

Workshop Manual Audi A6 2005 ➤

Automatic gearbox 09L, four-wheel drive

Edition 11.2016



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

List of Workshop Manual Repair Groups

Repair Group

- 00 - Technical data
- 32 - Torque converter
- 37 - Controls, housing
- 38 - Gears, control
- 39 - Final drive - front differential



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

All rights reserved.
No reproduction without prior agreement from publisher.

Contents

00 - Technical data	1
1 Gearbox identification	1
2 Notes on 6-speed automatic gearbox 09L	2
3 Code letters, gearbox allocation, transmission ratios, equipment	3
4 Identification of rear final drive	10
5 Gearbox fluid capacities	11
5.1 Capacity of planetary gearbox, ATF section	11
5.2 Capacity of front final drive	11
5.3 Capacity of transfer box	12
5.4 Capacity of rear final drive	12
6 Repair instructions	13
6.1 Contact corrosion	13
6.2 General repair instructions	13
7 Rules for cleanliness when working on the automatic gearbox	17
8 Notes on tow-starting and towing	18
32 - Torque converter	19
1 Identification of torque converter	19
2 Draining torque converter	20
3 Renewing oil seal for torque converter	21
4 Checking torque converter	23
5 Installing torque converter	24
37 - Controls, housing	25
1	25
2 Checking selector mechanism	29
3 Servicing selector mechanism on vehicles up to 11.2005 - exploded view	32
3.1 Selector lever handle, display unit for selector lever position Y26 on vehicles up to 11.2005 - exploded view	34
3.2 Manual release for selector mechanism on vehicles up to 11.2005	34
3.3 Removing and installing selector lever handle on vehicles up to 11.2005	35
3.4 Detaching selector lever boot from selector lever handle on vehicles up to 11.2005	38
3.5 Removing and installing display unit for selector lever position Y26 on vehicles up to 11.2005	38
3.6 Dismantling selector mechanism on vehicles up to 11.2005 - exploded view	39
3.7 Removing and installing selector lever lock solenoid N110 on vehicles up to 11.2005	40
3.8 Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles up to 11.2005	42
3.9 Removing and installing shift unit on vehicles up to 11.2005	43
3.10 Removing and installing gear selector position P switch F305 on vehicles up to 11.2005	45
3.11 Selector lever cable on vehicles up to 11.2005 - exploded view	49
3.12 Removing and installing selector lever cable on vehicles up to 11.2005	51
3.13 Adjusting selector lever cable on vehicles up to 11.2005	53
4 Servicing selector mechanism on vehicles from 11.2005 onwards - exploded view	57
4.1 Selector lever handle and display unit for selector lever position Y26 on vehicles from 11.2005 onwards - exploded view	59
4.2 Manual release for selector mechanism on vehicles from 11.2005 onwards	59
4.3 Removing and installing selector lever handle on vehicles from 11.2005 onwards	60
4.4 Detaching selector lever boot from selector lever handle on vehicles from 11.2005 onwards	63

4.5	Removing and installing display unit for selector lever position Y26 on vehicles from 11.2005 onwards	63
4.6	Shift mechanism on vehicles from 11.2005 onwards - exploded view	64
4.7	Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards	65
4.8	Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles from 11.2005 onwards	65
4.9	Removing and installing gear selector position P switch F305 on vehicles from 11.2005 onwards	66
4.10	Removing and installing shift unit on vehicles from 11.2005 onwards	67
4.11	Selector lever cable on vehicles from 11.2005 onwards - exploded view	69
4.12	Removing and installing selector lever cable on vehicles from 11.2005 onwards	70
4.13	Adjusting selector lever cable on vehicles from 11.2005 onwards	75
4.14	Adjusting selector lever cable to basic setting	77
5	Removing and installing gearbox	79
5.1	Removing gearbox - vehicles with 6-cyl. 3.0 ltr. MPI and 2.8 ltr./3.2 ltr. FSI engine	79
5.2	Removing gearbox - vehicles with 6-cylinder 3.0 ltr. TFSI engine	86
5.3	Removing gearbox - vehicles with 8-cyl. petrol engine	94
5.4	Removing gearbox - vehicles with 6-cyl. TDI engine	94
5.5	Installing gearbox	105
6	Transporting gearbox	111
7	Securing gearbox to engine and gearbox support	112
8	Tunnel cross member, gearbox mounting and gearbox support	113
8.1	Exploded view - tunnel cross member, gearbox mounting and gearbox support	113
8.2	Removing and installing gearbox mounting and gearbox support, vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards	115
8.3	Removing and installing tunnel cross member - vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards	117
8.4	Removing and installing gearbox mounting and gearbox support - vehicles with 6 cyl. TDI engine up to 09.2008	119
9	ATF level in planetary gearbox	122
9.1	Checking and correcting ATF level	122
9.2	Draining ATF and filling up after repairs	125
10	ATF lines	129
10.1	ATF lines and ATF cooler - exploded view for vehicles with 6-cyl. petrol engine and 6-cyl. TDI engine	129
10.2	ATF lines and ATF cooler - exploded view for vehicles with 8-cyl. petrol engine	132
10.3	Removing and installing ATF lines	132
10.4	Cleaning ATF lines and ATF cooler	134
38 - Gears, control		136
1	Oil pan, ATF strainer and mechatronic unit - exploded view	136
1.1	Removing and installing oil pan	138
1.2	Removing and installing ATF strainer	141
1.3	Removing and installing mechatronic unit	142
1.4	Removing and installing wiring harness in gearbox	145
39 - Final drive - front differential		147
1	Gear oil level in front final drive	147
1.1	Checking gear oil level in front final drive	147
1.2	Filling up gear oil in front final drive after repairs	148
2	Servicing front final drive - exploded view	150
2.1	Removing and installing flange shaft (left-side)	151
2.2	Removing and installing flange shaft (right-side)	153
2.3	Renewing oil seal for flange shaft (right-side)	154
2.4	Renewing O-ring on cover for final drive	156

2.5	Renewing oil seal for final drive/gearbox housing	157
2.6	Renewing oil seal for selector shaft	160
3	Gear oil level in transfer box	163
3.1	Checking gear oil level in transfer box	163
3.2	Filling up gear oil in transfer box after repairs	164
4	Servicing transfer box	166
4.1	Removing and installing cover for self-locking centre differential	166
4.2	Renewing oil seal for flange shaft (rear)	169
4.3	Dismantling and servicing gearbox, common faults	172



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



Audi

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

00 – Technical data

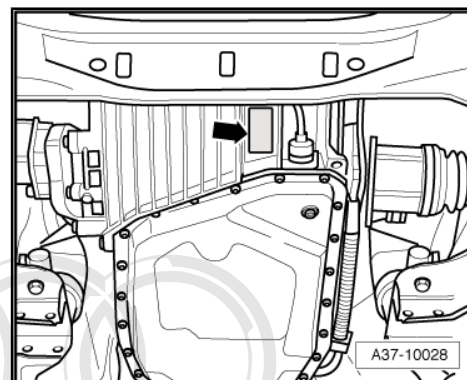
1 Gearbox identification

(ARL005011; Edition 11.2016)

The “6-speed automatic gearbox 09L” is installed in combination with various engine types, and is identified accordingly on the gearbox identification plate. Allocation ➔ [page 3](#) .

Location of identification on gearbox

The gearbox identification plate -arrow- is located on bottom front of gearbox next to the 16-pin connector.



The identification plate lists the following information:

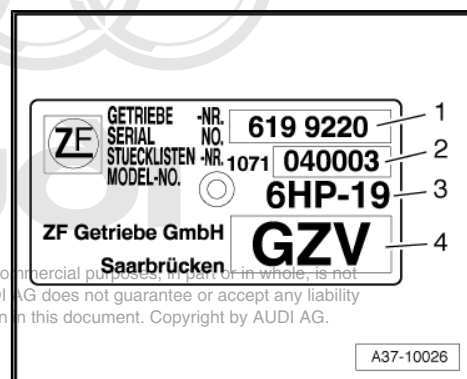
- 1 - Serial number of gearbox
- 2 - Model number
- 3 - Gearbox designation, in this example 6HP19
- 4 - Code letters, in this example GZV

Additional data depend on manufacture.



Note

The code letters for the gearbox are also given on the vehicle data stickers.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

2 Notes on 6-speed automatic gearbox 09L

Gearbox

The 6-speed automatic gearbox 09L, four-wheel drive, has six hydraulically actuated forward gears. When the lock-up clutch is closed these forward gears become mechanically driven gears by cutting out the torque converter slip.

This Workshop Manual describes general repairs that can be performed with the gearbox installed. All further repairs, servicing and common faults can be found in the Workshop Manual ⇒ Servicing automatic gearbox 09L, four-wheel drive; Rep. gr. 00 .

Torque converter

The torque converter is equipped with a slip-controlled lock-up clutch.

Mechatronic unit

The mechatronic unit incorporates the hydraulic control system, the electronic automatic gearbox control unit - J217- , the multi-function switch - F125- and the sensors and actuators as a complete synchronised unit. The mechatronic unit is installed in the gearbox within the oil pan.

Automatic gearbox control unit - J217-

The control unit is part of the mechatronic unit in the gearbox.

The gear change points are calculated automatically (depending on the driving situation and the resistance to motion).

Advantages:

- ◆ Gear changes are timed for maximum fuel economy.
- ◆ Maximum engine output is always available
- ◆ Individual adaptation of gear change points in all driving situations
- ◆ Gear change points are infinitely variable

Self-diagnosis

Before performing repairs to the automatic gearbox, determine the cause of the fault as precisely as possible using "Guided Fault Finding".

Perform "Guided Fault Finding" routine using vehicle diagnostic tester .

Variation of gear-change points for gradients

An additional gear change map automatically selects gear changes for gradients depending on accelerator pedal position and driving speed.

- ◆ Gear change map for extreme uphill gradients is matched to engine output.
- ◆ Gear change map for extreme downhill gradients is matched to the braking effect of the engine.
- ◆ Increased engine braking effect can also be obtained by directly selecting a specific gear via the tiptronic function, e.g. when towing a trailer on downhill gradients.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

3 Code letters, gearbox allocation, transmission ratios, equipment

Automatic gearbox		09L			
Gearbox	Code letters	GUT	GZW	HAV	HFM
	Manufactured	Saloon 01.04 06.04	Saloon 01.04 05.05	Saloon 01.04 08.04	Saloon 04.04 05.05
	from to				
Allocation	Model	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►
	Engine	8-cyl. 4.2 ltr. MPI engine 247 kW	6-cyl. 3.0 ltr. TDI engine 165 kW	6-cyl. 3.2 ltr. FSI engine 188 kW	6-cyl. 3.0 ltr. MPI engine 160 kW
Torque converter Code letters		T84	S76	H77	J77
Primary drive		26 : 28 = 0.929	26 : 30 = 0.867	33 : 29 = 1.138	31 : 30 = 1.033
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.309	3.088	3.539	3.682
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.302	3.081	3.528	3.674

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .

Automatic gearbox		09L			
Gearbox	Code letters	HKG	HKH	HKJ	HKK
	Manufactured	Avant 01.05 Saloon 05.05	Avant 03.05 Saloon 05.05	Avant 01.05	Avant 01.05
	from to				
Allocation	Model	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►
	Engine	6-cyl. 3.0 ltr. TDI engine 165 kW	6-cyl. 3.0 ltr. MPI engine 160 kW	6-cyl. 3.2 ltr. FSI engine 188 kW	8-cyl. 4.2 ltr. MPI engine 247 kW
Torque converter Code letters		S76	N95	H77	T84
Primary drive		26 : 30 = 0.867	31 : 30 = 1.033	33 : 29 = 1.138	26 : 28 = 0.929
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.088	3.682	3.539	3.309
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.081	3.674	3.528	3.302

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .



Automatic gearbox			09L			
Gearbox	Code letters		HLK	HLL	HST	HWD
	Manufactured	from	Saloon 08.04	Saloon 06.04	01.06	05.05
		to	05.05	05.05	05.06	09.05
Allocation	Model		Audi A6 2005 ▶	Audi A6 2005 ▶	Audi A6 2005 ▶	Audi A6 2005 ▶
	Engine		6-cyl. 3.2 ltr. FSI engine 188 kW	8-cyl. 4.2 ltr. MPI engine 247 kW	6-cyl. 2.7 ltr. TDI engine 132 kW	6-cyl. 3.2 ltr. FSI engine 188 kW
Torque converter Code letters			H77	T84	Q95	H77
Primary drive			33 : 29 = 1.138	26 : 28 = 0.929	26 : 30 = 0.867	33 : 29 = 1.138
Spur gear drive to front axle			31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing			32 : 11 = 2.909	30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing			3.539	3.309	3.088	3.539
Rear axle bevel gearing			31 : 10 = 3.100	32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100
Overall rear drive ratio = Rear axle bevel gearing x primary drive			3.528	3.302	3.081	3.528

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .

Automatic gearbox			09L			
Gearbox	Code letters		HWE	HXM	HXN	HYN
	Manufactured	from	05.05	05.05	11.05	10.05
		to				
Allocation	Model		Audi A6 2005 ▶	Audi A6 2005 ▶	Audi A6 2005 ▶	Audi A6 2005 ▶
	Engine		8-cyl. 4.2 ltr. MPI engine 247 kW	6-cyl. 2.7 ltr. TDI engine 132 kW	6-cyl. 3.0 ltr. TDI engine 171 kW	6-cyl. 2.7 ltr. TDI engine 132 kW
Torque converter Code letters			T84	Q95	Z94	F96
Primary drive			26 : 28 = 0.929	26 : 30 = 0.867	26 : 30 = 0.867	26 : 30 = 0.867
Spur gear drive to front axle			31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing			30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing			3.309	3.088	3.088	3.088
Rear axle bevel gearing			32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive			3.302	3.081	3.081	3.081

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .

Automatic gearbox			09L			
Gearbox	Code letters		HYP	HYQ	HYR	HYS

Automatic gearbox		09L			
Manufactured from to		10.05	10.05	10.05	10.05
				05.06	
Allocation	Model	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►
	Engine	6-cyl. 3.0 ltr. TDI engine 165 kW	6-cyl. 3.0 ltr. MPI engine 160 kW	6-cyl. 3.2 ltr. FSI engine 188 kW	8-cyl. 4.2 ltr. MPI engine 247 kW
Torque converter Code letters		F96	D96	D96	G96
Primary drive		26 : 30 = 0.867	31 : 30 = 1.033	33 : 29 = 1.138	26 : 28 = 0.929
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.088	3.682	3.539	3.309
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.081	3.674	3.528	3.302

Select correct version of mechatronic unit according to gearbox code letters ⇒ Electronic parts catalogue .

Automatic gearbox		09L			
Gearbox	Code letters	HZQ	HZR	HZS	JER
	Manufactured from to	03.06	03.06	03.06	09.05
Allocation	Model	Audi A6 2005 ► allroad	Audi A6 2005 ► allroad	Audi A6 2005 ► allroad	Audi A6 2005 ►
	Engine	6-cyl. 2.7 ltr. TDI engine 132 kW	6-cyl. 3.0 ltr. TDI engine 171 kW	6-cyl. 3.2 ltr. FSI engine 188 kW	6-cyl. 3.2 ltr. FSI engine 188 kW
Torque converter Code letters		Z94	Z94	D96	N95
Primary drive		26 : 28 = 0.929	26 : 28 = 0.929	31 : 30 = 1.033	33 : 29 = 1.138
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.309	3.309	3.682	3.539
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.302	3.302	3.674	3.528

Select correct version of mechatronic unit according to gearbox code letters ⇒ Electronic parts catalogue .

Automatic gearbox		09L			
Gearbox	Code letters	JKK	JMK	JML	JMM
	Manufactured from	05.07	05.06	05.06	05.06



Automatic gearbox		09L			
	to	08.08	05.07	05.07	05.07
Allocation	Model	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►
	Engine	6-cyl. 2.8 ltr. FSI engine 154 kW	6-cyl. 2.7 ltr. TDI engine 132 kW	6-cyl. 3.0 ltr. TDI engine 171 kW	6-cyl. 3.2 ltr. FSI engine 188 kW
Torque converter Code letters		N105	Z94	Z94	D96
Primary drive		31 : 30 = 1.033	26 : 30 = 0.867	26 : 30 = 0.867	33 : 29 = 1.138
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.682	3.088	3.088	3.539
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.674	3.081	3.081	3.528

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .

Automatic gearbox		09L			
Gearbox	Code letters	JMN	JMP	JMQ	JMR
	Manufactured from to	05.06	05.06	05.06	05.06
		05.07	05.07	05.07	05.07
Allocation	Model	Audi A6 2005 ► Audi A6 2005 ► allroad	Audi A6 2005 ► allroad	Audi A6 2005 ► allroad	Audi A6 2005 ► allroad
	Engine	8-cyl. 4.2 ltr. FSI engine 254 kW	6-cyl. 2.7 ltr. TDI engine 132 kW	6-cyl. 3.0 ltr. TDI engine 171 kW	6-cyl. 3.2 ltr. FSI engine 188 kW
Torque converter Code letters		N93	Z94	Z94	D96
Primary drive		26 : 28 = 0.929	26 : 28 = 0.929	26 : 28 = 0.929	31 : 30 = 1.033
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.309	3.309	3.309	3.682
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.302	3.302	3.302	3.674

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .

Automatic gearbox		09L			
Gearbox	Code letters	KGW	KGX	KGY	KGZ
	Manufactured from to	05.07	05.07	05.07	05.07
		08.08	08.08	08.08	08.08

Automatic gearbox		09L			
Allocation	Model	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ► Audi A6 2005 ► allroad
	Engine	6-cyl. 2.7 ltr. TDI engine 132 kW	6-cyl. 3.0 ltr. TDI engine 171 kW	6-cyl. 3.2 ltr. FSI engine 188 kW	8-cyl. 4.2 ltr. FSI engine 257 kW
Torque converter	Code letters	Y98	Y98	Z98	N93
Primary drive		26 : 30 = 0.867	26 : 30 = 0.867	33 : 29 = 1.138	26 : 28 = 0.929
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.088	3.088	3.539	3.309
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.081	3.081	3.528	3.302

Select correct version of mechatronic unit according to gearbox code letters ⇒ Electronic parts catalogue

Automatic gearbox			09L			
Gearbox	Code letters		KHA	KHB	KHC	KJC
	Manufactured	from	05.07	05.07	05.07	09.08
		to	08.08	08.08	08.08	
Allocation	Model		Audi A6 2005 ► allroad	Audi A6 2005 ► allroad	Audi A6 2005 ► allroad	Audi A6 2005 ►
	Engine		6-cyl. 3.2 ltr. FSI engine 188 kW	6-cyl. 2.7 ltr. TDI engine 132 kW	6-cyl. 3.0 ltr. TDI engine 171 kW	6-cyl. 3.0 ltr. TDI engine 176 kW
Torque converter	Code letters		Z98	Y98	Y98	N110
Primary drive			31 : 30 = 1.033	26 : 28 = 0.929	26 : 28 = 0.929	26 : 28 = 0.929
Spur gear drive to front axle			31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing			30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333	32 : 11 = 2.909
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing			3.682	3.309	3.309	2.888
Rear axle bevel gearing			32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556	31 : 10 = 3.100
Overall rear drive ratio = Rear axle bevel gearing x primary drive			3.674	3.302	3.302	2.879

Select correct version of mechatronic unit according to gearbox code letters ⇒ Electronic parts catalogue .

Automatic gearbox			09L			
Gearbox	Code letters		KJD	KKS	KKT	KKU
	Manufactured	from	09.08	09.08	09.08	09.08
		to				



Automatic gearbox		09L			
Allocation	Model	Audi A6 2005 ► allroad	Audi A6 2005 ►	Audi A6 2005 ►	Audi A6 2005 ► Audi A6 2005 ► allroad
	Engine	6-cyl. 3.0 ltr. TDI engine 176 kW	6-cyl. 2.8 ltr. FSI engine 162 kW	6-cyl. 3.0 ltr. TFSI engine 213 kW	8-cyl. 4.2 ltr. FSI engine 257 kW
Torque converter	Code letters	N110	S110	P110	T110
Primary drive		26 : 30 = 0.867	31 : 30 = 1.033	26 : 30 = 0.867	26 : 28 = 0.929
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.088	3.682	3.088	3.309
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.081	3.674	3.081	3.302

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .

Automatic gearbox		09L			
Gearbox	Code letters	KPJ	KPK	LWC	LWD
	Manufactured from to	09.08	09.08	09.08	09.08
Allocation	Model	Audi A6 2005 ►	Audi A6 2005 ► allroad	Audi A6 2005 ►	Audi A6 2005 ► allroad
	Engine	6-cyl. 2.7 ltr. TDI engine 136 kW	6-cyl. 2.7 ltr. TDI engine 136 kW	6-cyl. 2.7 ltr. TDI engine 136 kW	6-cyl. 2.7 ltr. TDI engine 136 kW
Torque converter	Code letters	Q110	Q110	Z110	Z110
Primary drive		26 : 28 = 0.929	26 : 30 = 0.867	26 : 28 = 0.929	26 : 30 = 0.867
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069	31 : 29 = 1.069
Front axle bevel gearing		32 : 11 = 2.909	30 : 9 = 3.333	32 : 11 = 2.909	30 : 9 = 3.333
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		2.888	3.088	2.888	3.088
Rear axle bevel gearing		31 : 10 = 3.100	32 : 9 = 3.556	31 : 10 = 3.100	32 : 9 = 3.556
Overall rear drive ratio = Rear axle bevel gearing x primary drive		2.879	3.081	2.879	3.081

Select correct version of mechatronic unit according to gearbox
code letters ⇒ Electronic parts catalogue .

Copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Automatic gearbox		09L			
Gearbox	Code letters	MCC	MCD		
	Manufactured from to	06.09	06.09		

Automatic gearbox		09L			
Allocation	Model	Audi A6 2005 ▶ Audi A6 2005 ▶ allroad	Audi A6 2005 ▶ Audi A6 2005 ▶ allroad		
	Engine	6-cyl. 3.0 ltr. TFSI engine 213 kW	8-cyl. 4.2 ltr. FSI engine 254 kW		
Torque converter Code letters		P110	T110		
Primary drive		26 : 30 = 0.867	26 : 28 = 0.929		
Spur gear drive to front axle		31 : 29 = 1.069	31 : 29 = 1.069		
Front axle bevel gearing		30 : 9 = 3.333	30 : 9 = 3.333		
Overall front drive ratio = Primary drive x spur gear drive x bevel gearing		3.088	3.309		
Rear axle bevel gearing		32 : 9 = 3.556	32 : 9 = 3.556		
Overall rear drive ratio = Rear axle bevel gearing x primary drive		3.081	3.302		

Select correct version of mechatronic unit according to gearbox code letters ⇒ Electronic parts catalogue .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

4 Identification of rear final drive

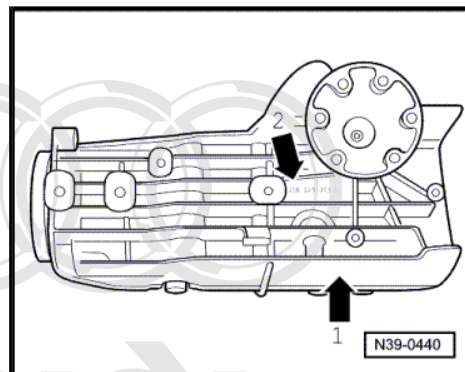
The final drives 01R and 0AR are allocated to the four-wheel drive automatic gearbox 09L.

Allocation ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .

Location on final drive

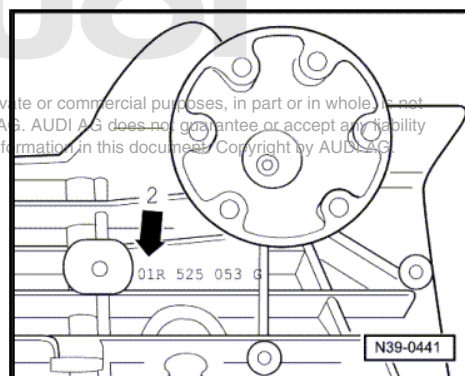
Code letters and date of manufacture -arrow 1-

Final drives 01R and 0AR -arrow 2-



Final drives 01R and 0AR -arrow 2-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

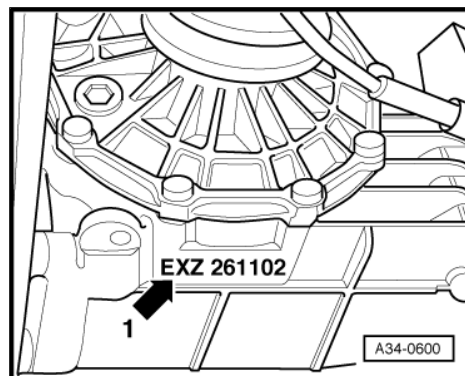


Code letters and date of manufacture of final drive -arrow 1-

Example:	EXZ	26	11	02
	Code letters	Day	Month	Year of manufacture (2002)

Additional data depend on manufacture.

Code letters, ratios, capacities ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .



5 Gearbox fluid capacities

Overview:

- ◆ ⇒ [“5.1 Capacity of planetary gearbox, ATF section”, page 11](#)
- ◆ ⇒ [“5.2 Capacity of front final drive”, page 11](#)
- ◆ ⇒ [“5.3 Capacity of transfer box”, page 12](#)
- ◆ ⇒ [“5.4 Capacity of rear final drive”, page 12](#)

5.1 Capacity of planetary gearbox, ATF section

ATF section in gearbox

Capacities	6-speed automatic gearbox 09L, planetary gearbox
Initial filling	9.8 ltr.
Fluid change	No change required Change after repair, e.g. if oil pan has been removed: approx. 8 litres
Lubricant	ATF Select correct type ⇒ Electronic parts catalogue

 **Caution**
Risk of damage to gearbox

- ◆ *Different types of ATF are available for this gearbox. The correct type is determined according to the gearbox code and gearbox number in the ⇒ Electronic parts catalogue.*
- ◆ *Use only the correct type of ATF (available as a replacement part) for the planetary gearing in automatic gearbox 09L.*
- ◆ *Other types of oil cause malfunctions and/or failure of the gearbox.*
- ◆ *For the correct type, refer to ⇒ **Electronic parts catalogue**.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of Audi AG. Audi AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- ⇒ [“9.1 Checking and correcting ATF level”, page 122](#)
- ⇒ [“9.2 Draining ATF and filling up after repairs”, page 125](#)

5.2 Capacity of front final drive

Capacities	Front final drive	Automatic gearbox
Initial filling	1.1 ltr.	09L
Oil change	No change required Lifetime filling: change only after repairs: up to 1.1 litres if final drive cover has been removed	
Lubricant	Gear oil Select correct type ⇒ Electronic parts catalogue	



Caution

Risk of damage to gearbox

- ◆ *Different types of gear oil are available for this gearbox.*
- ◆ *Other types of oil cause malfunctions and/or failure of the gearbox.*
- ◆ *For the correct type, refer to ⇒ [Electronic parts catalogue](#) .*

- Check gear oil level in front final drive ⇒ [page 147](#) .

5.3 Capacity of transfer box

Capacities	Transfer box	Automatic gearbox
Initial filling	0.55 ltr.	09L
Oil change	No change required Lifetime filling: change only after repairs, up to 0.55 litres if cover for self-locking centre differential has been removed	
Lubricant	Gear oil Select correct type ⇒ Electronic parts catalogue	



Caution

Risk of damage to gearbox

- ◆ *Different types of gear oil are available for this gearbox.*
- ◆ *Other types of oil cause malfunctions and/or failure of the gearbox.*
- ◆ *For the correct type, refer to ⇒ [Electronic parts catalogue](#) .*

- Check gear oil level in transfer box ⇒ [page 163](#) .

5.4 Capacity of rear final drive

- Checking gear oil level in rear final drive ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .

Capacities and specifications ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .

6 Repair instructions

Overview:

- ◆ ⇒ [“6.1 Contact corrosion”, page 13](#)
- ◆ ⇒ [“6.2 General repair instructions”, page 13](#)

6.1 Contact corrosion

Contact corrosion can occur if unsuitable fasteners (bolts, nuts, washers etc.) are used.

For this reason, only fasteners with a special surface coating are fitted.

Rubber or plastic parts and adhesives also consist of non-conductive materials.

If you are not sure whether used parts can be re-installed, always fit new parts ⇒ Electronic parts catalogue .

Please note:

- ◆ Use only genuine spare parts: these have been fully tested and are compatible with aluminium.
- ◆ We recommend the use of accessories approved by Audi.
- ◆ Damage caused by contact corrosion is not covered by warranty.

6.2 General repair instructions

Proper tools and the maximum possible care and cleanliness are essential for satisfactory repairs. The usual basic safety precautions also naturally apply when carrying out repair work.

To avoid repetition, a number of generally applicable instructions for the various repair procedures are summarised here. They apply to the work described in this Manual.



WARNING

Prior to performing work with engine running, move selector lever to position “P” and pull up parking brake button to apply the electromechanical parking brake.

Environmental and waste disposal regulations for oil

ATF, gear oil and any other type of oil must be handled with care. Dispose of drained oil properly. Always adhere to statutory environmental and waste disposal regulations.

Special tools

For a complete list of special tools used in this Workshop Manual ⇒ “Workshop equipment and special tools” .

Manual release of the selector mechanism

If the battery has been disconnected or is fully discharged and you need to tow or push the vehicle, please note that you will have to manually release the selector mechanism from position “P” in order to be able to move it from “P” to “N”: vehicles up to 11.2005 ⇒ [page 34](#) , vehicles from 11.2005 onwards ⇒ [page 59](#) .

Gearbox

- ◆ Rules for cleanliness when working on the automatic gearbox ⇒ [page 17](#)



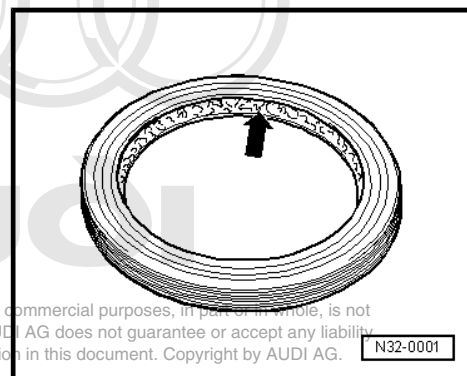
- ◆ Do not run engine or tow vehicle with oil pan removed or when there is no ATF in the gearbox.
- ◆ If gearbox has been removed from vehicle, secure torque converter to prevent it from falling out.
- ◆ Thoroughly clean all joints and connections and the surrounding areas before disconnecting.
- ◆ Check position of torque converter (installed depth) before installing gearbox ⇒ [page 24](#) .
- ◆ When installing gearbox ensure dowel sleeves are correctly seated.
- ◆ Carefully cover or seal open components if repairs cannot be carried out immediately.
- ◆ When fitting a new automatic gearbox, check the following fluid levels and top up if necessary: ATF in the planetary gearbox ⇒ [page 122](#) , the gear oil in the front final drive ⇒ [page 147](#) , the gear oil in the transfer box ⇒ [page 163](#) . Capacities and specifications ⇒ [page 11](#)
- ◆ When fitting a new rear final drive, check the oil level in the rear final drive and top up if necessary. Capacities and specifications ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .



Copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without express authorisation by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

O-rings, oil seals, seals and gaskets

- ◆ Always renew O-rings, oil seals, seals and gaskets after removal.
- ◆ After removing gaskets and seals, always inspect the contact surface on the housing or shaft for burrs resulting from removal or for other signs of damage.
- ◆ Before installing oil seals, fill the space between the sealing lips -arrow- about half full with grease - G 052 128 A1- .
- ◆ The open side of the oil seal should face the side containing the fluid.
- ◆ Before installing, lightly lubricate outer circumference and sealing lips of oil seals with ATF or gear oil, depending on fitting location.
- ◆ Lightly lubricate O-rings with ATF before installation to prevent them from being crushed during assembly.
- ◆ Use only ATF for parts running in ATF. Other lubricants will cause malfunction of the gearbox hydraulics.
- ◆ When installing a new oil seal, position the seal such that the sealing lip does not contact the shaft in the same place as the old seal (make use of installation depth tolerances).
- ◆ Renew paper gaskets, clean all sealing surfaces thoroughly and remove previous gaskets completely.
- ◆ After installing check fluid levels in affected areas and correct if necessary: Capacities and specifications ⇒ [page 11](#)



Nuts, bolts

- ◆ Slacken bolts in reverse sequence to the specified tightening sequence.
- ◆ Nuts and bolts which secure covers and housings should be loosened and tightened in diagonal sequence and in stages if no tightening sequence is specified.
- ◆ The tightening torques stated apply to non-oiled nuts and bolts.
- ◆ Always renew self-locking bolts and nuts.
- ◆ Use a wire brush to clean the threads of bolts which are secured with locking fluid. Then install bolts with locking fluid; for locking fluid refer to ⇒ Electronic parts catalogue .
- ◆ Threaded holes which take self-locking bolts or bolts coated with locking fluid must be cleaned (using a tap or similar). Otherwise there is a danger of the bolts shearing off the next time they are removed.

Locking elements

- ◆ Do not over-stretch circlips.
- ◆ Always renew circlips which have been damaged or over-stretched.
- ◆ Circlips must be properly seated in the base of the groove.
- ◆ Renew spring pins. Installation position: slot must be in line with direction of force.

Bearings

- ◆ Install needle bearings so the lettering (side with thicker metal) faces towards the installing tool.
- ◆ Lubricate bearings with gear oil or ATF, depending on fitting location.
- ◆ Do not interchange inner or outer races of bearings of the same size.
- ◆ Always renew the tapered roller bearings on one shaft together and use new bearings from a single manufacturer.

Shims

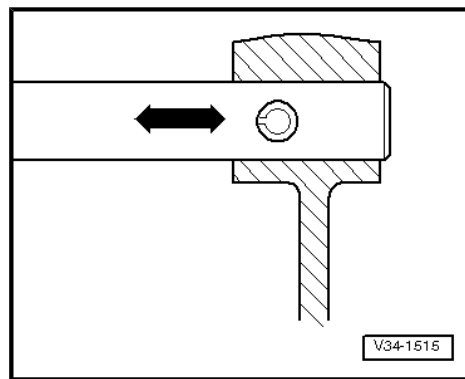
- ◆ Use a micrometer to measure the shims at several points. Tolerance variations make it possible to obtain the exact shim thickness required.
- ◆ Check for burrs and damage. Install only shims which are in perfect condition.

Mechatronic unit



Caution

- ◆ ***Before touching or removing the mechatronic unit, always discharge any static electricity by touching an earthed metal part, such as vehicle earth, a heater radiator or lifting platform with your hand.***
- ◆ ***DO NOT touch the 16 contacts in the connector with your hands, as static discharge can seriously damage the control unit and mechatronic unit.***



- ◆ Renew the gearbox if any of the shift elements are scorched.
- ◆ Select correct version of mechatronic unit according to gearbox code letters ⇒ Electronic parts catalogue .

Guided Fault Finding, Vehicle self-diagnosis and Test Instruments

- ◆ Before servicing the automatic gearbox, the cause of the fault should be identified as accurately as possible using the vehicle diagnostic tester via "Guided Fault Finding", "Vehicle Self-diagnosis" and "Test Instruments".

7 Rules for cleanliness when working on the automatic gearbox

- ◆ Thoroughly clean all joints and connections and the surrounding areas before disconnecting.
- ◆ Use cleaning fluid - D 009 401 04- to clean the gearbox and its components.
- ◆ Use lint-free cloths for cleaning; Audi recommends the "WY-PALL X70 / WORKHORSE" cloth from Kimberly-Clark Professional.
- ◆ Seal off open lines and connections immediately using clean plugs or protective caps.
- ◆ After removal, place parts on a clean surface and cover them. Use sheeting or lint-free cloths.
- ◆ Carefully cover or seal open components if repairs cannot be carried out immediately.
- ◆ Only install clean components; replacement parts should only be unpacked immediately prior to installation.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



8 Notes on tow-starting and towing



Caution

When the vehicle is towed, the selector lever must be set to position "N" and the vehicle must not be towed for a distance of more than 50 km or at a speed in excess of 50 km/h, as the gearbox would otherwise be seriously damaged.



Note

It is not possible to start the engine by means of tow-starting, for instance in the case of insufficient battery charge or if the starter is not working.

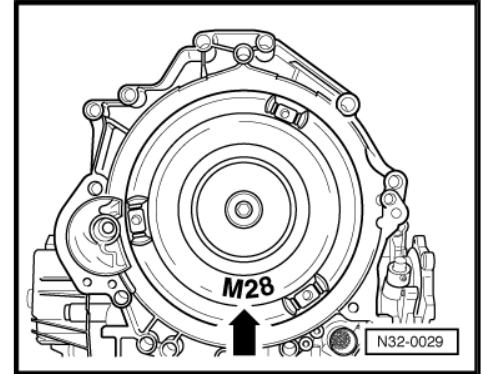
If the battery has been disconnected or is fully discharged and you need to tow or push the vehicle, please note that you will have to manually release the selector mechanism from position "P" in order to be able to move it from "P" to "N": vehicles up to 11.2005 ⇒ [page 34](#) , vehicles from 11.2005 onwards ⇒ [page 59](#) .

32 – Torque converter

1 Identification of torque converter

There are various types of torque converter. They are marked with code letters -arrow-.

Torque converter/gearbox allocation ⇒ [page 3](#) .

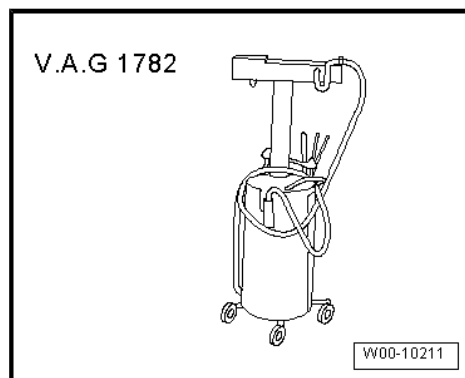


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

2 Draining torque converter

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



Note

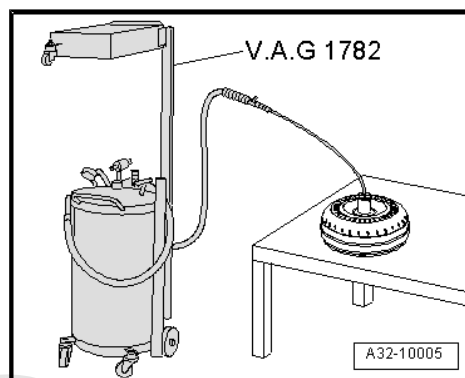
- ◆ *Rules for cleanliness when working on the automatic gearbox*
⇒ [page 17](#)
- ◆ *General repair instructions* ⇒ [page 13](#).

Procedure

- Torque converter removed

If the ATF has become contaminated by abrasion, or when performing a major gearbox overhaul, drain the torque converter as follows:

- Extract ATF from torque converter with used oil collection and extraction unit - V.A.G 1782- .

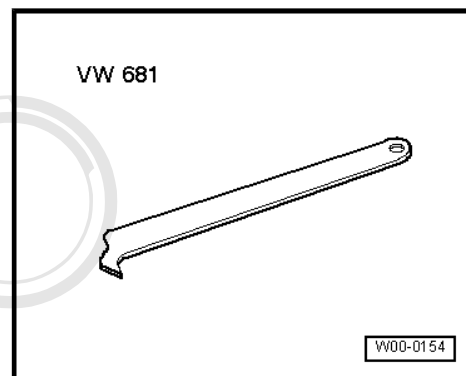


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

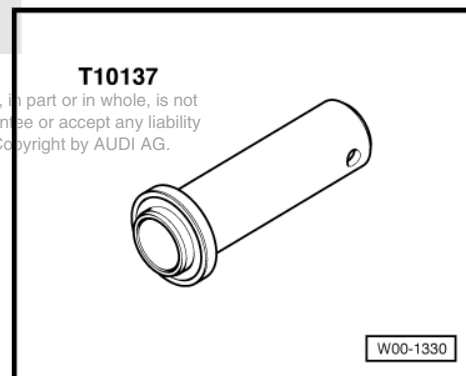
3 Renewing oil seal for torque converter

Special tools and workshop equipment required

- ◆ Extractor lever - VW 681-



- ◆ Thrust piece - T10137-



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



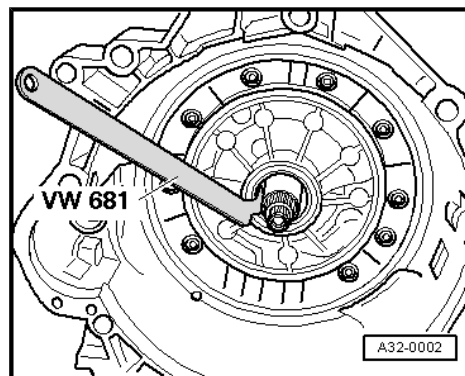
Note

- ◆ *Rules for cleanliness when working on the automatic gearbox*
⇒ [page 17](#)
- ◆ *General repair instructions* ⇒ *[page 13](#)*.
- ◆ *Apply thin coat of ATF to oil seals. Other types of lubricant will cause the gearbox hydraulics to malfunction.*

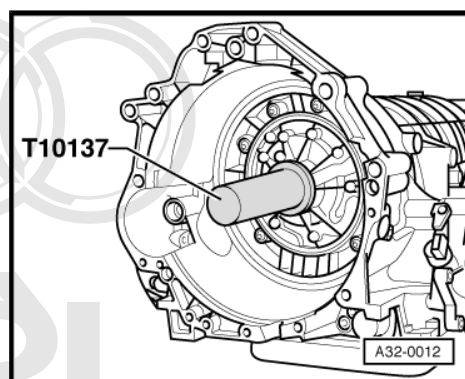
Procedure

- Remove gearbox:
- ◆ Vehicles with 6-cyl. 3.0 ltr. MPI and 2.8 ltr./3.2 ltr. FSI engine
⇒ *[page 79](#)*
- ◆ Vehicles with 6-cyl. 3.0 ltr. TFSI engine ⇒ *[page 86](#)*
- ◆ Vehicles with 8-cyl. petrol engine ⇒ *[page 94](#)*
- ◆ Vehicles with 6-cyl. TDI engine ⇒ *[page 94](#)*
- Secure gearbox to assembly stand ⇒ *[page 112](#)*.
- Carefully pull out torque converter.

- Remove oil seal for torque converter using oil seal extractor lever - VW 681- .
- Lightly lubricate outer circumference and sealing lips of oil seal with ATF.
- Installation position: open side of oil seal points towards gear-box



- Drive in torque converter oil seal with thrust piece - T10137- until thrust piece reaches stop.



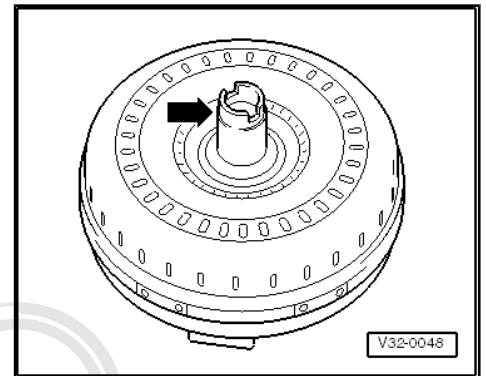
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

4 Checking torque converter

- Check hub -arrow- of torque converter for scoring.



The torque converter is a welded assembly and must be renewed as a complete unit in the event of any damage or defects.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

5 Installing torque converter

Special tools and workshop equipment required

- ◆ Depth gauge



Note

- ◆ *Rules for cleanliness when working on the automatic gearbox*
⇒ [page 17](#)
- ◆ *General repair instructions* ⇒ [page 13](#).

Installing

- Press torque converter hub through oil seal as far as first stop.
- Lightly press torque converter inwards and turn until slots on torque converter hub engage in drive lugs on ATF pump gear and torque converter slides in a noticeable distance.

Installation depth

If the torque converter is correctly installed, the depth between the contact faces of the tapped holes on the torque converter and the contact surface of the torque converter bell housing is at least 19 mm.



Caution

If the torque converter is not fitted correctly, the torque converter drive lugs or the ATF pump will be irreparably damaged when the gearbox is joined to the engine.

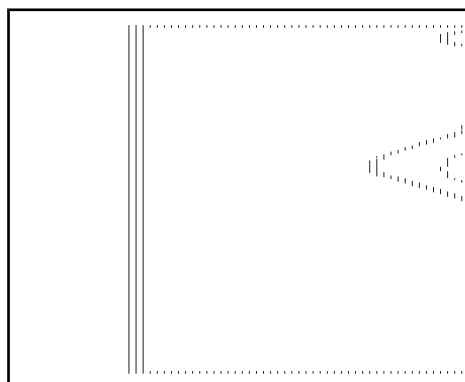
- Use new ribbed bolts to secure the torque converter to the drive plate.

When you subsequently install the gearbox, it is particularly important to observe the following instructions.



Caution

Before and while you are tightening the bolts on the engine/gearbox flange keep checking that the torque converter can still be rotated behind the drive plate. If the converter cannot be turned, it must be assumed that it has not been installed correctly and the drive lugs on the converter or the ATF pump will be damaged when the bolts are fully tightened.



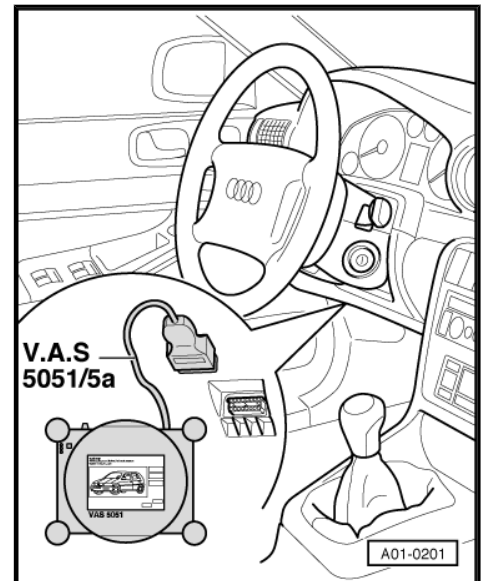
37 – Controls, housing

1 Electrical/electronic components and fitting locations

Diagnostic connection

- ◆ Fitting location: The diagnostic connection is located below the knee padding to the left of the steering wheel.

