2nd gear synchronizer ring

- check for wear ⇒ [page 148](#)
- Fitting position ⇒ [page 148](#)



14 - Sliding sleeve with 1st and 2nd gear synchronizer body

- press off together with 2nd gear sliding gear ⇒ [page 147](#)
- disassembling ⇒ [page 149](#)
- Assemble sliding sleeve/synchronizer body ⇒ [page 149](#) and ⇒ [page 149](#)
- Fitting position ⇒ [page 149](#) and ⇒ [page 149](#)
- pressing on ⇒ [page 149](#)

15 - Circlip

- pushing out ⇒ [page 147](#)
- inserting ⇒ [page 150](#)

16 - 1st gear synchronizer ring

- check for wear ⇒ [page 148](#)
- insert in such a way that the recesses lock into the arresters of the sliding sleeve -Pos. 14-

17 - Outer ring for 1st gear

- position in the synchronizer ring -Pos. 16-, fitting position ⇒ [page 150](#)
- replace if there are any traces of scoring or friction

18 - Inner ring for 1st gear

- check for wear ⇒ [page 148](#)
- Check pegs for traces of wear
- Fitting position ⇒ [page 150](#)

19 - Needle bearing

- 1. gear

20 - 1st gear sliding gear

- Fitting position ⇒ [page 150](#)

21 - Bearing support for grooved ball bearing

- Always replace grooved ball bearing together with the bearing support
- replace after each removal
- removing and installing ⇒ [page 135](#)

22 - Gearbox housing

- repairing ⇒ [page 126](#)

23 - 5th gear pinion

- Fitting position: collar points towards the cover of the gearbox housing ⇒ [page 115](#)
- removing and installing ⇒ [page 115](#)

24 - Circlip

- always replace ⇒ Electronic Catalogue of Original Parts
- Determine thickness ⇒ [page 115](#)

25 - Spring

- Fitting position ⇒ [page 149](#)

26 - Sliding sleeve

27 - Synchronizer body

28 - Arresters for synchronizer body

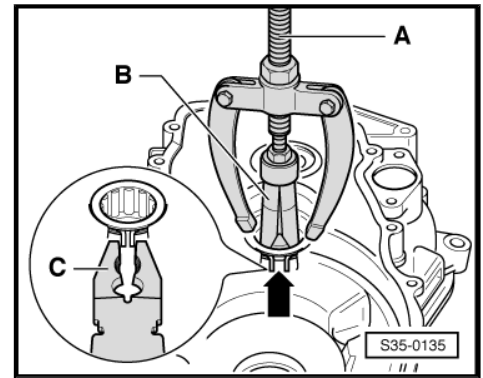
- (3 pieces)

Pull out the cylindrical-roller bearing from the clutch housing

- When removing compress circlip of the cylindrical-roller bearing -arrow- with pliers -C-.

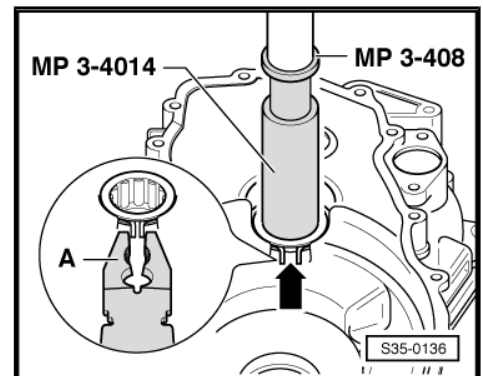
A - Countersupport , e.g. -Kukko 22/1-

B - Interior extractor 30...37 mm , e.g. -Kukko 21/5-



Press the cylindrical-roller bearing into the clutch housing

- Support the clutch housing by positioning pipe section - MP3-450 (VW 415 A)- (not visible in figure) directly under the bearing support.
- When pressing in, the cylindrical-roller bearing compress the circlip -arrow- with pliers -A-.
- Remove pliers before the cylindrical-roller bearing is in fitting position. The circlip must lock into the clutch housing slot.

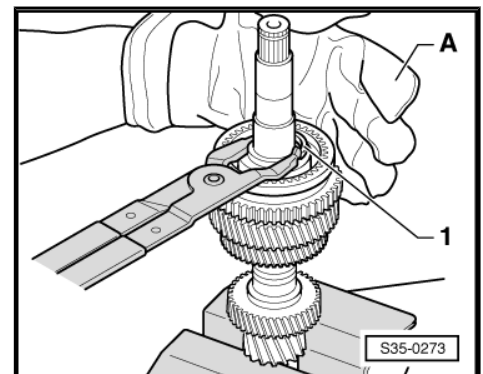


Press the circlip -1- out of the slot

A - Protective glove

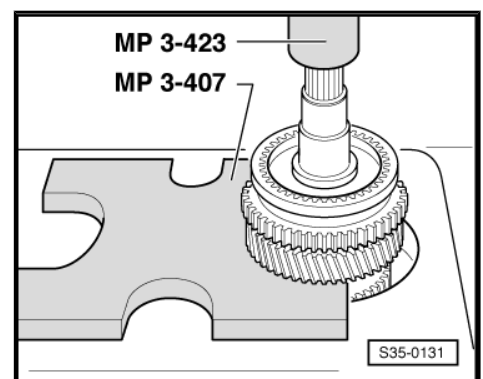
WARNING

Prevent uncontrolled ejection of the circlip.



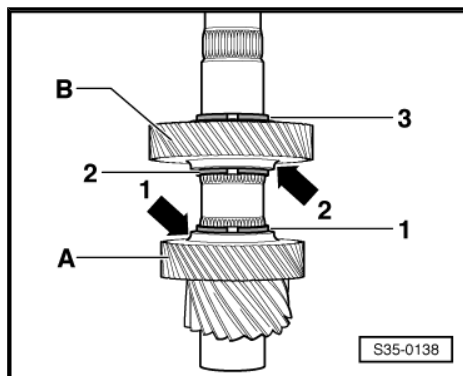
Press off the sliding sleeve and the synchronizer body for the 1st and 2nd gear from the drive shaft

- After removing the circlip, at the same time press off the drive shaft from the synchronizer body as well as from the 2nd gear sliding gear.