The components listed below can be tested via the “Guided Fault Finding” function with the vehicle diagnostic tester .



Mechatronic unit

- ◆ Fitting location: the mechatronic unit is bolted to the underside of the gearbox housing and covered by the gearbox oil pan.

The mechatronic unit incorporates the hydraulic control system, the electronic control unit and the sensors and actuators as a complete synchronised unit. This includes:

- ◆ Automatic gearbox control unit - J217-
- ◆ Multifunction switch - F125-
- ◆ Gearbox input speed sender - G182-
- ◆ Gearbox output speed sender - G195-

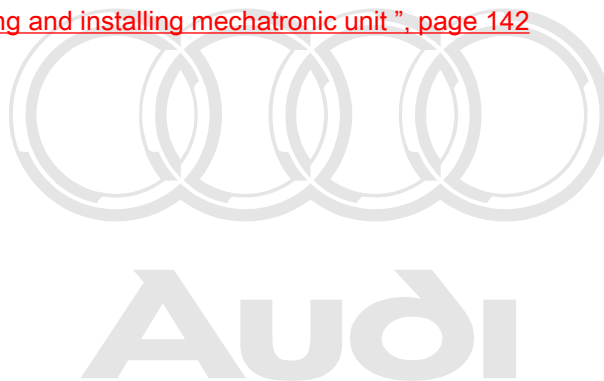
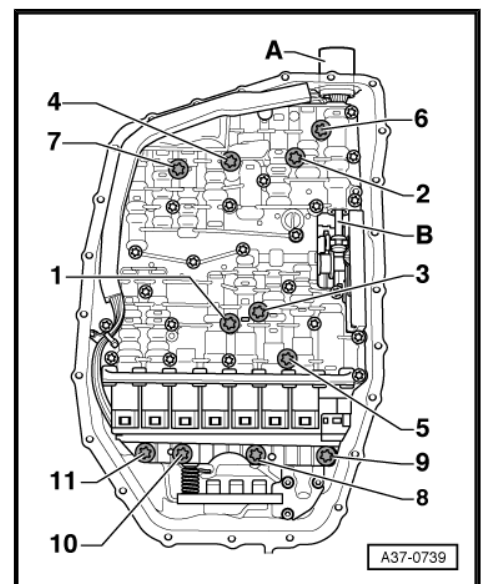
The mechatronic unit can only be replaced as a complete unit.



Note

All components mentioned are tested via self-diagnosis.

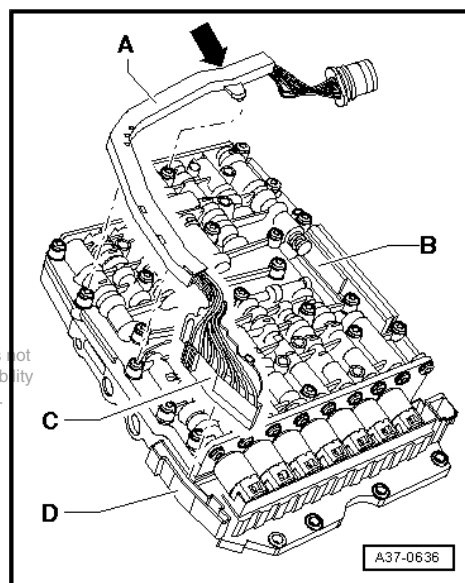
⇒ [“1.3 Removing and installing mechatronic unit”, page 142](#)



Internal gearbox wiring harness

- ◆ Fitting location: the wiring harness -A- with connector -C- is attached to the mechatronic unit -B-.

⇒ [“1.4 Removing and installing wiring harness in gearbox”, page 145](#)



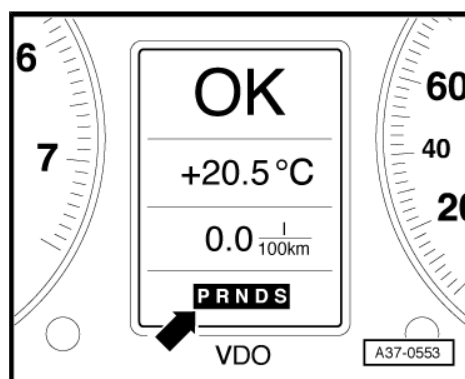
Selector lever position display - Y6-

- ◆ Fitting location: integrated into instrument cluster.



Note

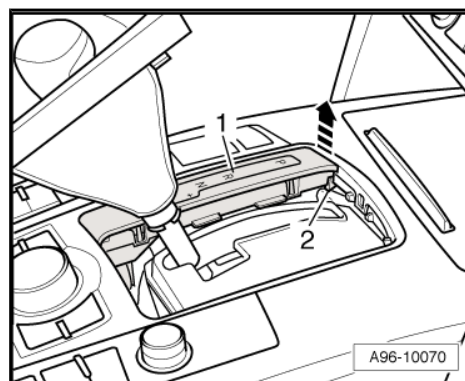
The selector lever position display - Y6- can only be renewed together with the instrument cluster.



Selector lever position display - Y26-

- ◆ Fitting location: the display unit for selector lever position - Y26- -item 1- is clipped into the centre console.

⇒ [“3.5 Removing and installing display unit for selector lever position Y26 on vehicles up to 11.2005”, page 38](#) or
 ⇒ [“4.5 Removing and installing display unit for selector lever position Y26 on vehicles from 11.2005 onwards”, page 63](#) .



Kickdown switch - F8-

- ◆ A specific value for the accelerator position sender - G79- and accelerator position sender 2 - G185- is stored in the engine control unit.

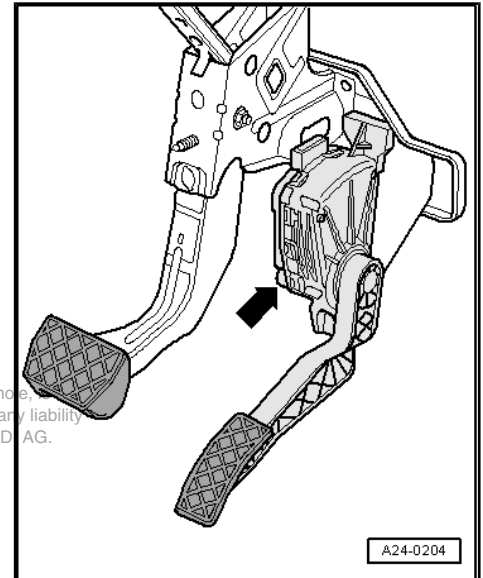
Fitting location: the accelerator position senders are integrated in the accelerator pedal module -arrow-.



Note

Renew accelerator pedal module if accelerator position sender is defective ⇒ Rep. gr. 20.

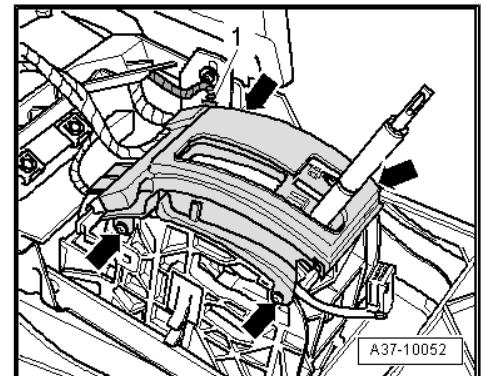
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



Selector lever sensors control unit - J587- and tiptronic switch - F189- - vehicles up to 11.2005

- ◆ Fitting location: the selector lever sensors control unit - J587- and the tiptronic switch - F189- are combined in a single component -2- which is secured onto the shift unit -arrows-.

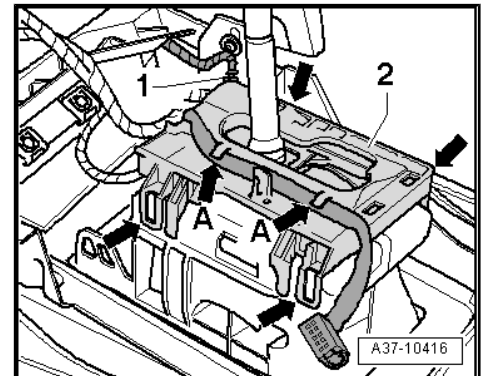
⇒ [“3.8 Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles up to 11.2005”, page 42](#).



Selector lever sensors control unit - J587- and tiptronic switch - F189- - vehicles from 11.2005 onwards

- ◆ Fitting location: the selector lever sensors control unit - J587- and the tiptronic switch - F189- are combined in a single component -2- which is clipped onto the shift unit -arrows-.

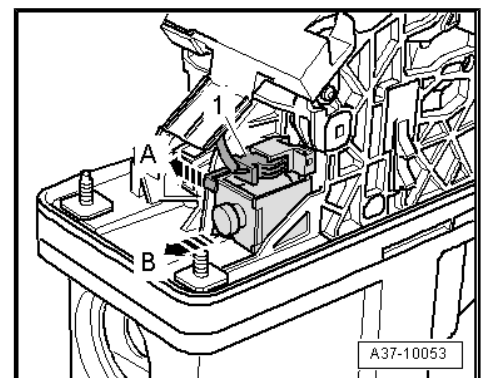
⇒ [“4.8 Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles from 11.2005 onwards”, page 65](#).



Selector lever lock solenoid - N110- - vehicles up to 11.2005

- ◆ Fitting location: the selector lever lock solenoid - N110- -item 1- is clipped onto the selector mechanism.

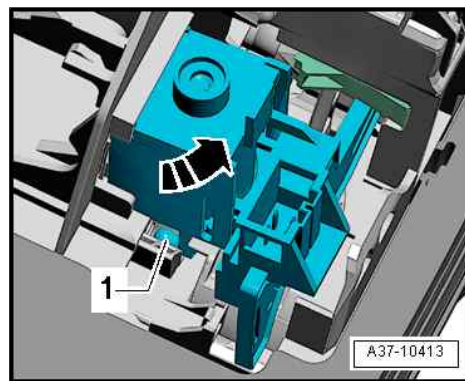
⇒ [“3.7 Removing and installing selector lever lock solenoid N110 on vehicles up to 11.2005”, page 40](#)



Selector lever lock solenoid - N110- - vehicles from 11.2005 onwards

- ◆ Fitting location: the selector lever lock solenoid - N110- -item 1- is clipped onto the selector mechanism.

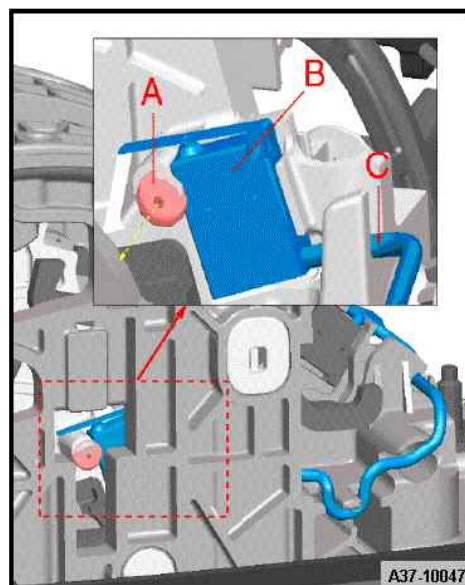
⇒ ["4.7 Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards", page 65](#)



Gear selector position P switch - F305- - vehicles up to 11.2005

- ◆ Fitting location: Gear selector position P switch - F305- consists of two microswitches -1- and -2- secured to the right of the selector mechanism.

⇒ ["3.10 Removing and installing gear selector position P switch F305 on vehicles up to 11.2005", page 45](#)

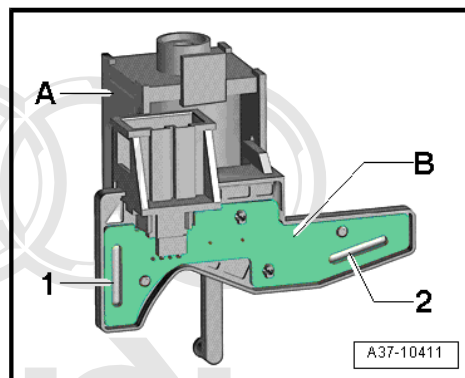


Gear selector position P switch - F305- - vehicles from 11.2005 onwards

- ◆ Fitting location: Gear selector position P switch - F305- consists of two microswitches -1- and -2- installed on printed circuit board -B- in selector lever lock solenoid - N110- -A-.

Gear selector position P switch - F305- can only be renewed together with selector lever lock solenoid - N110-

⇒ ["4.7 Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards", page 65](#) .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

2 Checking selector mechanism

Overview:

- ◆ 1. Checking operation of selector mechanism ⇒ [page 29](#)
- ◆ 2. Checking ignition key removal lock ⇒ [page 30](#)
- ◆ 3. Checking interlock button on selector lever handle
⇒ [page 30](#)

1. Checking operation of selector mechanism

- It should not be possible to operate the starter while the selector lever is in position "S", "D", "R" or in the "tiptronic gate".
- When travelling at speeds above 5 km/h and shifting into selector lever position "N", the solenoid for the selector lever lock must not engage and block the selector lever. The selector lever can be shifted into a driving gear.
- When travelling at speeds below 2 km/h (almost stationary) and shifting into selector lever position "N", the solenoid for the selector lever lock should only engage after about 1 second. Selector lever cannot be shifted out of "N" position until brake pedal is depressed.

Selector lever in "P" position and ignition switched on:

- Do not depress brake pedal.
- The selector lever is locked and cannot be shifted out of "P" position, even when the interlock button on the handle is pressed in. Selector lever lock solenoid - N110- blocks selector lever.
- Press and hold brake pedal.
- Selector lever lock solenoid - N110- releases selector lever. It is possible to shift into a driving gear. With interlock button on selector lever handle pressed, shift selector lever slowly from "P" position through "R, N, D and S" and check whether the selector lever position display - Y6- in the instrument cluster shows the correct selector lever position in each case.

Selector lever in position "N" and ignition switched on:

- Do not depress brake pedal.
- After a short delay: Selector lever is locked and cannot be shifted out of "N" position even when pressing the interlock button on the selector lever handle. Selector lever lock solenoid - N110- blocks selector lever.
- Depress brake pedal.
- Selector lever lock solenoid - N110- releases selector lever. Shifting into position "D" is possible.

Selector lever in position "D", ignition switched on:

- Shift selector lever into "tiptronic gate".
- The illuminated "D" symbol in the selector lever position display - Y26- should go out and the "+" and "-" symbols should light up.
- The selector lever position display - Y6- in the instrument cluster should change from "PRNDS" to "654321" when the selector lever is moved into the "tiptronic gate".

If results do not match specifications:

- Perform "Guided Fault Finding" using the vehicle diagnostic tester.

- Adjust selector lever cable: vehicles up to 11.2005
⇒ [page 53](#) , vehicles from 11.2005 onwards ⇒ [page 75](#) .
- Check interlock button on selector lever handle ⇒ [page 30](#) .
- Check ignition key removal lock.

2. Checking ignition key removal lock

- Turn the ignition key slightly clockwise to the “ignition on” position.
- Press and hold brake pedal.
- When interlock button in selector lever handle is pressed, it should be possible to move selector lever out of position “P” without “catching”.
- Switch off ignition.
- It should not be possible to remove the ignition key when the selector lever is in any position other than “P”.
- Shift selector lever to position “P”.
- Remove ignition key.
- It should only be possible to remove ignition key in selector lever position “P”.
- Selector lever can then not be shifted out of “P” position with interlock button pressed and brake pedal depressed.

If the ignition key removal lock does not function as described, check the vehicle via the “Guided Fault Finding” function using the vehicle diagnostic tester .

3. Checking interlock button on selector lever handle

Check that interlock button moves freely:

- Interlock button should move easily when pressed without force.
- Interlock button should spring back fully on its own when released.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

If results do not match specifications:

- Make sure that selector lever handle is correctly installed: vehicles up to 11.2005 ⇒ [page 35](#) , vehicles from 11.2005 onwards ⇒ [page 60](#)
- Check whether selector rod or selector lever is bent.

Function test:

- Ignition switched on

Press the interlock button on the selector lever handle to move the handle into the positions listed below; it should not be possible to move the selector lever into these positions unless the interlock button is pressed.

- ◆ “P” to “R” (also depress brake pedal)
- ◆ “D” to “S”
- ◆ “N” to “R” (brake pedal also has to be depressed after a short delay when vehicle is stationary)
- ◆ “R” to “P”

If results do not match specifications:

- Make sure that selector lever handle is correctly installed: vehicles up to 11.2005 ⇒ [page 35](#) , vehicles from 11.2005 onwards ⇒ [page 60](#)

- Perform "Guided Fault Finding" using the vehicle diagnostic tester and check selector lever lock solenoid - N110- .
- Adjust selector lever cable: vehicles up to 11.2005
⇒ [page 53](#) , vehicles from 11.2005 onwards ⇒ [page 75](#) .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

3 Servicing selector mechanism on vehicles up to 11.2005 - exploded view



WARNING

Prior to performing work with engine running, move selector lever to position "P" and pull up parking brake button to apply the electromechanical parking brake.

Check selector mechanism before dismantling ⇒ [page 29](#) .

1 - Securing clip

2 - Noise insulation

3 - Retaining clip

- ❑ Secures selector lever cable to shift unit

4 - Selector lever cable

- ❑ Do not bend or kink
- ❑ ⇒ ["3.12 Removing and installing selector lever cable on vehicles up to 11.2005", page 51](#)
- ❑ Selector lever cable must be renewed if rubber sleeve is damaged
- ❑ Before installing, lightly lubricate ball socket with polycarbamide grease - G 052 142 A2- .
- ❑ When installing, make sure that rubber sleeve on gearbox end is not twisted
- ❑ ⇒ ["3.13 Adjusting selector lever cable on vehicles up to 11.2005", page 53](#)

5 - Clamping bolt

- ❑ 13 Nm

6 - Pin for selector lever cable

- ❑ To remove selector lever cable, pull plastic securing spring on selector mechanism forwards slightly and push up pin just far enough to release cable.

7 - Selector lever lock solenoid - N110-

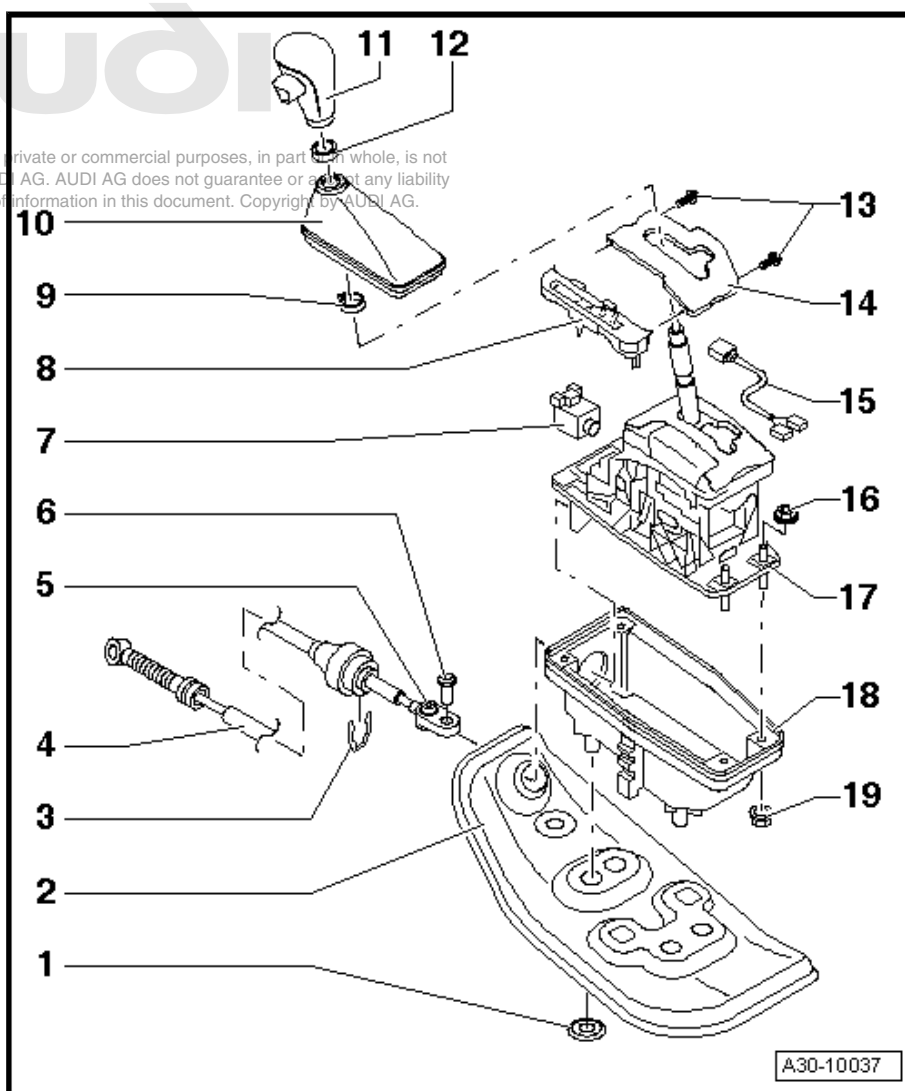
- ❑ ⇒ ["3.7 Removing and installing selector lever lock solenoid N110 on vehicles up to 11.2005", page 40](#)

8 - Selector lever position display - Y26-

- ❑ ⇒ ["3.5 Removing and installing display unit for selector lever position Y26 on vehicles up to 11.2005", page 38](#)

9 - Clamp

- ❑ Secures selector lever handle to selector lever



- ☐ Removing and installing
⇒ [“3.3 Removing and installing selector lever handle on vehicles up to 11.2005”, page 35](#)

10 - Selector lever boot

- ☐ Detaching from selector lever handle ⇒ [page 38](#)

11 - Selector lever handle

- ☐ ⇒ [“3.3 Removing and installing selector lever handle on vehicles up to 11.2005”, page 35](#)

12 - Trim ring

- ☐ Removing and installing
⇒ [“3.4 Detaching selector lever boot from selector lever handle on vehicles up to 11.2005”, page 38](#)

13 - Bolt

- ☐ 1.2 Nm

14 - Selector lever sensors control unit - J587- and tiptronic switch - F189-

- ☐ ⇒ [“3.8 Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles up to 11.2005”, page 42](#)

15 - Gear selector position P switch - F305-

- ☐ ⇒ [“3.10 Removing and installing gear selector position P switch F305 on vehicles up to 11.2005”, page 45](#)

16 - Nut

- ☐ 10 Nm

17 - Shift unit

- ☐ Can only be renewed as a complete unit

- ☐ ⇒ [“3.9 Removing and installing shift unit on vehicles up to 11.2005”, page 43](#)

18 - Noise insulation

19 - Nut

- ☐ 10 Nm

3.1 Selector lever handle, display unit for selector lever position - Y26- on vehicles up to 11.2005 - exploded view

1 - Clamp

- ❑ Secures selector lever handle to selector lever
- ❑ Removing and installing
⇒ ["3.3 Removing and installing selector lever handle on vehicles up to 11.2005", page 35](#)

2 - Trim ring

- ❑ Removing and installing
⇒ ["3.4 Detaching selector lever boot from selector lever handle on vehicles up to 11.2005", page 38](#)

3 - Selector lever handle

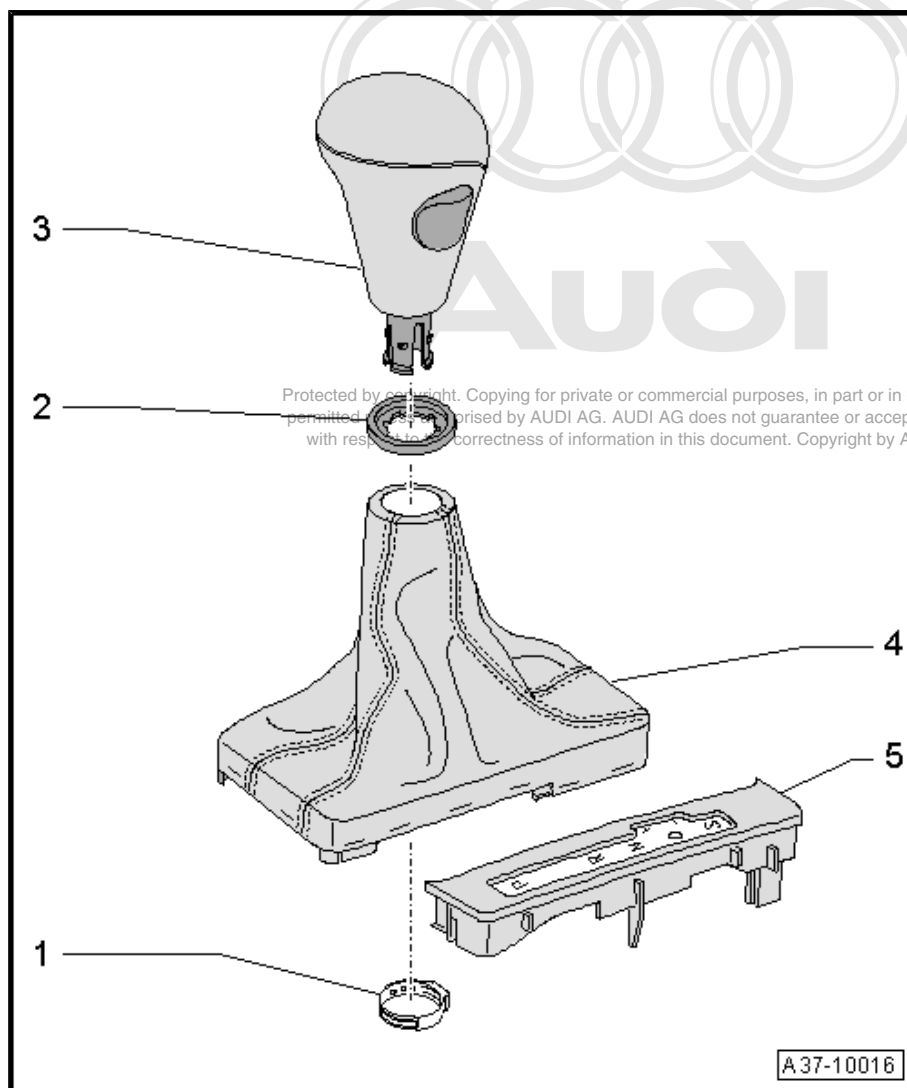
- ❑ ⇒ ["3.3 Removing and installing selector lever handle on vehicles up to 11.2005", page 35](#)

4 - Selector lever boot

- ❑ Detaching from selector lever handle
⇒ [page 38](#)

5 - Selector lever position display - Y26-

- ❑ ⇒ ["3.5 Removing and installing display unit for selector lever position Y26 on vehicles up to 11.2005", page 38](#)



3.2 Manual release for selector mechanism on vehicles up to 11.2005



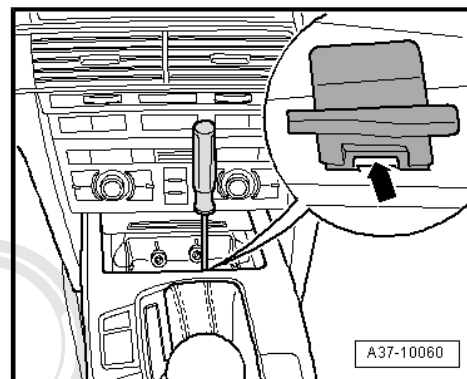
Note

- ◆ If the battery is disconnected or discharged, the selector lever cannot be shifted from position "P".
- ◆ When you operate the manual release mechanism the selector lever lock solenoid - N110- will release the lock without current supply.

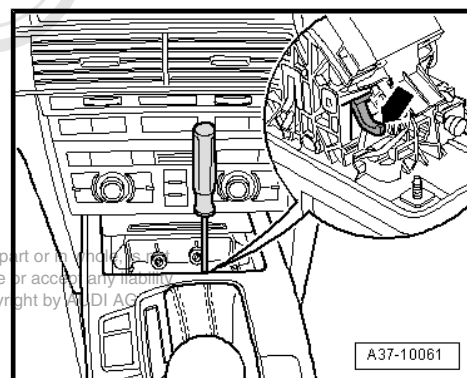
- Remove insert for front ashtray.
- Use screwdriver to pry off the cover cap in the ashtray housing -arrow-.



The shape of the cover cap may differ from the illustration.



- Use a screwdriver or similar to press on the manual release lever -arrow- and simultaneously shift the selector lever out of position "P".

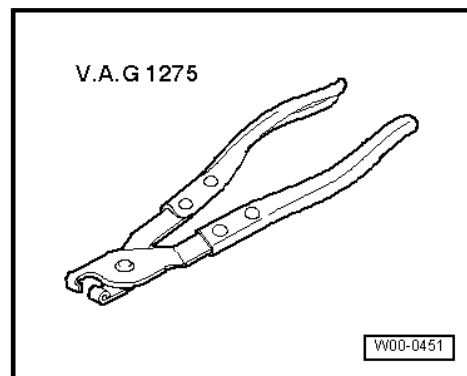


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

3.3 Removing and installing selector lever handle on vehicles up to 11.2005

Special tools and workshop equipment required

- ◆ Hose clip pliers - V.A.G 1275-



Removing

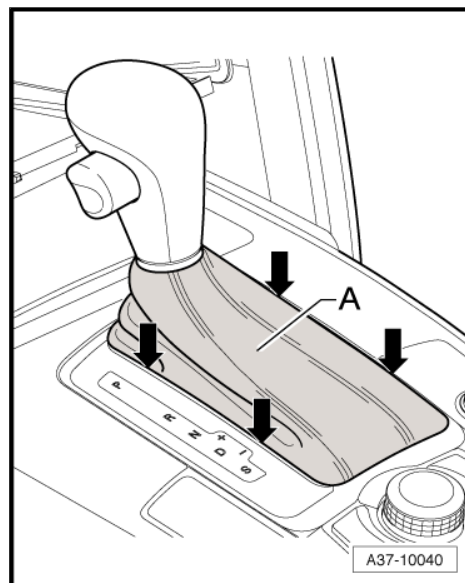
- Shift selector lever to position “N”.



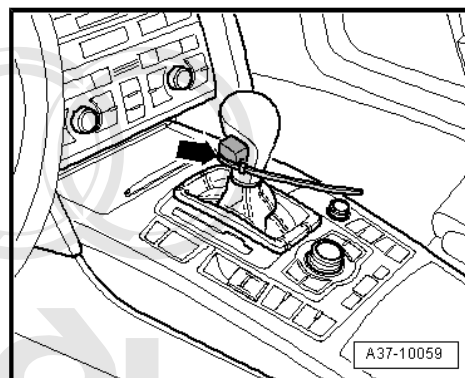
Note

The selector lever handle is removed together with the selector lever boot.

- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.

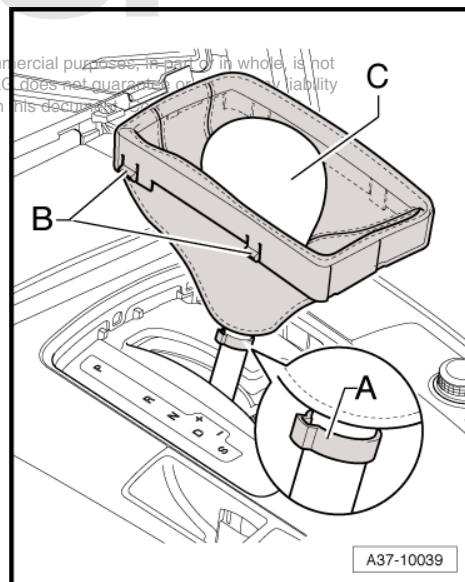


- Use a cable tie to secure the interlock button in pulled-out position -arrow-, as shown in the illustration.



- Turn up selector lever boot -1- over selector lever handle -2-.

- Release clamp -arrow- and detach selector lever handle together with selector lever boot. Avoid touching the interlock button.

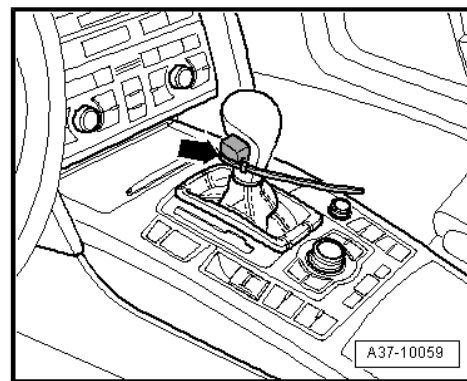


Installing

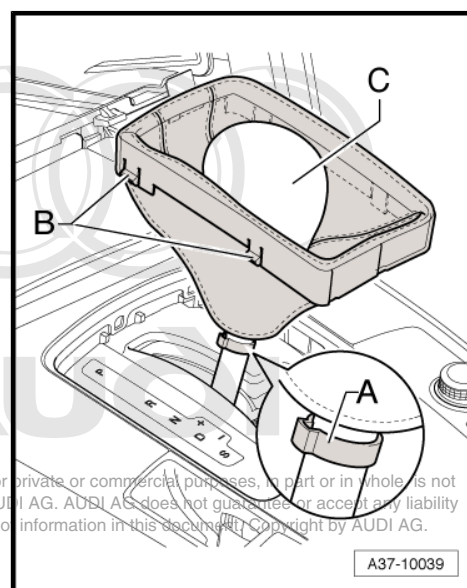


Note

- ◆ *To install the selector lever handle the interlock button has to be pulled out to the stop and must be secured with either a cable tie -arrow- or with the assembly aid supplied together with the new handle.*
- ◆ *If, by mistake, the interlock button has not been secured, it must not be pulled out of the selector lever handle by means of mechanical tools. Apply a compressed-air gun at the bottom of the handle and press the interlock button out with compressed air.*



- Place selector lever handle fully on selector lever - interlock button points towards the driver.
- The handle must engage in the annular groove on the selector lever.
- Remove the cable tie or assembly aid, allowing the interlock button mechanism to engage in the vertical groove on the selector lever. If necessary, press the interlock button into the selector lever handle.
- Move selector lever to positions "R" and "S" to check button mechanism.
- If selector lever cannot be moved into above positions, handle must be removed again.
- Secure selector lever handle -2- onto selector lever with clamp -arrow-. Use hose clip pliers - V.A.G 1275- for this purpose.
- Clip retaining frame for selector lever boot -1- onto centre console.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

3.4 Detaching selector lever boot from selector lever handle on vehicles up to 11.2005

Removing

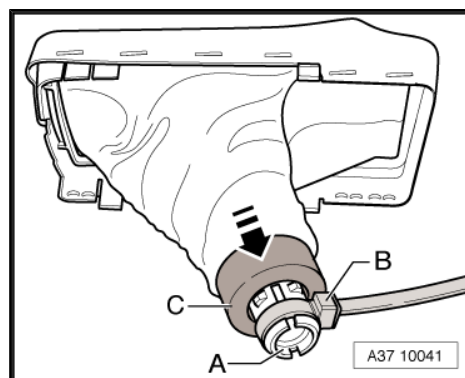
- Remove selector lever handle ⇒ [page 35](#) .
- Tie together spring tips -1- of selector lever handle using cable tie -3- as shown in illustration.
- Slide sleeve -2- of selector lever boot past retaining tabs on spring tips -arrow-.
- Remove cable tie and detach sleeve with selector lever boot from selector lever.

Installing

Installation is carried out in reverse sequence; note the following:

Fitting position of selector lever boot:

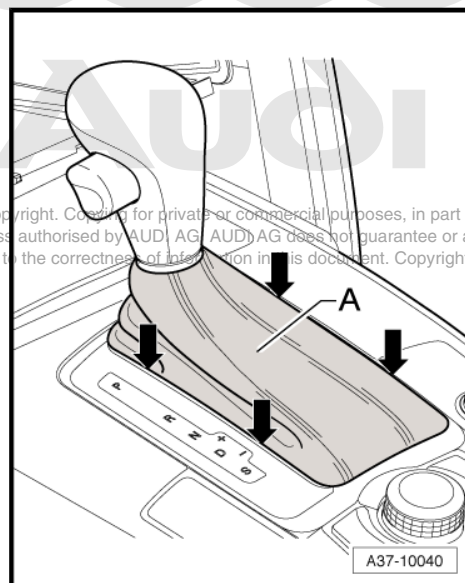
- The longer side of the retaining frame for the selector lever boot faces the driver's side.
- Install selector lever handle ⇒ [page 35](#) .



3.5 Removing and installing display unit for selector lever position - Y26- on vehicles up to 11.2005

Removing

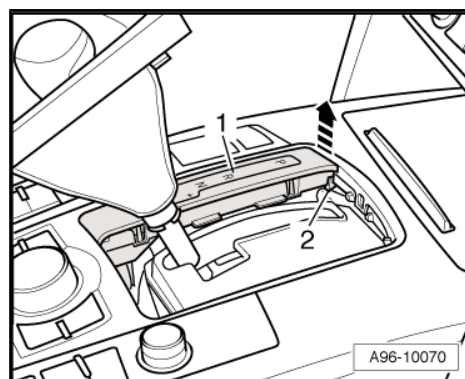
- Shift selector lever to position "N".
- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.
- Turn up selector lever boot.



- Release retaining spring -2- and detach selector lever position display - Y26- -item 1- -arrow-.
- Unplug electrical connector.

Installing

Install in reverse sequence.



3.6 Dismantling selector mechanism on vehicles up to 11.2005 - exploded view



Note

Lubricate bearings and moving surfaces with polycarbamide grease - G 052 142 A2-.

1 - Rubber sleeve for selector lever cable

- ☐ Check that rubber sleeve for selector lever cable is correctly engaged on bottom cover of selector mechanism and make sure it seals properly.

2 - Selector lever cable

- ☐ Do not bend or kink
- ☐ ⇒ ["3.12 Removing and installing selector lever cable on vehicles up to 11.2005", page 51](#)
- ☐ Selector lever cable must be renewed if rubber sleeve is damaged
- ☐ When installing, make sure that rubber sleeve on gearbox end is not twisted
- ☐ ⇒ ["3.13 Adjusting selector lever cable on vehicles up to 11.2005", page 53](#)

3 - Pin for selector lever cable

- ☐ To remove selector lever cable, pull plastic securing spring on selector mechanism forwards slightly and push up pin just far enough to release cable.

4 - Selector lever lock solenoid - N110-

- ☐ ⇒ ["3.7 Removing and installing selector lever lock solenoid N110 on vehicles up to 11.2005", page 40](#)

5 - Selector lever sensors control unit - J587- and tiptronic switch - F189-

- ☐ ⇒ ["3.8 Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles up to 11.2005", page 42](#)

6 - Bolt

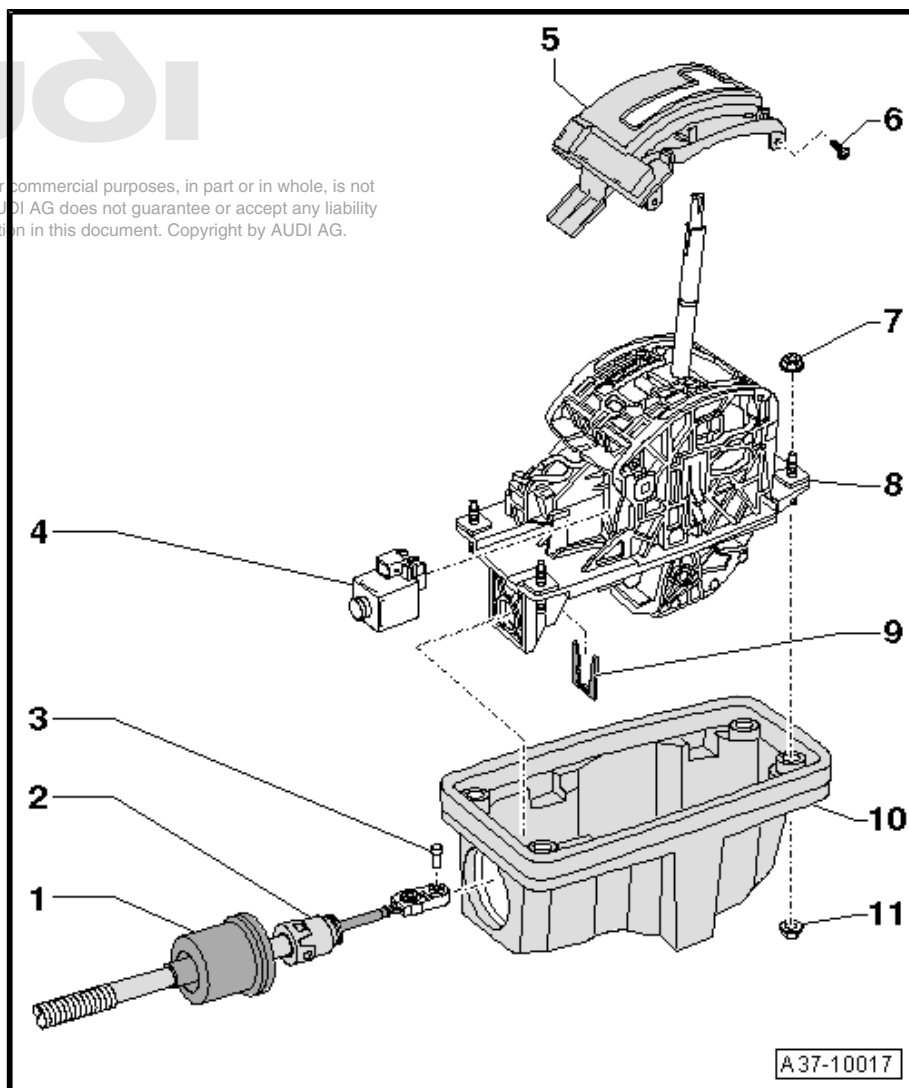
- ☐ 1.2 Nm

7 - Nut

- ☐ 10 Nm

8 - Shift unit

- ☐ Can only be renewed as a complete unit
- ☐ ⇒ ["3.9 Removing and installing shift unit on vehicles up to 11.2005", page 43](#)



9 - Retaining clip

- Secures selector lever cable to shift unit

10 - Selector mechanism cover (bottom)

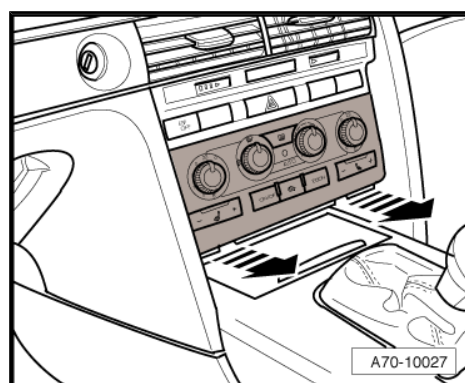
11 - Nut

- 10 Nm

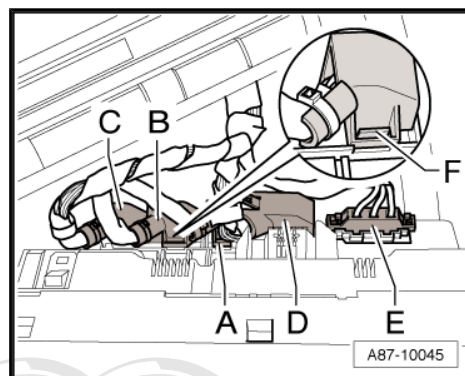
3.7 Removing and installing selector lever lock solenoid - N110- on vehicles up to 11.2005

Removing

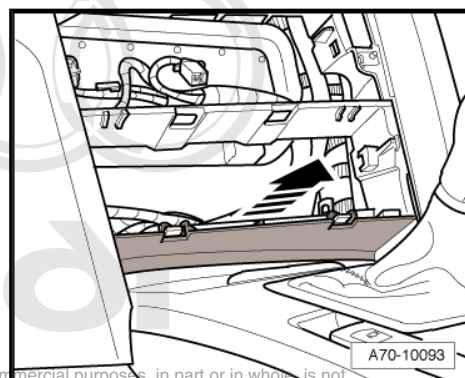
- Shift selector lever to position "S".
- Grip climatronic control unit - J255- at recesses on bottom (operating and display unit).
- Pull out climatronic control unit - J255- (operating and display unit) from retaining frame -arrows-.
- Put climatronic control unit - J255- (operating and display unit) on a cloth and place onto centre console, to avoid damaging the surface.



- Unplug electrical connectors in the sequence -A ... D- by releasing the retainer tab -F-.
- Detach electrical connector -E-.

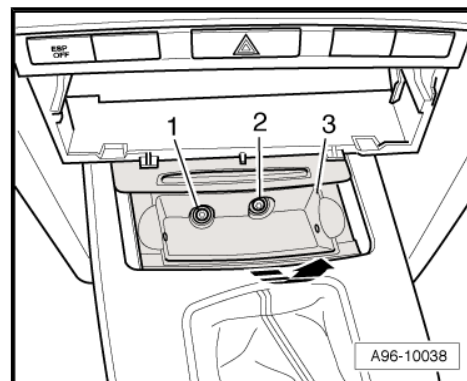


- Detach trim cover above ashtray -arrow-.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Open front ashtray.
- Remove insert for front ashtray.
- Remove bolts -1- and -2-.
- Remove housing for front ashtray -3- -arrow-.
- Unplug electrical connector (if fitted).

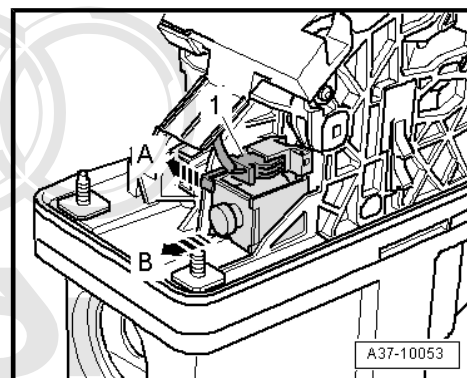


- Unplug electrical connector -1- from selector lever lock solenoid - N110- .
- Release retainer -arrow A- and pull out selector lever lock solenoid - N110- from the front -arrows B-.



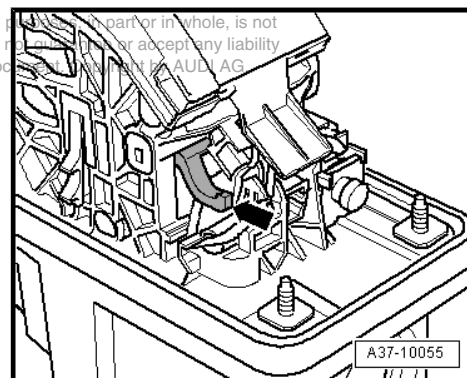
Note

For illustration purposes here shown with selector mechanism removed.



Installing

- Selector lever in position "S".
- Move manual release lever -arrow- upwards.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not accept any liability for the content of this document.



Note

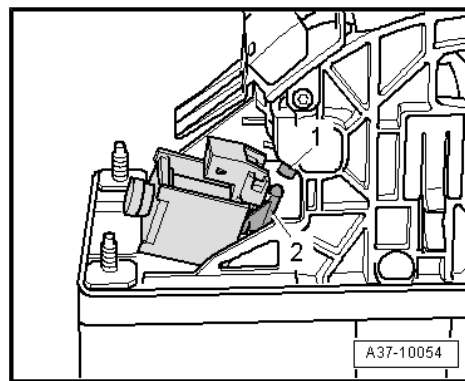
The operating lever -1- for selector lever lock solenoid - N110- moves into installation position when the manual release lever is moved upwards.

- At the same time place the selector lever lock solenoid - N110- into guide at an angle from above.
- Press selector lever lock solenoid - N110- into guide until it engages.
- At the same time the ball head -2- of the selector lever lock solenoid - N110- should engage in the operating rod of the selector mechanism.

The remaining installation steps are carried out in the reverse sequence.

Tightening torque

Component	Nm
Housing for front ashtray to centre console frame	3



3.8 Removing and installing selector lever sensors control unit - J587- and tiptronic switch - F189- on vehicles up to 11.2005



Note

- Selector lever sensors control unit - J587- and tiptronic switch - F189- are integrated in one unit.
- The magnets for the tiptronic switch - F189- are secured on the cover.

Removing

- Remove selector lever handle ⇒ [page 35](#) .
- Remove front and rear sections of centre console ⇒ Rep. gr. 68 .
- Unplug electrical connector -1-.
- Unscrew bolts -arrows- and remove selector lever sensors control unit - J587- with tiptronic switch - F189- .

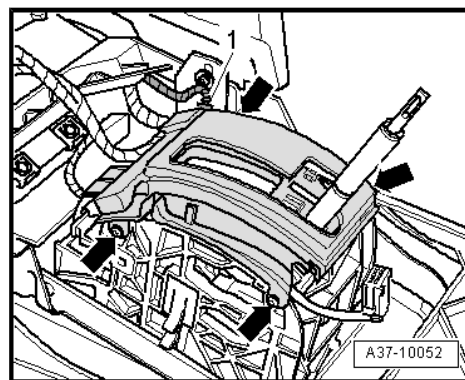
Installing

Installation is carried out in reverse sequence; note the following:

- Install front and rear sections of centre console ⇒ Rep. gr. 68 .
- Install selector lever handle ⇒ [page 35](#) .

Tightening torque

Component	Nm
Selector lever sensors control unit - J587- and tiptronic switch - F189- to selector mechanism	1.2

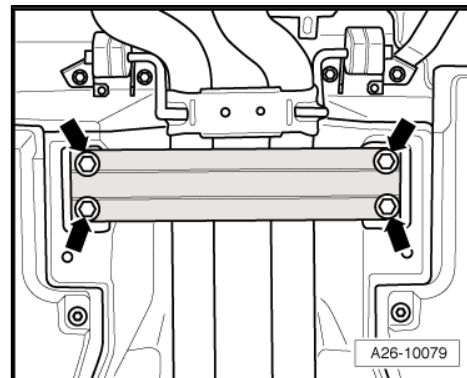


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

3.9 Removing and installing shift unit on vehicles up to 11.2005

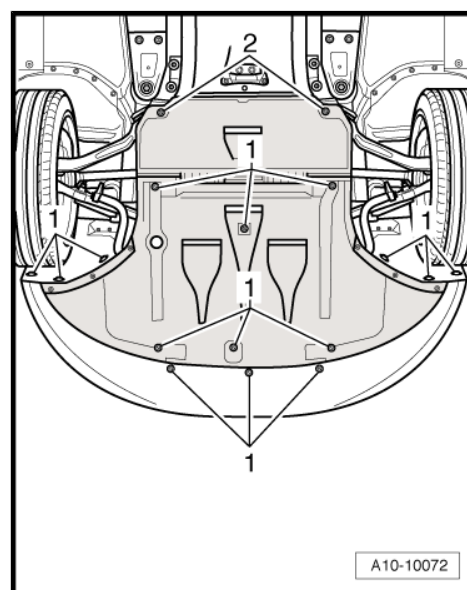
Removing

- Remove rear cross piece -arrows-.

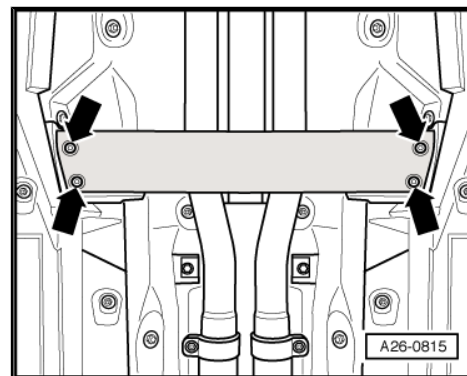


- Open quick release fasteners -2- and take off rear noise insulation.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



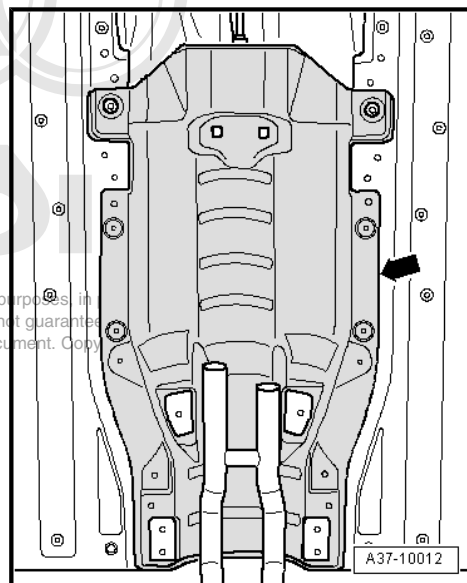
- Remove front cross piece -arrows-.
- Remove propshaft ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .





- Loosen inner side of covers on vehicle underside (left and right).
- Remove heat shield -arrow-.

Protected by copyright. Copying for private or commercial purposes, in whole or in part, is prohibited without the written permission of Audi AG. Audi AG does not guarantee the correctness of information in this document. Copy

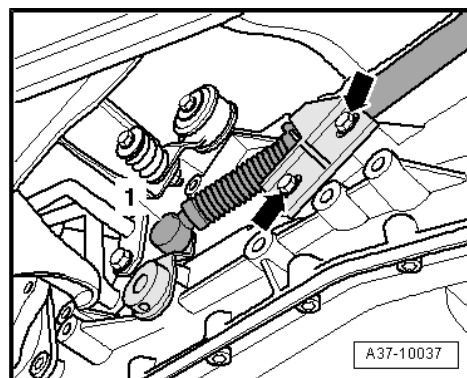


- Mark installation position of support bracket for selector lever cable.
- Pry ball socket -1- of selector lever cable off selector shaft lever.
- Unscrew bolts -arrows- of support bracket for selector lever cable.



Note

Do not bend or kink the selector lever cable.



- Remove front and rear sections of centre console ⇒ Rep. gr. 68 .
- Unplug electrical connectors -2- and -4-.
- Remove bolts -1, 3, 5, 6-.

i Note

The assistance of a second mechanic is required in order to remove the shift unit from below.

- Press in retaining clips -arrows- and lower shift unit.

Installing

Installation is carried out in reverse sequence; note the following:

i Note

- ◆ *Before installing, lightly lubricate ball socket on selector lever cable with polycarbamide grease - G 052 142 A2- .*
- ◆ *Do not bend or kink the selector lever cable.*
- Fit support bracket for selector lever cable according to marking on the gearbox.
- Adjust selector lever cable ⇒ [page 53](#) .
- Install exhaust system and perform stress-free alignment ⇒ Rep. gr. 26. .
- Install rear cross piece ⇒ Rep. gr. 40 .
- Install front cross piece ⇒ Rep. gr. 50 .
- Install front and rear sections of centre console ⇒ Rep. gr. 68 .
- Check selector mechanism ⇒ [page 29](#) .

Tightening torques

Component	Nm
Support bracket for selector lever cable to gearbox	10
Shift unit to body	10

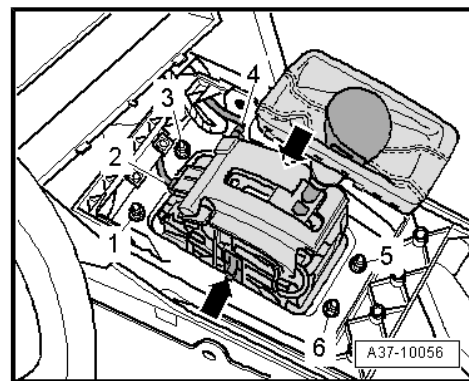
Copyright by Audi AG. Copying for private or commercial purposes is not permitted unless authorised by Audi AG. Audi AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by Audi AG.

3.10 Removing and installing gear selector position P switch - F305- on vehicles up to 11.2005

The gear selector position P switch - F305- consists of two microswitches. The two microswitches provide the signal required by the electronic ignition key removal lock to release the key only in selector position P.

The first switch is closed when the selector lever lock solenoid - N110- is not actuated in selector position "P", (brake pedal not depressed) and the manual release of the selector lever below the ashtray is not operated.

The second switch is closed when the button on the selector lever handle in selector position "P" is not operated.



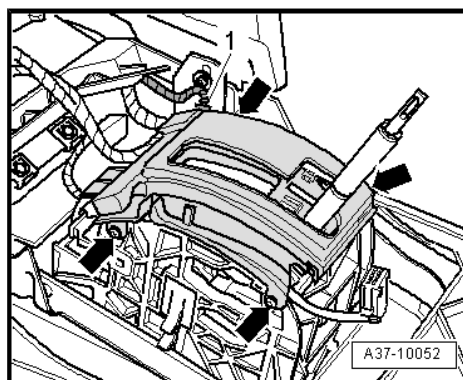
Note the following points before renewing gear selector position P switch - F305- :

- 1 - The two switches are connected in series, i.e. both switches must be closed before the ignition key can be removed. The switches can be checked with the vehicle diagnostic tester in the "Guided Fault Finding" mode. After performing the vehicle system test, select the test program "F305 - Gear selector position P switch" (Powertrain / Automatic gearbox 09L / 01 - systems capable of self-diagnosis / 02 - gearbox electronics / electrical components).
- 2 - It is also possible to perform an electrical check on the switches. When performing a continuity test using a multi-meter, note that the resistance is approx. 470 Ohm with both switches closed.

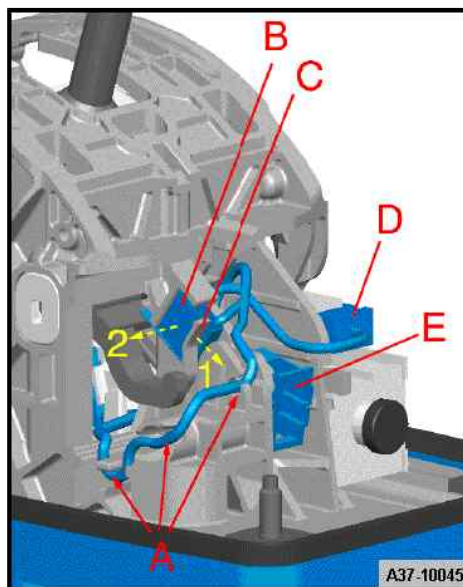
Removing

- Remove selector mechanism ⇒ [page 67](#)
- Unscrew bolts -arrows- and remove selector lever sensors control unit - J587- with tiptronic switch - F189- .

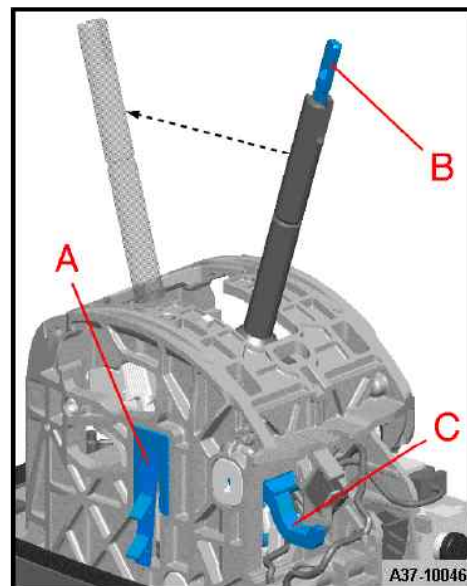
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability respect to the correctness of information in this document. Copyright by AUDI AG.



- Release connector -D- and detach from selector lever lock solenoid - N110- .
- Release connector -E- and disconnect by pulling it off upwards.
- Press tab -C- in direction of -arrow 1-.
- Remove microswitch -B- by pulling it off in direction of -arrow 2-.
- Disengage electrical wire at selector mechanism -arrows A-.



- Unclip retaining clips -A- on both sides of selector mechanism.
- Press parking lock -C- downwards and hold.
- Pull selector rod -B- upwards and shift selector lever in direction of -arrow- into selector lever position "S" onto stop.



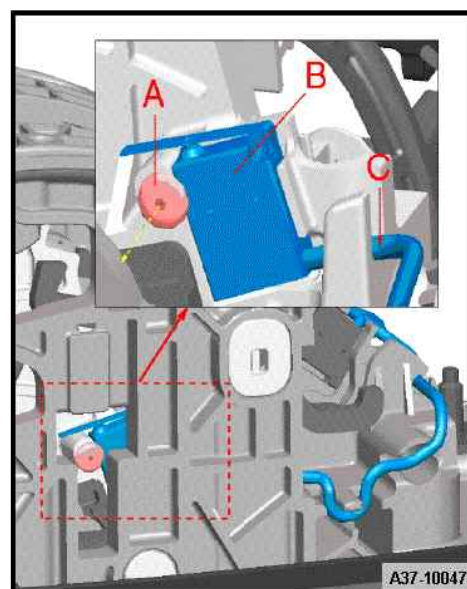
- Push locating pin -A- forwards through rear opening for retaining clip using a screwdriver.



Note

The locating pin -A- can remain installed; it is sufficient to press it forward far enough for the microswitch -B- to be removed.

- Pull off microswitch -B- to front
- Disengage electrical wire at lug -arrows C- and detach micro-switch from selector mechanism.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Installing

Installation is carried out in reverse sequence; note the following:

- Take hold of the long electrical wire and guide microswitch into selector mechanism through opening below parking lock button.
- Plug microswitch -B- into gearshift gate.



Note

The microswitch must be seated flush all around.

- Secure wire to lug -arrows C-.
- Press in locating pin -A- onto stop using a screwdriver.



Note

- ♦ *The locating pin -A- locates the microswitch -B- in the gearshift gate.*
- ♦ *If the microswitch is not correctly installed or not located properly, the ignition key removal lock will not function as required.*

- Locate the electrical wire -arrows A- on the selector mechanism as shown in the illustration.
- Install microswitch -B-.

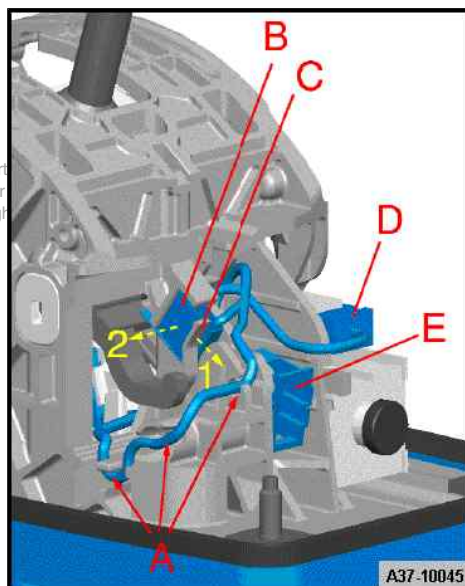
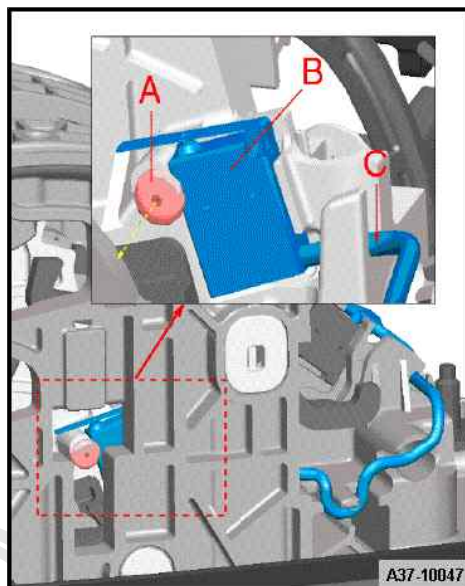


Note

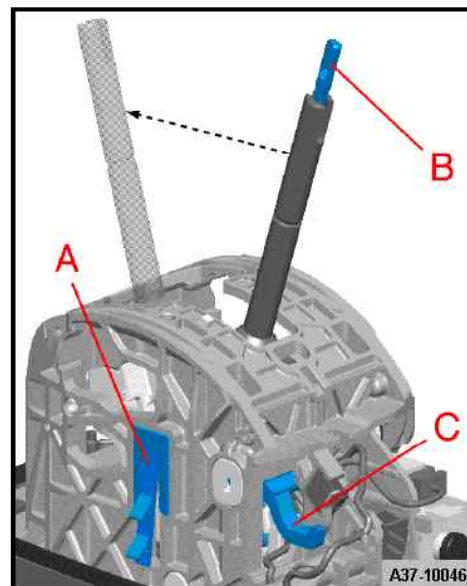
Protected by copyright. Copying for private or commercial purposes, in part permitted unless authorised by AUDI AG. AUDI AG does not guarantee or with respect to the correctness of information in this document. Copyright

If the microswitch is not correctly installed or not located properly, the ignition key removal lock will not function as required.

- Plug connector -D- onto selector lever lock solenoid - N110- .
- Clip in connector -E- from above.



- Clip in retaining clips -A- on both sides of selector mechanism.
- Install selector lever sensors control unit - J587- and tiptronic switch - F189- ➤ [page 65](#) .
- Install selector mechanism ➤ [page 67](#) .



3.11 Selector lever cable on vehicles up to 11.2005 - exploded view



Note

Lubricate bearings and moving surfaces with polycarbamide grease - G 052 142 A2- .

Audi

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

1 - Selector shaft lever

2 - Retaining clip

- ☐ Secures selector lever cable to support bracket

3 - Selector lever cable

- ☐ Do not bend or kink
- ☐ ⇒ [“3.12 Removing and installing selector lever cable on vehicles up to 11.2005”, page 51](#)
- ☐ Selector lever cable must be renewed if rubber sleeve is damaged
- ☐ When installing, make sure that rubber sleeve on gearbox end is not twisted
- ☐ ⇒ [“3.13 Adjusting selector lever cable on vehicles up to 11.2005”, page 53](#)

4 - Clamping bolt, 13 Nm

- ☐ For selector lever cable

5 - Pin for selector lever cable

- ☐ To remove selector lever cable, pull plastic securing spring on selector mechanism forwards slightly and push up pin just far enough to release cable.

6 - Retaining clip

- ☐ For securing selector lever cable to selector mechanism

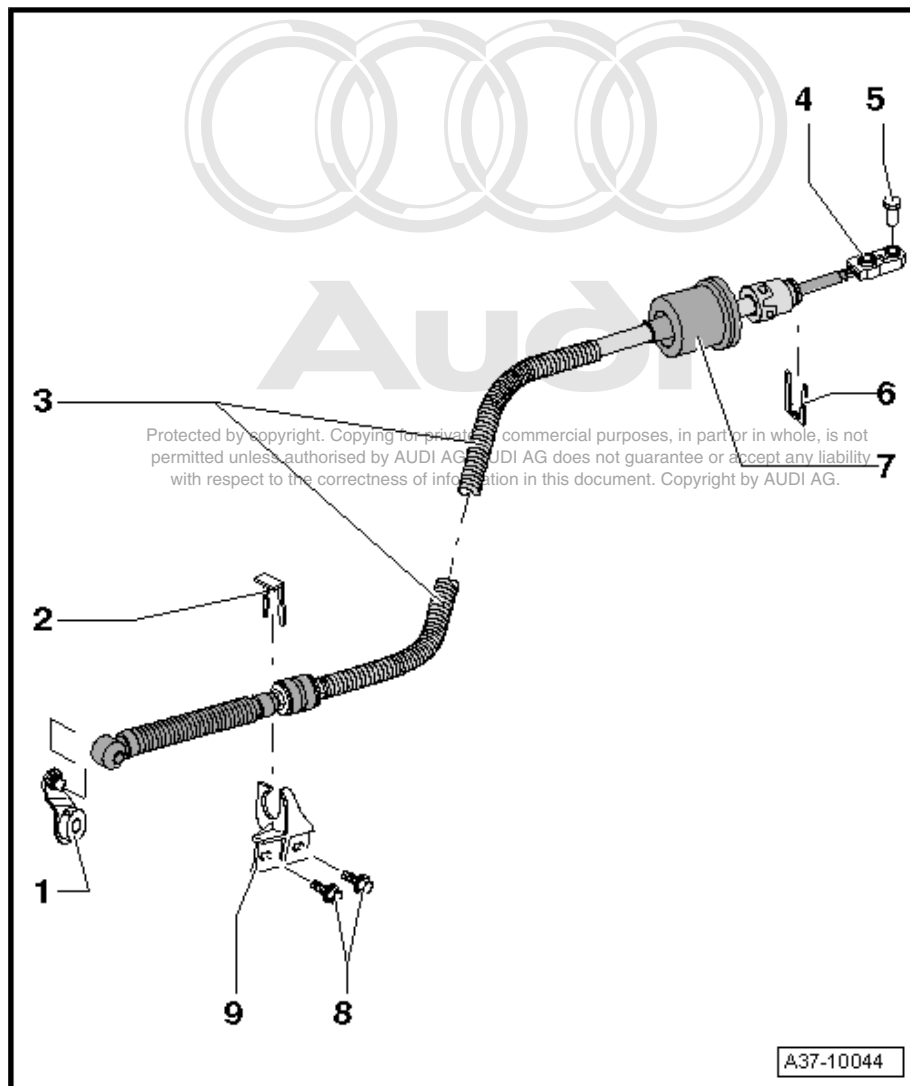
7 - Rubber sleeve for selector lever cable

- ☐ Check that rubber sleeve for selector lever cable is correctly engaged on bottom cover of selector mechanism and make sure it seals properly.

8 - Bolts, 10 Nm

- ☐ Secures support bracket to gearbox

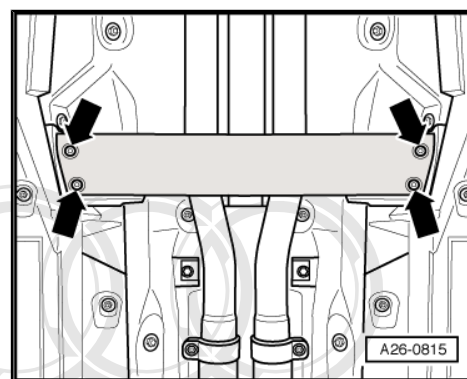
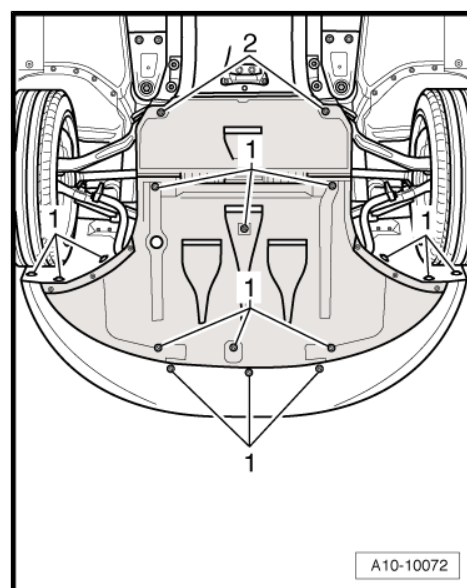
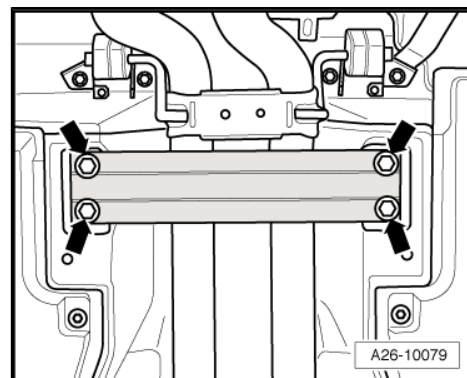
9 - Support bracket for selector lever cable



3.12 Removing and installing selector lever cable on vehicles up to 11.2005

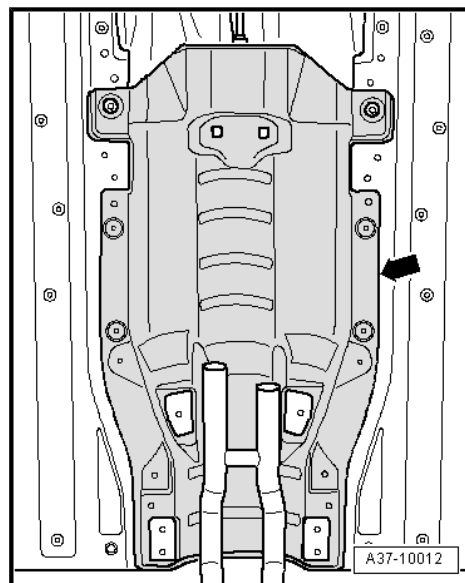
Removing

- Shift selector lever to position "S".
- Remove rear cross piece -arrows-.
- Open quick release fasteners -2- and take off rear noise insulation.
- Remove front cross piece -arrows-.
- Remove propshaft ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Loosen inner side of covers on vehicle underside (left and right).
- Remove heat shield -arrow-.

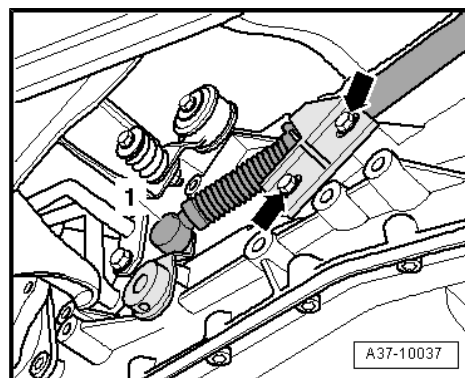


- Mark installation position of support bracket for selector lever cable.
- Pry ball socket -1- of selector lever cable off selector shaft lever.
- Unscrew bolts -arrows- of support bracket for selector lever cable.

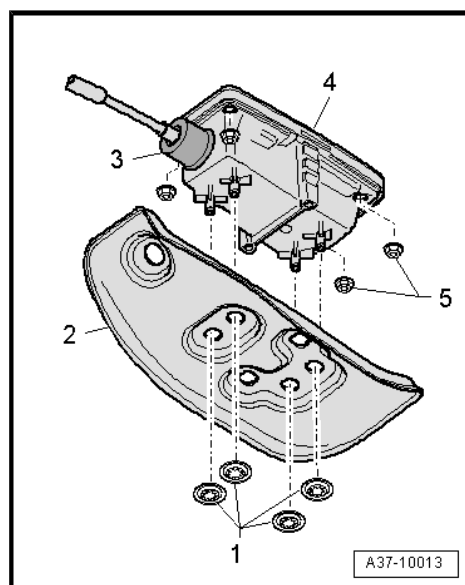


Note

Do not bend or kink the selector lever cable.



- Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the prior written consent of AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.
- **Lever off lock washers -1-.**
 - Push noise insulation -2- forwards.
 - Detach rubber sleeve -3- from bottom cover for selector mechanism -4-.
 - Remove nuts -5-.
 - Fold bottom cover for selector mechanism and noise insulation to front.



- Remove retaining clip -1- for selector lever cable by pulling it off downwards at the selector mechanism.
- Pull plastic securing spring -2- slightly forwards and press pin -3- upwards, but only as far as is necessary using a screw-driver.

 Note

Ensure that pin is not pressed out completely.

- Pull selector lever cable -4- out of selector mechanism.

Installing

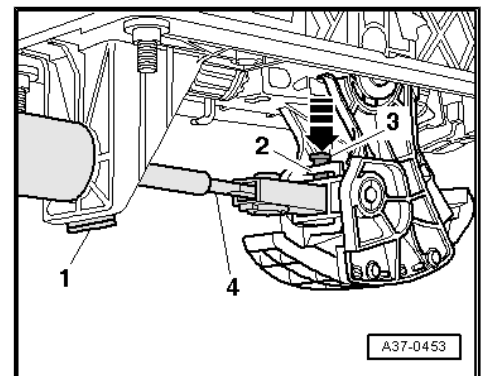
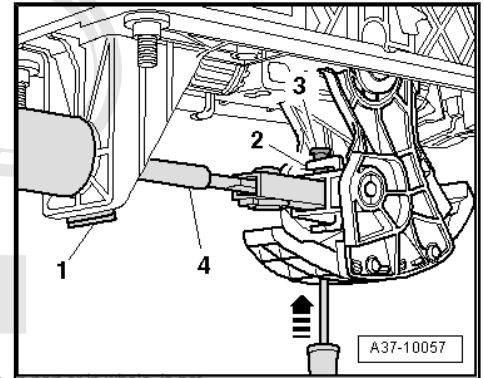
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Installation is carried out in reverse sequence; note the following:

 Note

- ◆ Do not bend or kink the selector lever cable.
- ◆ Before installing, lightly lubricate ball socket on selector lever cable with polycarbamide grease - G 052 142 A2- .

- Push selector lever cable into selector mechanism and secure cable with retaining clip -1-.
- Installation position: angled end of retaining clip must point towards rear.
- Insert end of selector lever cable -4- into joint on selector lever.
- Push pin -3- down -arrow-.
- Check that plastic securing spring -2- has locked the pin.
- Fit support bracket for selector lever cable to new selector lever cable.
- Fit support bracket for selector lever cable according to marking on the gearbox.
- Adjust selector lever cable ⇒ [page 53](#) .
- Check selector mechanism ⇒ [page 29](#) .
- Install propshaft ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .
- Install exhaust system and perform stress-free alignment ⇒ Rep. gr. 26. .
- Install rear cross piece ⇒ Rep. gr. 40 .
- Install front cross piece ⇒ Rep. gr. 50 .



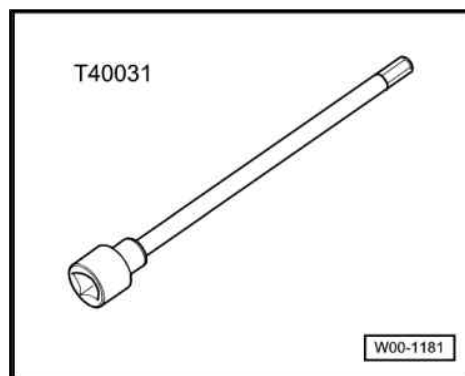
Tightening torques

Component	Nm
Support bracket for selector lever cable to gearbox	10
Bottom cover for selector mechanism to selector mechanism	10

3.13 Adjusting selector lever cable on vehicles up to 11.2005

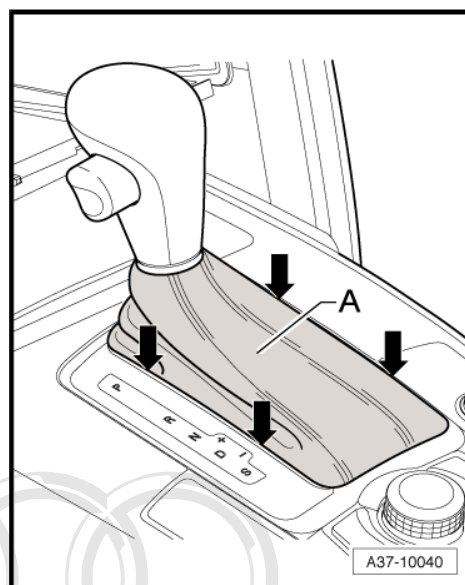
Special tools and workshop equipment required

◆ Socket - T40031-



Procedure

- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.



- Shift selector lever to position “S”.



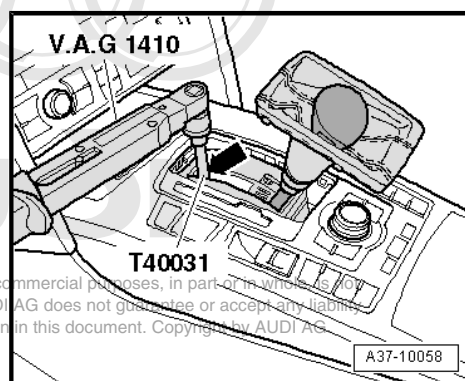
Note

- ◆ *Clamping bolt can only be accessed with selector lever in position “S”.*
- ◆ *Loosen clamping bolt approx. 1 turn - do not remove.*

- Loosen clamping bolt for selector lever cable approx. 1 turn using socket and key - T40031- .

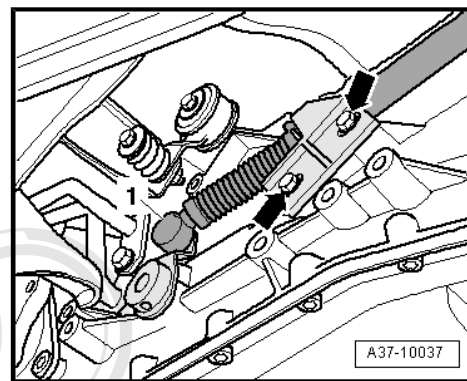
- Switch on ignition.

- The “S” symbol in the “PRNDS” display should be highlighted in the selector lever position display - Y6- in the instrument cluster.

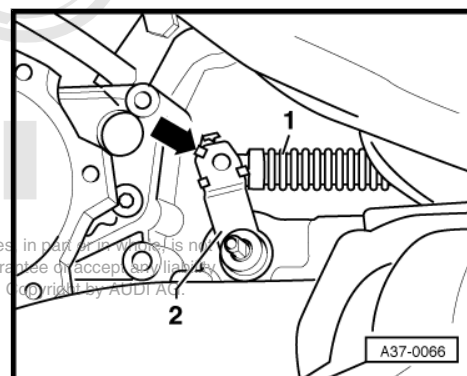


If this is not the case:

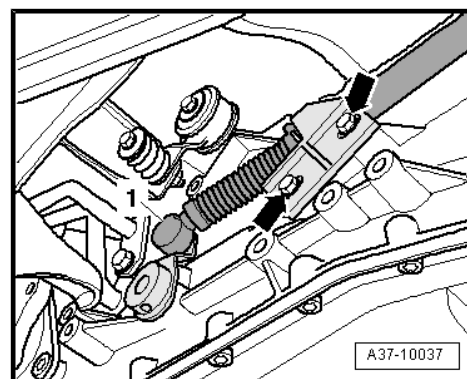
- Loosen the bolts -arrows- on support bracket for selector lever cable.



- Adjust exact position "S" on gearbox by slightly moving the selector shaft lever -2-.



- Tighten bolts -arrows- on support bracket for selector lever cable.



Protected by copyright. Copying for private or commercial purposes in part or in whole is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

If the symbol "S" in the "PRNDS" display is highlighted in the selector lever position indicator - Y6- on the instrument cluster:

- Carefully move selector lever slightly forwards and backwards, without shifting lever into a different selector lever position. The selector lever cable is thereby slackened.



Note

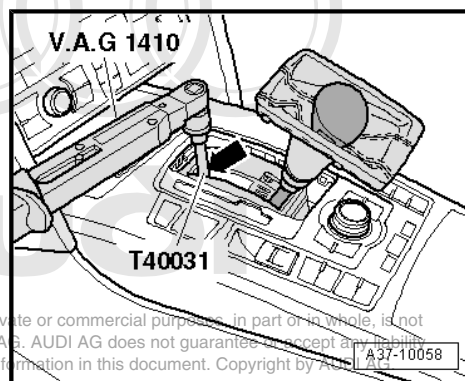
When tightening the clamping bolt, the selector lever must not be pulled forwards or backwards, as otherwise the setting will not be accurate.

- Tighten clamping bolt on selector lever cable -arrow- in this position.

Assembly is performed in reverse sequence.

Tightening torques

Component	Nm
Clamping bolt for selector lever cable	13
Support bracket for selector lever cable to gearbox	10



4 Servicing selector mechanism on vehicles from 11.2005 onwards - exploded view



WARNING

Prior to performing work with engine running, move selector lever to position "P" and pull up parking brake button to apply the electromechanical parking brake.

Check selector mechanism before dismantling ➔ [page 29](#).

1 - Selector lever handle

- ❑ ➔ ["4.1 Selector lever handle and display unit for selector lever position Y26 on vehicles from 11.2005 onwards - exploded view", page 59](#)

2 - Trim ring

- ❑ Removing and installing ➔ [page 59](#)

3 - Selector lever boot

- ❑ Removing and installing ➔ [page 59](#)

4 - Clamp

- ❑ Secures selector lever handle to selector lever
- ❑ Removing and installing ➔ [page 59](#)

5 - Selector lever position display - Y26-

- ❑ ➔ ["4.5 Removing and installing display unit for selector lever position Y26 on vehicles from 11.2005 onwards", page 63](#)

6 - Nut

- ❑ 10 Nm

- ❑ Secures selector mechanism to body

- ❑ 4x

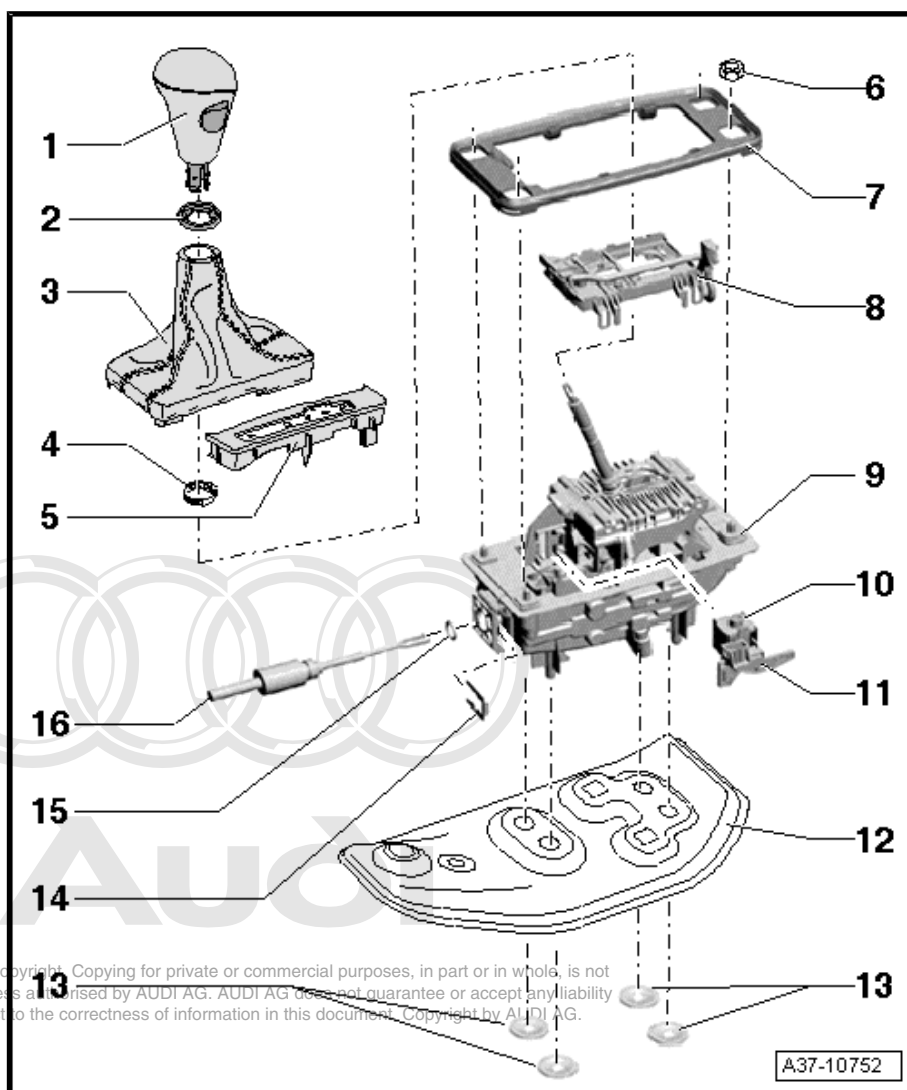
7 - Rubber seal

8 - Selector lever sensors control unit - J587- and tiptronic switch - F189-

- ❑ ➔ ["4.8 Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles from 11.2005 onwards", page 65](#)

9 - Shift unit

- ❑ Can only be renewed as a complete unit
- ❑ ➔ ["4.10 Removing and installing shift unit on vehicles from 11.2005 onwards", page 67](#)





10 - Selector lever lock solenoid - N110-

- ☐ ⇒ [“4.7 Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards”, page 65](#)

11 - Gear selector position P switch - F305-

- ☐ Consists of two microswitches on printed circuit board in selector lever lock solenoid - N110-
- ☐ Can only be renewed together with selector lever lock solenoid - N110- ,
⇒ [“4.7 Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards”, page 65](#)

12 - Noise insulation

- ☐ Different versions ⇒ Electronic parts catalogue
- ☐ Not fitted on all vehicles

13 - Retaining washers

- ☐ For securing noise insulation to shift unit
- ☐ 4x
- ☐ Renew

14 - Retaining clip

- ☐ Secures selector lever cable to shift unit

15 - O-ring

- ☐ Renew

16 - Selector lever cable

- ☐ Do not bend or kink
- ☐ ⇒ [“4.11 Selector lever cable on vehicles from 11.2005 onwards - exploded view”, page 69](#)



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

4.1 Selector lever handle and display unit for selector lever position - Y26- on vehicles from 11.2005 onwards - exploded view

1 - Clamp

- ☐ To secure selector lever handle to selector lever
- ☐ Removing and installing
⇒ [page 60](#)

2 - Trim ring

- ☐ Removing and installing
⇒ [page 63](#)

3 - Selector lever handle

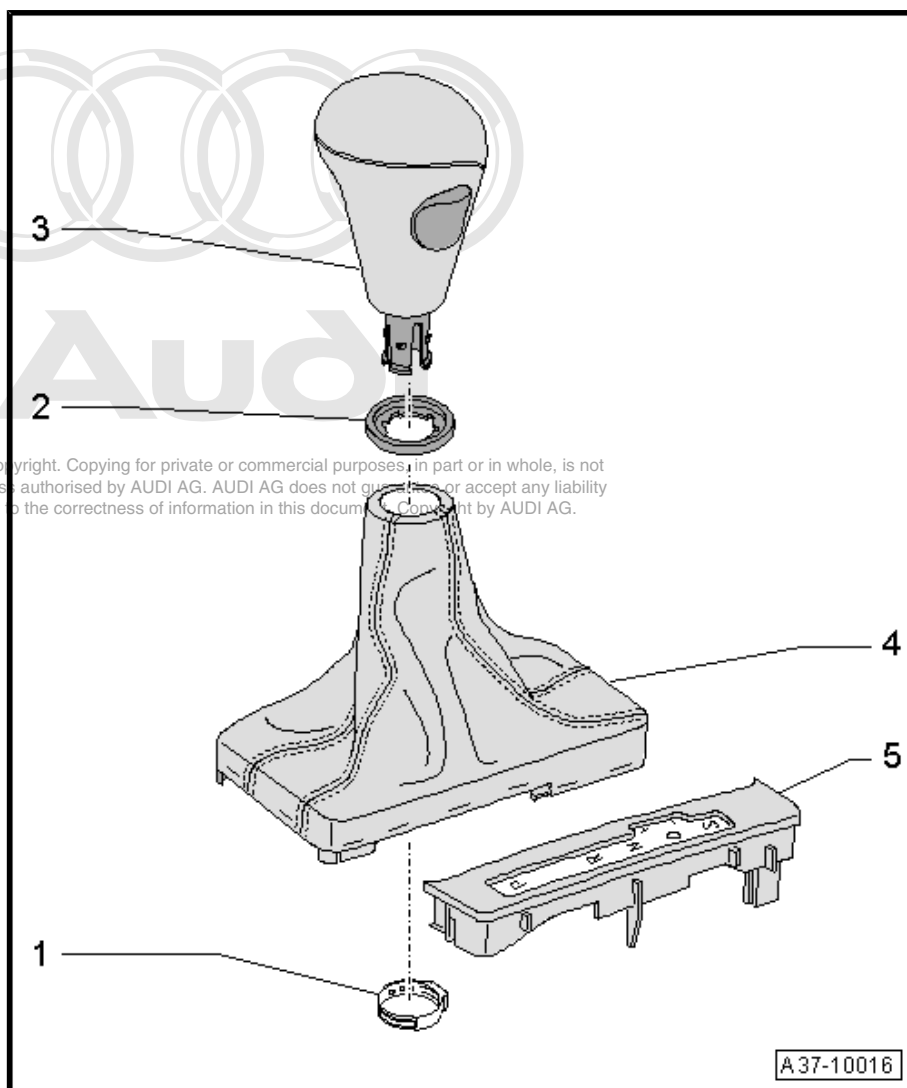
- ☐ ⇒ [“4.3 Removing and installing selector lever handle on vehicles from 11.2005 onwards”, page 60](#)

4 - Selector lever boot

- ☐ ⇒ [“4.4 Detaching selector lever boot from selector lever handle on vehicles from 11.2005 onwards”, page 63](#)

5 - Selector lever position display - Y26-

- ☐ ⇒ [“4.5 Removing and installing display unit for selector lever position Y26 on vehicles from 11.2005 onwards”, page 63](#)



4.2 Manual release for selector mechanism on vehicles from 11.2005 onwards



Note

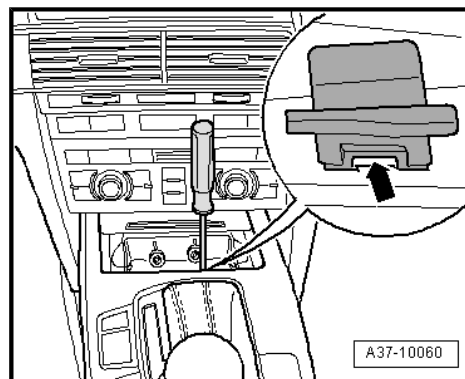
- ◆ If the battery is disconnected or discharged, the selector lever cannot be shifted from position "P". In this case, the vehicle cannot be pushed or towed.
- ◆ When you operate the manual release mechanism the selector lever lock solenoid - N110- will release the lock without current supply.