Fitting position 3rd gear pinion and 4th gear pinion.

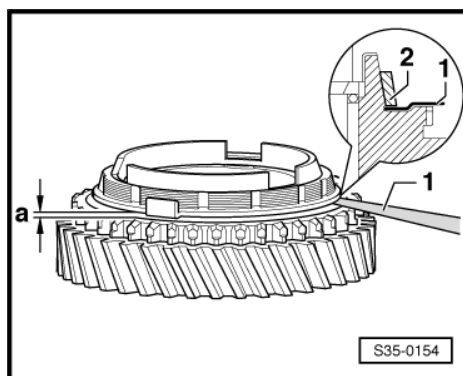
- Place the 4th gear pinion -A- on the output shaft.
Fitting position:
The collar -arrow 1- points towards the 3rd gear pinion -B-.
- Insert circlips -1- and -2-.
- Place the 3rd gear pinion -B- on the output shaft.
Fitting position:
The collar -arrow 2- points towards the 4th gear pinion -A-.
- Insert circlip -3-.



Check 1st and 2nd gear inner ring for wear

- Press the inner ring -2- on the cone of the sliding gear and measure clearance -a- with a feeler gauge -1-.

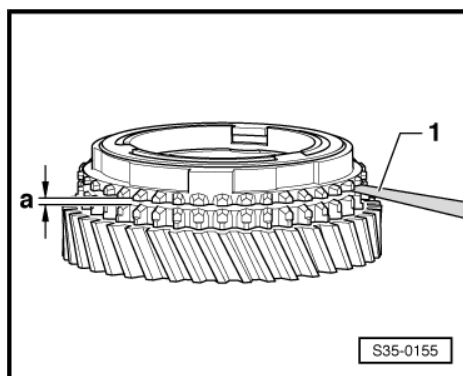
1. and 2nd gear	Installation dimension	Wear limit
Clearance -a-	0.75 to 1.25 mm	0.3 mm



Check 1st and 2nd gear synchronizer ring for wear

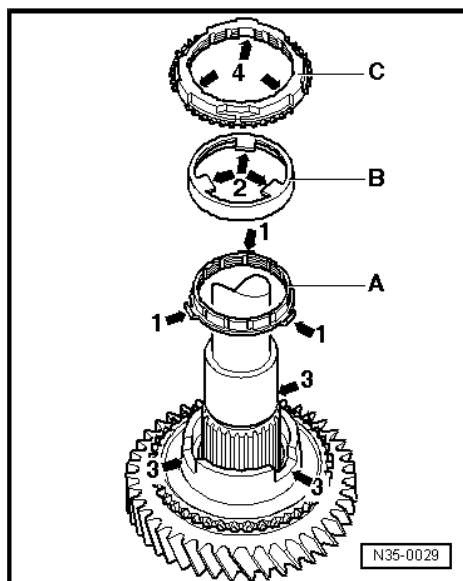
- Press the synchronizer ring, outer ring and inner ring on the cone of the sliding gear and measure clearance -a- with a feeler gauge -1-.

1. and 2nd gear	Installation dimension	Wear limit
Clearance -a-	1.2 to 1.8 mm	0.5 mm



Fitting position of the inner ring, outer ring and 2nd gear synchronizer ring

- Position the inner ring -A- on the 2nd gear sliding gear.
The angled lands -arrow 1- point towards the outer ring -B-.
- Position the outer ring -B-.
- Lock the lands -arrow 2- in the recesses -arrow 3- of the sliding gear.
- Position the synchronizer ring -C-.
- Lock the recesses -arrow 4- in the lands -arrow 1- of the inner ring -A-.



Disassembling and assembling the sliding sleeve/1st and 2nd gear synchronizer body

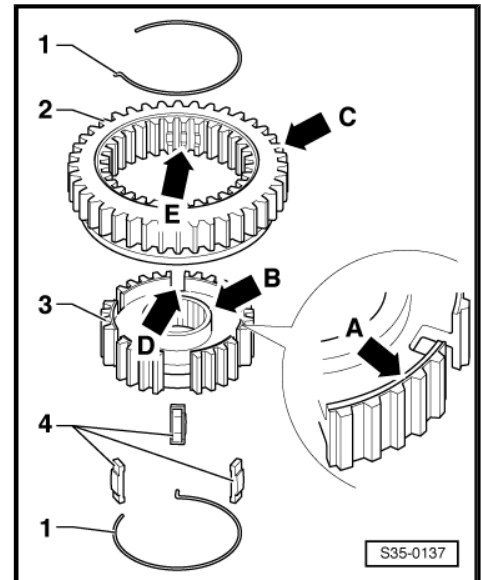
- 1 - Spring
- 2 - Sliding sleeve
- 3 - Synchronizer body
- 4 - Arresters for synchronizer body

– Slide the sliding sleeve over the synchronizer body.

Fitting position:

After assembly the groove on the front side -arrow A- and the higher collar -arrow B- of the synchronizer body point towards the outer serration of the sliding sleeve -arrow C-.

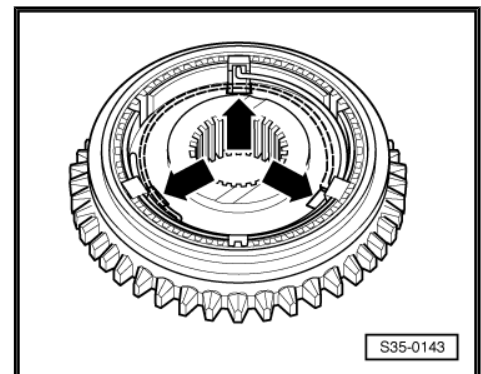
The deeper recesses -arrow D- of the arresters in the synchronizer body and the recesses -arrow E- in the sliding sleeve must be positioned above one another.