- Remove insert for front ashtray.
- Use screwdriver to pry off the cover cap in the ashtray housing -arrow-.



Note

The shape of the cover cap may differ from the illustration.

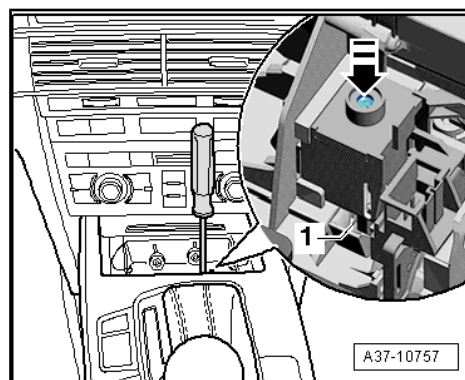


- Insert tool (e.g. screwdriver) through centre opening in ashtray housing and into cylinder -arrow- on selector lever lock solenoid - N110- and at the same time press and hold button and move selector lever out of position "P".



Note

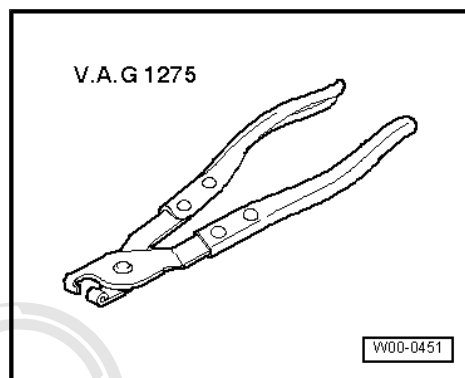
- ◆ This releases the selector lever lock in position "P" by way of the locking lever -1-.
- ◆ Cylinder -arrow- on selector lever lock solenoid - N110- may be partially concealed by noise insulation or wiring (move clear to one side).



4.3 Removing and installing selector lever handle on vehicles from 11.2005 onwards

Special tools and workshop equipment required

- ◆ Hose clip pliers - V.A.G 1275-



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Removing

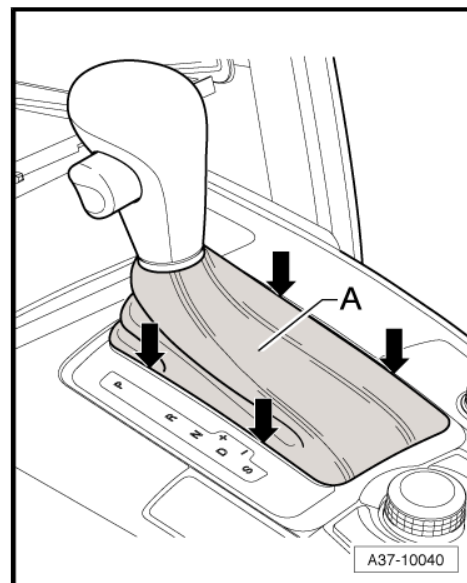
- Shift selector lever to position “N”.



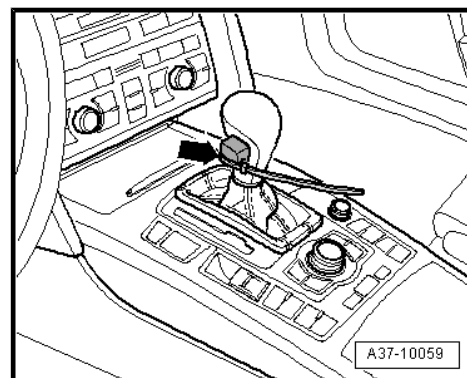
Note

The selector lever handle is removed together with the selector lever boot.

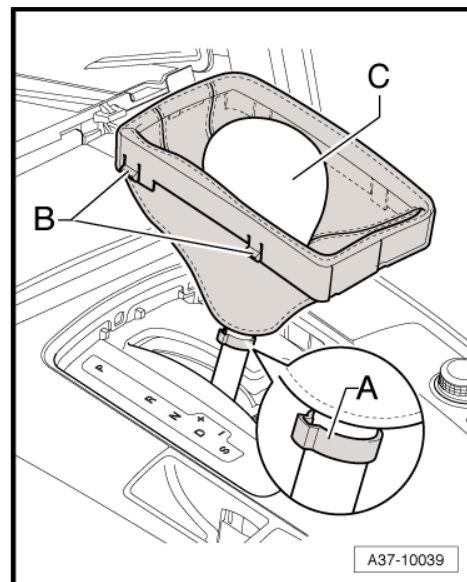
- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.



- Use a cable tie to secure the interlock button in pulled-out position -arrow-, as shown in the illustration.



- Turn up selector lever boot -1- over selector lever handle -2-.
- Release clamp -arrow- and detach selector lever handle together with selector lever boot. Avoid touching the interlock button.



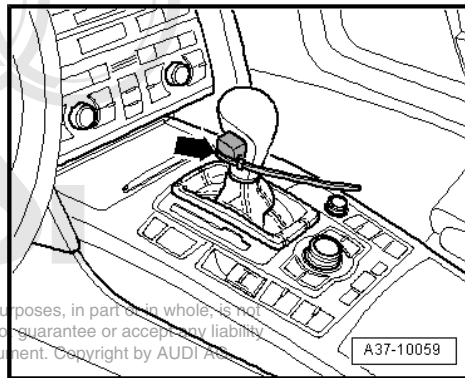
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Installing

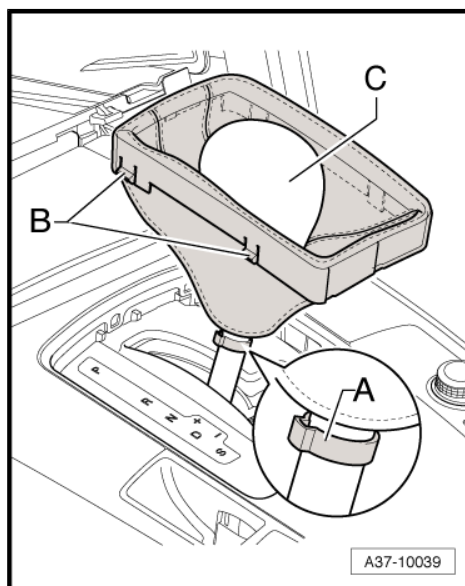


Note

- ◆ *To install the selector lever handle the interlock button has to be pulled out to the stop and must be secured with either a cable tie -arrow- or with the assembly aid supplied together with the new handle.*
- ◆ *If, by mistake, the interlock button has not been secured, it must not be pulled out of the selector lever handle by means of mechanical tools. Apply a compressed-air gun at the bottom of the handle and press the interlock button out with compressed air.*



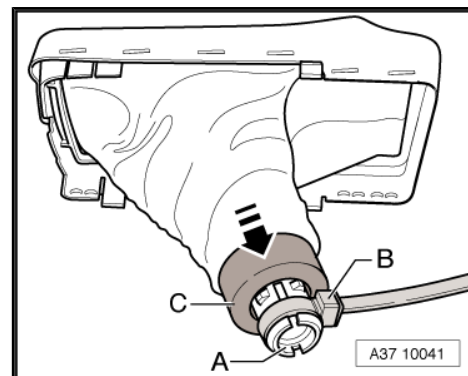
- Place selector lever handle fully on selector lever - interlock button points towards the driver.
- The handle must engage in the annular groove on the selector lever.
- Remove the cable tie or assembly aid, allowing the interlock button mechanism to engage in the vertical groove on the selector lever. If necessary, press the interlock button into the selector lever handle.
- Move selector lever to positions “R” and “S” to check button mechanism.
- If selector lever cannot be moved into above positions, handle must be removed again.
- Secure selector lever handle -2- onto selector lever with clamp -arrow-. Use hose clip pliers - V.A.G 1275- for this purpose.
- Clip retaining frame for selector lever boot -1- onto centre console.



4.4 Detaching selector lever boot from selector lever handle on vehicles from 11.2005 onwards

Removing

- Remove selector lever handle ➔ [page 60](#) .
- Tie together spring tips -1- of selector lever handle using cable tie -3- as shown in illustration.
- Slide sleeve -2- of selector lever boot past retaining tabs on spring tips -arrow-.
- Remove cable tie and detach sleeve with selector lever boot from selector lever.



Installing

Installation is carried out in reverse sequence; note the following:

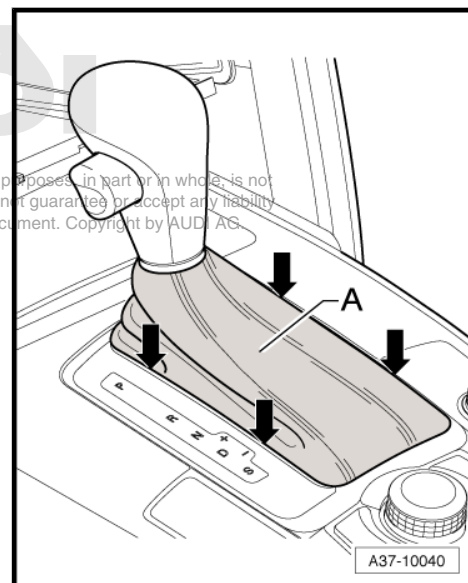
Fitting position of selector lever boot:

- The longer side of the retaining frame for the selector lever boot faces the driver's side.
- Install selector lever handle ➔ [page 60](#) .

4.5 Removing and installing display unit for selector lever position - Y26- on vehicles from 11.2005 onwards

Removing

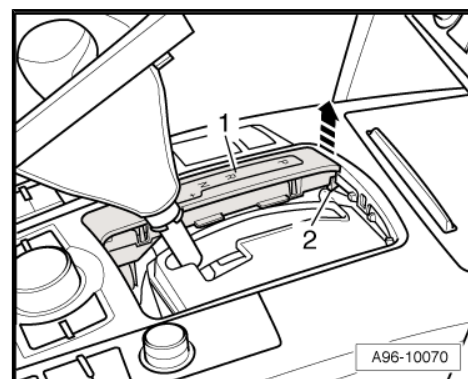
- Shift selector lever to position "N".
- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.
- Turn up selector lever boot.



- Release retaining spring -2- and detach selector lever position display - Y26- -item 1- -arrow-.
- Unplug electrical connector.

Installing

Install in reverse sequence.



4.6 Shift mechanism on vehicles from 11.2005 onwards - exploded view



Note

Lubricate bearings and moving surfaces with polycarbamide grease - G 052 142 A2- .

1 - Securing clip

- ☐ For securing noise insulation to shift unit
- ☐ 4x
- ☐ Renew

2 - Retaining clip

- ☐ Secures selector lever cable to shift unit

3 - O-ring

- ☐ Renew

4 - Selector lever cable

- ☐ Do not bend or kink
- ☐ ⇒ ["4.12 Removing and installing selector lever cable on vehicles from 11.2005 onwards", page 70](#)
- ☐ Selector lever cable must be renewed if rubber sleeve is damaged
- ☐ When installing, make sure that rubber sleeve on gearbox end is not twisted
- ☐ ⇒ ["4.13 Adjusting selector lever cable on vehicles from 11.2005 onwards", page 75](#)

5 - Selector lever sensors control unit - J587- and tiptronic switch - F189-

- ☐ ⇒ ["4.8 Removing and installing selector lever sensors control unit J587 and tiptronic switch F189 on vehicles from 11.2005 onwards", page 65](#)

6 - Nut

- ☐ 10 Nm
- ☐ Secures selector mechanism to body

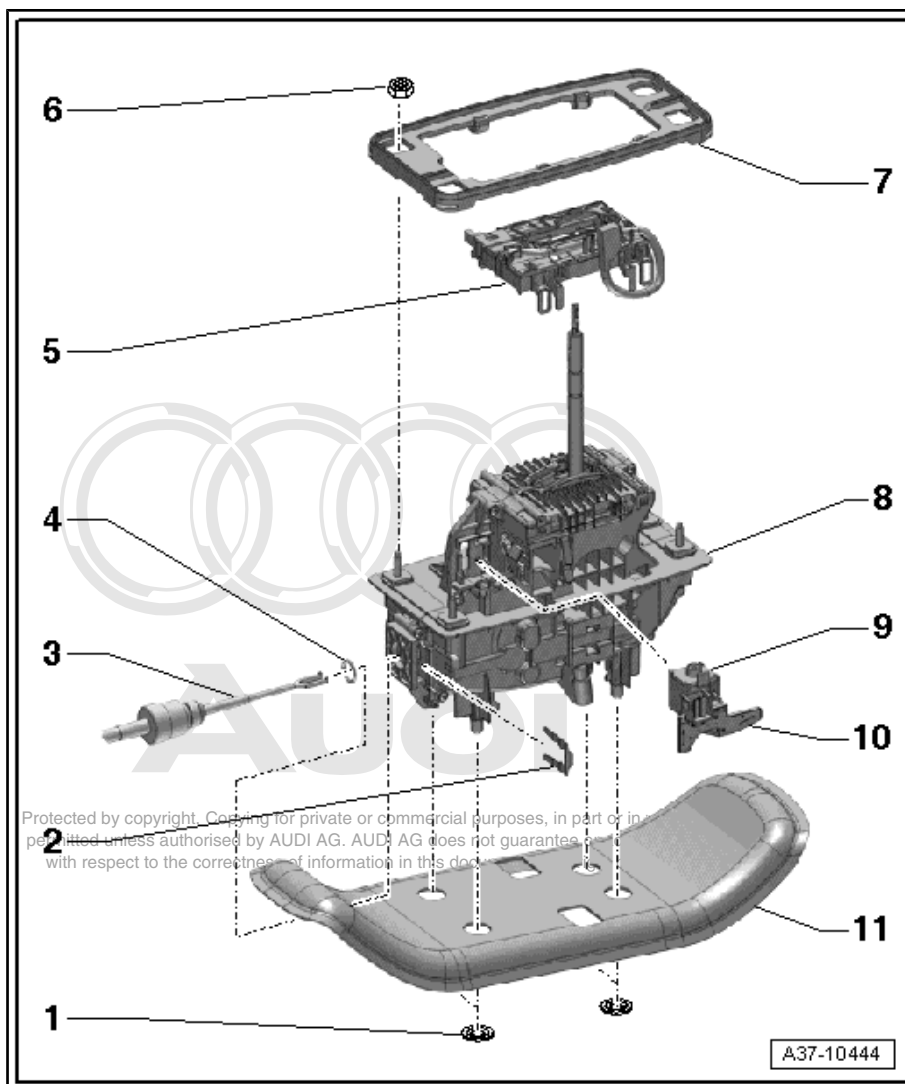
7 - Gasket

8 - Shift unit

- ☐ Can only be renewed as a complete unit
- ☐ ⇒ ["4.10 Removing and installing shift unit on vehicles from 11.2005 onwards", page 67](#)

9 - Selector lever lock solenoid - N110-

- ☐ ⇒ ["4.7 Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards", page 65](#)



10 - Gear selector position P switch - F305-

- ❑ Can only be renewed together with selector lever lock solenoid - N110- ,
⇒ ["4.7 Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards",
page 65](#)

11 - Noise insulation

4.7 Removing and installing selector lever lock solenoid - N110- on vehicles from 11.2005 onwards

Removing

- Shift selector lever to position "P".
- Remove front and rear sections of centre console ⇒ Rep. gr. 68 .
- Unplug electrical connector at selector lever lock solenoid - N110- .
- Press retaining hook -A- into selector mechanism -arrow- and hold in.



Note

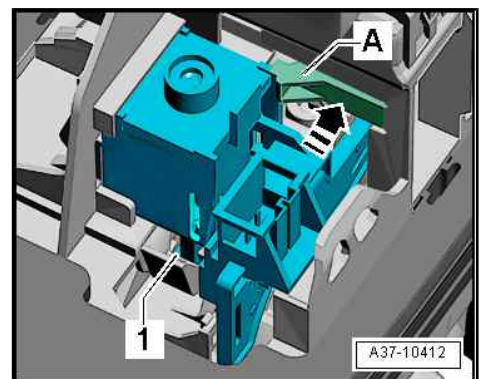
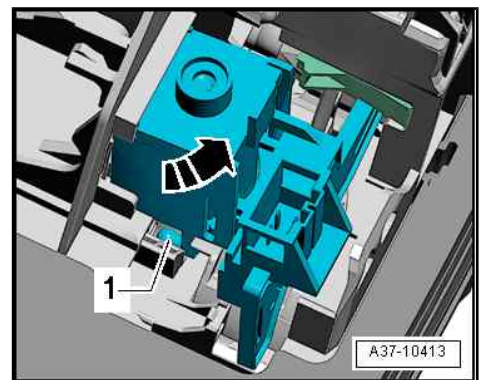
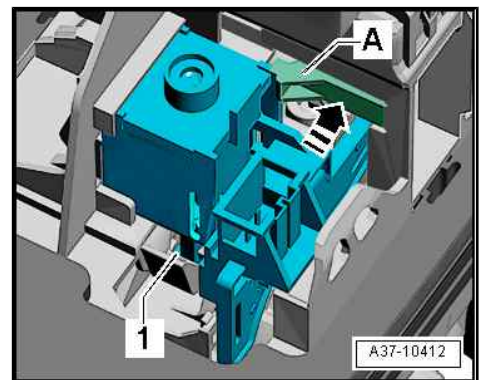
The shift unit must be renewed if the retaining hook -A- breaks off.

- Tilt bottom part of selector lever lock solenoid - N110- out in direction of -arrow- so that ball head -1- disengages from operating lever on selector mechanism.
- Detach selector lever lock solenoid - N110- .

Installing

Installation is carried out in reverse sequence; note the following:

- Turn ball head -1- into correct installation position.
- Insert selector lever lock solenoid - N110- into selector mechanism at an angle from above.
- Tilt bottom part of selector lever lock solenoid - N110- in opposite direction of -arrow-.
- Ball head -1- must engage fully in operating lever on selector mechanism; press home with a small screwdriver if necessary.
- Secure selector lever lock solenoid - N110- to retaining hook -A-.
- Attach all electrical connectors.
- Check function of selector mechanism before carrying out remaining steps for installation ⇒ [page 29](#) .
- Install front and rear sections of centre console ⇒ Rep. gr. 68 .



4.8 Removing and installing selector lever sensors control unit - J587- and tiptronic

switch - F189- on vehicles from 11.2005 onwards



Note

- ◆ *Selector lever sensors control unit - J587- and tiptronic switch - F189- are integrated in one unit.*
- ◆ *The magnets for the tiptronic switch - F189- are secured on the cover.*

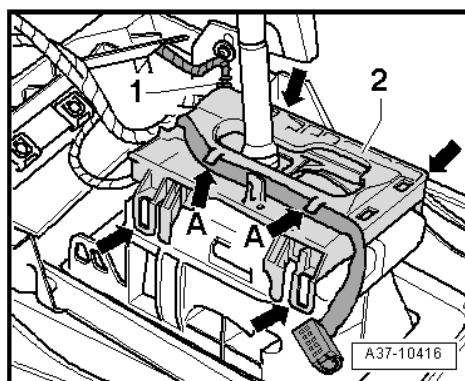
Removing

- Remove selector lever handle ⇒ [page 60](#) .
- Remove front and rear sections of centre console ⇒ Rep. gr. 68 .
- Unplug electrical connector -1-.
- Release four retaining lugs -arrows- and lift out selector lever sensors control unit - J587- with tiptronic switch - F189- .

Installing

Installation is carried out in reverse sequence; note the following:

- Make sure selector lever sensors control unit - J587- with tiptronic switch - F189- clicks in place with four retaining lugs -arrows-.
- Secure wiring for selector lever position display - Y26- -arrows-.
- Install front and rear sections of centre console ⇒ Rep. gr. 68 .
- Install selector lever handle ⇒ [page 60](#) .



4.9 Removing and installing gear selector position P switch - F305- on vehicles from 11.2005 onwards

- ◆ Fitting location ⇒ [page 28](#)

Gear selector position P switch - F305- can only be renewed together with selector lever lock solenoid - N110-

⇒ [“4.7 Removing and installing selector lever lock solenoid N110 on vehicles from 11.2005 onwards”, page 65](#) .

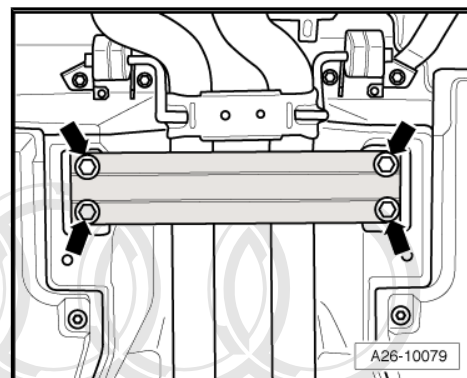


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

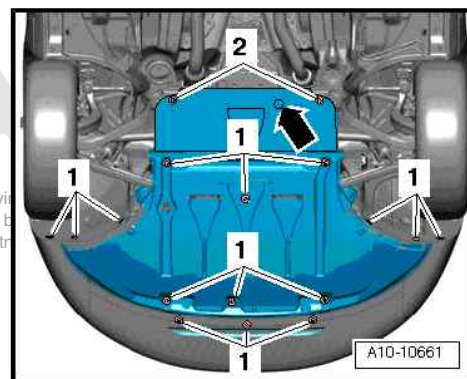
4.10 Removing and installing shift unit on vehicles from 11.2005 onwards

Removing

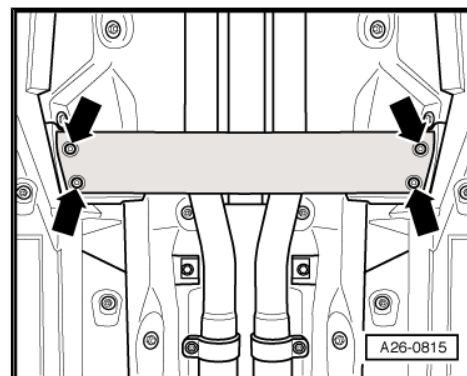
- Remove rear cross piece -arrows-.



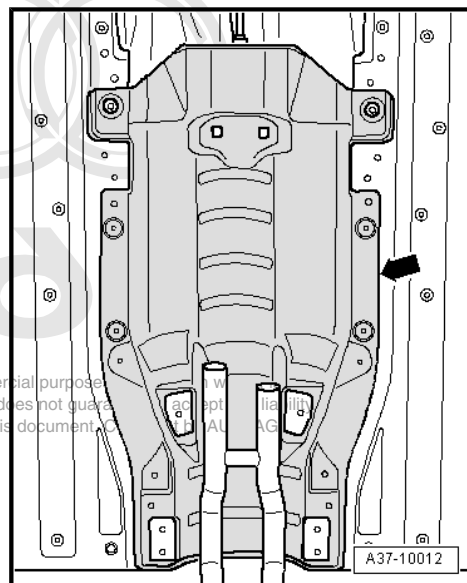
- Release fasteners marked -2- and -arrow- (if fitted) and remove rear noise insulation panel.



- Remove front cross piece -arrows-.
- Remove propshaft ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .



- Loosen inner side of covers on vehicle underside (left and right).
- Remove heat shield -arrow-.



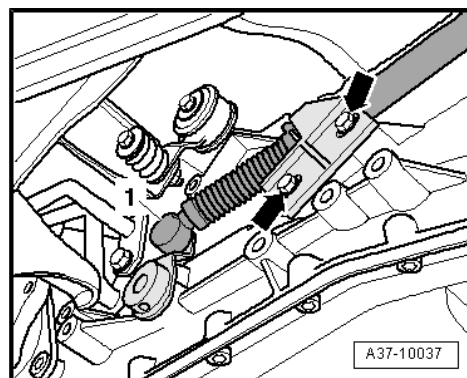
- Mark installation position of support bracket for selector lever cable.
- Pry ball socket -1- of selector lever cable off selector shaft lever.
- Unscrew bolts -arrows- of support bracket for selector lever cable.



Note

Do not bend or kink the selector lever cable.

- Remove front and rear sections of centre console ⇒ Rep. gr. 68 .



- Unplug electrical connectors -2- and -4-.
- Remove bolts -1, 3, 5, 6-.

i Note

The assistance of a second mechanic is required to detach the selector mechanism from below.

- Press retaining clips -arrows- inwards and lower selector mechanism.

Installing

Installation is carried out in reverse sequence; note the following:

i Note

- ◆ *Before installing, lightly lubricate ball socket on selector lever cable with polycarbamide grease - G 052 142 A2- .*
- ◆ *Do not bend or kink the selector lever cable.*

- Fit support bracket for selector lever cable according to marking on the gearbox.

- Adjust selector lever cable ⇒ [page 75](#) .

- Check selector mechanism ⇒ [page 29](#) .

- Install propshaft ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .

- Install exhaust system and perform stress-free alignment ⇒ Rep. gr. 26. .

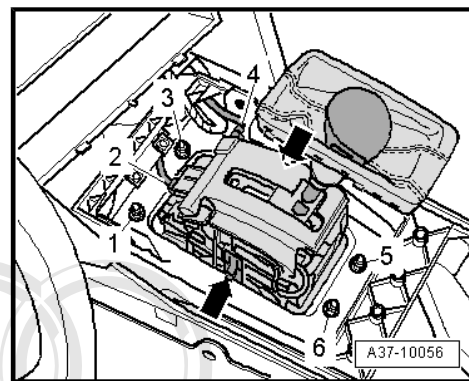
- Install rear cross piece ⇒ Rep. gr. 40 .

- Install front cross piece ⇒ Rep. gr. 50 .

- Install front and rear sections of centre console ⇒ Rep. gr. 68 .

Tightening torques

Component	Nm
Support bracket for selector lever cable to gearbox	10
Shift unit to body	10



4.11 Selector lever cable on vehicles from 11.2005 onwards - exploded view

i Note

Lubricate bearings and moving surfaces with polycarbamide grease - G 052 142 A2- .

1 - Selector shaft lever

2 - Retaining clip

- ☐ Secures selector lever cable to support bracket

3 - Selector lever cable

- ☐ Do not bend or kink
- ☐ ⇒ [“4.12 Removing and installing selector lever cable on vehicles from 11.2005 onwards”, page 70](#)
- ☐ Selector lever cable must be renewed if rubber sleeve is damaged
- ☐ When installing, make sure that rubber sleeve on gearbox end is not twisted
- ☐ ⇒ [“4.13 Adjusting selector lever cable on vehicles from 11.2005 onwards”, page 75](#)

4 - Bolt, 13 Nm

- ☐ For adjusting selector lever cable

5 - O-ring

- ☐ Renew

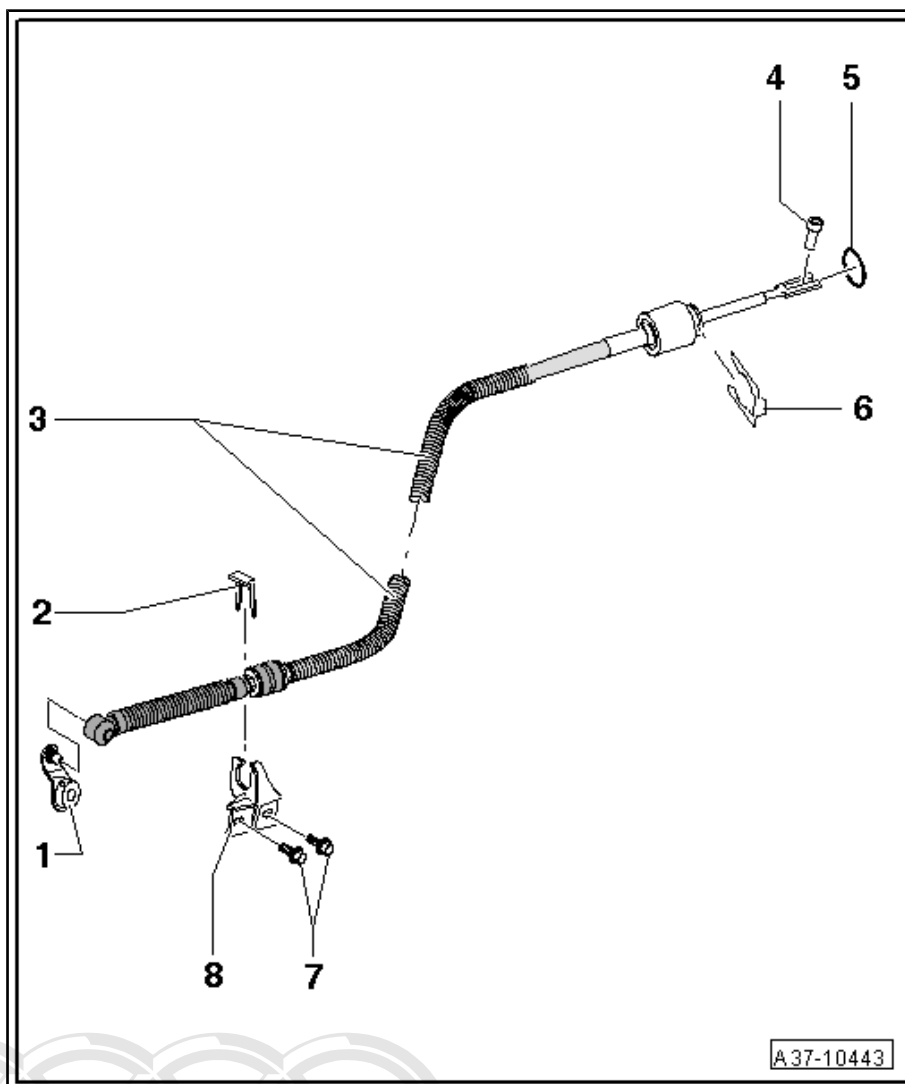
6 - Retaining clip

- ☐ Secures selector lever cable to shift unit

7 - Bolts, 10 Nm

- ☐ Secures support bracket to gearbox

8 - Support bracket for selector lever cable

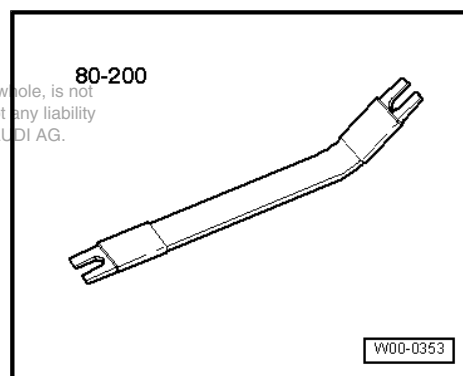


4.12 Removing and installing selector lever cable on vehicles from 11.2005 onwards

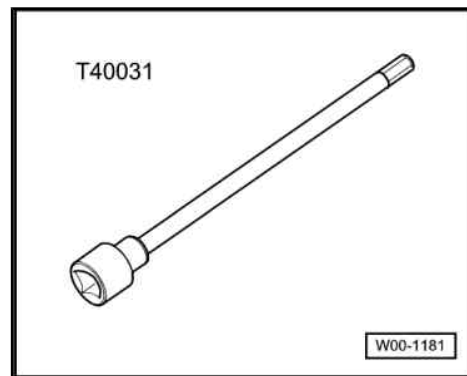
Special tools and workshop equipment required

- ◆ Removal lever - 80-200-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

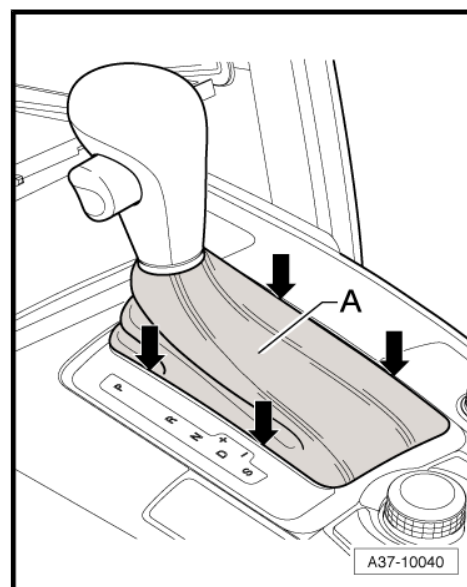


◆ Socket - T40031-



Removing

- Shift selector lever to position “D”.
- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.



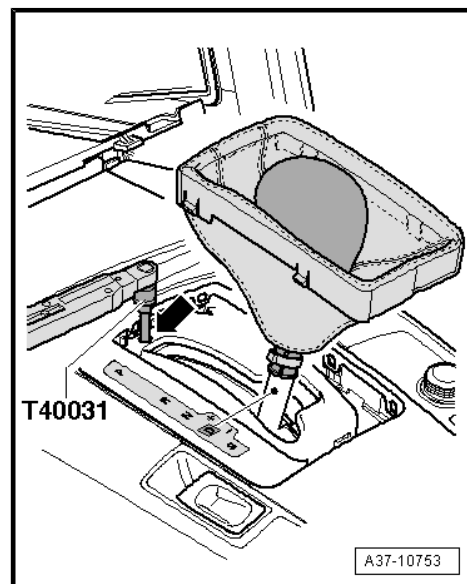
- Insert socket and key - T40031- through access hole -arrow- in selector mechanism and slacken bolt on selector lever cable approx. one turn.

Protected by copyright. Graphic rights reserved. Reproduction or distribution of this document is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

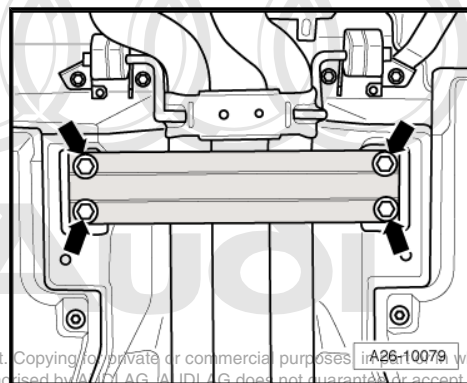


Note

- ◆ Only loosen clamping bolt – do not remove.
- ◆ Clamping bolt can only be accessed with selector lever in position “D”.
- ◆ With clamping bolt loosened, selector lever must remain in position “D”.

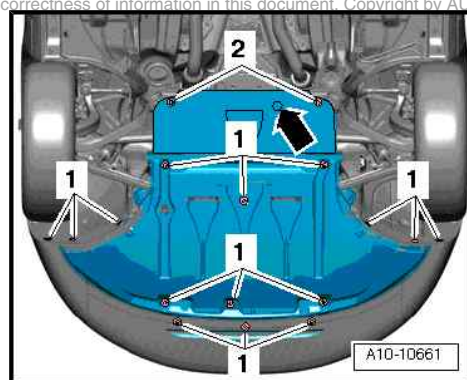


- Remove rear cross piece -arrows-.

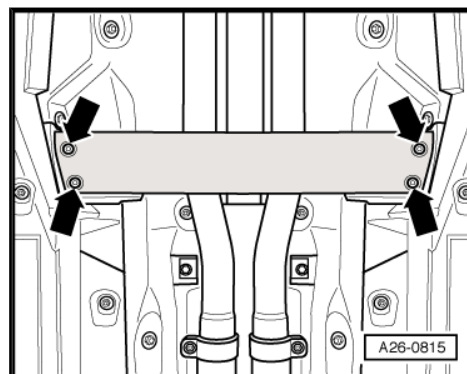


Protected by copyright. Copying for private or commercial purposes in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

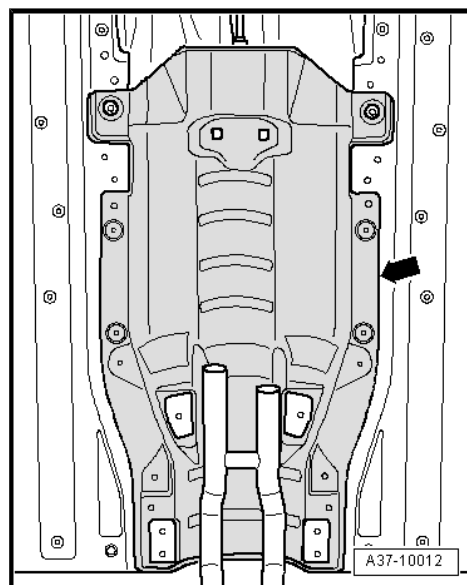
- Release fasteners marked -2- and -arrow- (if fitted) and remove rear noise insulation panel.



- Remove front cross piece -arrows-.
- Remove propshaft ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .



- Loosen inner side of covers on vehicle underside (left and right).
- Remove heat shield -arrow-.



- Mark installation position of support bracket for selector lever cable.
- Pry ball socket -1- of selector lever cable off selector shaft lever.
- Unscrew bolts -arrows- of support bracket for selector lever cable.

 Note

Do not bend or kink the selector lever cable.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not warrant or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Remove four retaining washers -1-.
- Pull off noise insulation -2- and slide forwards.

 Note

Disregard items -3 and 4-.

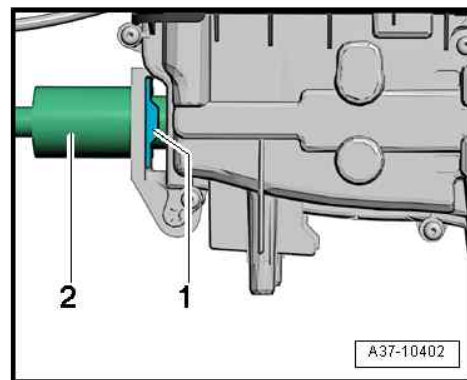
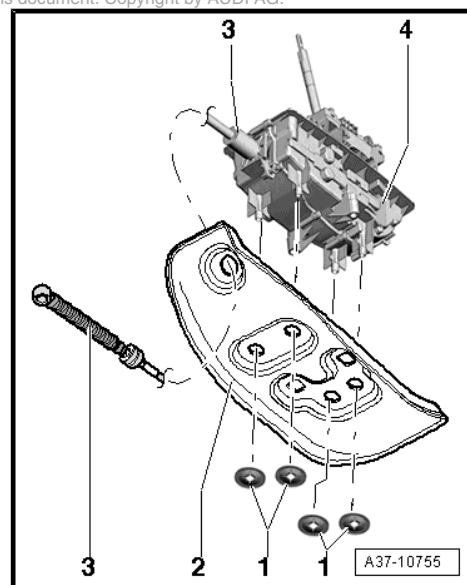
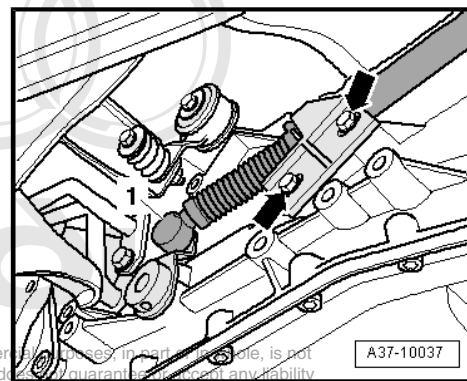
- Pull off retaining clip -1- for selector lever cable from the side.
- Pull selector lever cable -2- out of shift unit.

Installing

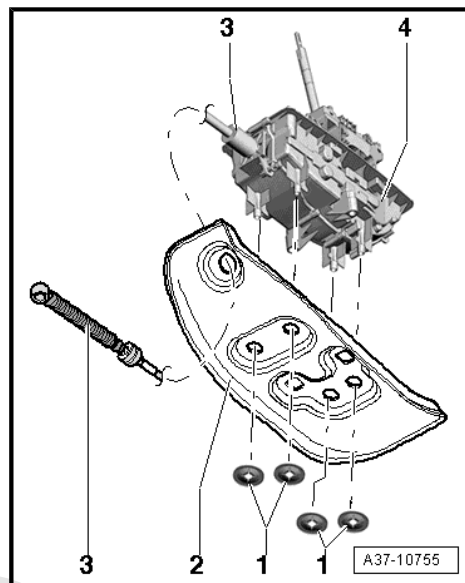
Installation is carried out in reverse sequence; note the following:

 Note

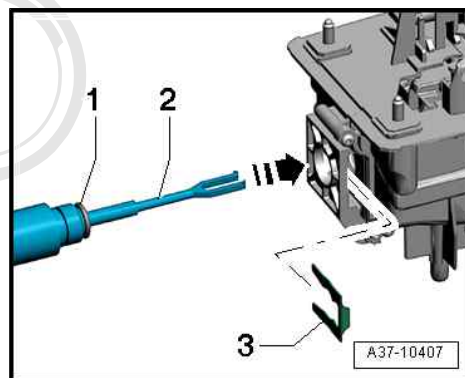
- ◆ *Renew retaining washers for noise insulation.*
- ◆ *Before installing, lightly grease cable eye and ball socket on selector lever cable with polycarbamide grease - G 052 142 A2- .*



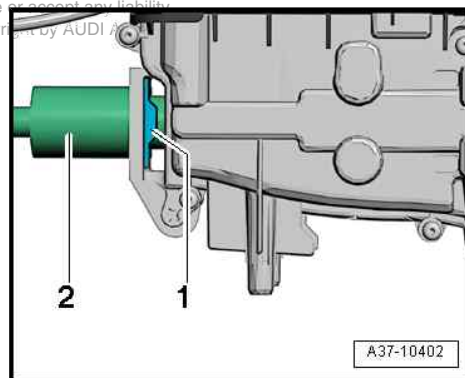
- Slide selector lever cable -3- through hole on noise insulation -2-.



- Renew O-ring -1- on selector lever cable.
- Insert selector lever cable -2- into shift unit -arrow-.
- Secure selector lever cable -2- with retaining clip -3-.



- Installation position: angled end of retaining clip must point to wards selector mechanism.



- Secure noise insulation to selector mechanism using four new retaining washers -1-.
- Fit support bracket for selector lever cable according to marking on the gearbox.
- Adjust selector lever cable ➔ [page 75](#) .
- Check selector mechanism ➔ [page 29](#) .
- Install propshaft ➔ Rear final drive 01R; Rep. gr. 39 or ➔ Rear final drive 0AR; Rep. gr. 39 .
- Install exhaust system and perform stress-free alignment ➔ Rep. gr. 26. .
- Install rear cross piece ➔ Rep. gr. 40 .
- Install front cross piece ➔ Rep. gr. 50 .

Tightening torque

Component	Nm
Support bracket for selector lever cable to gearbox	10

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of the information.

4.13 Adjusting selector lever cable on vehicles from 11.2005 onwards

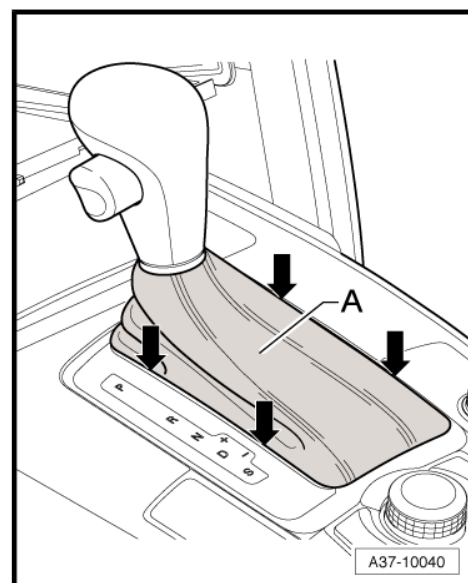
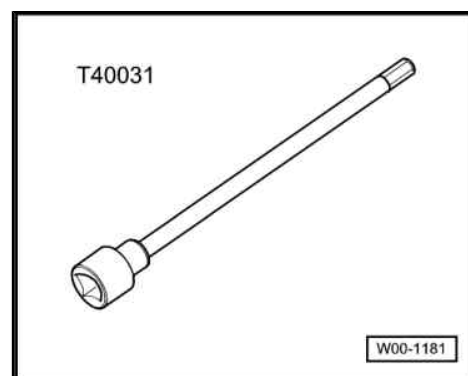
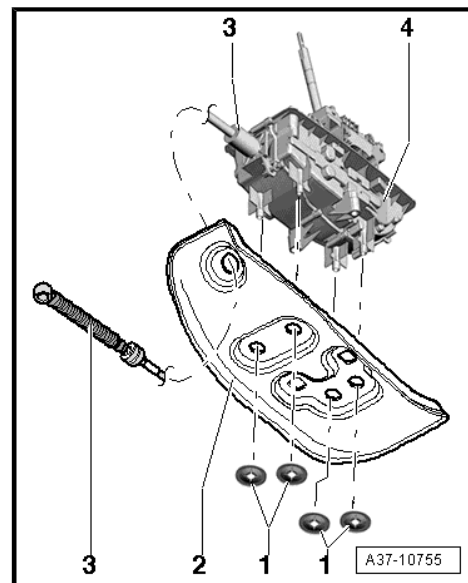
Special tools and workshop equipment required

- ◆ Socket - T40031-

- ◆ Vehicle diagnostic tester

Procedure

- Vehicle diagnostic tester is connected.
- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.

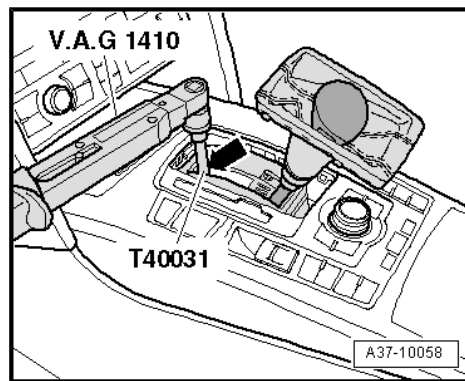


- Shift selector lever to position “D”.
- Insert socket and key - T40031- through access hole -arrow- in selector mechanism and slacken bolt on selector lever cable approx. one turn.