Assembling the sliding sleeve and 1st and 2nd gear synchronizer body

- The sliding sleeve is drawn over the synchronizer body.
- Insert the arresters in the deeper recesses -arrows- and mount the springs by turning them 120°.

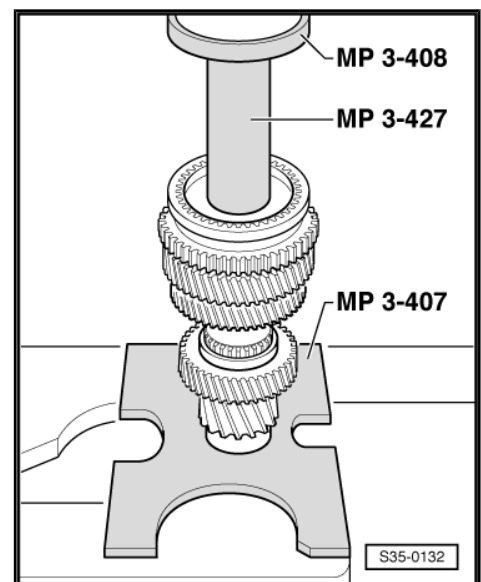
The angled ends of the springs must grip into the recesses of the arresters for the synchronizer body.



Press on the sliding sleeve/1st and 2nd gear synchronizer body

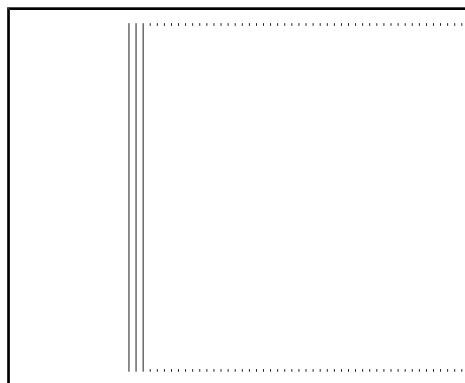
Fitting position:

The slot for the shift fork in the sliding sleeve points towards the 1st gear, the serration of the reversing gear points towards the 2nd gear.



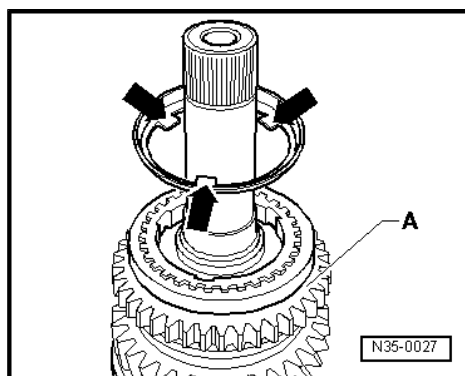
Insert the circlip

- Rotate the synchronizer ring in such a way that the slots are flush with the arresters.
- Insert the 1st gear synchronizer ring in the sliding sleeve/synchronizer body.



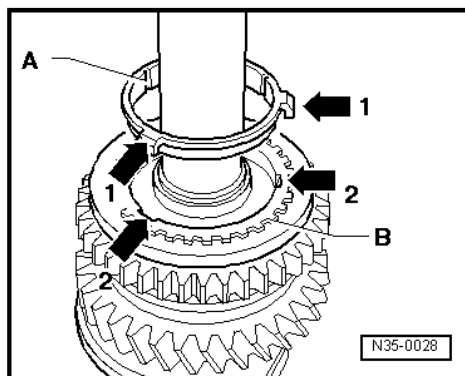
Fitting position of the 1st gear outer ring

The pegs -arrows- point towards the reversing gear serration -A-.



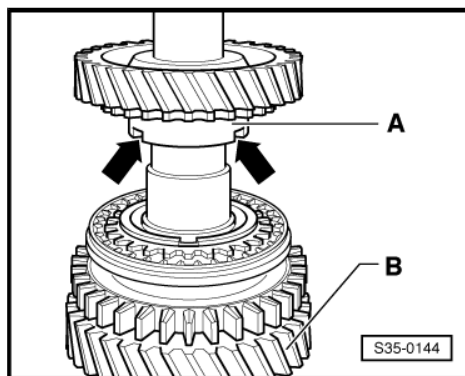
Fitting position for 1st gear inner ring -A-

The pegs -arrow 1- lock into the recesses -arrow 2- of the synchronizer ring -B-.



Fitting position 1st gear sliding gear

The higher collar -A- points towards the 2nd gear -B-. The recesses in the collar -arrows- are pushed onto the pegs of the outer ring => [page 150](#) .



39 – Final drive - differential

1 Replacing the flange shaft gasket rings (gearbox assembled)

Removing ⇒ [page 151](#) .

Installing ⇒ [page 152](#) .

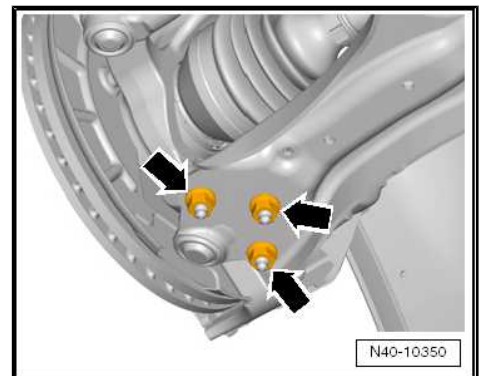
Special tools and workshop equipment required

- ◆ Inertia extractor - MP9-501-
- ◆ Gasket ring extractor - MP3-419/37-
- ◆ Thrust piece - T10082-
- ◆ Drive bushing - MP3-489 (3158)-
- ◆ Sealing grease - G052 128 A1-