Note

- ◆ Only loosen clamping bolt approx. one turn - do not remove.
- ◆ Clamping bolt can only be accessed with selector lever in position “D”.
- ◆ With clamping bolt loosened, selector lever must remain in position “D”.
- Leave socket and key - T40031- attached to clamping bolt.
- Switch on ignition.
- The symbol “D” in the “PRNDS” display should be highlighted in the selector lever position display - Y6- on the instrument cluster.
- Carefully move selector lever slightly forwards and backwards, without shifting lever into a different selector lever position. The selector lever cable is thereby slackened.
- Shift selector lever into “tiptronic gate”.



Note

Do not touch selector lever again during adjustment process.

- Use socket and key - T40031- to tighten clamping bolt in this position, making sure not to touch selector lever; tightening torque ⇒ [page 69](#)
- Using the vehicle diagnostic tester in Guided Functions mode, select the following menu items:
 - ◆ 02-Gearbox electronics 09L
 - ◆ J217 - Automatic gearbox, read measured value block
- Select and display the value for Selector lever position and Hall sensor status multi-function switch - F125 on the vehicle diagnostic tester .
- Press and hold brake pedal.
- With interlock button on selector lever handle pressed, shift selector lever slowly from “P” position through “R, N, D and S” and check the following displayed information:

The following displayed information must correspond to the selector lever position and be plausible:

- ◆ Selector lever position display - Y6- in instrument cluster
- ◆ Measured value Selector lever position
- ◆ Measured value Hall sensor status multi-function switch -F125

If the values do not match:

- Adjust selector lever cable to basic setting ⇒ [page 77](#) .

If the values match:

- Check selector mechanism ➔ [page 29](#) .

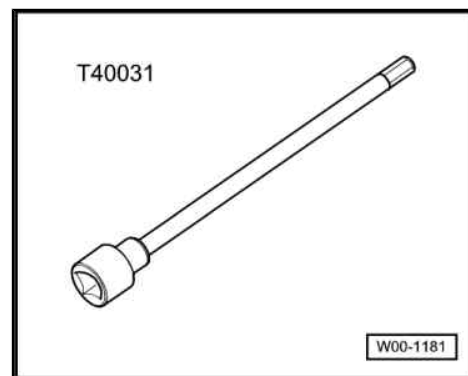
If selector mechanism is not functioning correctly after adjusting selector lever cable, proceed as follows:

- Adjust selector lever cable to basic setting ➔ [page 77](#) .

4.14 Adjusting selector lever cable to basic setting

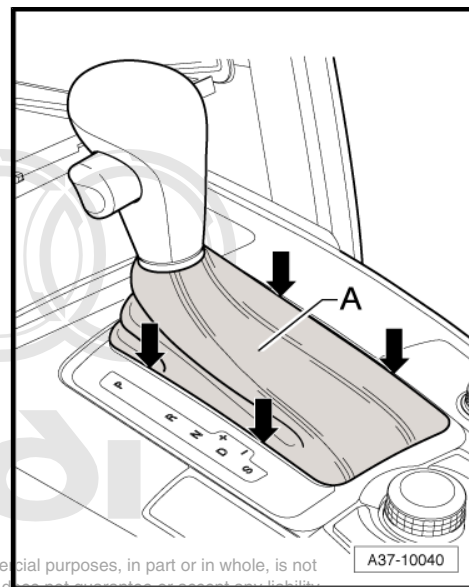
Special tools and workshop equipment required

- ◆ Socket - T40031-



Procedure

- Unclip retaining frame for selector lever boot -1- from centre console and lift off -arrows-.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not assume any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

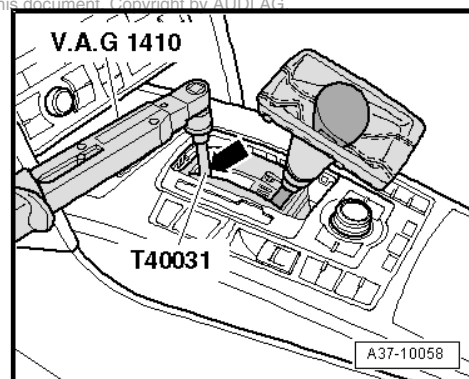
- Shift selector lever to position “D”.



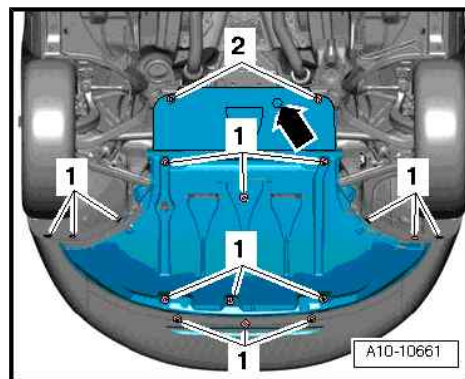
Note

Before adjusting the selector lever cable to basic setting make sure that clamping bolt has been tightened. The clamping bolt can be accessed through the hole -arrow- in the selector mechanism with the selector lever in position “D”.

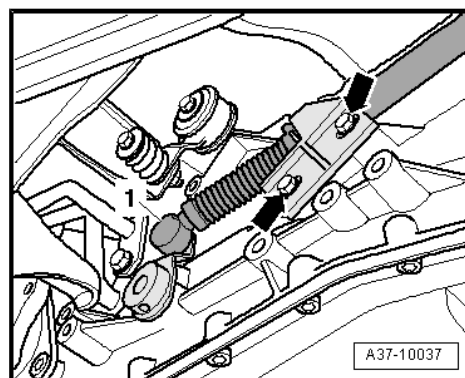
- Shift selector lever into “tiptronic gate”.
- Use socket and key - T40031- to make sure clamping bolt is tightened to 13 Nm.
- Shift selector lever to position “P”.



- Release fasteners marked -1, 2- and -arrow- (if fitted) and remove noise insulation panels.



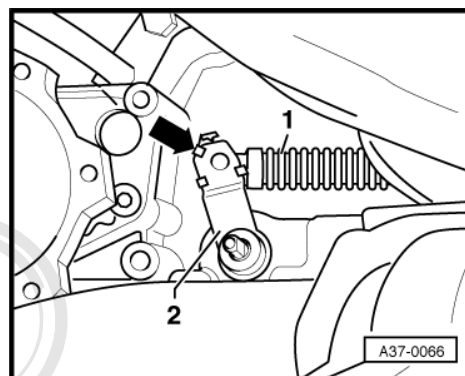
- Unscrew bolts -arrows- of support bracket for selector lever cable.



Note

Make sure the selector lever is in position "P".

- Push selector shaft lever -2- on gearbox towards rear as far as possible (in illustration: as far as possible to the right) until parking lock engages.



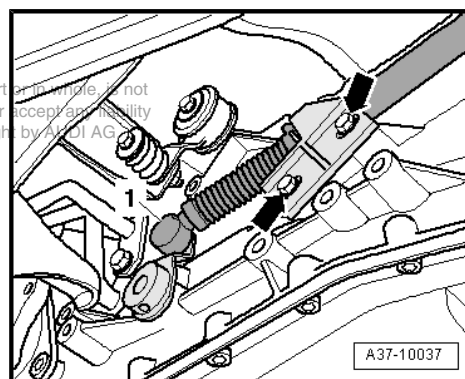
Note

When the parking lock has engaged it should no longer be possible to rotate both front wheels in one direction.

- Make sure that the selector lever cable -1- has not been bent or kinked and that it is not under tension.
- Tighten bolts -arrows- on support bracket for selector lever cable.
- Adjust selector lever cable = [page 75](#)

Tightening torque

Component	Nm
Support bracket for selector lever cable to gearbox	10



5 Removing and installing gearbox

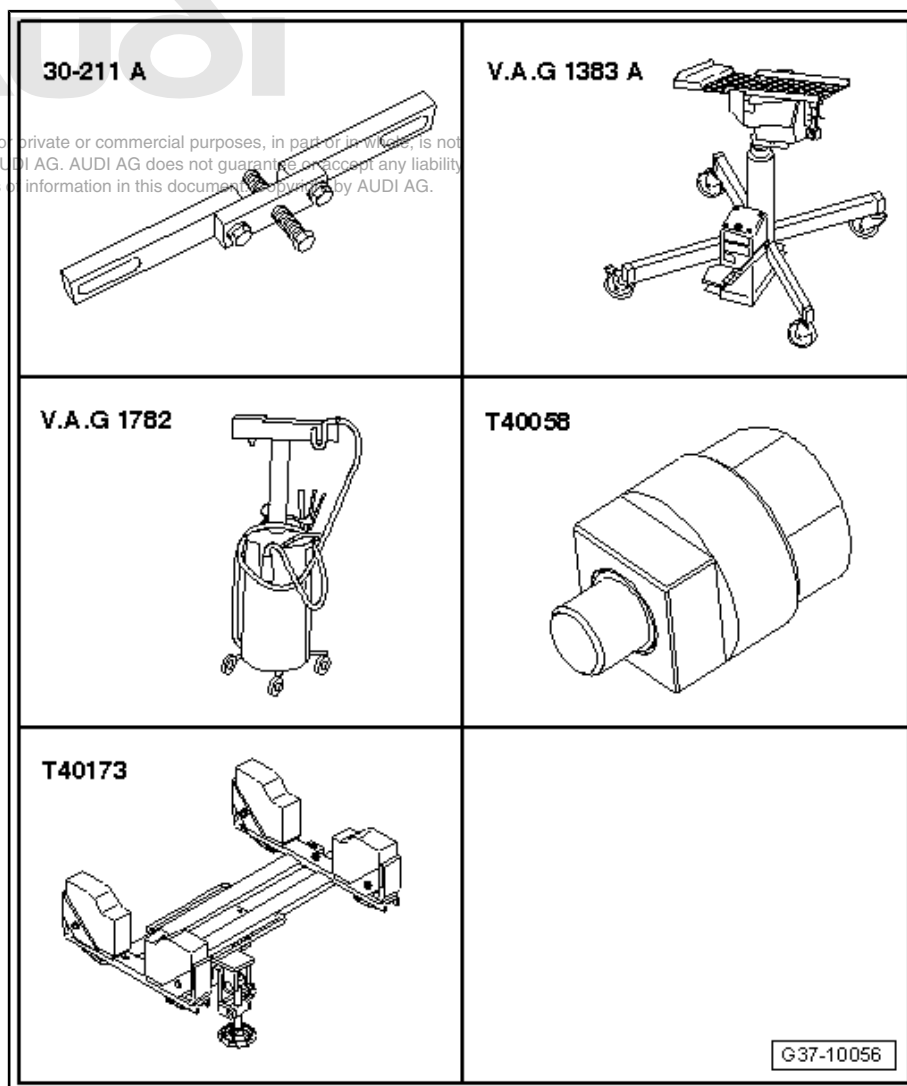
Overview:

- ◆ Removing gearbox - vehicles with 6-cyl. 3.0 ltr. MPI and 2.8 ltr./3.2 ltr. FSI engine ➔ [page 79](#)
- ◆ Removing gearbox - vehicles with 3.0 ltr. TFSI engine ➔ [page 86](#)
- ◆ Removing gearbox on vehicles with 8-cyl. petrol engine ➔ [page 94](#)
- ◆ Removing gearbox on vehicles with 6-cyl. TDI engine ➔ [page 94](#)
- ◆ Installing gearbox ➔ [page 105](#)

5.1 Removing gearbox - vehicles with 6-cyl. 3.0 ltr. MPI and 2.8 ltr./3.2 ltr. FSI engine

Special tools and workshop equipment required

- ◆ Support bridge - 30 - 211 A-
- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Used oil collection and extraction unit - V.A.G 1782-
- ◆ Adapter - T40058-
- ◆ Gearbox support - T40173-



Procedure

- Observe the repair instructions ➔ [page 13](#) .



Note

All cable ties which are released or cut open during removal must be fitted in the same position when installing.



WARNING

Prevent vehicle from tilting prior to removing the gearbox. For this the luggage compartment must be empty.

- Switch off ignition.



Note

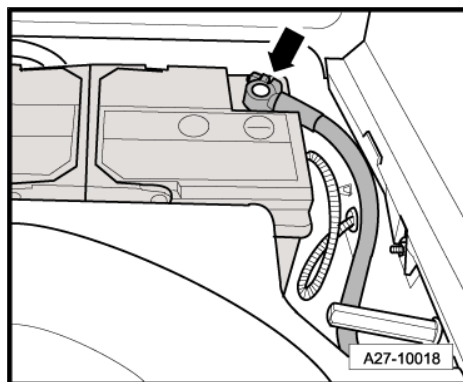
- ♦ The ignition key must be left in the ignition lock when disconnecting the battery so that the front wheels can be turned after the battery has been disconnected.
- ♦ The electronic parking brake must be released prior to disconnecting the battery so that the propshaft can be turned for removal.



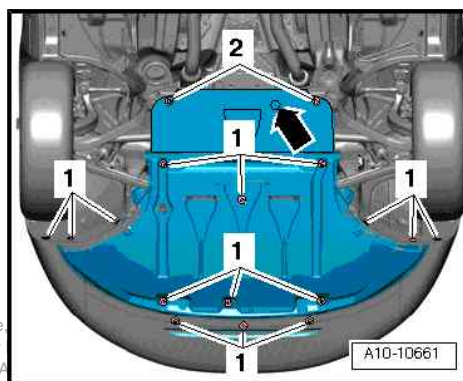
Caution

Follow steps required when disconnecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery .

- Take out luggage compartment floor covering.
- Disconnect earth wire at battery ⇒ Electrical system; Rep. gr. 27 ; Battery .

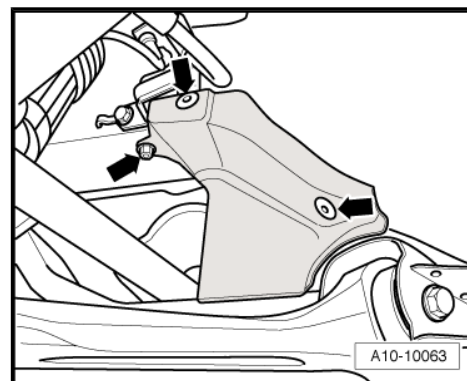


- Release fasteners marked -1, 2- and -arrow- (if fitted) and remove noise insulation panels.

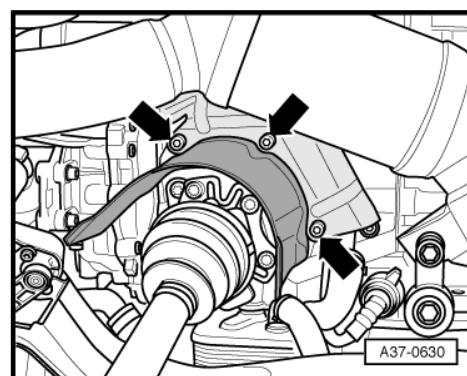


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

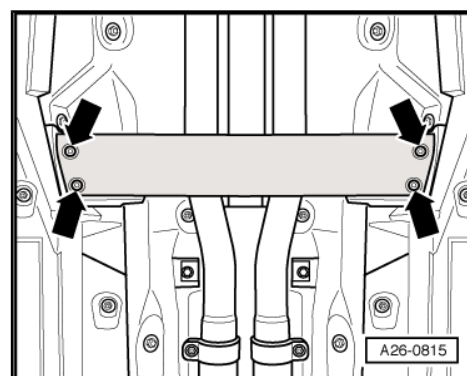
- Remove noise insulation in wheel housing (left and right) -arrows-.



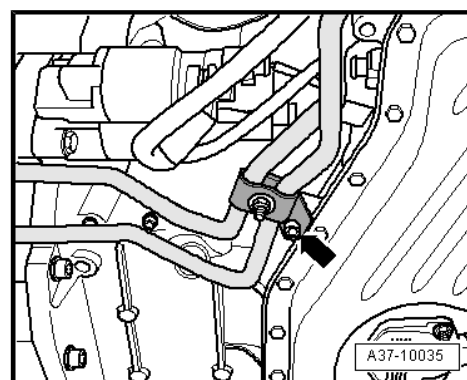
- Unbolt heat shield from gearbox above drive shaft (left and right) -arrows-.
- Unbolt drive shafts (left and right) from gearbox flanges.
- Remove front exhaust pipes with catalytic converter (left and right) ⇒ Rep. gr. 26 .



- Unscrew bolts -arrows- and remove front cross piece.



- Unscrew the bracket -arrow- for the ATF lines on the top section of oil pan.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Unbolt bracket -arrow- for ATF lines at bottom section of gearbox.



Note

On some versions, there may be no union nuts here. In that case, the ATF lines do not have a connection point at this position.

- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.

- Unscrew bolt -arrow-.

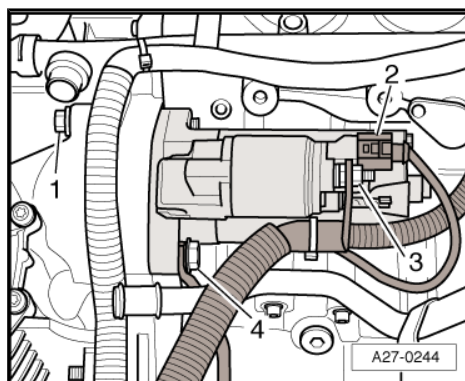
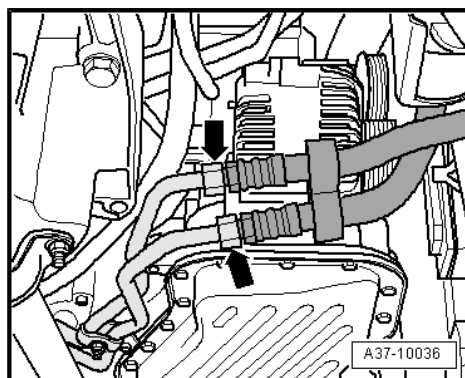
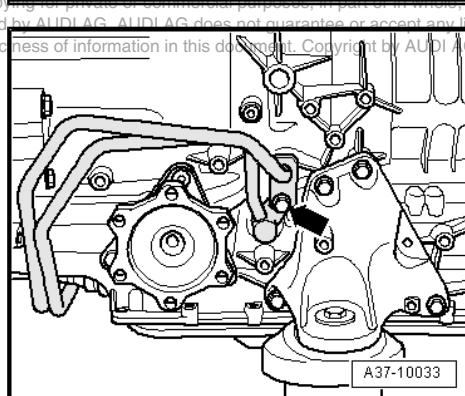
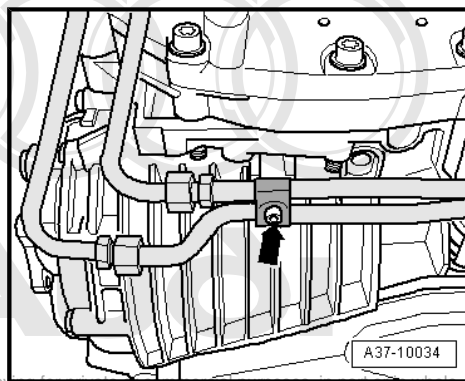


Note

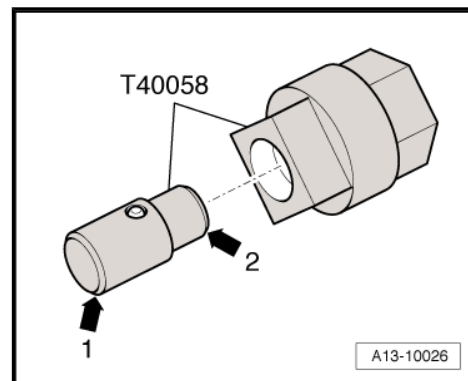
Place a piece of cloth below connection points to catch escaping ATF.

- Pull ATF lines out of gearbox.
- Plug pipes and openings at gearbox with clean plugs.
- Mark position of ATF lines in relation to one another with a water-proof pen.
- Loosen both union nuts -arrows- for ATF lines and pull ATF lines apart.
- Plug open ends of pipes with clean plugs.
- Take out ATF lines from between subframe and gearbox.

- Disconnect wires -2- and -3- at starter.
- Remove starter motor ⇒ Electrical system; Rep. gr. 27 ; Removing and installing starter .



- Insert guide pin of adapter - T40058- so that the large diameter -arrow 1- faces engine. The smaller diameter -arrow 2- faces adapter.

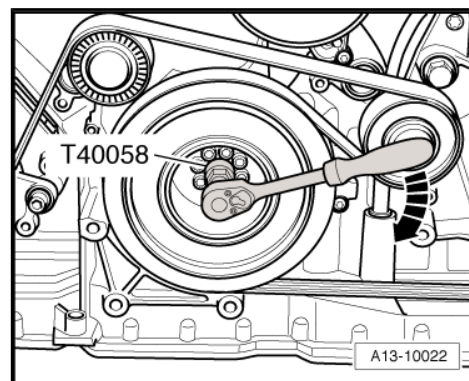


- Counter-hold crankshaft using adapter - T40058- to slacken torque converter bolts.



Note

-Arrow- can be disregarded.

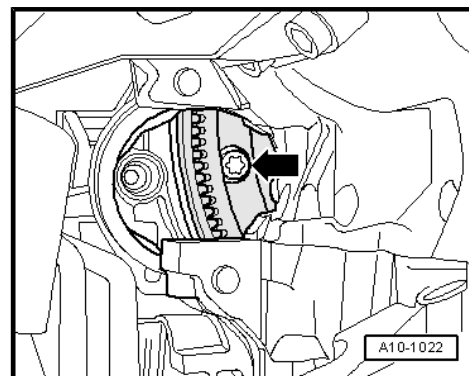


- Unscrew the 3 bolts -arrows- on the torque converter through the opening for the removed starter (turning the crankshaft 1/3 turn each time).



Note

Due to the shape of some engine versions, the bolts -arrows- on the torque converter may be difficult to access. Use commercially available socket attachments of adequate length to ensure straight access to the bolts.



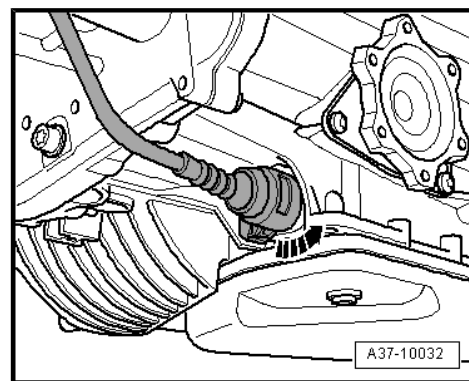
Caution

Pr by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

- ◆ **Do not touch contact pins in gearbox connector with bare hands.**

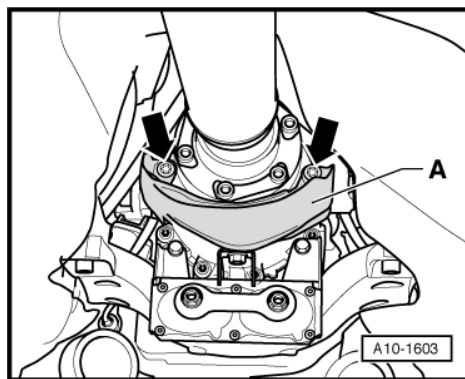
- Touch gearbox housing with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise -arrow- and unplug electrical connector on left side of gearbox.
- Move all electrical wiring clear of gearbox housing.



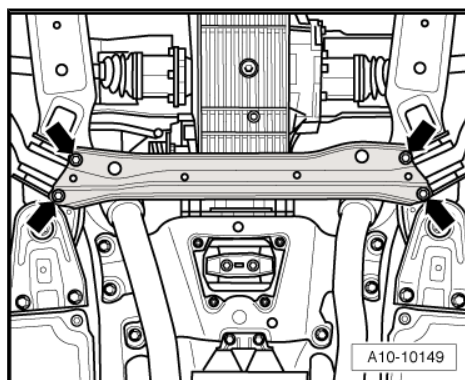
- Unbolt heat shield -A- for propshaft -arrows-.
- Unscrew bolts at gearbox/propshaft flange.
- Slide propshaft together towards rear final drive. The constant velocity joints can be moved axially.
- Tie up propshaft to body.


WARNING

The torque reaction support and lock carrier must be installed to proceed with the work sequence.

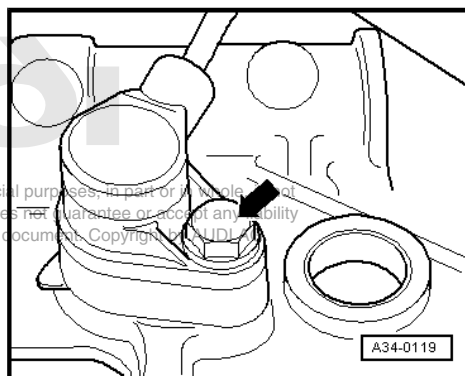
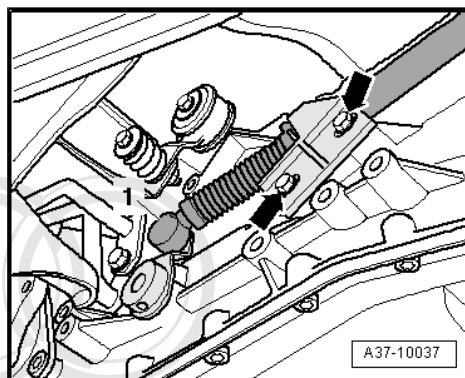


- Remove bolts -arrows- and detach cross piece from subframe.


Note

Mark installation position of support bracket for selector lever cable with a felt-tip pen.

- Pry ball socket -1- of selector lever cable off selector shaft lever.
- Unscrew bolts -arrows- of support bracket for selector lever cable.
- Move selector lever cable clear.
- Remove engine speed sender - G28- on gearbox -arrow-.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright © AUDI AG

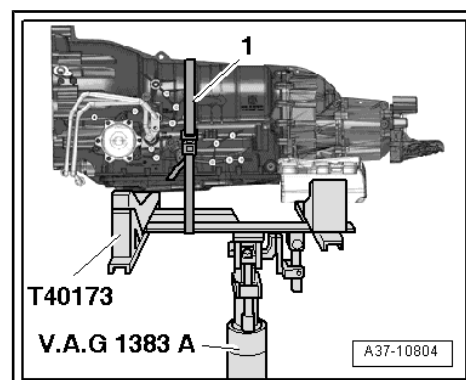
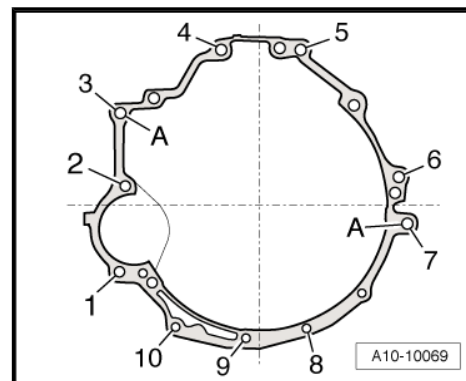
- Remove bolts -4-, -5- and -7 to 10-.
- Loosen bolts -3- and -6-.

 Note

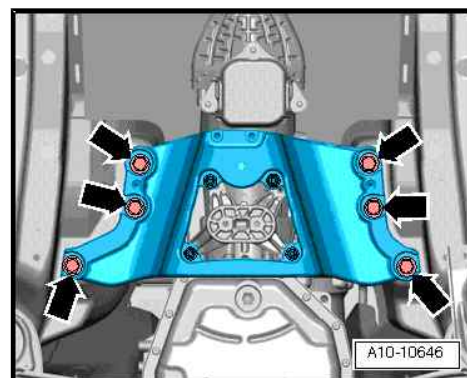
Bolts -3- and -6- remain screwed in hand-tight.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Position engine and gearbox jack - V.A.G 1383 A- with gearbox support - T40173- underneath gearbox and secure with tensioning strap -1- as shown in illustration.



- Remove bolts -arrows- for tunnel cross member.



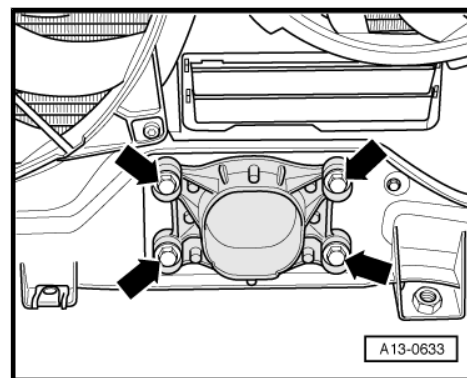
WARNING

Make sure that the lock carrier remains installed during the following work steps and is not in the service position.

- Slacken bolts -arrows- at stop for torque reaction support.
- Lower gearbox slightly using engine and gearbox jack - V.A.G 1383 A- .
- Press stop for torque reaction support upwards and tighten bolts again.

 Note

Adjusting the stop for torque reaction support prevents the engine from tilting at the front after the gearbox is removed.

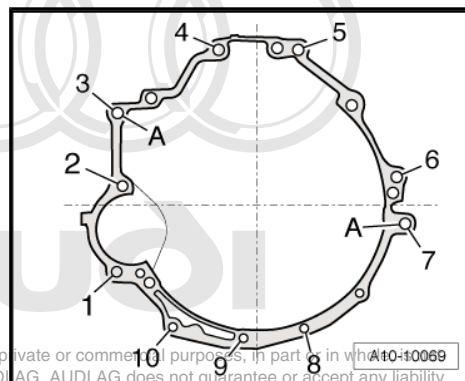


- Remove bolts -3- and -6-.
- Unseat gearbox from dowel sleeves and lower carefully with engine and gearbox jack - V.A.G 1383 A- .
- At the same time, use a screwdriver to lever torque converter off drive plate on engine through opening for starter.
- Guide the gearbox out diagonally downwards/to the rear.

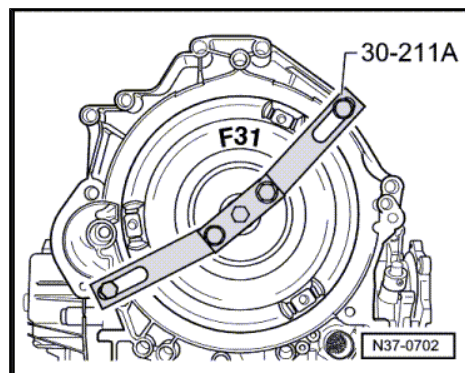


Caution

When lowering gearbox, make sure there is sufficient clearance for drive shafts.



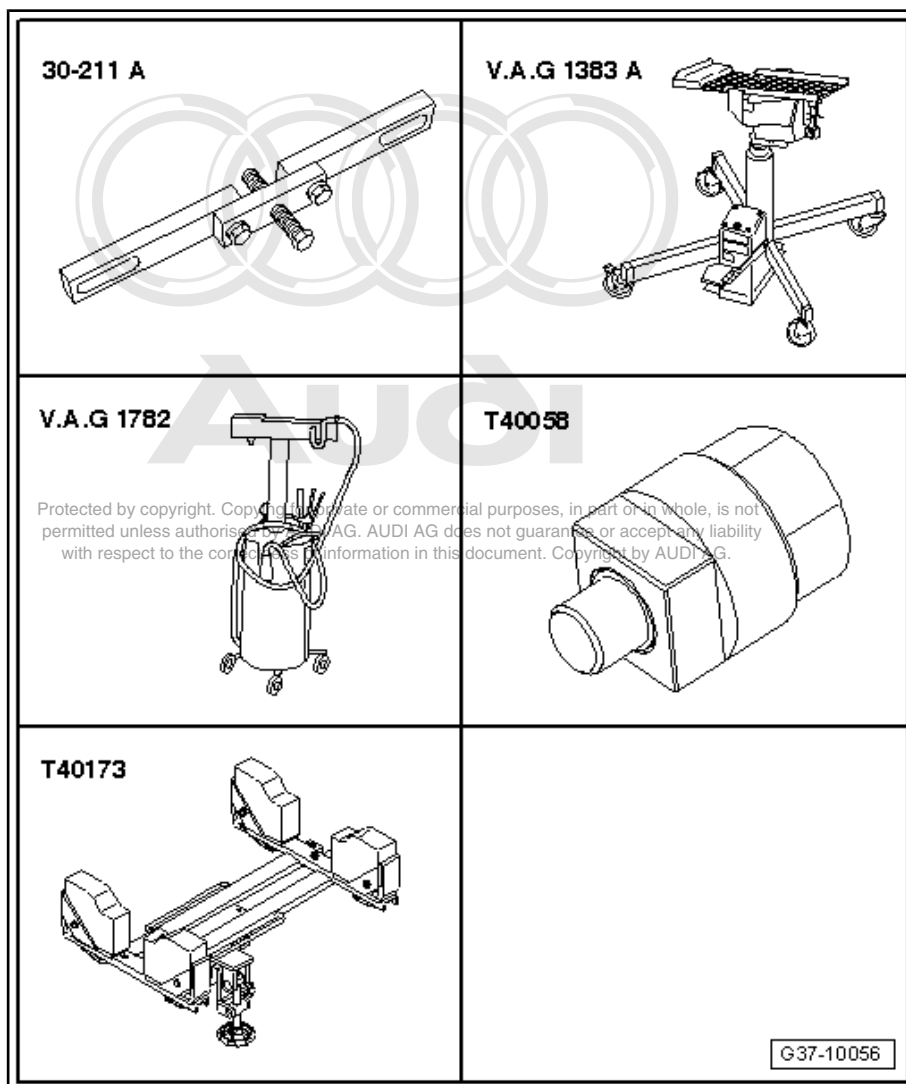
- Secure torque converter in gearbox using support bridge - 30-211 A- to prevent it from falling out.



5.2 Removing gearbox - vehicles with 6-cylinder 3.0 ltr. TFSI engine

Special tools and workshop equipment required

- ◆ Support bridge - 30 - 211 A-
- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Used oil collection and extraction unit - V.A.G 1782-
- ◆ Adapter - T40058-
- ◆ Gearbox support - T40173-



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Procedure

- Observe the repair instructions ➔ [page 13](#) .



Note

All cable ties which are released or cut open during removal must be fitted in the same position when installing.



WARNING

Prevent vehicle from tilting prior to removing the gearbox. For this the luggage compartment must be empty.



Caution

Follow steps required when disconnecting battery.

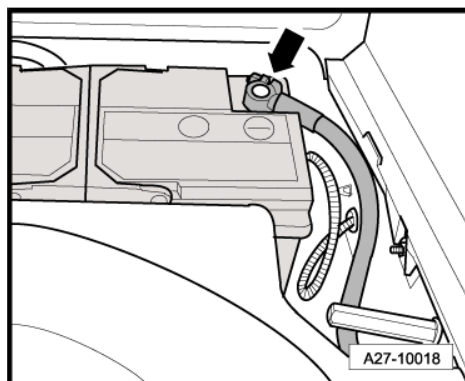
- Switch off ignition.



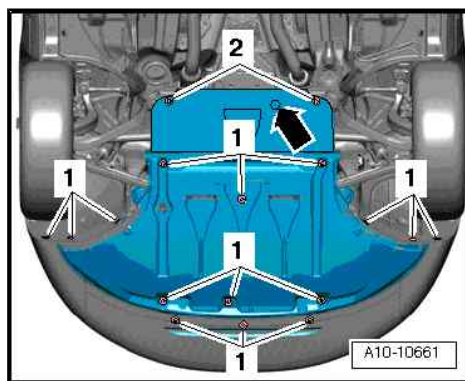
Note

The electronic parking brake must be released prior to disconnecting the battery so that the propshaft can be turned for removal.

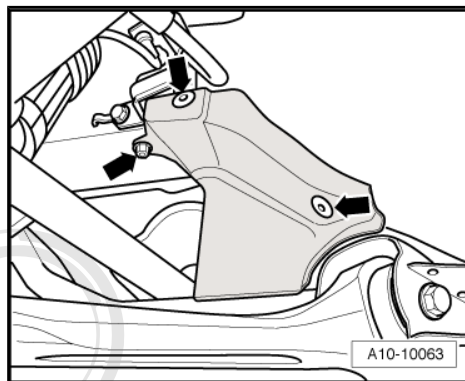
- Take out luggage compartment floor covering.
- Disconnect earth wire at battery ⇒ Electrical system; Rep. gr. 27 ; Battery .
- Remove starter ⇒ Electrical system; Rep. gr. 27 ; Starter; Removing and installing starter



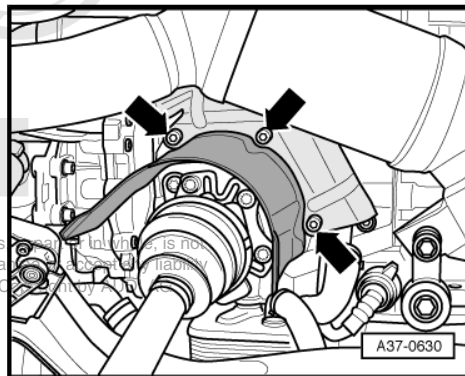
- Release fasteners marked -1, 2- and -arrow- (if fitted) and remove noise insulation panels.



- If fitted, remove noise insulation in wheel housing (left and right) -arrows-.



- Remove bolts -arrows- and detach heat shield for drive shaft (left-side).
- Unbolt drive shaft (left-side) from flange shaft on gearbox.



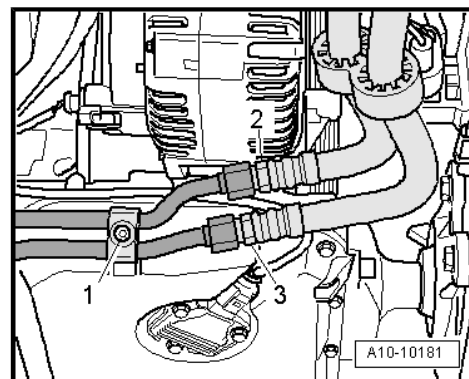
Protected by copyright. Copying for private or commercial purposes is prohibited. This document is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee the correctness of information in this document. Copyright © 2016 Audi AG

- Remove bolt -1- from bracket for ATF lines.



Note

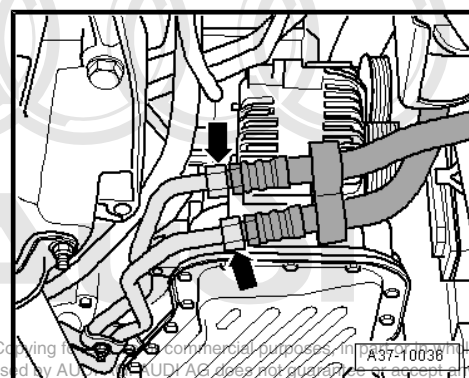
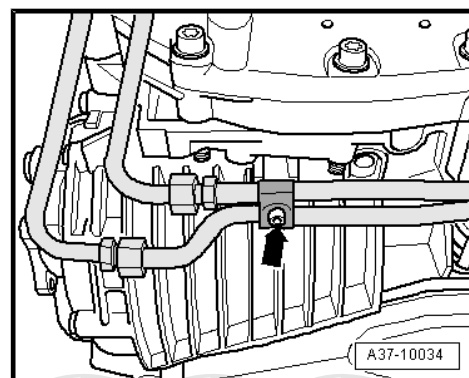
Disregard items -2 and 3-.



Note

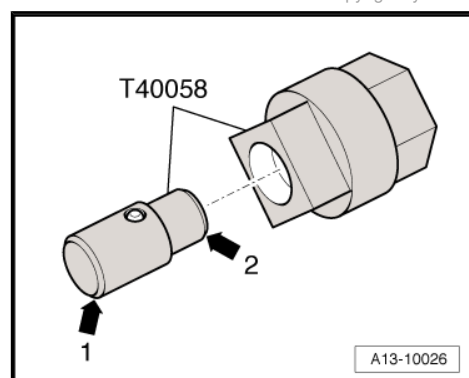
Observe rules for cleanliness when working on automatic gearbox ⇒ Rep. gr. 00.

- Place used oil collection and extraction unit - V.A.G 1782- below connection.
- Unscrew union nuts, disconnect ATF lines -1- and -2- on right side of gearbox and place to one side.
- Pull ATF lines out of gearbox.
- Plug pipes and openings at gearbox with clean plugs.
- Mark position of ATF lines in relation to one another with a water-proof pen.
- Loosen both union nuts -arrows- for ATF lines and pull ATF lines apart.
- Plug open ends of pipes with clean plugs.



Protected by copyright. Copying for non-commercial purposes, in particular for private use, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Insert guide stud of adapter -T40058- as follows:
 - The larger diameter -arrow 1- faces engine.
 - The smaller diameter -arrow 2- faces adapter.

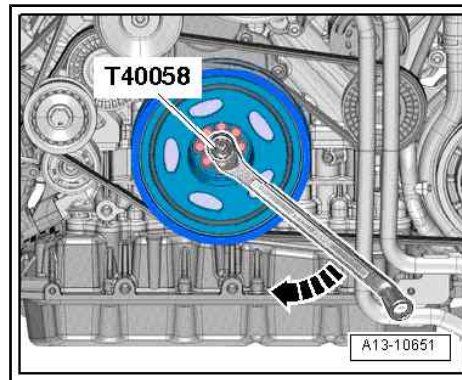


- To slacken bolts for torque converter, counterhold crankshaft with adapter - T40058- .

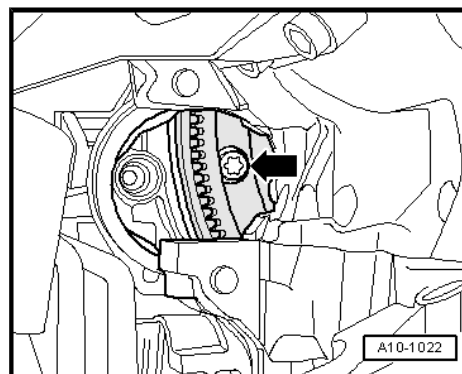


Note

When you then turn the crankshaft, only turn crankshaft in direction of engine rotation -arrow-.



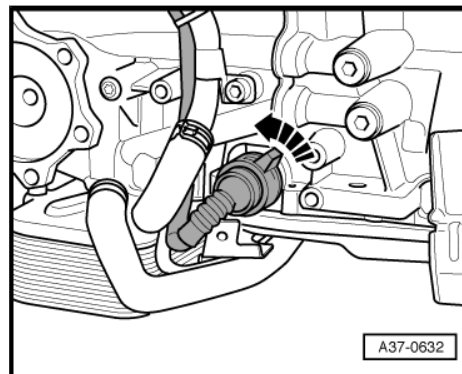
- Unscrew the 3 bolts -arrow- on the torque converter through the opening for the removed starter (turning the crankshaft 120° each time).



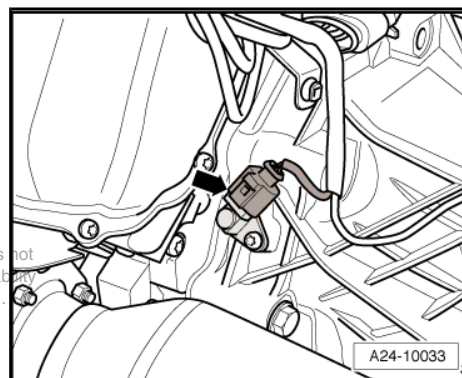
Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

- ◆ Do not touch contact pins in gearbox connector with bare hands.



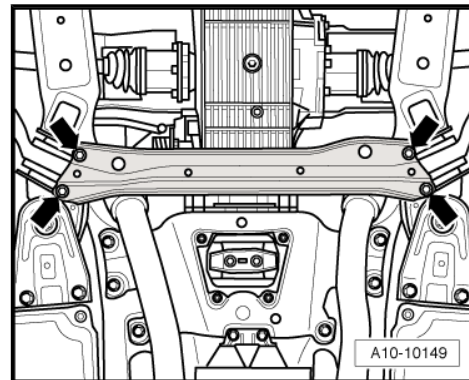
- Touch gearbox housing with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise -arrow- and unplug electrical connector on left side of gearbox.
- Unplug electrical connector -arrow- on engine speed sender - G28- .



Audi

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

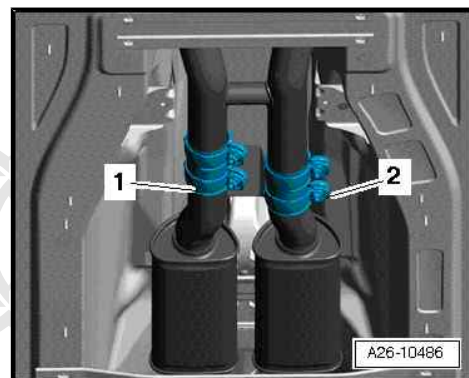
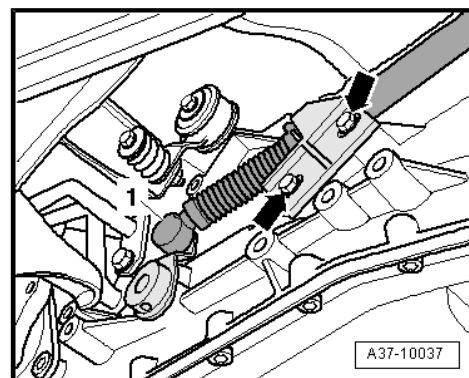
- Remove bolts -arrows- and detach cross piece from subframe.



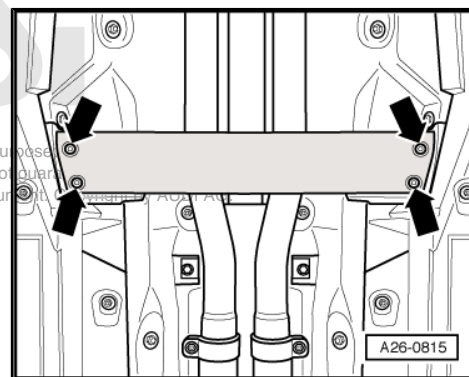
Note

Mark installation position of support bracket for selector lever cable with a felt-tip pen.

- Pry ball socket -1- on selector lever cable off selector shaft lever.
- Remove bolts -arrows- securing support bracket for selector lever cable.
- Move selector lever cable clear.
- Loosen clamps -1- and -2- and move towards the rear.

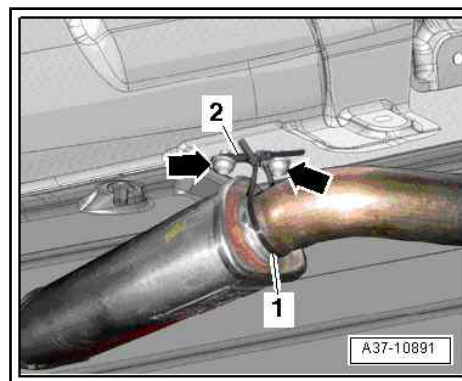


- Unscrew bolts -arrows- and remove front cross piece.

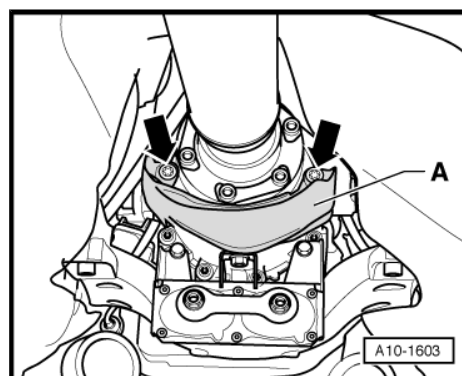


Protected by copyright. Copying for private or commercial purposes is permitted unless authorised by AUDI AG. AUDI AG does not warrant with respect to the correctness of information in this document.

- Screw in bolts -arrows- for cross piece on left and right several turns and tie front exhaust pipes up to side using cable ties -1- and -2-.



- Remove bolts -arrows- and detach heat shield for propshaft -A-.
- Remove bolts from connection between propshaft and gearbox.
- Slide propshaft together towards rear final drive. The constant velocity joints can be moved axially.

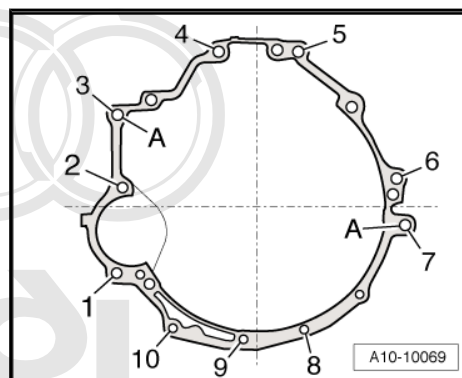


- Remove bolts -8, 9, 10- securing engine to gearbox.

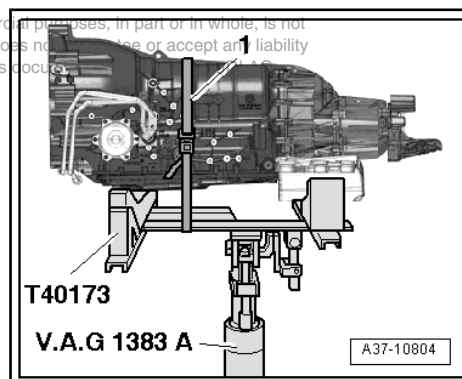


Note

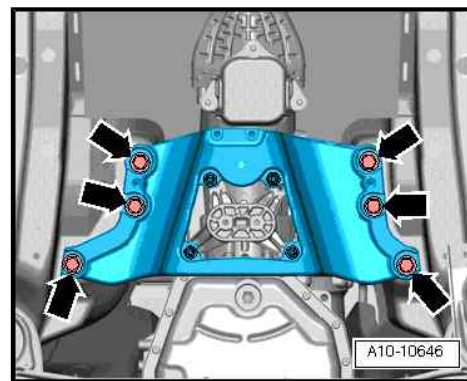
Item -A- can be disregarded.



- Position engine and gearbox jack -V.A.G 1383 A- with gearbox support - T40173- underneath gearbox and secure with tensioning strap -1- as shown in illustration.



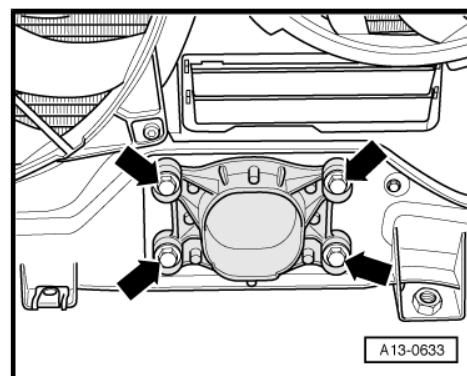
- Remove bolts -arrows- for tunnel cross member.



WARNING

Make sure that the lock carrier remains installed during the following work steps and is not in the service position.

- Slacken bolts -arrows- at stop for torque reaction support.
- Lower gearbox slightly using engine and gearbox jack - V.A.G 1383 A- .
- Press stop for torque reaction support upwards and tighten bolts again.



Note

Adjusting the stop for torque reaction support prevents the engine from tilting at the front after the gearbox is removed.

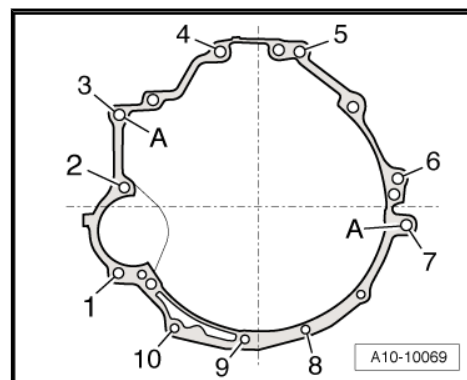
- Remove engine/gearbox securing bolts -3 ... 7-.



Note

Item -A- can be disregarded.

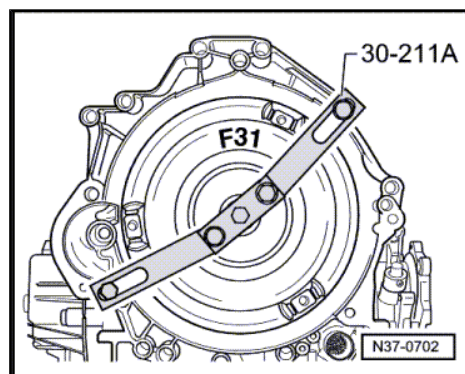
- Unseat gearbox from dowel sleeves and lower carefully with engine and gearbox jack - V.A.G 1383 A- .
- At the same time, use a screwdriver to lever torque converter off drive plate on engine through opening for starter.
- Guide the gearbox out diagonally downwards/to the rear.



Caution

When lowering gearbox, make sure there is sufficient clearance for drive shafts.

- Secure torque converter in gearbox using support bridge - 30-211 A- to prevent it from falling out.



5.3 Removing gearbox - vehicles with 8-cyl. petrol engine

- Observe the repair instructions ⇒ [page 13](#) .



Note

All cable ties which are released or cut open during removal must be fitted in the same position when installing.



WARNING

Prevent vehicle from tilting prior to removing the gearbox. For this the luggage compartment must be empty.

- The gearbox is removed together with the engine, then the two components are separated.
- Removing and installing engine ⇒ Rep. gr. 10 .

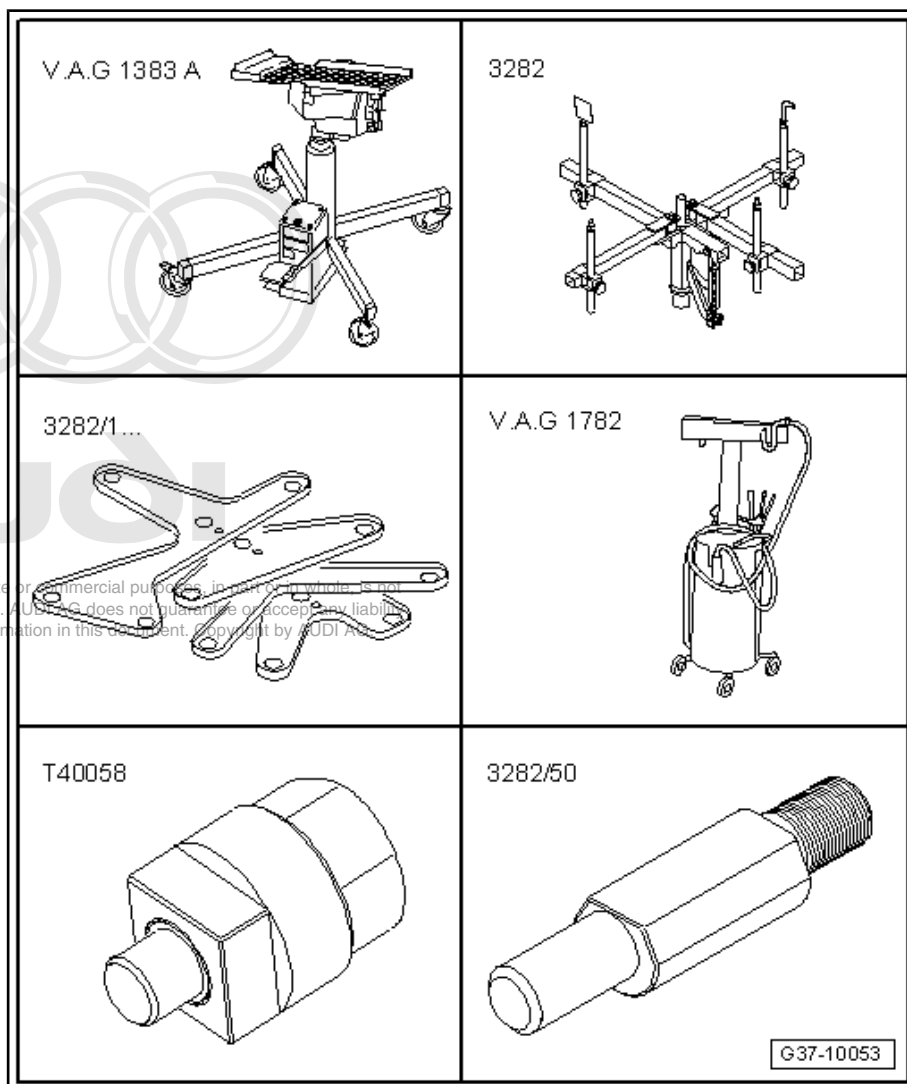
5.4 Removing gearbox - vehicles with 6-cyl. TDI engine

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

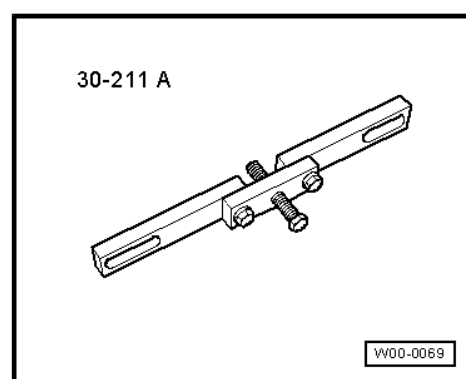
Special tools and workshop equipment required

- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Gearbox support - 3282-
- ◆ Adjustment plate - 3282/48-
- ◆ Used oil collection and extraction unit - V.A.G 1782-
- ◆ Pin - 3282/50-
- ◆ Adapter - T40058-
- ◆ Bolt M10x20 (1x)

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



- ◆ Support bridge - 30 - 211 A-



Procedure

- Observe the repair instructions ⇒ [page 13](#) .



Note

All cable ties which are released or cut open during removal must be fitted in the same position when installing.



WARNING

Prevent vehicle from tilting prior to removing the gearbox. For this the luggage compartment must be empty.



Caution

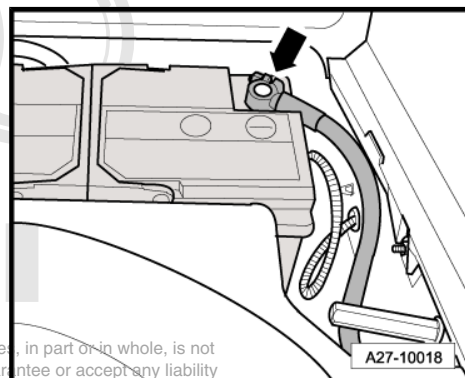
Follow steps required when disconnecting battery.

- Switch off ignition.



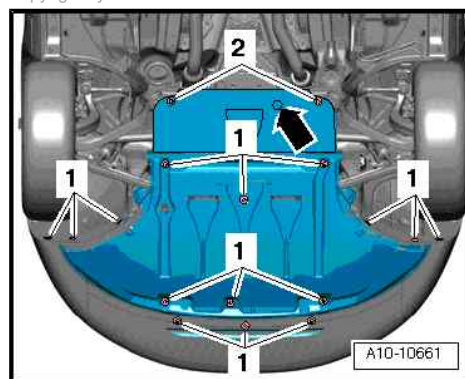
Note

- ◆ *The ignition key must be left in the ignition lock when disconnecting the battery so that the front wheels can be turned after the battery has been disconnected.*
- ◆ *The electronic parking brake must be released prior to disconnecting the battery so that the propshaft can be turned for removal.*
- Take out luggage compartment floor covering.
- Disconnect earth wire at battery ⇒ Electrical system; Rep. gr. 27 ; Battery .

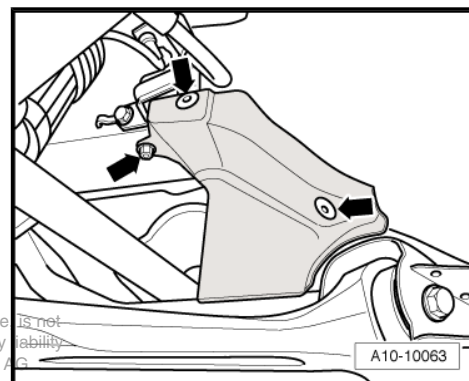


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

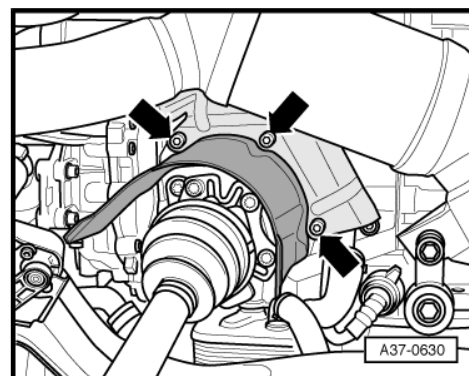
- Release fasteners marked -1, 2- and -arrow- (if fitted) and remove noise insulation panels.



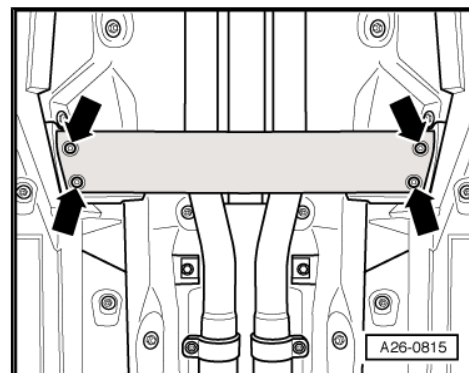
- Remove noise insulation in wheel housing (left and right) -arrows-.



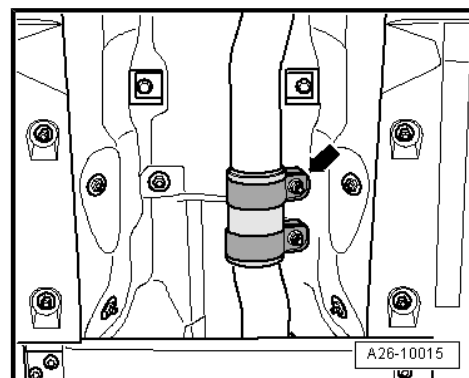
- Unbolt heat shield from gearbox above left drive shaft -arrows-.
- Unbolt drive shafts (left and right) from gearbox flanges.



- Remove front cross piece -arrows-.



- Disconnect exhaust system at clamp -arrow-.



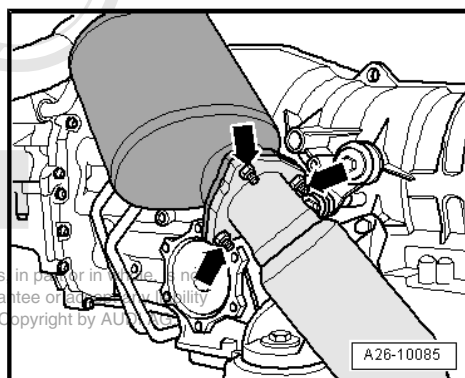
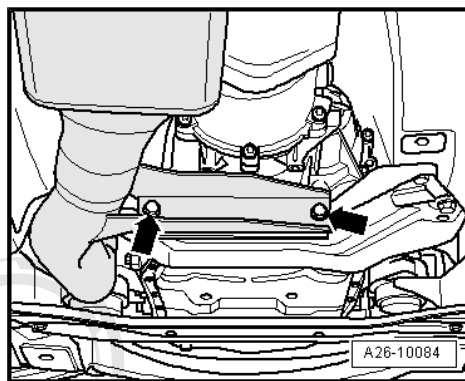


Note

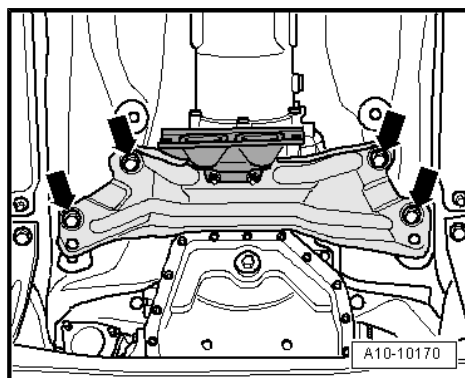
The flexible pipe connection (de-coupling element) on the front exhaust pipe must not be bent more than 10° – otherwise it can be damaged.

- Unscrew bolts -arrows- at centre bracket for front exhaust pipe.

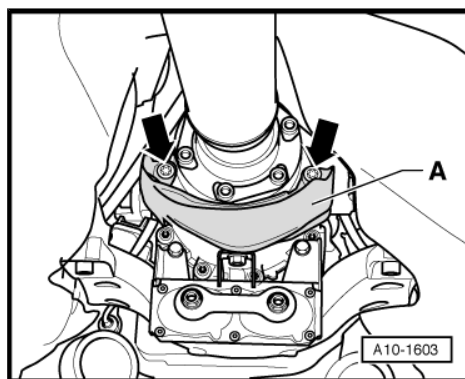
- Unscrew nuts -arrows- and remove front exhaust pipe with main catalytic converter.



- Remove bolts -arrows- at tunnel cross member.
- Remove tunnel cross member with front exhaust pipe centre bracket.



- Unbolt heat shield -A- for propshaft -arrows-.
- Unscrew bolts at gearbox/propshaft flange.
- Slide propshaft together towards rear final drive. The constant velocity joints can be moved axially.
- Tie up propshaft to body.



WARNING

Make sure that the lock carrier remains installed during the following work steps and is not in the service position.

- Slacken bolts -arrows- at stop for torque reaction support.
- Press stop for torque reaction support upwards and tighten bolts again.

 Note

Adjusting the stop for torque reaction support prevents the engine from tilting at the front after the gearbox is removed.

- Set up gearbox support - 3282- on engine and gearbox jack - V.A.G 1383 A- .

 Note

The pin - 3282/50- is flattened at the side -arrow-, the flattened side should face the oil pan when inserting pin into gearbox.

- Place adjustment plate - 3282/48- on gearbox support - 3282- as shown in illustration.
- Align arms of gearbox support according to holes in adjustment plate.
- Attach support elements as illustrated on adjustment plate.
- Place engine and gearbox jack - V.A.G 1383 A- with gearbox support - 3282- underneath gearbox.

 Note

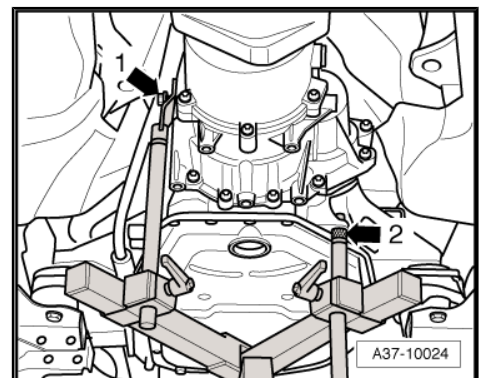
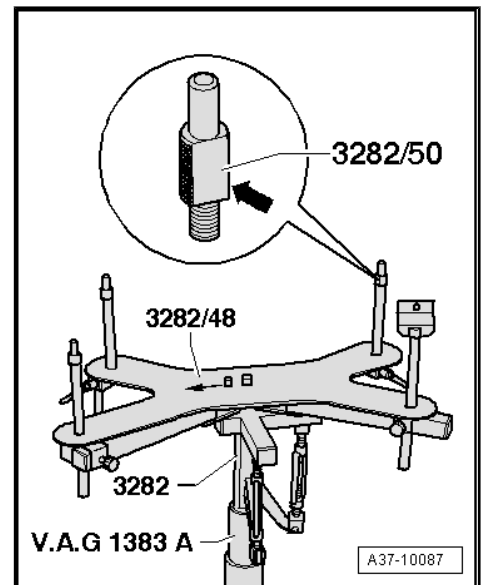
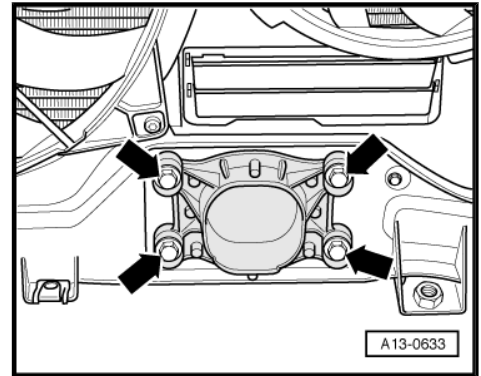
The arrow symbol on the adjustment plate - 3282/48- points in the direction of travel.

- Align adjustment plate - 3282/48- parallel with gearbox.
- Bolt support to rear left tapped hole on gearbox -1- using one bolt M10x20.
- Insert flattened bolt - 3282/50- into mounting hole at rear right of gearbox housing -arrow 2-.

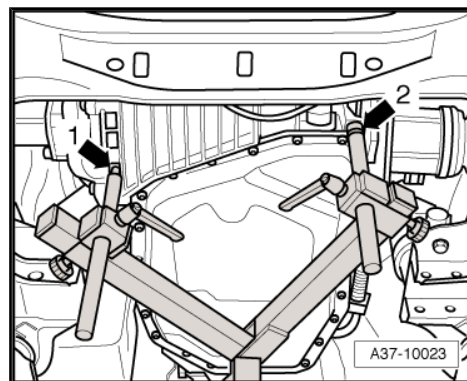


WARNING

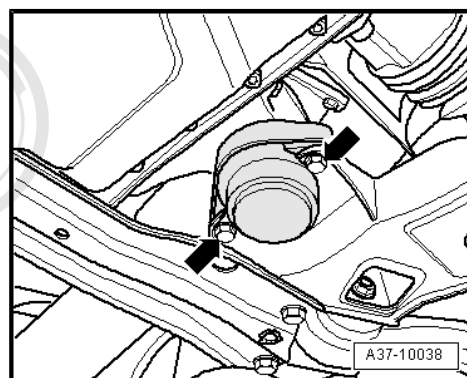
- *The flattened side of the bolt - 3282/50- must face towards the gearbox oil pan, to prevent the oil pan from being bent or damaged.*
- *Renew the gearbox oil pan if damaged.*



- Insert bolt into mounting hole at front left of gearbox housing -arrow 2-.
- Insert bolt into recess in housing at front right of differential housing -arrow 1-.
- Use engine and gearbox jack - V.A.G 1383 A- to lift gearbox up slightly.

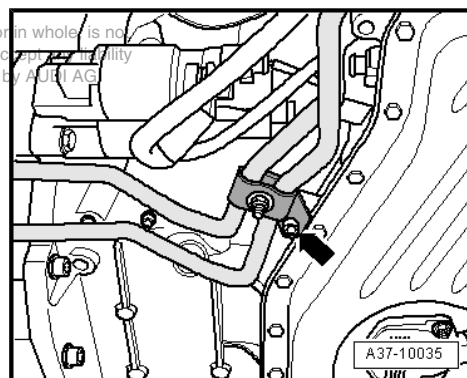


- Unscrew bolts -arrows- for gearbox mountings (left and right).

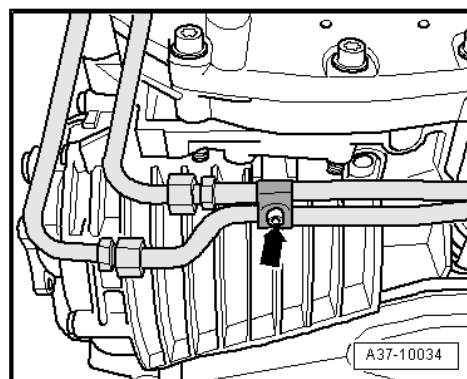


- Unscrew the bracket -arrow- for the ATF lines on the top section of oil pan.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG



- Unbolt bracket -arrow- for ATF lines at bottom section of gearbox.
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.



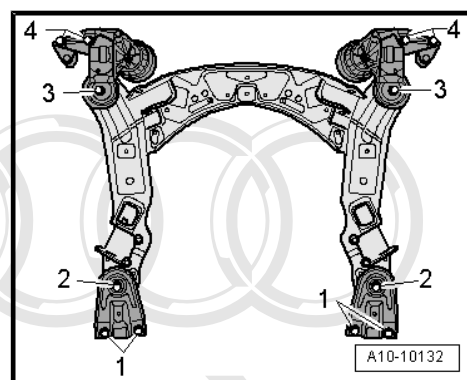
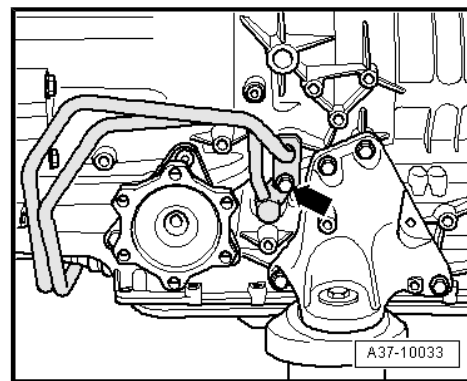
- Unscrew bolt -arrow-.



Note

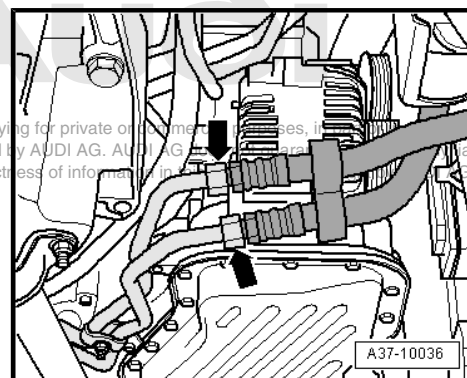
Place a piece of cloth below connection points to catch escaping ATF.

- Pull ATF lines out of gearbox.
- Plug pipes and openings at gearbox with clean plugs.
- Remove bolts -1- and -2- and lower subframe slightly at the rear.

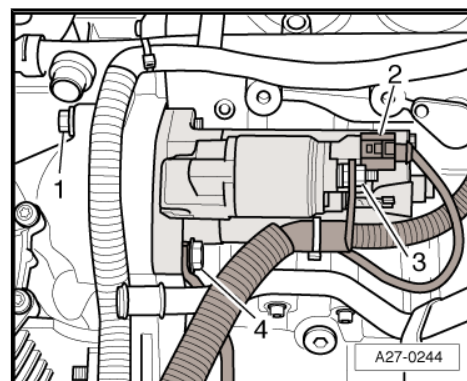


- Mark position of ATF lines in relation to one another with a water-proof pen.
- Loosen both union nuts -arrows- for ATF lines and pull ATF lines apart.
- Plug open ends of pipes with clean plugs.
- Take out ATF lines from between subframe and gearbox.

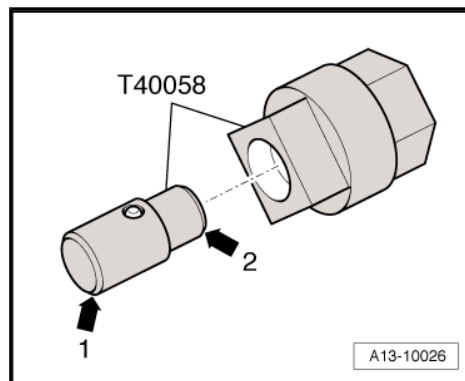
Protected by copyright. Copying for private or commercial purposes, in whole or in part, is not permitted unless authorised by AUDI AG. AUDI AG does not accept any liability with respect to the correctness of information in this manual.



- Disconnect wires -2- and -3- at starter.
- Remove starter ⇒ Electrical system; Rep. gr. 27 ; Removing and installing starter .



- Insert guide pin of adapter - T40058- so that the large diameter -arrow 1- faces engine. The smaller diameter -arrow 2- faces adapter.

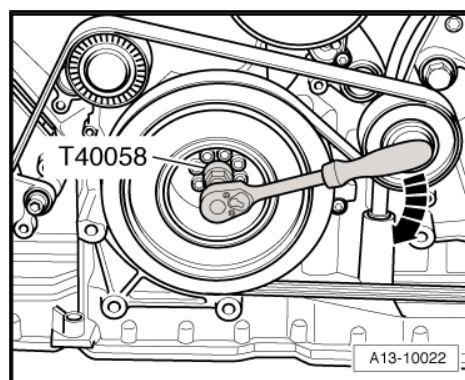


- Counter-hold crankshaft using adapter - T40058- to slacken torque converter bolts.



Note

-Arrow- can be disregarded.

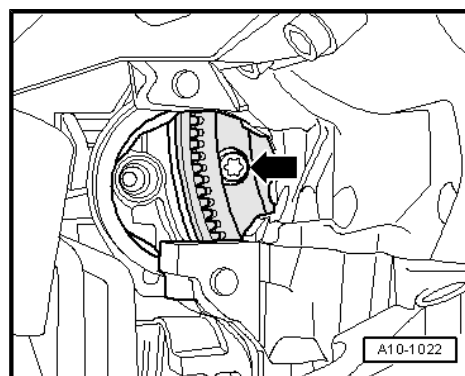


- Unscrew the 3 bolts -arrows- on the torque converter through the opening for the removed starter (turning the crankshaft $\frac{1}{3}$ turn each time).



Note

Due to the shape of some engine versions, the bolts -arrows- on the torque converter may be difficult to access. Use commercially available socket attachments of adequate length to ensure straight access to the bolts.

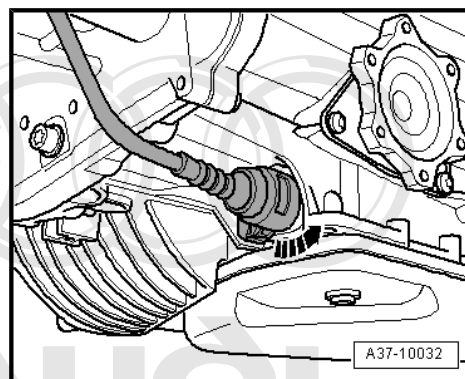


Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

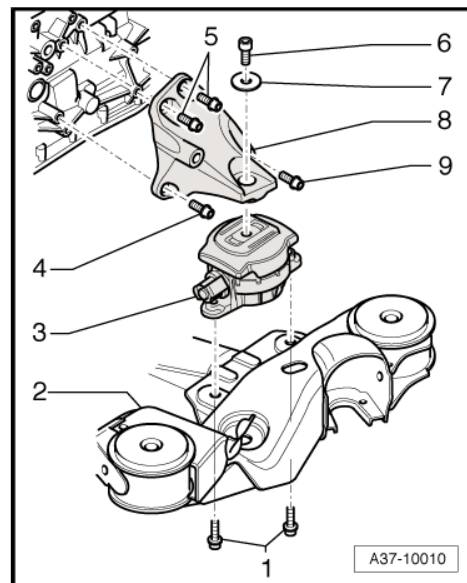
- ◆ Do not touch contact pins in gearbox connector with bare hands.

- Touch gearbox housing with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise -arrow- and unplug electrical connector on left side of gearbox.
- Move all electrical wiring clear of gearbox housing.

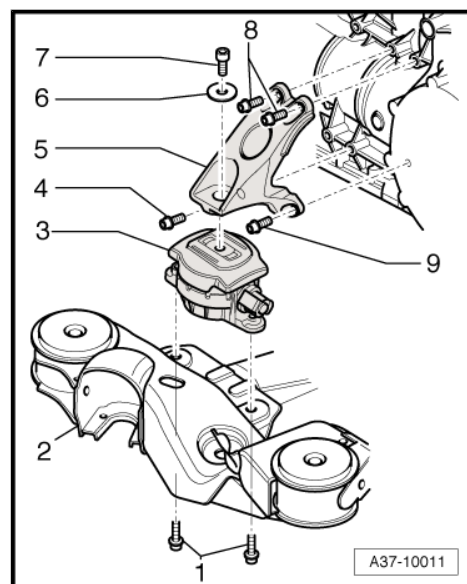


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Unscrew bolts -4-, -5- and -9- and remove left gearbox support with gearbox mounting.



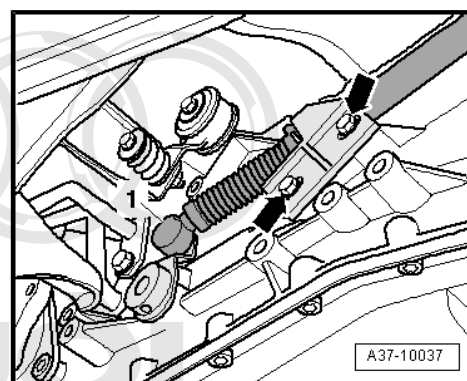
- Unscrew bolts -4-, -8- and -9- and remove right gearbox support with gearbox mounting.



Note

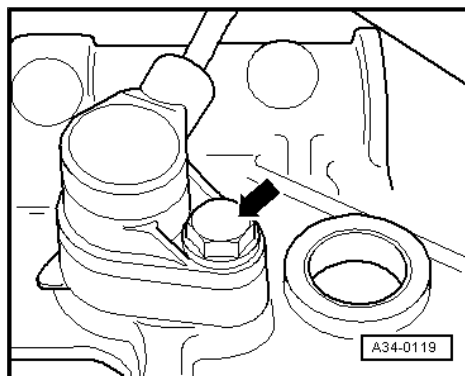
Mark installation position of support bracket for selector lever cable with a felt-tip pen.

- Pry ball socket -1- of selector lever cable off selector shaft lever.
- Unscrew bolts -arrows- of support bracket for selector lever cable.
- Move selector lever cable clear.
- Lower gearbox slightly at the rear using engine and gearbox jack - V.A.G 1383 A- .

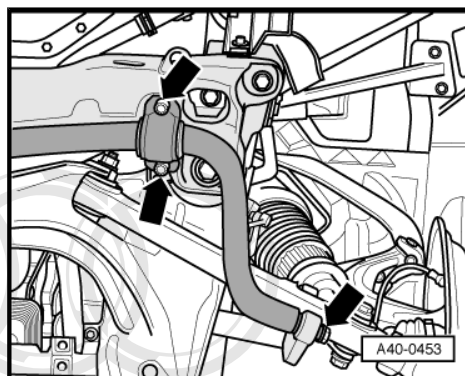


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

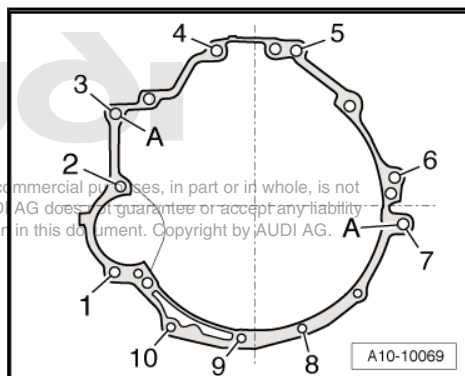
- Remove engine speed sender - G28- on gearbox -arrow-.



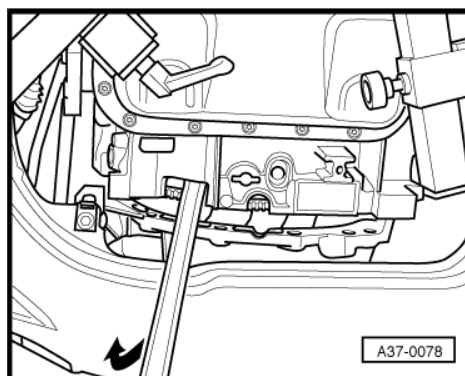
- Unscrew bolts -arrows- on left and right evenly.
- Remove anti-roll bar.



- Remove bolts -3 ... 10- from engine/gearbox flange.



- Using a tyre iron or other suitable lever, pry torque converter away from drive plate on engine -arrow-.
- Press gearbox off dowel sleeves and lower it carefully.



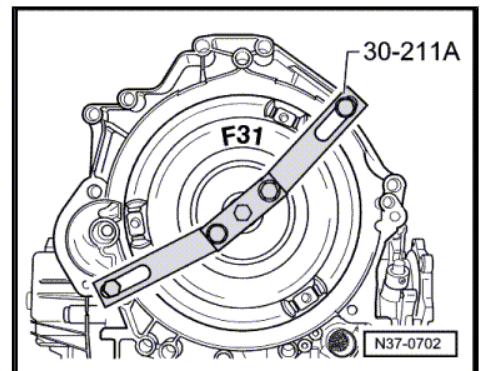
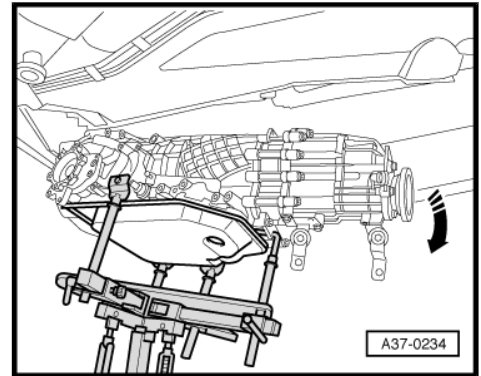
- Lower rear end of gearbox by adjusting gearbox support - 3282- accordingly.
- Guide the gearbox out diagonally downwards/to the rear.



Caution

When lowering gearbox, make sure there is sufficient clearance for drive shafts.

- Secure torque converter in gearbox using support bridge - 30-211 A- to prevent it from falling out.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

5.5 Installing gearbox

Installation is carried out in the reverse order; note the following:



Note

- ◆ Clean ATF lines and ATF cooler before installing exchange gearbox ⇒ [page 134](#) .
- ◆ Renew self-locking nuts and bolts when performing assembly work.
- ◆ Renew oil seals and gaskets, and bolts which are tightened by turning through a specified angle.
- ◆ Re-attach heat insulation sleeves at the same locations when re-installing.
- ◆ Hose connections and charge air system hoses must be free of oil and grease prior to fitting.
- ◆ Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ *Electronic parts catalogue* .
- ◆ Re-attach all cable ties at the same locations when re-installing.

- Before installing gearbox, you must ensure that the torque converter is properly fitted in the gearbox.
- If the torque converter is correctly installed, the depth between the contact faces at the tapped holes on the torque converter and the contact surface of the torque converter bell housing is approx. 19 mm.



Caution

If the torque converter is not fitted correctly, the torque converter drive lugs or the ATF pump will be irreparably damaged when the gearbox is joined to the engine.

- Before installing gearbox, check for correct positioning of dowel sleeves -A- at cylinder block. Install new dowel sleeves if necessary.
- If an intermediate plate was installed between engine and gearbox, reinstall plate in same position.
- Before joining engine and gearbox, turn torque converter and drive plate (on engine) until one hole and one tapped hole are in line with the opening for the removed starter.
- When pushing the engine and gearbox together, ensure that no wiring or pipes etc. can become trapped.

When you subsequently install the gearbox, it is particularly important to observe the following instructions.



Caution

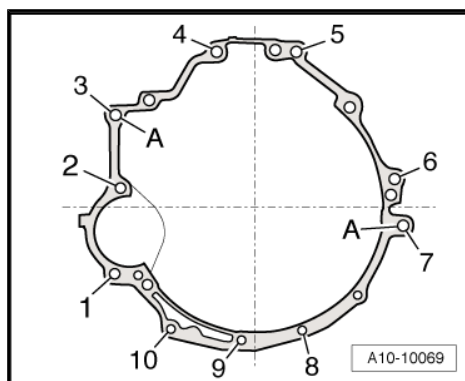
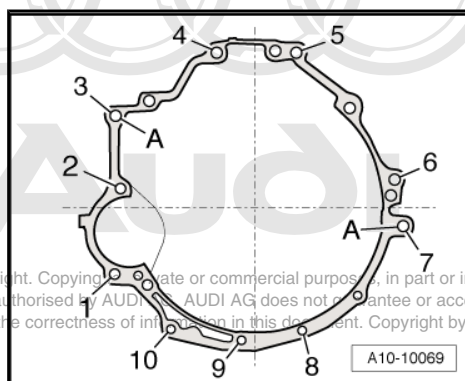
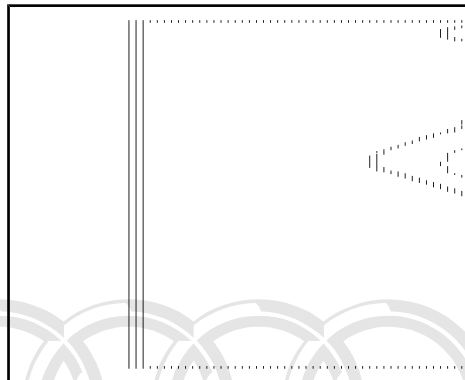
- ◆ ***Before and while you are tightening the bolts on the engine/gearbox flange keep checking that the torque converter can still be rotated behind the drive plate.***
- ◆ ***If the converter cannot be turned, it must be assumed that it has not been installed correctly and the drive lugs on the converter or the ATF pump will be damaged when the bolts are fully tightened.***

- Bolt gearbox onto engine.

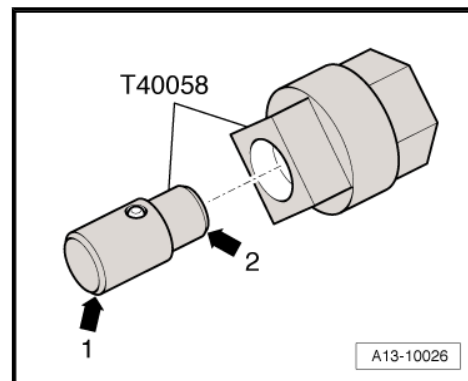


Note

- ◆ ***Tightening torques apply only to lightly greased, oiled, phosphated or black-finished nuts and bolts.***
- ◆ ***Additional lubricant such as engine or gear oil may be used, but do not use graphite lubricant.***
- ◆ ***Do not use parts which have been degreased.***
- ◆ ***Tolerance for tightening torques is $\pm 15\%$.***



- Insert guide pin of adapter - T40058- so that the large diameter -arrow 1- faces engine. The smaller diameter -arrow 2- faces adapter.



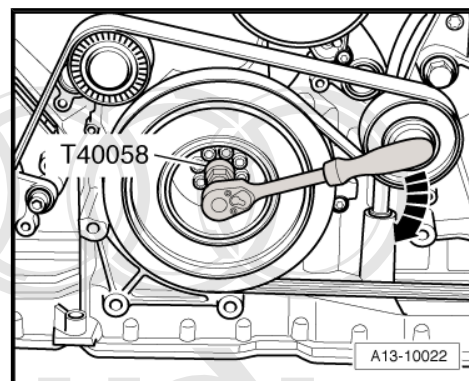
- Counter-hold crankshaft using adapter - T40058- to secure torque converter bolts.



Note

-Arrow- can be disregarded.

- Use new ribbed bolts to secure the torque converter to the drive plate.



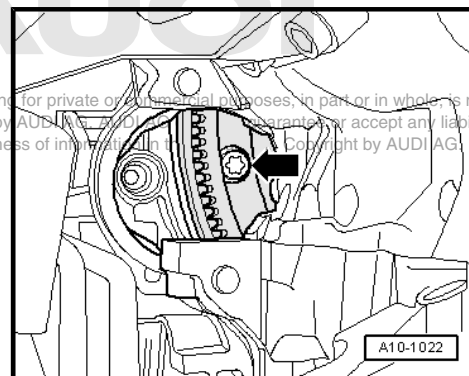
- Screw in 3 bolts -arrow- for torque converter through opening for removed starter, and tighten lightly (turning crankshaft $\frac{1}{3}$ turn each time).



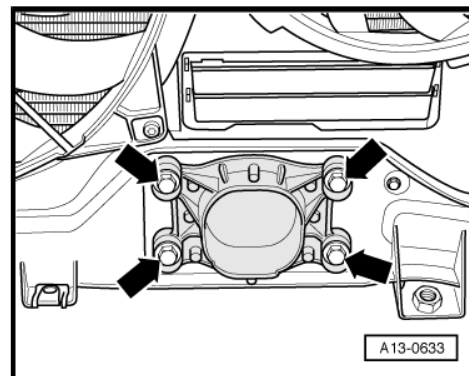
Note

Due to the shape of some engine versions, the bolts -arrows- on the torque converter may be difficult to access. Use commercially available socket attachments of adequate length to ensure straight access to the bolts.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not warrant or accept any liability with respect to the correctness of information published here. Copyright by AUDI AG.



- Then tighten torque converter bolts to torque (turning the crankshaft $\frac{1}{3}$ turn each time).
- Install starter ⇒ Electrical system; Rep. gr. 27 ; Removing and installing starter .
- Loosen bolts -arrows- for torque reaction support.
- Allow stop for torque reaction support to settle on rubber buffer for torque reaction support under its own weight and re-tighten bolts.



Vehicles with 6-cyl. and 8-cyl. petrol engine:

- Install gearbox support and gearbox mounting ⇒ [page 115](#) .



Note

When renewing gearbox, take off gearbox support from gearbox to be exchanged and fit to replacement gearbox ⇒ [page 115](#) .