1.1 Removing

For left gasket ring

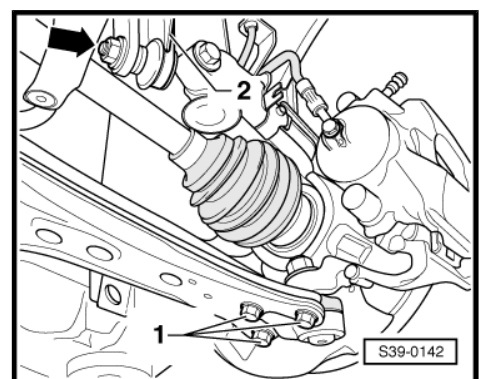
- Fit the left front wheel ⇒ Chassis; Rep. gr. 44 .
- Turn steering to full left lock and raise the vehicle.
- If present, remove the sound dampening system ⇒ Body work; Rep. gr. 50 .
- Remove the wheelhouse liner from the left wheelhouse ⇒ Body Work; Rep. gr. 66 .
- Remove drive shaft from flange shaft ⇒ Chassis; Rep. gr. 40 .
- Release the nuts -arrows- for the left steering joint ⇒ Chassis; Rep. gr. 40 (on certain vehicles release the screws, see fig. S39-0142).



- Release screws -1-.
- Unbolt coupling rod -2- -arrow-.

For right gasket ring

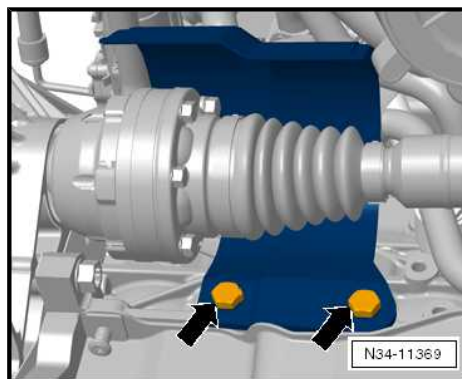
- Turn steering to full right lock.
- If present, remove the sound dampening system ⇒ Body work; Rep. gr. 50 .



- If present, remove heat shield for drive shaft -arrows-.
- Remove drive shaft from flange shaft ⇒ Chassis; Rep. gr. 40 .

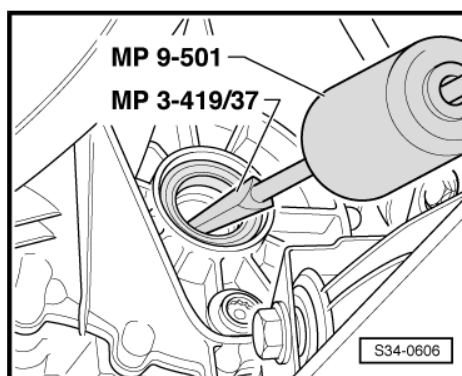
Proceed as follows for both gasket rings

- Tie up the drive shaft as far as possible. Avoid damaging the paintwork on the drive shaft during this operation.
- Position the catch pan under the gearbox.
- Release fixing screw for flange shaft; while doing so prevent flange shaft from turning along.
- Remove the flange shaft together with the pressure spring.
- Remove the gasket ring of the flange shaft.



Note

- ◆ Do not damage the bushing for the right gasket ring as this will cause leaks.
- ◆ replace bushing if damaged ⇒ [page 126](#) .

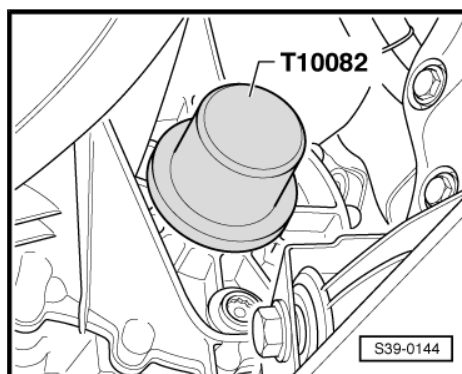


1.2 Install

For left gasket ring

- Drive the new seal ring in up to the stop, do not twist the seal ring.

For right gasket ring



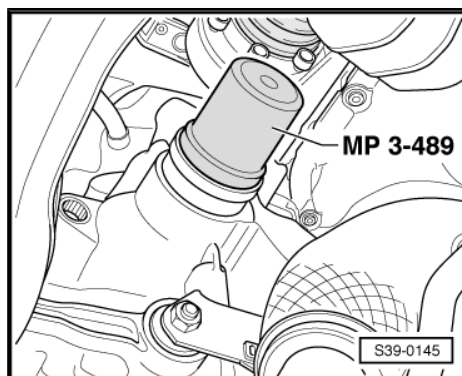
- Drive the new gasket ring into the bushing up to the stop, do not twist the gasket ring.

Proceed as follows for both gasket rings

- Fill half the space between the sealing and dust lip with sealing grease -G 052 128 A1- .

The further installation occurs in reverse order, while paying attention to the following:

- Check gear oil level, if necessary fill up to lower edge of filler hole ⇒ [page 112](#) .
- Check the axial measurement of the vehicle ⇒ Chassis; Rep. gr. 44 .



Tightening torques

Flange shaft to gearbox	⇒ page 154
Coupling rod to anti-roll bar	⇒ Chassis; Rep. gr. 40
Drive shaft to flange shaft	⇒ Chassis; Rep. gr. 40



Steering joint to track control arm	⇒ Chassis; Rep. gr. 40
Wheel bolts to wheel hub	⇒ Chassis; Rep. gr. 44



2 Differential gear

Disassembling and assembling differential gear ⇒ [page 154](#) .

Setting the differential gear ⇒ [page 159](#) .