- Install tunnel cross piece ⇒ Rep. gr. 40 .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Vehicles with 6-cyl. TDI engine:

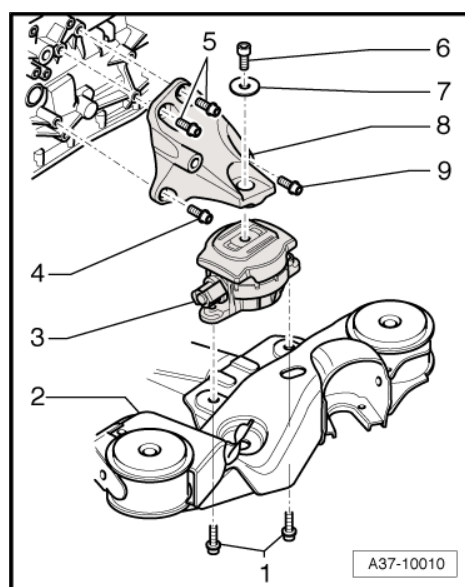
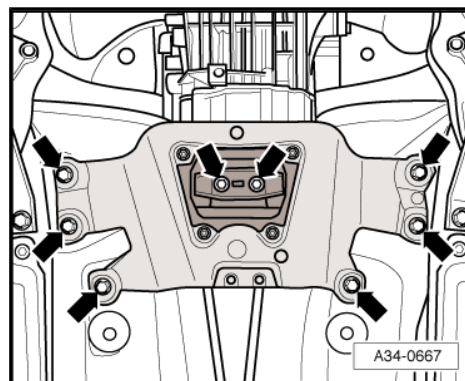
- Install gearbox supports and gearbox mountings ⇒ [page 119](#) .

Both versions:

- Bolt propshaft onto gearbox ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .
- Bolt drive shafts to flange shafts ⇒ Rep. gr. 40 .
- Electrical connections and routing ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Check selector lever cable adjustment ⇒ [page 53](#) .
- Check oil level in front final drive ⇒ [page 147](#) .
- Check oil level in transfer box ⇒ [page 163](#) .
- Install exhaust system so it is free of stress ⇒ Rep. gr. 26 .
- Follow steps required after connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery .
- Fill up with coolant ⇒ Rep. gr. 19 .
- Check ATF level in planetary gearbox ⇒ [page 122](#) .

Tightening torques

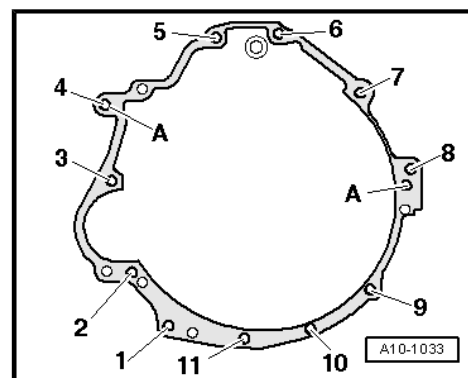
Component	Nm
Bracket for exhaust pipe lug.	23
Heat shields above drive shafts to gearbox	23
Heat shield for propshaft to gearbox cover	25
Bracket for noise insulation to subframe	10
Support bracket to gearbox	10
Torque converter to drive plate; always renew bolts	85



Engine/gearbox connection on vehicles with 6-cyl. 3.0 ltr. MPI engine

Item	Bolt	Nm
2	M10×100	65 ¹⁾
3	M12×105	65
4	M12×80	65
5, 6, 8	M12×90	65
7	M10×95	45
1, 9, 10, 11	M10×60	45
A	Dowel sleeves for centralising	

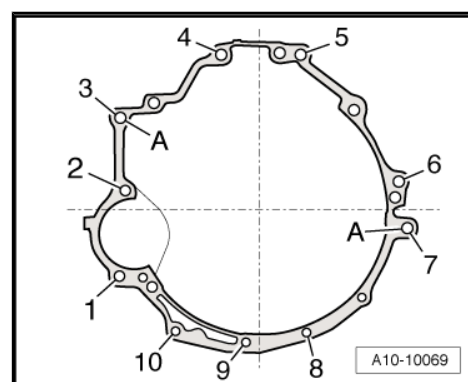
• ¹⁾ Property class 10.9.



Engine/gearbox connection on vehicles with 6-cyl. 2.8 ltr. FSI, 3.0 ltr. TFSI or 3.2 ltr. FSI engine

Item	Bolt	Nm
1	M10×100	65 ¹⁾
2, 6	M12×120	65
3, 4, 5	M12×105	65
7	M12×130	65
8, 9, 10	M10×80	45
A	Dowel sleeves for centralising	

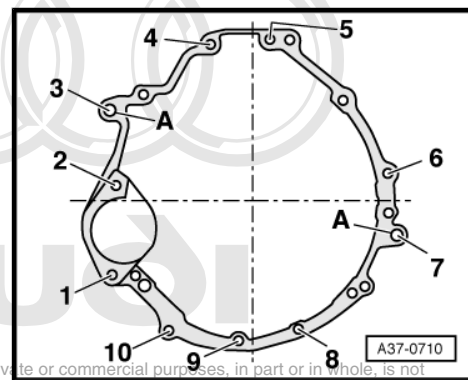
• ¹⁾ Property class 10.9.



Engine/gearbox connection on vehicles with 8-cyl. 4.2 ltr. MPI or FSI engine

Item	Bolt	Nm
1	M10×80	65 ¹⁾
2	M12×90	65
3	M12×105	65
4, 5	M12×100	65
6	M12×125	65
7	M12×170	65
8, 9, 10	M10×60	45
A	Dowel sleeves for centralising	

• ¹⁾ Property class 10.9.

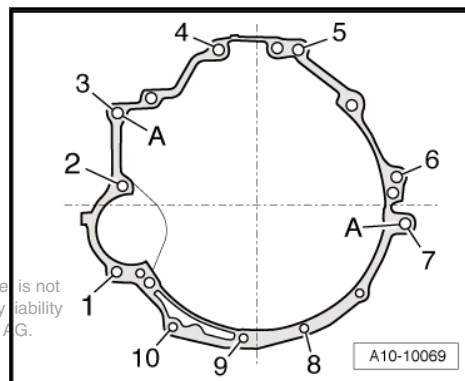


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Securing engine/gearbox assembly on vehicles with 6-cyl. TDI engine**

Item	Bolt	Nm
1	M10×80	65 ¹⁾
2	M10×90	65 ¹⁾
3, 4, 5	M12×95	65
6, 7	M12×115	65
8, 9, 10	M10×80	45
A	Dowel sleeves for centralising	

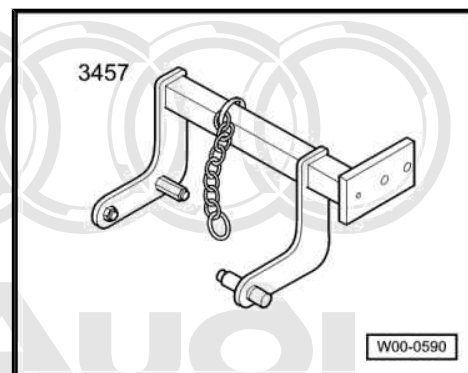
- ¹⁾ Property class 10.9.



6 Transporting gearbox

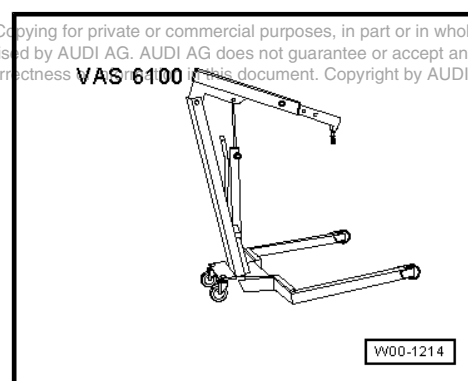
Special tools and workshop equipment required

- ◆ Transportation tool - 3457-



Workshop hoist - VAS 6100-

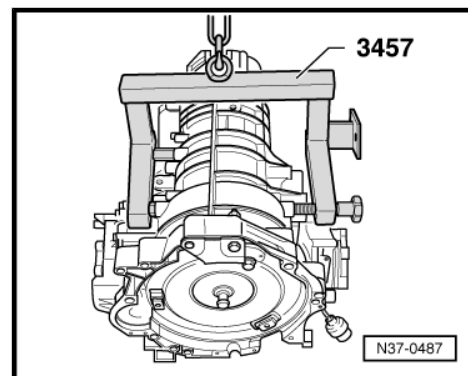
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of this document. Copyright by AUDI AG.



Procedure

The transportation tool - 3457- can be used to transport the gearbox and also when setting up the gearbox on the gearbox support.

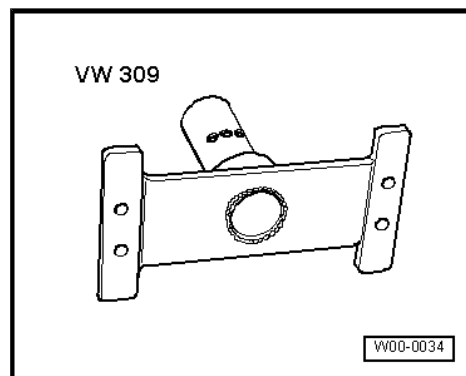
- Attach transportation tool - 3457- to attachment points on gearbox housing and secure in place.
- The workshop hoist - VAS 6100- can be used to lift and move the gearbox.



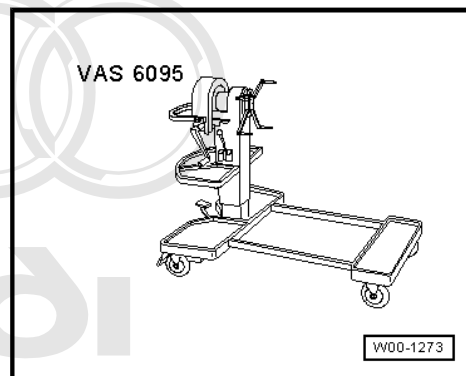
7 Securing gearbox to engine and gearbox support

Special tools and workshop equipment required

- ◆ Retaining plate - VW 309-



- ◆ Engine and gearbox support - VAS 6095-



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Procedure

- Gearbox is on workshop hoist - VAS 6100- ➔ [page 111](#) .
- Secure support plate - VW 309- to transportation tool - 3457- .
- Using workshop hoist, insert gearbox into engine and gearbox support - VAS 6095- .



WARNING

The centre of gravity of the gearbox is outside the pivot centre of the engine and gearbox support. A second mechanic has to hold the gearbox housing when it is being turned to prevent it from swinging round.



Note

If the filled gearbox with oil pan is to be turned upside-down on the engine and gearbox support, the breathers for gearbox housing and final drive must be sealed.

8 Tunnel cross member, gearbox mounting and gearbox support

Overview:

- ◆ ⇒ [“8.1 Exploded view - tunnel cross member, gearbox mounting and gearbox support”, page 113](#)
- ◆ ⇒ [“8.2 Removing and installing gearbox mounting and gearbox support, vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards”, page 115](#)
- ◆ ⇒ [“8.3 Removing and installing tunnel cross member - vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards”, page 117](#)
- ◆ ⇒ [“8.4 Removing and installing gearbox mounting and gearbox support - vehicles with 6 cyl. TDI engine up to 09.2008”, page 119](#)

8.1 Exploded view - tunnel cross member, gearbox mounting and gearbox support

Overview:

- ◆ ⇒ [“8.1.1 Tunnel cross member, gearbox mounting and gearbox support, vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards - exploded view”, page 113](#)
- ◆ ⇒ [“8.1.2 Gearbox mounting and gearbox support, vehicles with 6-cyl. TDI engine up to 09.2008 - exploded view”, page 115](#)

8.1.1 Tunnel cross member, gearbox mounting and gearbox support, vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards - exploded view



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

1 - Gearbox

2 - Gearbox support

Removing and installing:

- ⇒ [“8.2 Removing and installing gearbox mounting and gearbox support, vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards”](#), page 115

3 - Bolts, 23 Nm

4 - Gearbox mounting

Removing and installing:

- ⇒ [“8.2 Removing and installing gearbox mounting and gearbox support, vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards”](#), page 115

5 - Bolts, 23 Nm

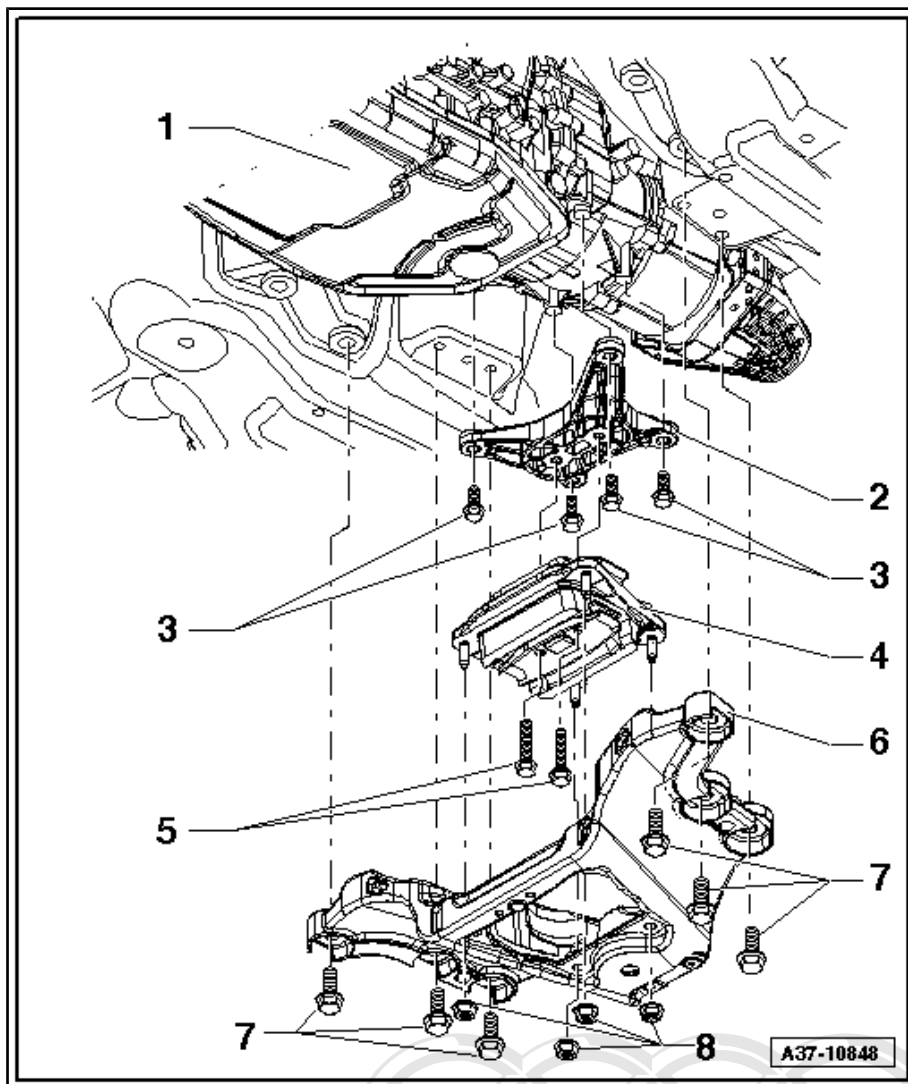
6 - Tunnel cross member

- ⇒ [“8.3 Removing and installing tunnel cross member - vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards”](#), page 117

7 - Bolts

- Tightening torque ⇒ Rep. gr. 40

8 - Nuts, 23 Nm

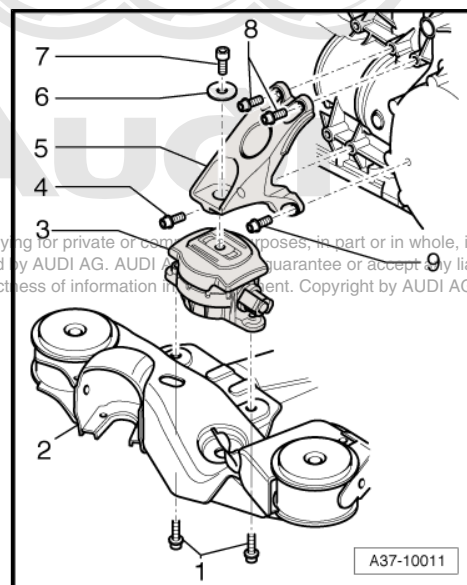


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

8.1.2 Gearbox mounting and gearbox support, vehicles with 6-cyl. TDI engine up to 09.2008 - exploded view

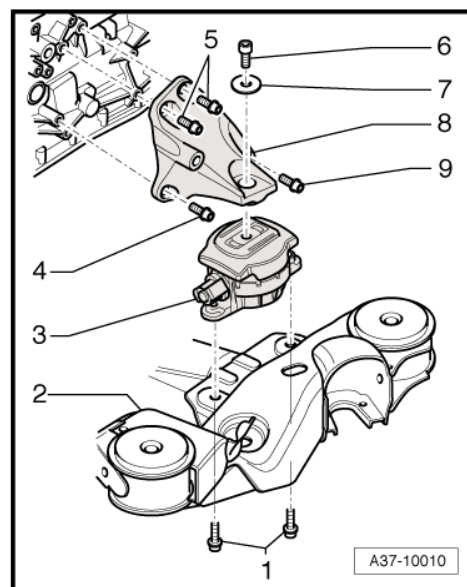
Tightening torques for gearbox mounting (right-side)

- 1 - 27 Nm
- 2 - Subframe
- 3 - Gearbox mounting (right-side)
- 4 - 23 Nm
- 5 - Gearbox support (right-side)
- 6 - Washer
- 7 - 50 Nm
- 8 - 23 Nm
- 9 - 23 Nm



Tightening torques for gearbox mounting (left-side)

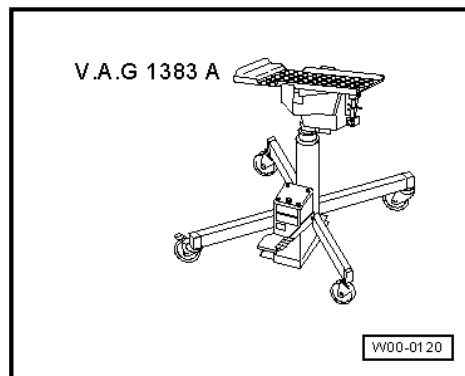
- 1 - 27 Nm
- 2 - Subframe
- 3 - Gearbox mounting (left-side)
- 4 - 23 Nm
- 5 - 23 Nm
- 6 - 50 Nm
- 7 - Washer
- 8 - Gearbox support (left-side):
- 9 - 23 Nm



8.2 Removing and installing gearbox mounting and gearbox support, vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards

Special tools and workshop equipment required

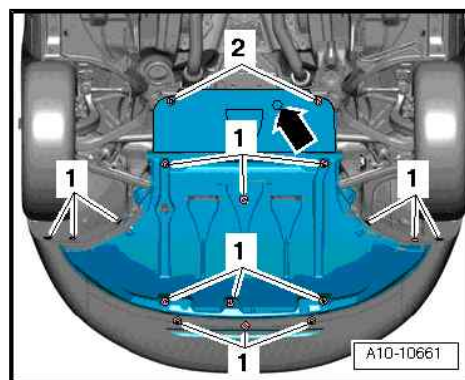
◆ Engine and gearbox jack - V.A.G 1383 A-



◆ Block of wood

Removing

- Release fasteners marked -1, 2- and -arrow- (if fitted) and remove noise insulation panels.

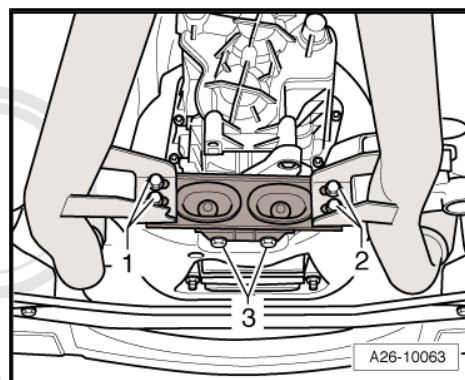


- Unscrew bolts -1 ... 3- and remove rear bracket for front exhaust pipe.
- Apply lifting column of engine and gearbox jack - V.A.G 1383 A- at transfer box behind tunnel cross member (place a block of wood between lifting column and transfer box).



Caution

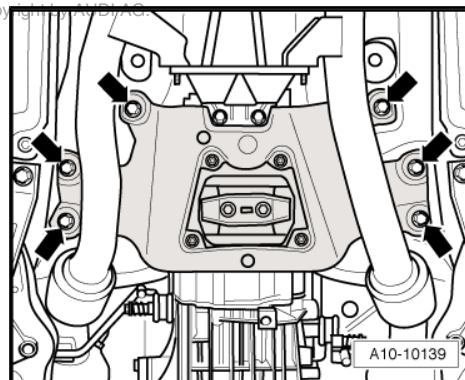
- ◆ *Do not apply the lifting column with the block of wood under the oil pan of the gearbox.*
- ◆ *If a load is applied to the oil pan it will be damaged and will have to be renewed.*



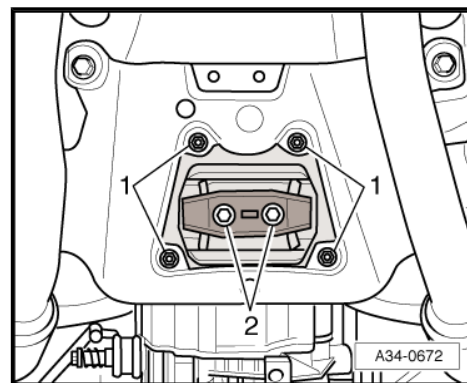
- Use engine and gearbox jack - V.A.G 1383 A- to lift gearbox up slightly.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright © 2016 Audi AG

- Remove bolts -arrows- for tunnel cross member.



- Remove bolts -1- and -2- and move tunnel cross member slightly towards rear.



- Remove gearbox mounting -2- between gearbox and tunnel cross member.
- Remove bolts -3- and detach gearbox support -4- from gearbox.

Installing

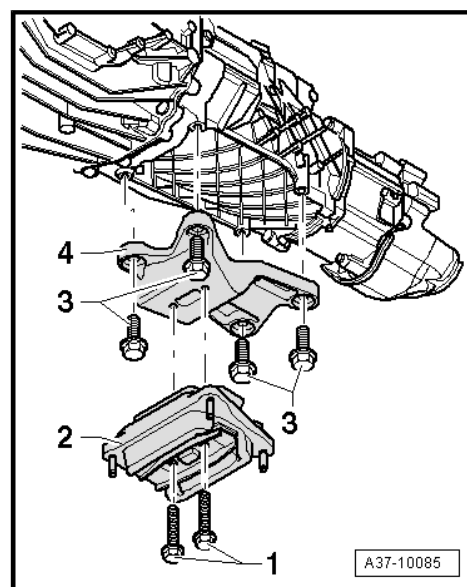
Install in reverse sequence.

- Install gearbox support -4-.
- Install gearbox mounting -2-.
- Install tunnel cross piece ⇒ Rep. gr. 40.
- Install exhaust system so it is free of stress ⇒ Rep. gr. 26.

Tightening torques

Component	Nm
Gearbox support to gearbox, bolts -3-	23
Gearbox mounting to gearbox support, bolts -1-	23

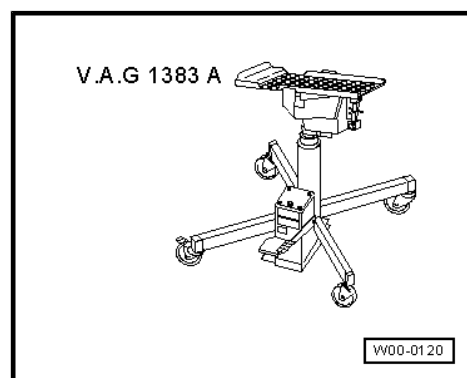
-1- Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



8.3 Removing and installing tunnel cross member - vehicles with 6-cyl. and 8-cyl. petrol engine, 6-cyl. TDI engine from 09.2008 onwards

Special tools and workshop equipment required

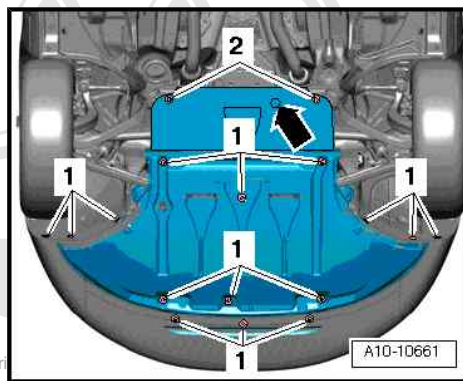
- ♦ Engine and gearbox jack - V.A.G 1383 A-



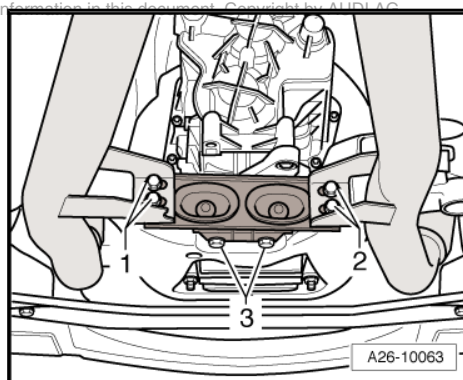
- ♦ Block of wood

Removing

- Release fasteners marked -1-, 2- and -arrow- (if fitted) and remove noise insulation panels.



- Unscrew bolts -1 ... 3- and remove rear bracket for front exhaust pipe.

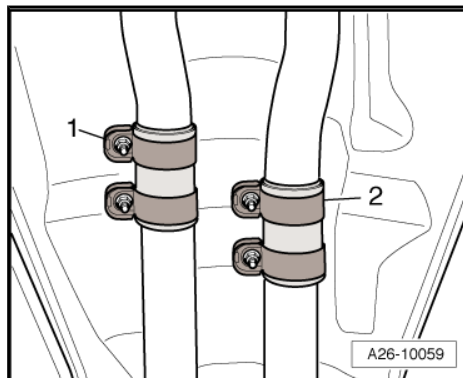


- Loosen clamps -1- and -2-.
- Remove front exhaust pipe with catalytic converter (left-side) ⇒ Rep. gr. 26 .



Caution

To prevent damage, the flexible joints in the front exhaust pipe must not be bent further than 10°.

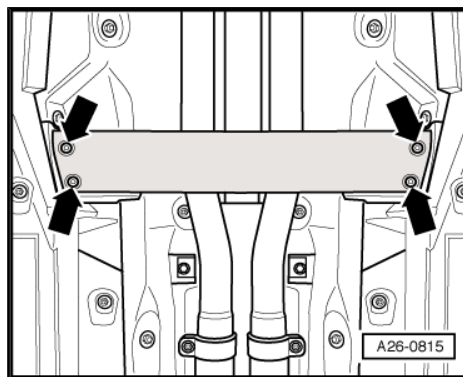


- Tie up front exhaust pipe (right) to the side or support from below.
- Remove front cross member -arrows-.
- Apply lifting column of engine and gearbox jack - V.A.G 1383 A- at transfer box behind tunnel cross member (place a block of wood between lifting column and transfer box).



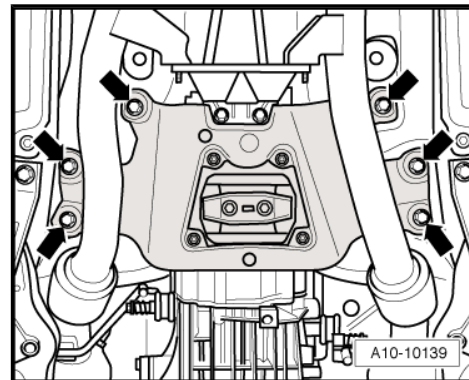
Caution

- ◆ *Do not apply the lifting column with the block of wood under the oil pan of the gearbox.*
- ◆ *If a load is applied to the oil pan it will be damaged and will have to be renewed.*

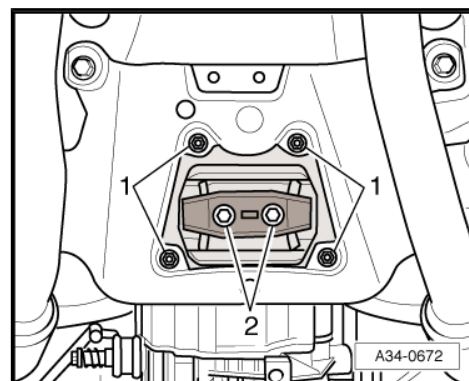


- Use engine and gearbox jack - V.A.G 1383 A- to lift gearbox up slightly.

- Remove bolts -arrows- for tunnel cross member.



- Remove nuts -1-.
- Remove tunnel cross member.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

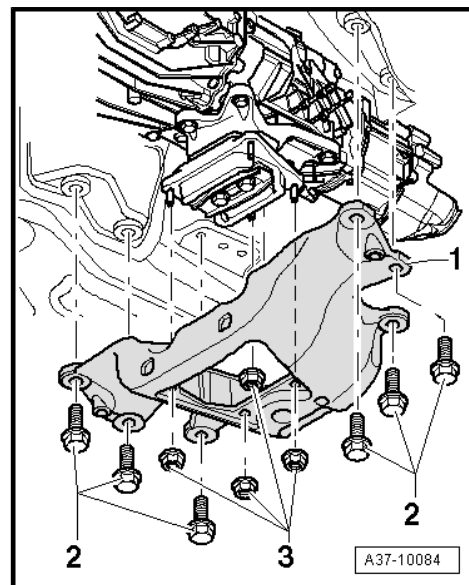
Installing

Installation is carried out in the reverse order; note the following:

- Install tunnel cross member -2- ⇒ Rep. gr. 40 .
- Install front exhaust pipe with catalytic converter (left-side) ⇒ Rep. gr. 26 .

Tightening torques

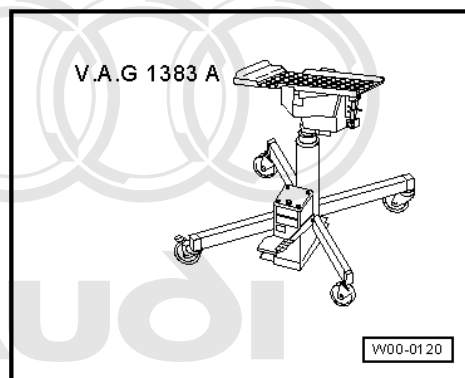
Component	Nm
Gearbox mounting to tunnel cross member -3-	23



8.4 Removing and installing gearbox mounting and gearbox support - vehicles with 6 cyl. TDI engine up to 09.2008

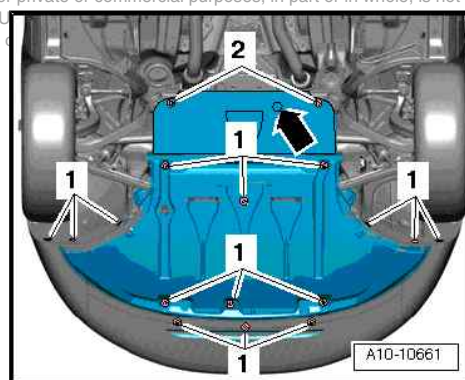
Special tools and workshop equipment required

◆ Engine and gearbox jack - V.A.G 1383 A-

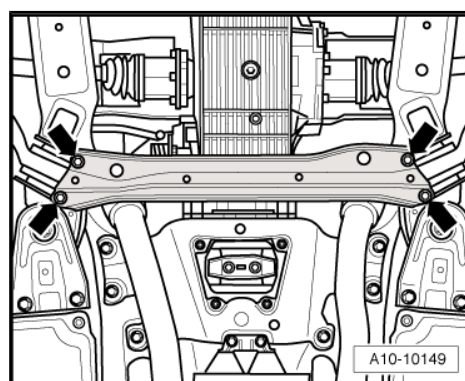


Removing

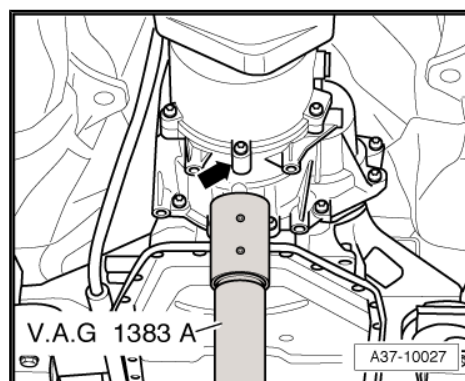
- Release fasteners marked -2- and -arrow- (if fitted) and remove rear noise insulation panel.



- Remove front cross piece -arrows-.

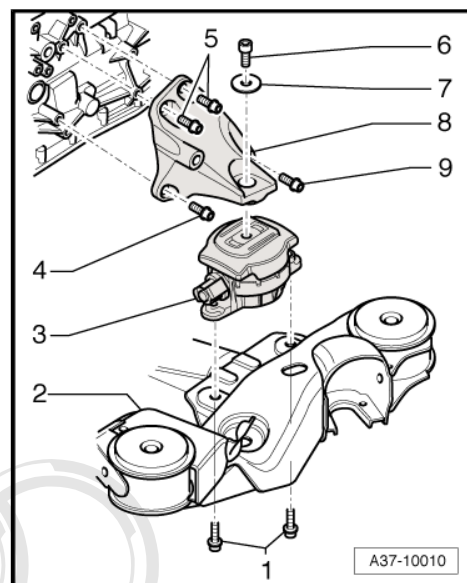


- Place telescopic column of engine and gearbox jack - V.A.G 1383 A- centrally below cast lug on gearbox housing -arrow- and raise gearbox slightly.



Gearbox support and gearbox mounting (left-side):

- Remove front exhaust pipe with catalytic converter (left-side) ⇒ Rep. gr. 26 .
- Unscrew bolts -1-.
- Unscrew bolts -4, 5, 9- and remove gearbox support (left-side) with gearbox mounting.



Gearbox support and gearbox mounting (right-side):

- Unscrew bolts -1-.
- Unscrew bolts -4, 8, 9- and remove gearbox support (right-side) with gearbox mounting.

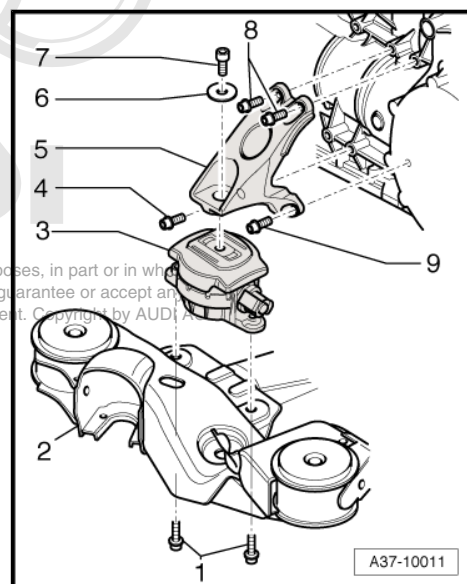
Installing

Installation is carried out in the reverse order; note the following:

Tightening torque for gearbox support and gearbox mounting

⇒ ["8.1.2 Gearbox mounting and gearbox support, vehicles with 6-cyl. TDI engine up to 09.2008 - exploded view", page 115](#) .

- Install front exhaust pipe with catalytic converter (left-side) ⇒ Rep. gr. 26 .



9 ATF level in planetary gearbox

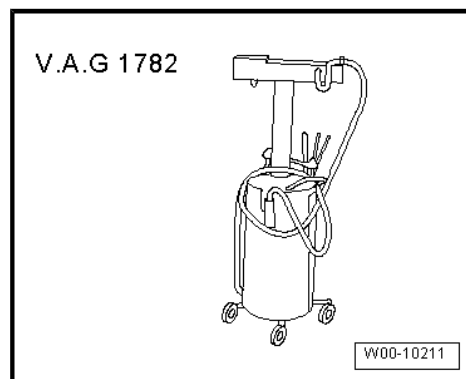
Overview:

- ◆ ⇒ [“9.1 Checking and correcting ATF level”, page 122](#)
- ◆ ⇒ [“9.2 Draining ATF and filling up after repairs”, page 125](#)

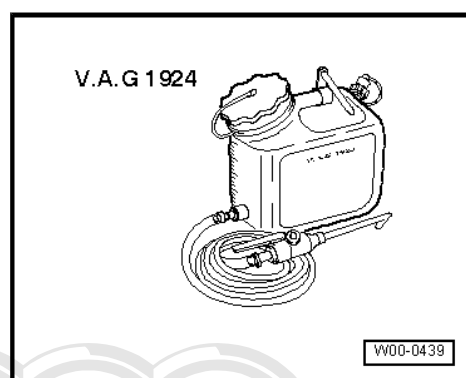
9.1 Checking and correcting ATF level

Special tools and workshop equipment required

- ◆ Vehicle diagnostic tester
- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ ATF filling unit - V.A.G 1924-



- ◆ Safety goggles

Test conditions

- Gearbox must not be in emergency running (backup) mode.
- Vehicle must be level (horizontal).
- Selector lever in “P”.
- Extractor hose(s) of an exhaust gas extractor (switched on) must be connected.
- Engine idling.
- Air conditioner and heating switched off.
- Vehicle diagnostic tester is connected.
- The ATF temperature at the beginning of the test must not be higher than 30°C. If necessary, first allow the gearbox to cool down.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

 Note

- ◆ *Rules for cleanliness when working on the automatic gearbox
⇒ [page 17](#)*
- ◆ *The ATF temperature is taken from the reading on the vehicle diagnostic tester .*
- ◆ *ATF level will change depending on ATF temperature.*
- ◆ *If ATF level is checked when ATF temperature is too low, this will lead to overfilling.*
- ◆ *If ATF level is checked when ATF temperature is too high, this will lead to underfilling.*
- ◆ *Underfilling or overfilling is detrimental to the function of the gearbox.*
- ◆ *Use only the correct type of ATF (available as a replacement part) for the planetary gearing in automatic gearbox 09L. Other oils cause faults and/or failure of the gearbox; for ATF specification refer to ⇒ [page 11](#) .*

Procedure

- Using the vehicle diagnostic tester in **Guided Functions** mode, select the following menu items:
- ◆ **02-Gearbox electronics 09L**
- ◆ **J217 - Automatic gearbox, read measured value block**
- Select the value for **Gear oil temperature** from the menu on the vehicle diagnostic tester .
- Read off ATF temperature.

Checking and correcting ATF level

 Note

- ◆ *The ATF level can be checked at the ATF inspection plug.*
- ◆ *The ATF level is correct if a small amount of fluid comes out at the ATF inspection plug when ATF temperature is between 35°C and 45°C, or 50°C in hot climates (the fluid level rises due to expansion as it warms up).*
- Drive vehicle onto a four-column lifting platform or over an inspection pit in order for it to be absolutely horizontal.

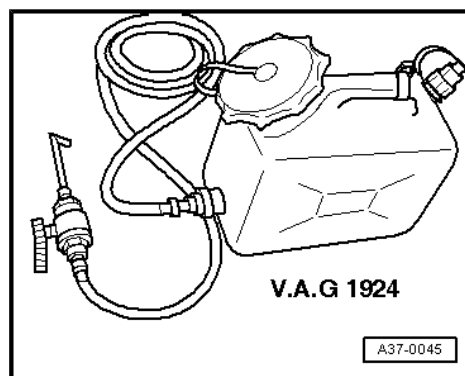


Caution

- ◆ *The ATF filling unit must be clean and the ATF must not be mixed with other types of ATF!*
- ◆ *The gearbox will be irreparably damaged if ATF is mixed with other lubricants.*

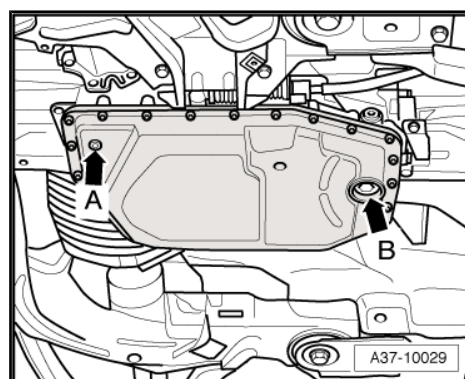
- Fill container of ATF filling unit - V.A.G 1924- with ATF for automatic gearbox 09L; ATF specification ⇒ [page 11](#) .

- Secure container for ATF filling unit - V.A.G 1924- as high as possible on vehicle.
- Start engine and run at idling speed.
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.


WARNING

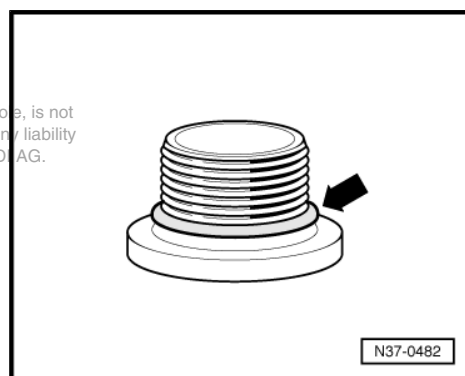
Put on safety goggles.

- When an ATF temperature of 35°C is reached, unscrew the ATF inspection plug -arrow B- and drain off any surplus ATF.



- Renew seal -arrow- for ATF inspection plug.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



If ATF comes out of the inspection hole before the ATF has reached 40°C the ATF level -arrow- is OK.

 Note

The ATF inspection plug must be screwed in again at the latest when ATF reaches a temperature of 45°C (or 50°C in hot climates).

If no ATF emerges from ATF inspection hole when ATF has reached 45°C, top up with ATF [⇒ page 125](#).

- Fit new seal on ATF inspection plug and tighten to 80 Nm. The ATF check is now completed.
- Close function "011 - Measured values" by pressing  key.
- Select "022 - End output".
- Switch off ignition and unplug diagnostic connector.

Filling up ATF

If no ATF emerges from ATF inspection hole when ATF has reached 40°C, top up with ATF:

 Note

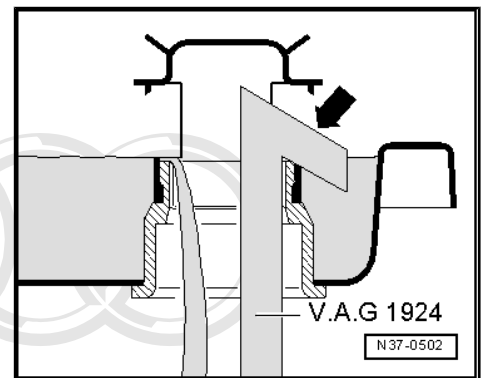
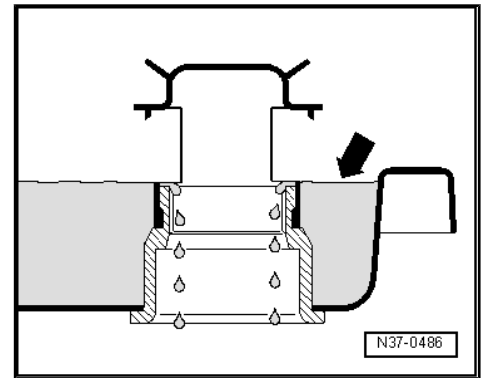
The ATF inspection plug must be screwed in again at the latest when ATF temperature reaches 45°C (or 50°C in hot climates). If necessary, switch off engine, allow gearbox to cool down and repeat the test.

- Guide filler nozzle of ATF filling unit - V.A.G 1924- in from below through an opening in the deflector cap -arrow-, taking care not to push the deflector cap upwards out of position.
- Fill with ATF using ATF filling unit - V.A.G 1924- until ATF comes out of inspection hole.

 Note

If the ATF level is too low or too high this will cause gearbox malfunctions.

- Tighten ATF inspection plug with new seal
[⇒ "1 Oil pan, ATF strainer and mechatronic unit - exploded view", page 136](#).
- Switch off ignition and unplug diagnostic connector.

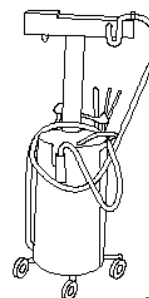


9.2 Draining ATF and filling up after repairs

Special tools and workshop equipment required

◆ Used oil collection and extraction unit - V.A.G 1782-

V.A.G 1782

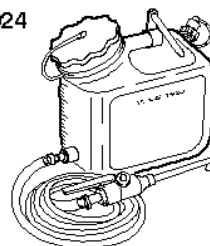


W00-10211

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

◆ ATF filling unit - V.A.G 1924-

V.A.G 1924



W00-0439

◆ Safety goggles

Procedure

- Engine not running.



Note

Rules for cleanliness when working on the automatic gearbox
⇒ [page 17](#)

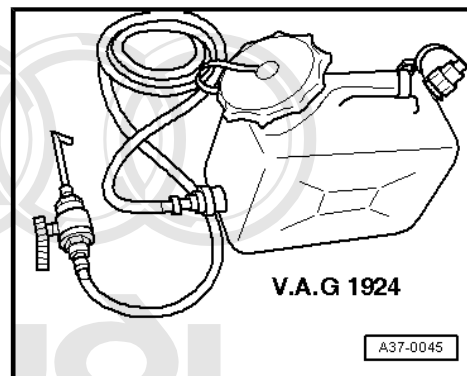
- Drive vehicle onto a lifting platform or over an inspection pit in order for it to be absolutely horizontal.
- Fill container of ATF charging device - V.A.G 1924- with ATF for automatic gearbox 09L, ATF specification ⇒ [page 11](#) .



Caution

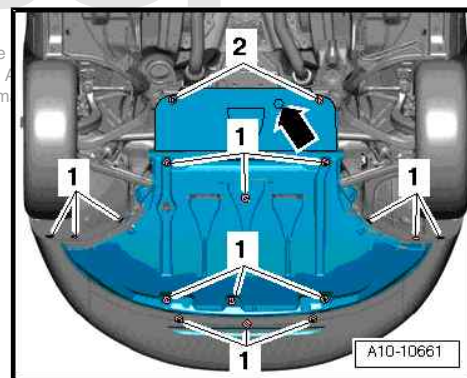
- ◆ **The ATF filling unit must be clean and the ATF must not be mixed with other types of ATF!**
- ◆ **The gearbox will be irreparably damaged if ATF is mixed with other lubricants.**

- Secure container for ATF filling unit - V.A.G 1924- as high as possible on vehicle.



- Release fasteners marked -2- and -arrow- (if fitted) and remove rear noise insulation panel.

Protected by copyright. Copying for private use is permitted unless authorised by AUDI AG. Any other use without permission is prohibited with respect to the correctness of information.