2.1 Disassembling and assembling differential gear

Special tools and workshop equipment required

- ◆ Pressure plate - MP3-406 (VW 401)-
- ◆ Pressure plate - MP3-407 (VW 402)-
- ◆ Pressure spindle - MP3-408 (VW 412)-
- ◆ Pipe section - MP3-409 (VW 418 A)-
- ◆ Thrust piece - MP3-411 (VW 454)-
- ◆ Press-on sleeve - MP3-412 (VW 455)-
- ◆ Distance sleeve - MP3-458/2-
- ◆ Pressure washer - MP3-413 (VW 510)-
- ◆ Pressure pipe - MP6-408 (30-14)-
- ◆ Thrust piece - MP3-431 (3002)-
- ◆ Counterholder - MP1-223 (3067)-
- ◆ Pipe - MP6-419 (3259)-
- ◆ Tube for wheel bearing - T30019 (3345)-
- ◆ Tapered-roller bearing extractor - V.A.G 1582-
- ◆ Gripper - V.A.G 1582/4-
- ◆ Interior extractor - Kukko 21/7-
- ◆ Countersupport - Kukko 22/2-
- ◆ Drive bushing - MP3-427 (40-21)-
- ◆ Gripper - V.A.G 1582/3-
- ◆ Hot air blower , e.g. -V.A.G 1416-



Note

- ◆ *Before installing, heat the inner ring/tapered-roller bearing with the hot-air blower - V.A.G 1416- to 100°C.*
- ◆ *Replace both tapered-roller bearings together.*
- ◆ *When replacing the tapered-roller bearing of the differential gear housing, gearbox housing and clutch housing adjust the differential gear ⇒ [page 159](#) .*

1 - Conical screw, 25 Nm

- screw into threaded piece -Pos. 8-

2 - Right flange shaft

- do not interchange, the left and right flange shafts are different

3 - Pressure spring for flange shaft

- fitted behind flange shaft

4 - Thrust washer

- Fitting position: Collar for compression spring

5 - Conical ring

- Fitting position: Cone for differential gear housing

6 - Circlip

- holds the conical ring, stop disc and pressure spring in position when the flange shaft is removed

7 - Large differential bevel gear

- installing ⇒ [page 159](#)

8 - Threaded part

- installing ⇒ [page 159](#)

9 - Differential bevel gear shaft

- when removing, the tensioning sleeve -Pos. 18- is cut out ⇒ [page 159](#)

- installing ⇒ [page 159](#)

10 - Small differential bevel gear

- installing ⇒ [page 159](#)

11 - Stop disc compound

- insert with gear oil
- on certain gearboxes the stop disc compound was provided with a land ⇒ [page 159](#)

12 - Flange shaft left

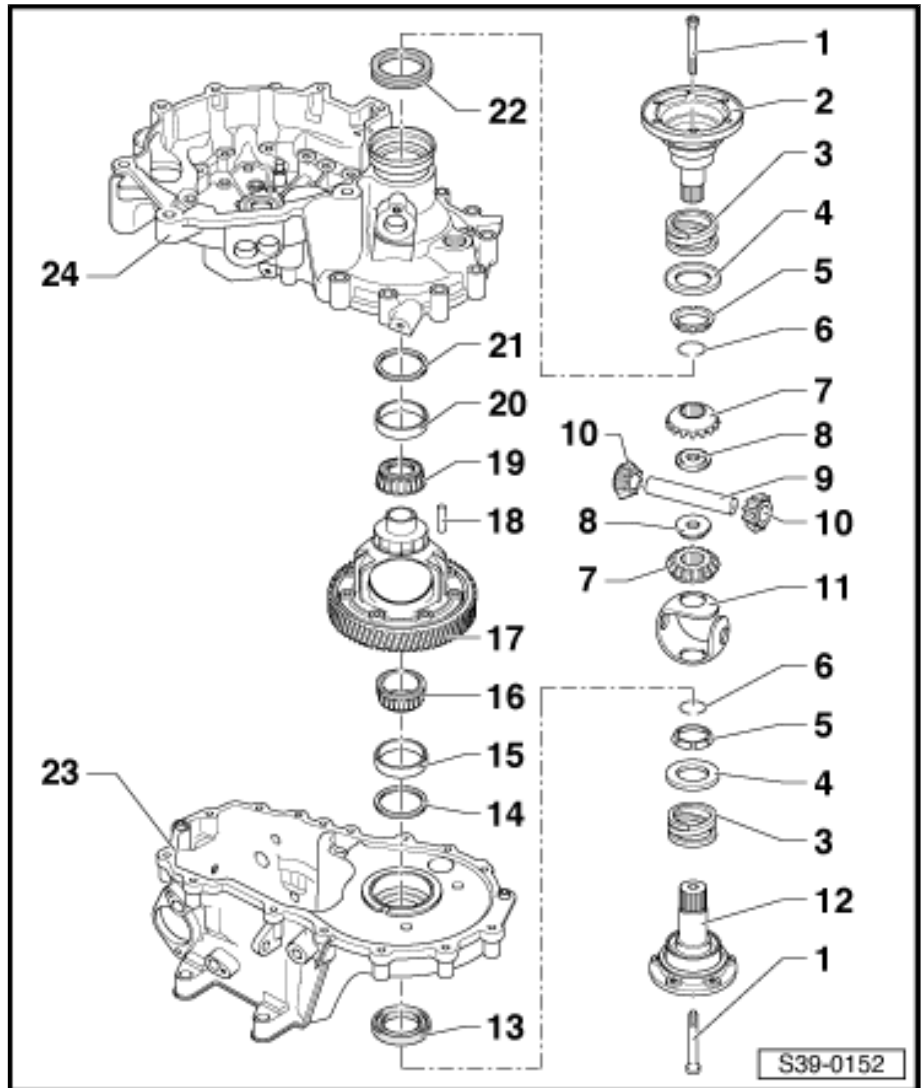
- with rubber bowl
- do not interchange, the left and right flange shafts are different

13 - Sealing ring

- for left flange shaft
- diameter of left and right differ
- replace with installed gearbox ⇒ [page 151](#)

14 - Adjusting washer S₁

- for differential gear
- always 1 mm thick
- on gearboxes made out of aluminium as of production date 12.06 the adjusting washer S₁ for outer ring/tapered-roller bearing is not fitted ⇒ [page 159](#)
- Bearing pedestal for outer ring/tapered-roller bearing is adapted





- Assignment ⇒ Electronic Catalogue of Original Parts

15 - Outer ring/tapered-roller bearing

- removing ⇒ [page 157](#)
- installing ⇒ [page 157](#)

16 - Inner ring/tapered-roller bearing

- Pulling off ⇒ [page 158](#)
- pressing on ⇒ [page 158](#)

17 - Differential gear housing

- with riveted pinion
- is paired with the output shaft, replace together

18 - Tensioning sleeve

- to secure the differential bevel gear shaft
- is cut when removing ⇒ [page 159](#)
- installing ⇒ [page 159](#)

19 - Inner ring/tapered-roller bearing

- Pulling off ⇒ [page 157](#)
- pressing on ⇒ [page 157](#)

20 - Outer ring/tapered-roller bearing

- pressing out ⇒ [page 158](#)
- installing ⇒ [page 158](#)

21 - Adjusting washer S₂

- for differential gear
- Determine thickness ⇒ [page 161](#)

22 - Sealing ring

- for right flange shaft
- diameter of left and right differ
- replace with installed gearbox ⇒ [page 151](#)

23 - Gearbox housing

- is made out of aluminium or magnesium ⇒ [page 1](#)
- on gearboxes made out of aluminium as of production date 12.06 the adjusting washer S₁ -Pos. 14- for outer ring/tapered-roller bearing is not fitted ⇒ [page 159](#)
- Bearing pedestal for outer ring/tapered-roller bearing is adapted
- Assignment ⇒ Electronic Catalogue of Original Parts
- repairing ⇒ [page 126](#)

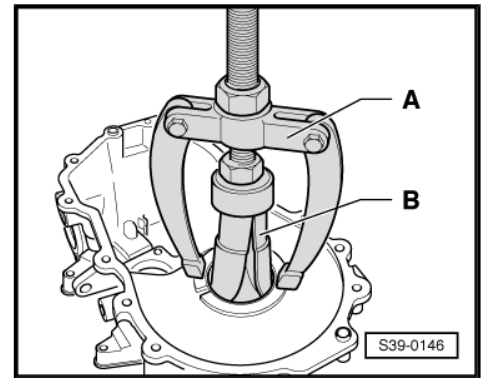
24 - Clutch housing

- is made out of aluminium or magnesium ⇒ [page 1](#)
- Assignment ⇒ Electronic Catalogue of Original Parts
- repairing ⇒ [page 126](#)

Remove outer ring/tapered-roller bearing from gearbox housing

A - Countersupport , e.g. -Kukko 22/2-

B - Interior extractor 46 up to 58 mm , e.g. -Kukko 21/7-



Press in outer ring/tapered-roller bearing in the gearbox housing

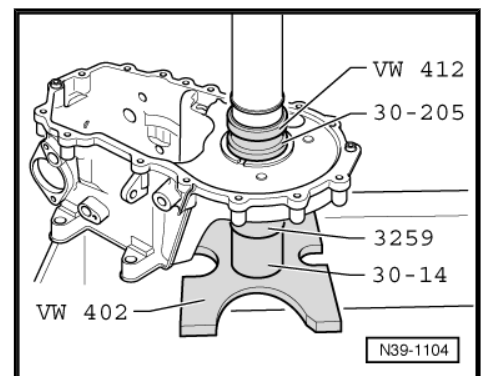
- If necessary, position adjusting washer S₁ always 1 mm thick, under outer ring.



Note

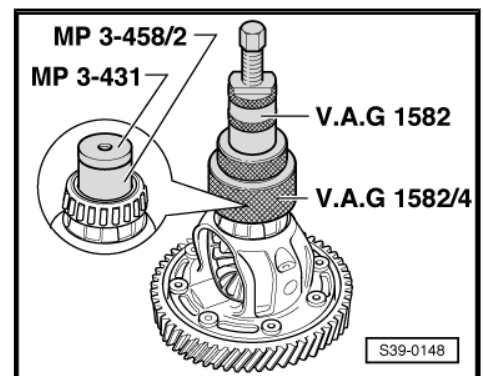
On gearboxes made out of aluminium as of production date 12.06 the adjusting washer S₁ for outer ring/tapered-roller bearing is not fitted The bearing pedestal for outer ring/tapered-roller bearing in the gearbox housing is adapted. Difference between the housings => [page 160](#) .

- Support the gearbox housing with pipe - MP6-419 (3259)- and pressure pipe - MP6-408 (30-14)- directly below the bearing support.



Remove inner ring/tapered-roller bearing on the side of the differential cage

- Before fitting the extractor, position distance sleeve - MP3-458/2- and thrust piece - MP3-431 (3002)- on the differential gear housing.



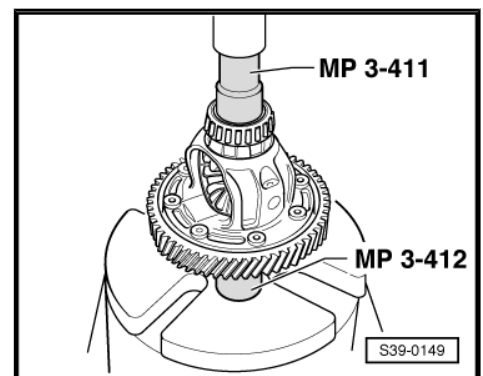
Press on inner ring/tapered-roller bearing on the side of the differential cage



WARNING

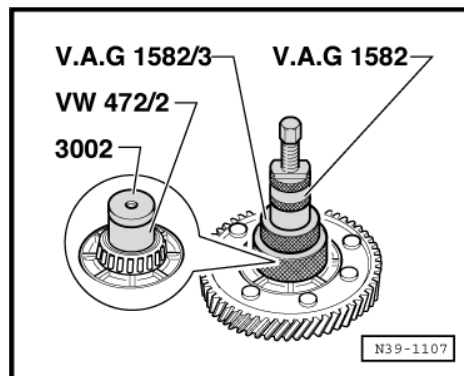
Wear protective gloves!

- Before pressing on, heat the inner ring/tapered-roller bearing with the hot-air blower - V.A.G 1416- to approx. 100°C.
- Support the opposite side of the inner ring with an insertion bushing - MP3-412 (VW 455)- .



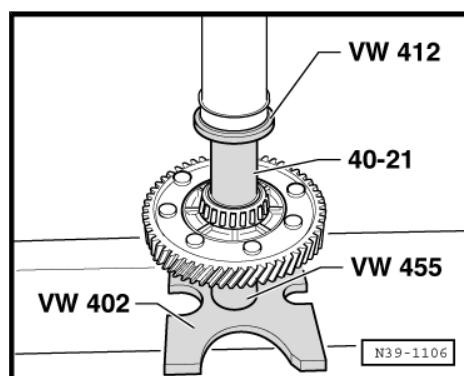
Remove inner ring/tapered-roller bearing on the side of the gear pinion

- Before fitting the extractor, position distance sleeve - MP3-458/2- and thrust piece - MP3-431 (3002)- on the differential gear housing.



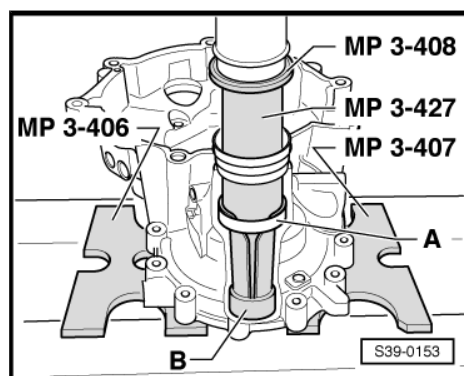
Press on inner ring/tapered-roller bearing on the side of the gear pinion

- Support the opposite side of the inner ring with an insertion bushing - MP3-412 (VW 455)- .



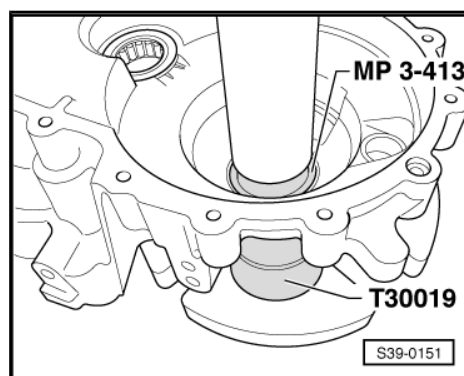
Press the outer ring/tapered-roller bearing -A- out of the clutch housing

- B - Interior extractor 46 up to 58 mm , e.g. -Kukko 21/7-
- While doing so tighten the interior extractor behind the outer ring/tapered-roller bearing.



Press outer ring/tapered-roller bearing into the clutch housing

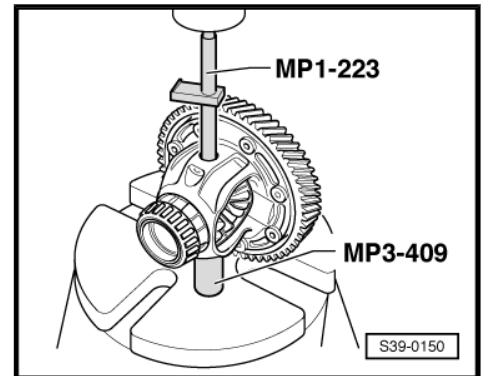
- Support the clutch housing with a pipe for wheel bearing - T30019 (3345)- directly below the bearing support.



Press out differential bevel gear shaft

The tensioning sleeve is cut during pressing out.

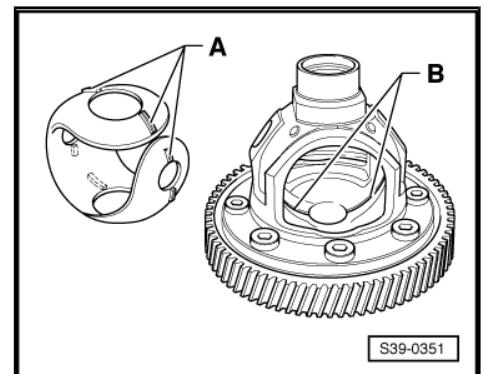
- Remove the remaining parts of the tensioning sleeve out of the differential gear housing and the differential bevel gear shaft.



On certain gearboxes the stop disc compound was provided with lands -A- in the area of the openings.

Therefore the differential gear housing was provided with a round slot -B-.

- Install stop disc compound with gearbox oil.
- Insert the stop disc compound in such a way that it locks into the slot -B- in the differential gear housing.

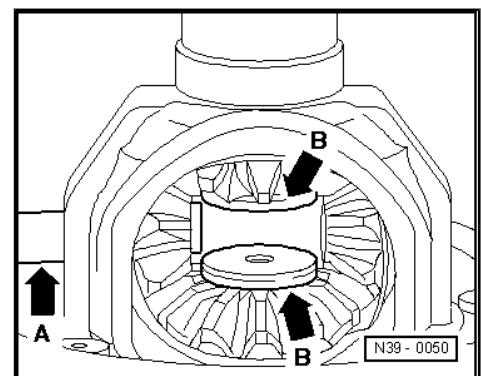


Install differential bevel gears

- Install stop disc compound with gearbox oil.
- Insert both large differential bevel gears and secure (e.g. with flange shafts).
- Insert both small differential bevel gears with a 180° offset.
- Push in the differential bevel gear shaft -arrow A- up to the first small differential bevel gear.
- Insert the threaded parts -arrows B- in the large differential bevel gears.

Fitting position: Heel of the differential bevel gear.

- Insert the differential bevel gear shaft up to stop and secure with new -Spannhülse- .



2.2 Adjusting the differential gear

Special tools and workshop equipment required

- ◆ Gauge block plate - MP3-405/17-
- ◆ Universal dial gauge holder - MP3-447 (VW 387)-
- ◆ Pressure plate - MP3-407 (VW 402)-
- ◆ Pressure plate - MP3-406 (VW 401)-
- ◆ Pressure spindle - MP3-408 (VW 412)-
- ◆ Pressure washer - MP3-413 (VW 510)-
- ◆ Pressure pipe - MP6-408 (30-14)-
- ◆ Pipe - MP6-419 (3259)-
- ◆ Tube for wheel bearing - T30019 (3345)-
- ◆ Drive bushing - MP3-427 (40-21)-

- ◆ Interior extractor , e.g. -Kukko 21/7-
- ◆ Thrust plate - MP3-464 (30-205)-
- ◆ Dial gauge

The differential gear must be re-set when the following components are replaced:

- ◆ Gearbox housing
- ◆ Clutch housing
- ◆ Differential gear housing

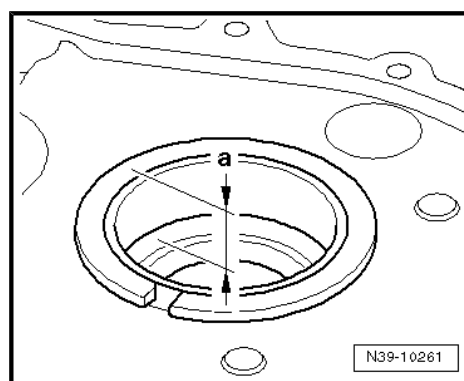
or

- ◆ tapered-roller bearings of the differential gear.

On gearboxes made out of aluminium as of production date 12.06 the adjusting washer S1 for outer ring/tapered-roller bearing is not fitted

Bearing pedestal for outer ring/tapered-roller bearing is adapted.

- Measure the depth of the bearing pedestal for the outer ring/tapered-roller bearing in the clutch housing.



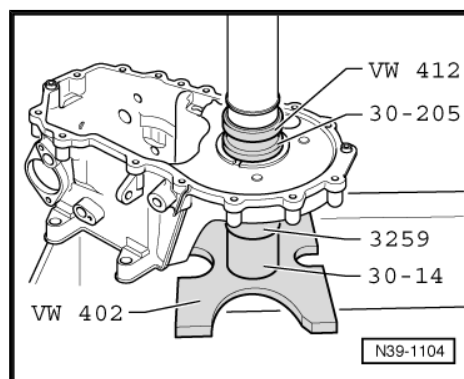
Clearance "a"	Adjusting washer S1
15.2 mm	no
16.2 mm	yes

Continued for all vehicles

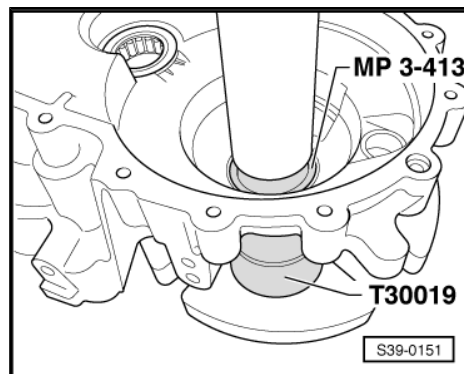
- Press the outer ring/tapered-roller bearing (on the riveted pinion side of the differential housing) with adjusting washer S1 (always 1mm thick) into the clutch housing made out of magnesium or without adjusting washer into the clutch housing made out of aluminium.

Note

The inner and outer rings of the tapered-roller bearing are paired - do not interchange.



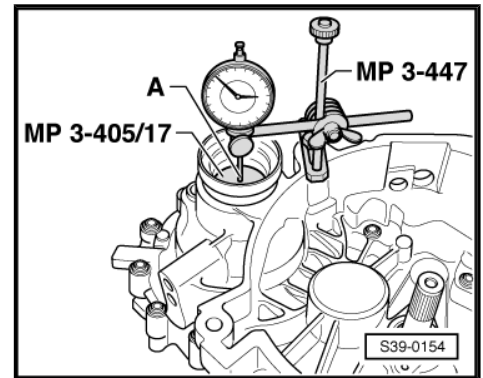
- Press the outer ring/tapered-roller bearing (opposite side) without adjusting washer into the clutch housing.
- Insert the differential gear housing together with the installed inner rings/tapered-roller bearings into the gearbox housing.
- Position the clutch housing and tighten 5 screws to the given tightening torque => [page 116](#) .



- Set the dial gauge to 0 with 1 mm preload on "0".
- A - Dial gauge extension 30 mm
- Set the dial gauge to "0" with 1 mm bias.
- Move the differential gear up and down in the direction of the axle, read off and write down the clearance on the dial gauge (example: 1.50 mm).

i Note

Do not turn the differential gear while measuring as otherwise the bearings will settle and the measuring result will be inaccurate.



2.2.1 Determining the thickness of adjusting washer S₂

The prescribed bearing preload is reached by adding S₂ to the established measured value a constant compression value (0.25 mm and where necessary 0.35 mm).

Example:

For housing made out of magnesium:

measured value	1.50 mm
+ pressure (const. value)	0.35 mm
Thickness of the adjusting washer S ₂	= 1.85 mm

For housing made out of aluminium:

measured value	1.50 mm
+ pressure (const. value)	0.25 mm
Thickness of the adjusting washer S ₂	= 1.75 mm

- Remove the clutch housing and press out the outer ring/tapered-roller bearing -A-.
- B- Interior extractor 46 to 58 mm, e.g. -Kukko 21/7-
- Insert adjusting washer S₂ with the required thickness (in our example 1.75 or 1.85 mm) and press the outer ring/tapered-roller bearing back into the clutch housing.

Assign the adjusting washers via the ⇒ Electronic Catalogue of Original Parts .

Different tolerances allow to measure the required thickness for each washer very precisely.

If the measured washer thickness is greater than the thickest washer listed in the spare parts catalogue, 2 washers corresponding to the measured value may be fitted.

- Position the clutch housing and tighten the screws to the given tightening torque ⇒ [page 116](#) .