Draining ATF

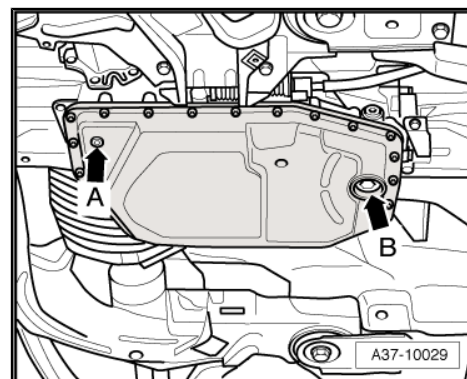
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.



WARNING

Put on safety goggles.

- Remove ATF drain plug -arrow A-.
- Drain ATF.



Note

- ◆ *Always observe the relevant environmental regulations for disposal.*
- ◆ *The engine must not be started and vehicle must not be towed without ATF in gearbox.*
- ◆ *The drain plug with seal must be renewed.*

- Tighten new drain plug -arrow A- to 12 Nm.

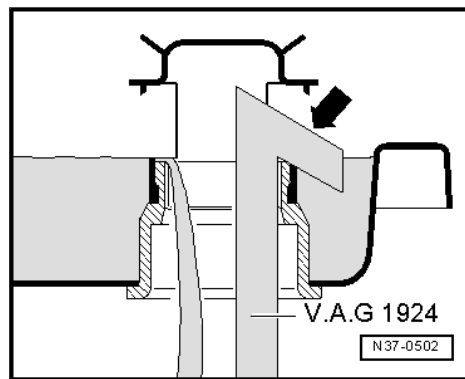
Filling gearbox with ATF

- Remove ATF inspection plug -arrow B-.

- Guide filler nozzle of ATF filling unit - V.A.G 1924- in from below through an opening in the deflector cap -arrow-, taking care not to push the deflector cap upwards out of position.
- Fill with ATF using ATF filling unit - V.A.G 1924- until ATF comes out of inspection hole.
- Shift selector lever to position “P”.
- Start engine.

**Caution**

Allow engine to idle for approx. 20 seconds and then turn off.

**Note**

This process of starting the engine for a short period of time and then turning it off is required to ensure that the ATF pump does not draw in air. This prevents the building up of foam in the ATF, which would result in an inaccurate reading of the ATF level.

- Continue filling with ATF using ATF charging device - V.A.G 1924- until ATF comes out of inspection hole again.
- Start engine and allow it to run at idling speed.
- With the engine idling, continue filling with ATF using ATF charging device - V.A.G 1924- until ATF comes out of inspection hole again.
- Tighten ATF inspection plug.
- With the engine idling, press the brake pedal and shift the selector lever through all the selector lever positions leaving the selector lever at least 10 seconds in each position.
- Shift selector lever to position “N”.
- Increase engine speed to 2000 rpm for at least 60 seconds.
- Shift selector lever to position “P”.
- Check ATF level ⇒ [page 122](#) .

**Note**

Observe all notes and test requirements for “Checking and correcting ATF level”.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

10 ATF lines



Note

- ◆ General repair instructions ➔ [page 13](#).
- ◆ Rules for cleanliness when working on the automatic gearbox ➔ [page 17](#)
- ◆ Thoroughly clean all joints and connections and the surrounding areas before disconnecting.
- ◆ Check ATF level after renewing ATF lines or ATF cooler ➔ ["9.1 Checking and correcting ATF level", page 122](#).



WARNING

- ◆ **Drain cooling system completely before removing and installing ATF cooler ➔ Rep. gr. 19.**
- ◆ **Always use cooling system charge unit - VAS 6096- when refilling cooling system ➔ Rep. gr. 19. Otherwise there is a danger of malfunction.**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Overview:

- ◆ ATF lines and ATF cooler - exploded view for vehicles with 6-cyl. petrol engine and 6-cyl. TDI engine ➔ [page 129](#)
- ◆ ATF lines and ATF cooler - exploded view for vehicles with 8-cyl. petrol engine ➔ [page 132](#)

10.1 ATF lines and ATF cooler - exploded view for vehicles with 6-cyl. petrol engine and 6-cyl. TDI engine

1 - O-rings

- ☐ Renew
- ☐ Lubricate with ATF when fitting

2 - Bolt, 21 Nm

- ☐ Do not tighten until pipes have been fully inserted

3 - ATF line

- ☐ Note correct assignment
- ☐ Push ATF pipes fully into gearbox by hand as far as stop, then bolt on.
- ☐ Depending on version, this ATF line may be combined with ATF line ⇒ [Item 9 \(page 130\)](#) as a single long line. In this case, it is necessary to cut through the ATF line on removal and replace it with the two-section ATF line (available as a replacement part).

4 - ATF line

- ☐ Note correct assignment
- ☐ Push ATF pipes fully into gearbox by hand as far as stop, then bolt on.
- ☐ Depending on version, this ATF line may be combined with ATF line ⇒ [Item 10 \(page 130\)](#) as a single long line. In this case, it is necessary to cut through the ATF line on removal and replace it with the two-section ATF line (available as a replacement part).

5 - Bracket for ATF line

6 - Bolt, 5 Nm

7 - Bolt

- ☐ 3 Nm, on vehicles with 6-cyl. MPI and TDI engine
- ☐ 10 Nm, only on 6-cyl. FSI engine

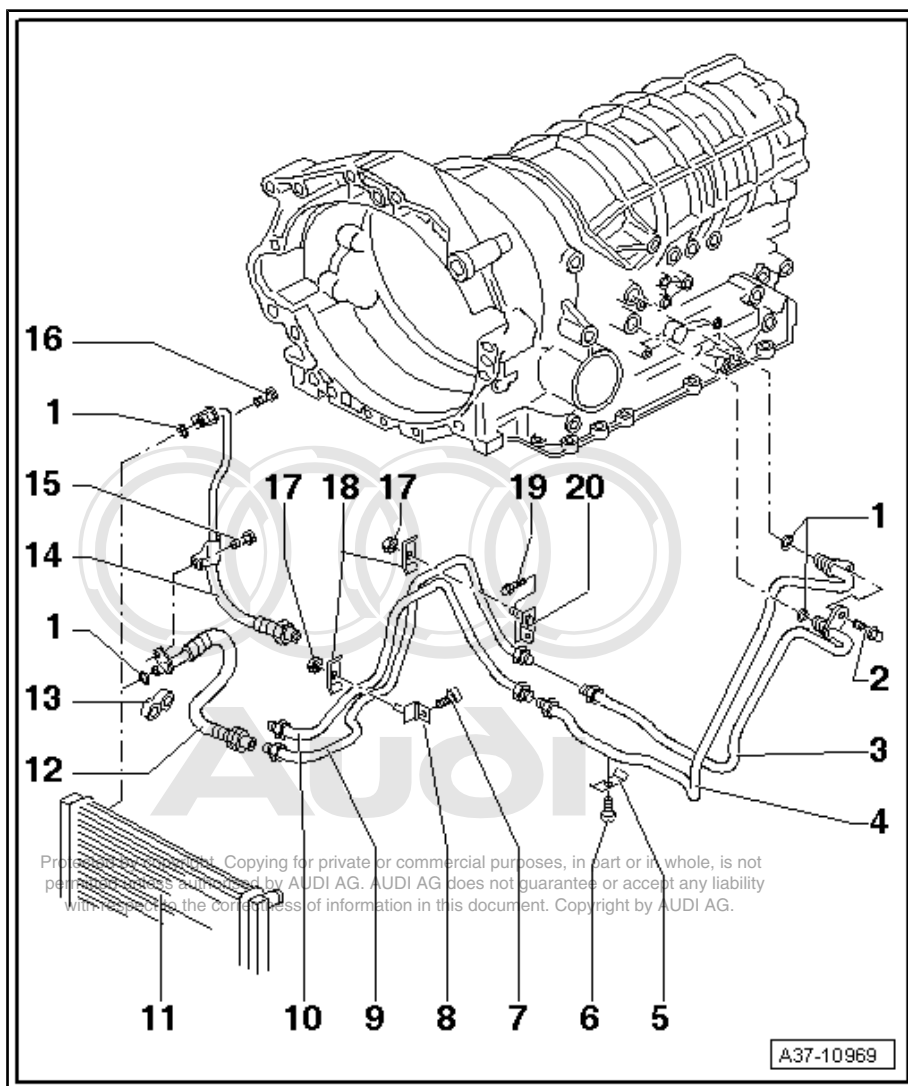
8 - Bracket

9 - ATF line

- ☐ Note correct assignment
- ☐ Tightening union nut ⇒ [page 131](#)
- ☐ Depending on version, this ATF line may be combined with ATF line ⇒ [Item 3 \(page 130\)](#) as a single long line. In this case, it is necessary to cut through the ATF line on removal and replace it with the two-section ATF line (available as a replacement part).

10 - ATF line

- ☐ Note correct assignment
- ☐ Tightening union nut ⇒ [page 131](#)
- ☐ Depending on version, this ATF line may be combined with ATF line ⇒ [Item 4 \(page 130\)](#) as a single long line. In this case, it is necessary to cut through the ATF line on removal and replace it with the two-section ATF line (available as a replacement part).



11 - ATF cooler

- ❑ Clean ATF cooler ⇒ [page 134](#) .

12 - ATF line

- ❑ Note correct assignment
- ❑ Push ATF pipes fully into cooler by hand as far as stop, then bolt on

13 - Bracket

14 - ATF line

- ❑ Note correct assignment
- ❑ Push ATF pipes fully into cooler by hand as far as stop, then bolt on

15 - Bolt, 5 Nm

16 - Bolt, 5 Nm

17 - Nut, 5 Nm

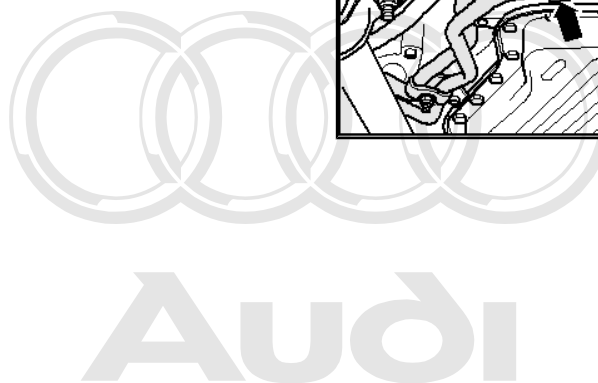
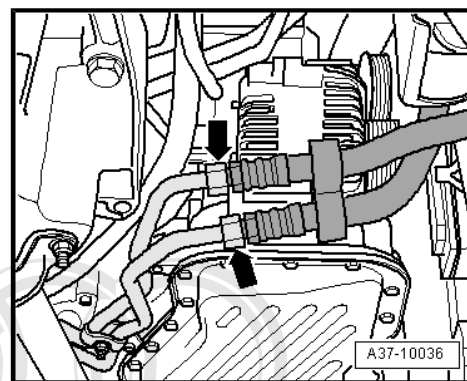
18 - Bracket for ATF line

19 - Bolt, 5 Nm

20 - Bracket

Union nut -arrows-, 29 Nm

- ◆ For connecting ATF lines
- ◆ Note assignment of ATF lines



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

10.2 ATF lines and ATF cooler - exploded view for vehicles with 8-cyl. petrol engine

1 - O-rings

- ☐ Renew
- ☐ Lubricate with ATF when fitting

2 - Bolt, 21 Nm

- ☐ Do not tighten until pipes have been fully inserted

3 - ATF line

- ☐ Note correct assignment
- ☐ Push ATF pipes fully into gearbox by hand as far as stop, then bolt on.

4 - ATF line

- ☐ Note correct assignment
- ☐ Push ATF pipes fully into gearbox by hand as far as stop, then bolt on.

5 - Bracket for ATF line

6 - Nut, 5 Nm

7 - ATF cooler

- ☐ Clean ATF cooler
⇒ [page 134](#).

8 - ATF line

- ☐ Note correct assignment
- ☐ Push ATF pipes fully into cooler by hand as far as stop, then bolt on

9 - ATF line

- ☐ Note correct assignment
- ☐ Push ATF pipes fully into cooler by hand as far as stop, then bolt on

10 - Bolt, 5 Nm

- ☐ Do not tighten until pipes have been fully inserted

11 - Bolt, 5 Nm

- ☐ Do not tighten until pipes have been fully inserted

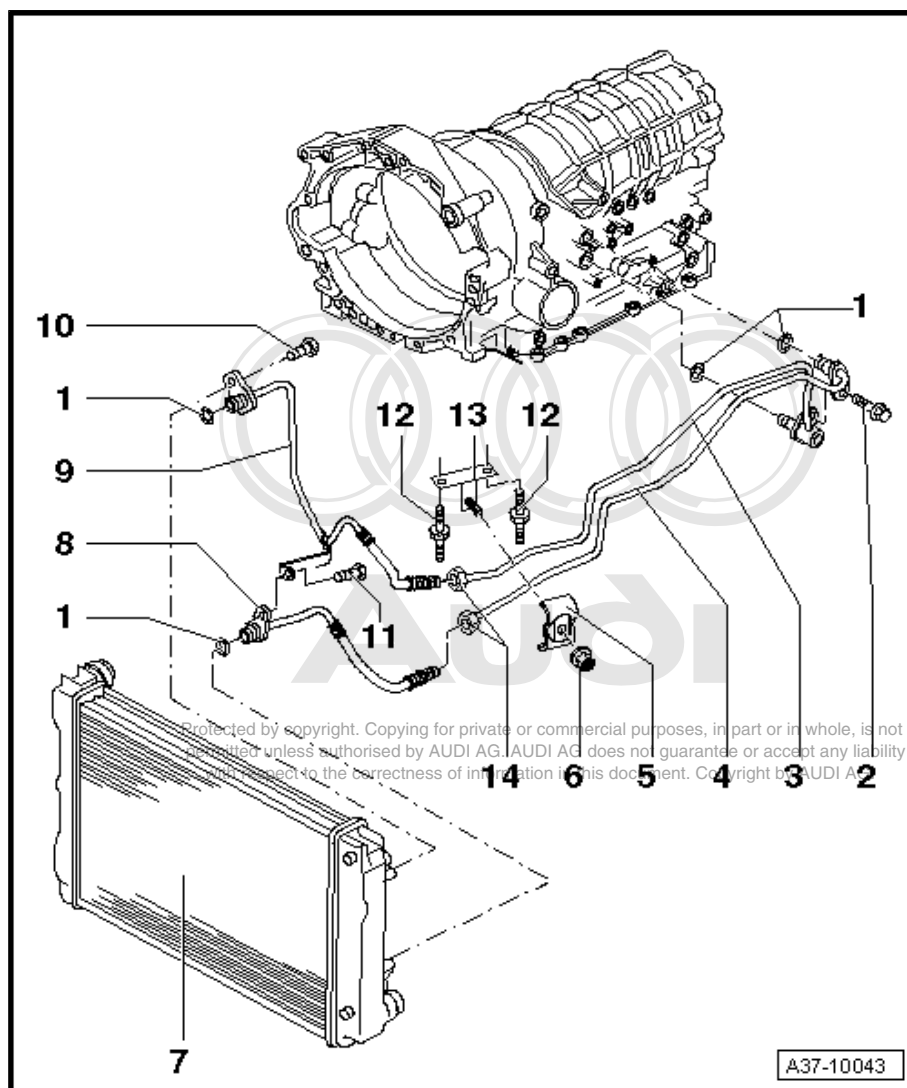
12 - Centre hex stud, 7 Nm

13 - Bracket

14 - Union nut, 29 Nm

For connecting ATF lines

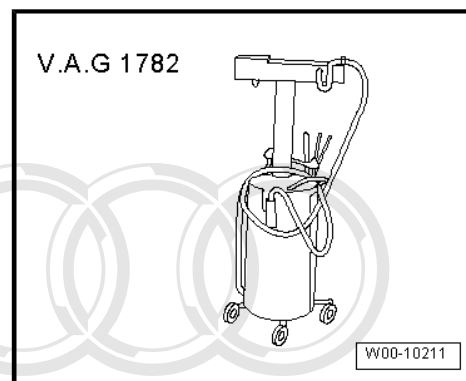
Note assignment of ATF lines



10.3 Removing and installing ATF lines

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ Safety goggles



Note

- ◆ *Rules for cleanliness when working on the automatic gearbox*
⇒ [page 17](#)
- ◆ *Thoroughly clean all joints and connections and the surrounding areas before disconnecting.*

Removing

- Mark position of all ATF lines in relation to one another with different colours to avoid confusion.
- Place used oil collection and extraction unit - V.A.G 1782- underneath.



WARNING

Put on safety goggles.

- Detach ATF lines.



Note

Depending on version, the metal ATF lines from the ATF cooler to the gearbox may be combined as a single line. In this case, it is necessary to cut through the ATF line on removal and replace it with the two-section ATF line (available as a replacement part).

- Seal opened pipes with clean sealing plugs.

Installing

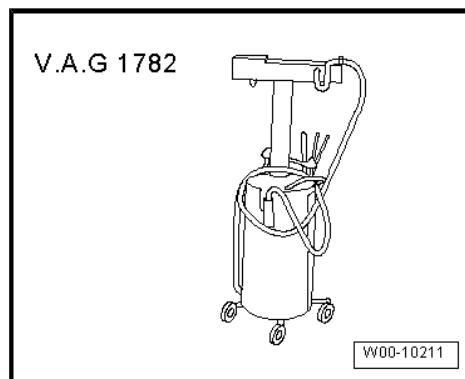
Installation is carried out in the reverse order; note the following:

- Clean ATF lines ⇒ [page 134](#) .
- Renew O-rings and lubricate with ATF.
- Push ATF lines fully into gearbox and/or cooler by hand as far as stop, then bolt on
⇒ [“10.1 ATF lines and ATF cooler - exploded view for vehicles with 6-cyl. petrol engine and 6-cyl. TDI engine”, page 129](#) or
⇒ [“10.2 ATF lines and ATF cooler - exploded view for vehicles with 8-cyl. petrol engine”, page 132](#) .
- Check ATF level
⇒ [“9.1 Checking and correcting ATF level”, page 122](#) .

10.4 Cleaning ATF lines and ATF cooler

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-

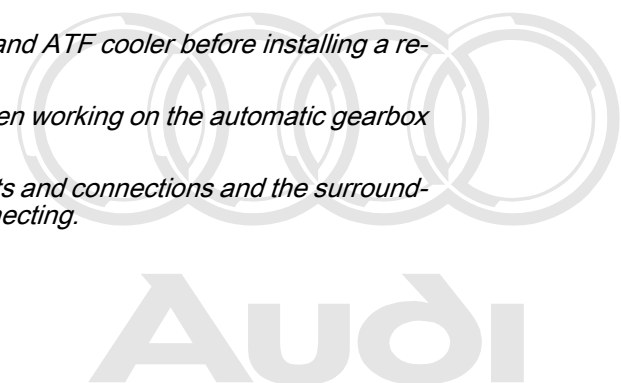


- ◆ Compressed-air gun (commercially available)
- ◆ Hose, approx. 18 mm dia.
- ◆ Safety goggles



Note

- ◆ *Always clean ATF lines and ATF cooler before installing a replacement gearbox.*
- ◆ *Rules for cleanliness when working on the automatic gearbox*
⇒ [page 17](#)
- ◆ *Thoroughly clean all joints and connections and the surrounding areas before disconnecting.*



Audi

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

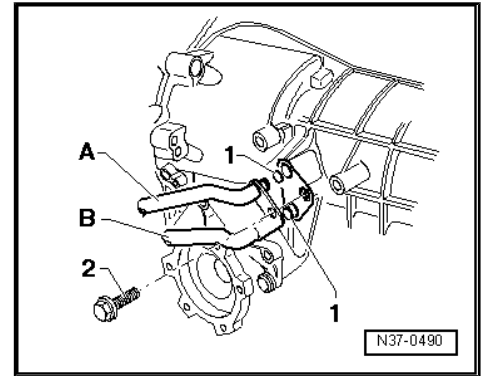
Procedure

- Place used oil collection and extraction unit - V.A.G 1782- underneath.
- Remove bolt -2-.
- Connect a hose of approx. 18 mm dia. to ATF line -A- and secure with a hose clip. Hang other end of hose into used oil collection and extraction unit - V.A.G 1782- .



WARNING

Put on safety goggles.



- Blow through ATF line -B- using a compressed air line (max. 10 bar).
- Change hose from ATF line -A- over to ATF line -B- and repeat sequence.
- In addition, flush pipes with ATF until they are clean if ATF is very dirty.
- The ATF used for flushing the pipes must not be used again.
- Always renew O-rings -1-.
- Push ATF lines fully into gearbox and/or cooler by hand as far as stop, then bolt on
⇒ [“10.1 ATF lines and ATF cooler - exploded view for vehicles with 6-cyl. petrol engine and 6-cyl. TDI engine”, page 129](#) or
⇒ [“10.2 ATF lines and ATF cooler - exploded view for vehicles with 8-cyl. petrol engine”, page 132](#) .
- Check ATF level ⇒ [page 122](#) .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

38 – Gears, control

1 Oil pan, ATF strainer and mechatronic unit - exploded view



WARNING

Do not run engine or tow vehicle with oil pan removed or when there is no ATF in the gearbox.



Note

- ◆ *General repair instructions ⇒ [page 13](#) .*
- ◆ *Rules for cleanliness when working on the automatic gearbox ⇒ [page 17](#)*
- ◆ *Always renew mechatronic unit if contaminated or defective.*
- ◆ *Coat O-rings and seals with ATF. Other types of lubricant will cause the gearbox hydraulics to malfunction.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

1 - Bolt

- ☐ Secures oil pan to gearbox

Various versions apply, depending on the gearbox code letters:

- ☐ Select correct type ⇒ Electronic parts catalogue
- ☐ Note tightening specifications and sequence ⇒ ["1.1 Removing and installing oil pan", page 138](#)
- ☐ 12 Nm

2 - ATF drain plug

- ☐ 12 Nm
- ☐ Always renew plug

3 - ATF inspection plug

- ☐ 80 Nm

4 - O-ring

- ☐ Always renew

5 - Oil pan

- ☐ ⇒ ["1.1 Removing and installing oil pan", page 138](#)

6 - Magnet

- ☐ Ensure full contact
- ☐ Clean before installing

7 - Deflector cap

- ☐ Plugged into opening on oil pan

8 - Magnet

- ☐ Ensure full contact
- ☐ Clean before installing

9 - Oil pan gasket

- ☐ Always renew
- ☐ Sealing surfaces on gearbox and oil pan must be dry and free of oil and grease

10 - ATF strainer

- ☐ ⇒ ["1.2 Removing and installing ATF strainer", page 141](#)

11 - O-ring

- ☐ Always renew

12 - Retaining clip for wiring harness connector

13 - Wiring harness in gearbox

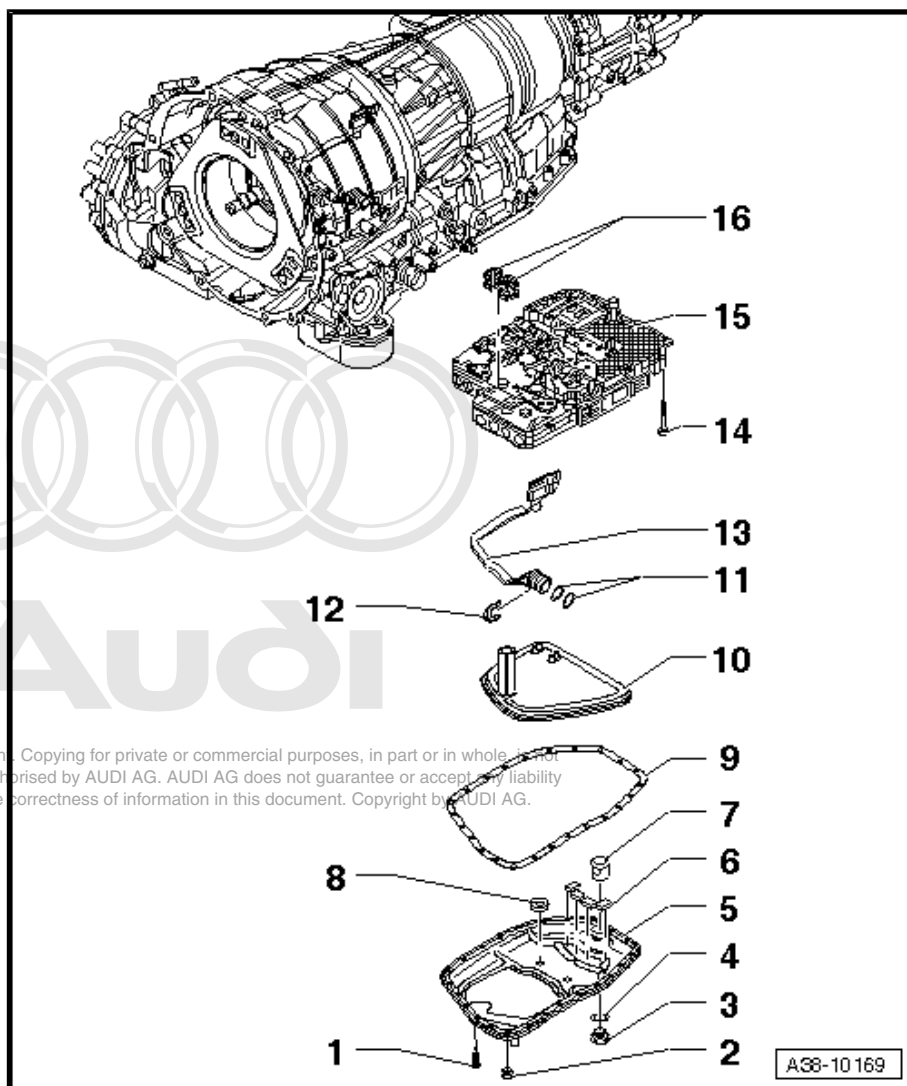
- ☐ ⇒ ["1.4 Removing and installing wiring harness in gearbox", page 145](#)

14 - Bolt

- ☐ Secures mechatronic unit to gearbox; observe tightening specifications and sequence ⇒ [page 138](#)

15 - Mechatronic unit

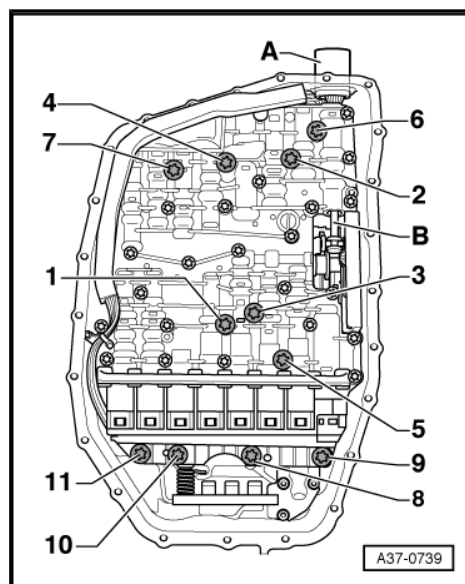
- ☐ ⇒ ["1.3 Removing and installing mechatronic unit", page 142](#)



16 - Seal

Mechatronic unit - tightening specifications and sequence

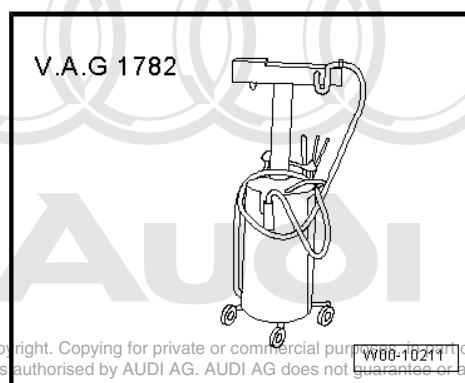
- Tighten securing bolts -1- and -2- for mechatronic unit to 2 Nm.
- Then tighten retaining bolts to 8 Nm in specified sequence -1 ... 11-.



1.1 Removing and installing oil pan

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ Guide pins (4x) -T40199-
- ◆ Safety goggles

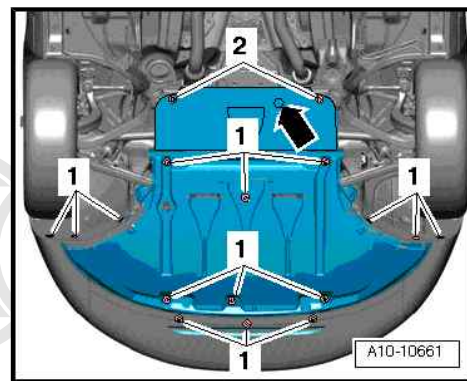
Removing



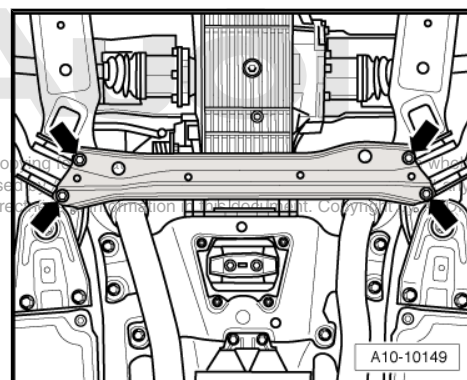
Note

- ◆ *General repair instructions* ⇒ [page 13](#).
- ◆ *Rules for cleanliness when working on the automatic gearbox* ⇒ [page 17](#)

- Release fasteners marked -1, 2- and -arrow- (if fitted) and remove noise insulation panels.



- Remove front cross piece beneath gearbox oil pan -arrows-.
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.



WARNING

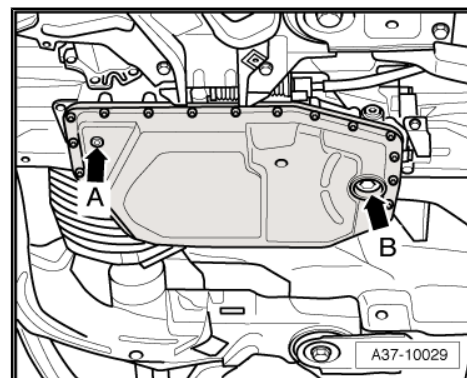
Put on safety goggles.

- Remove ATF drain plug -arrow A-.
- Drain ATF.



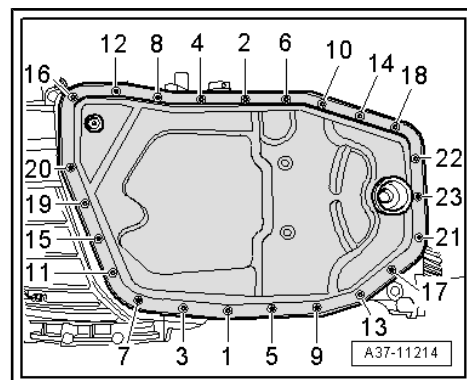
Note

- ◆ *Always observe the relevant environmental regulations for disposal.*
- ◆ *The engine must not be started and vehicle must not be towed without ATF in gearbox.*



Gearbox with 23 bolts on oil pan:

- Slacken bolts for ATF oil pan in the sequence -23 ... 1- and remove bolts.

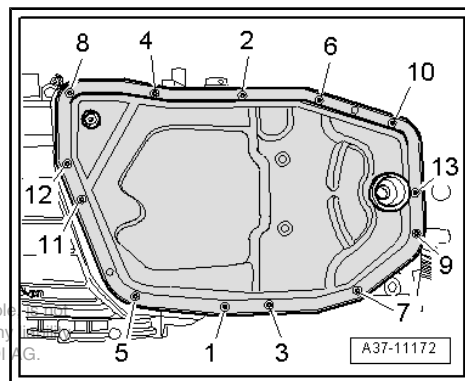


Gearbox with 13 bolts on oil pan:

- Slacken bolts for ATF oil pan in the sequence -13 ... 1- and remove bolts.

Continued for all gearboxes:

- Remove oil pan.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Installing

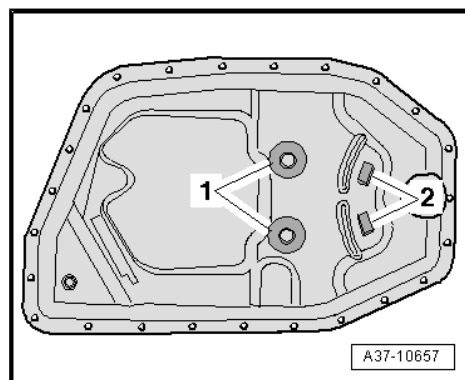
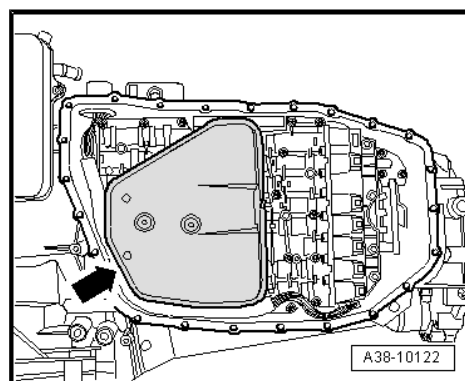
Installation is carried out in the reverse order; note the following:

Tightening torques ➔ [page 136](#)



Note

- ◆ *Renew seals and gaskets.*
- ◆ *The drain plug with seal must be renewed.*
- Check that ATF strainer -arrow- is correctly seated; press into position if necessary.
- Clean magnets -1- and -2- in ATF oil pan.
- Ensure that magnets make full contact with ATF oil pan.
- Clean sealing surface on gearbox and on oil pan.
- Sealing surfaces must be dry and free of oil and grease.
- Remaining material from the old gasket must be removed completely.



Gearbox with 23 bolts on oil pan:

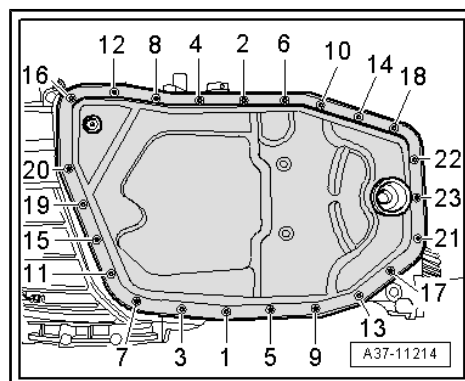
- Screw four guide pins -T40199- into positions -11, 12, 13, and 14- with oil pan removed.



Note

The guide pins -T40199- hold the gasket and oil pan in position. Without them the oil pan will not be sealed off properly.

- Guide new gasket and oil pan over guide pins -T40199- .
- Tighten oil pan bolts in the sequence -1 to 10-.
- Remove the four guide pins -T40199- .
- Screw in remaining bolts in the sequence -11 to 23-.
- Tightening torque: 12 Nm



Gearbox with 13 bolts on oil pan:

- Screw four guide pins -T40199- into items -8, 9, 10 and 11- with oil pan removed.



Note

- ◆ *The guide pins -T40199- hold the gasket and oil pan in position. Without them the oil pan will not be sealed off properly.*
- ◆ *Renew aluminium bolts for oil pan.*

- Guide gasket and oil pan over guide pins -T40199-.

- Tighten new oil pan bolts in the sequence -1 to 7-.

- Remove the four guide pins -T40199-.

- Screw in remaining bolts in the sequence -8 to 13-.

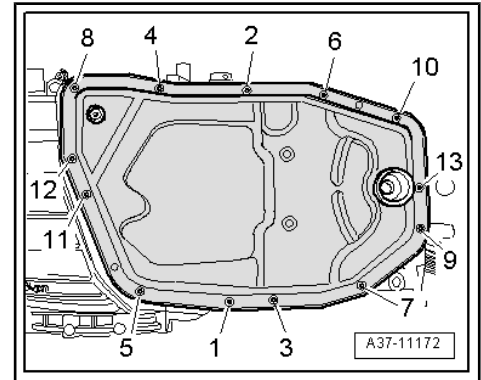
- Tightening torque: 12 Nm

Continued for all gearboxes:

- Install cross member ⇒ Rep. gr. 40.

- Fill up with ATF

⇒ ["9.2 Draining ATF and filling up after repairs", page 125](#).



1.2 Removing and installing ATF strainer

Removing



Note

- ◆ *General repair instructions ⇒ [page 13](#).*
- ◆ *Rules for cleanliness when working on the automatic gearbox ⇒ [page 17](#)*

- Remove oil pan ⇒ [page 138](#).

- Carefully pull ATF strainer -A- out of gearbox.

Installing

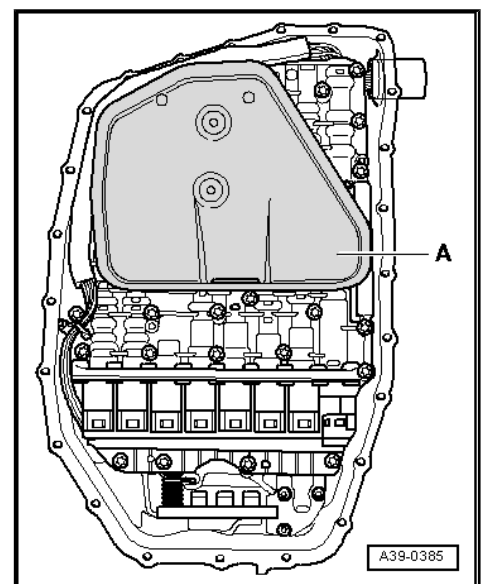
Installation is carried out in the reverse order; note the following:

Tightening torques ⇒ [page 136](#)



Note

The ATF strainer only has to be renewed if it has been damaged.



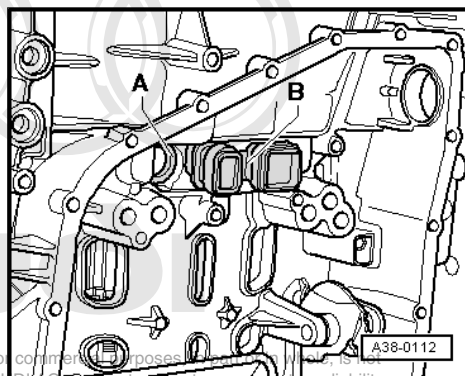
Note the following if renewing ATF strainer:

- If fitted, carefully remove seal for ATF strainer -A- from gearbox using a screwdriver or similar.



Note

- ◆ Take care not to damage sealing surface.
- ◆ For illustration purposes the seal is shown with mechatronic unit removed.
- ◆ The new ATF strainer is supplied with the seal fitted.



Continuation for old and new ATF strainer:

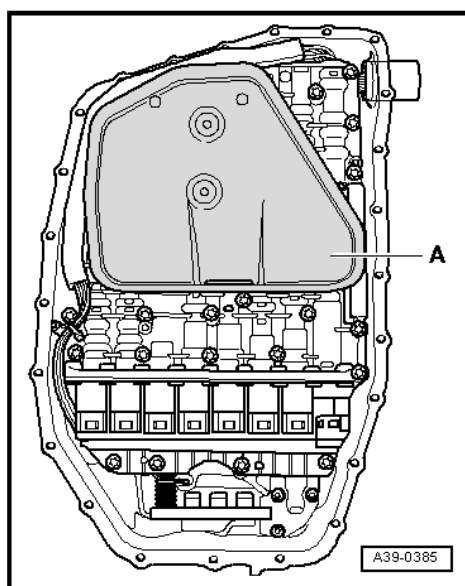
- Press intake pipe of ATF strainer -A- carefully onto stop into mounting hole in gearbox.



Note

A new ATF strainer is pressed into gearbox with seal fitted.

- Install oil pan ⇒ [page 138](#).
- Fill up with ATF ⇒ [page 125](#).



1.3 Removing and installing mechatronic unit



Note

- ◆ Always renew mechatronic unit if contaminated or defective.
- ◆ General repair instructions ⇒ [page 13](#).
- ◆ Rules for cleanliness when working on the automatic gearbox ⇒ [page 17](#)

Removing

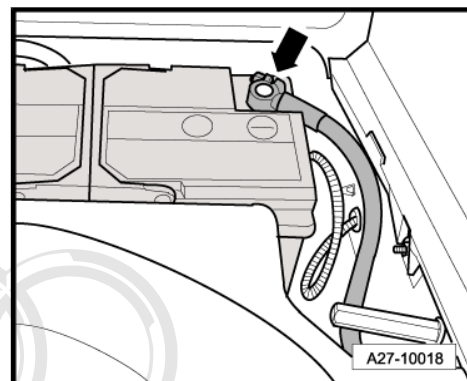


Caution

Follow steps required when disconnecting battery.

- Switch off ignition.

- Take out luggage compartment floor covering.
- Disconnect earth wire at battery ⇒ Electrical system; Rep. gr. 27 ; Battery .
- Remove oil pan
⇒ [“1.1 Removing and installing oil pan”, page 138](#) .
- Remove ATF strainer
⇒ [“1.2 Removing and installing ATF strainer”, page 141](#) .

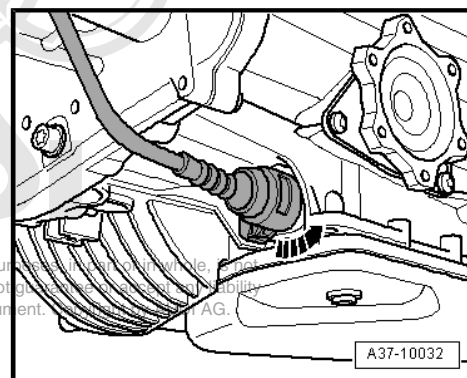


- Disconnect electrical connector at gearbox by turning fastener cap anti-clockwise -arrow-.
- Touch vehicle earth with your hand (without gloves) to discharge any static electricity.

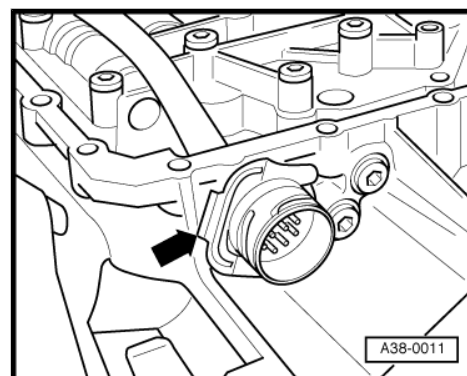


Caution

- ◆ **Before touching or removing the mechatronic unit, always discharge any static electricity by touching vehicle earth or other earthed object with your hand.**
- ◆ **DO NOT touch contacts in 16-pin connector with your hands, as static discharge can seriously damage the control unit and mechatronic unit.**



- Pull off retaining clip -arrow- for wiring harness connector from outside of gearbox housing.

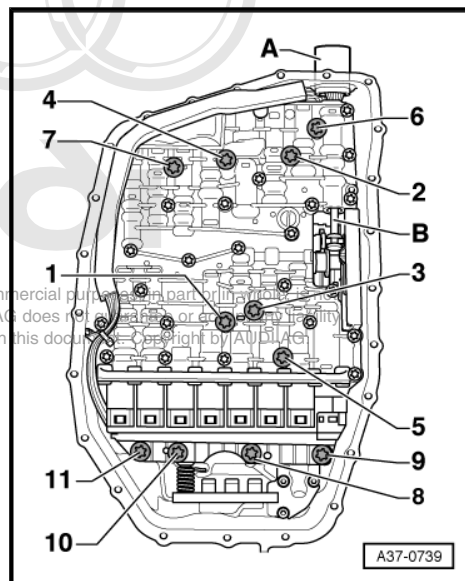


- Unscrew securing bolts for mechatronic unit in sequence -11 ... 1-.



Note

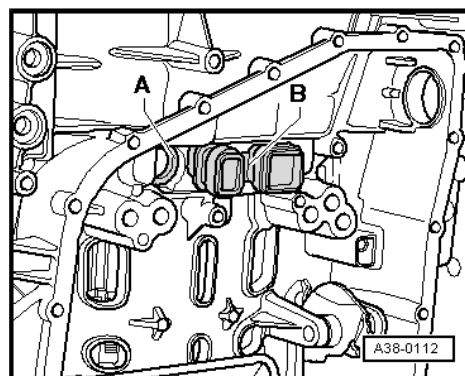
- ◆ Only remove securing bolts marked -1 ... 11-.
- ◆ If other bolts are loosened, this may affect the operation of the mechatronic unit or the mechatronic unit could come apart.
- Remove mechatronic unit together with wiring harness from gearbox, at the same time guide out connector for wiring harness.



Installing

Tightening torques ⇒ [page 136](#)

- Make sure that seal -B- is properly inserted and secured.
- Renew O-rings on connector for wiring harness and lightly lubricate with ATF.



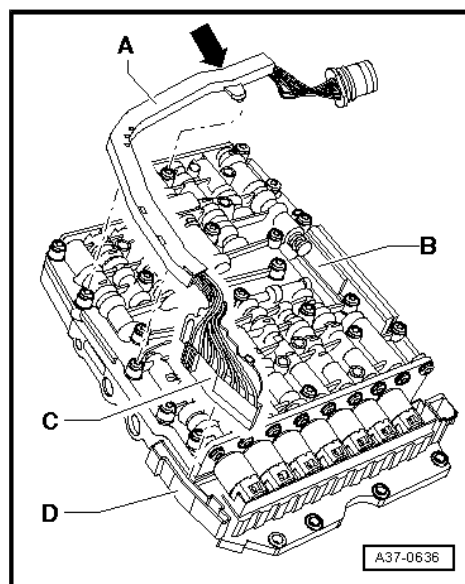
- Clip wiring harness -A- onto mechatronic unit -B-. To do so, first attach tab -arrow- on reverse side of wiring harness to mechatronic unit.



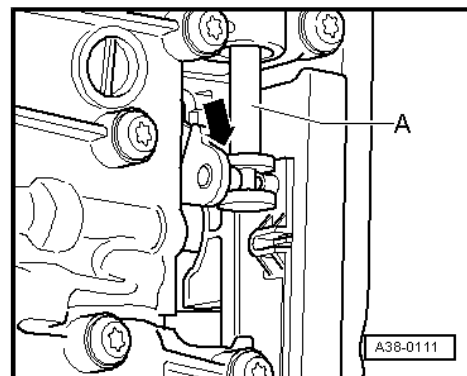
Note

If the tab on the reverse side of the wiring harness breaks off, the wiring harness must be replaced ⇒ [page 145](#).

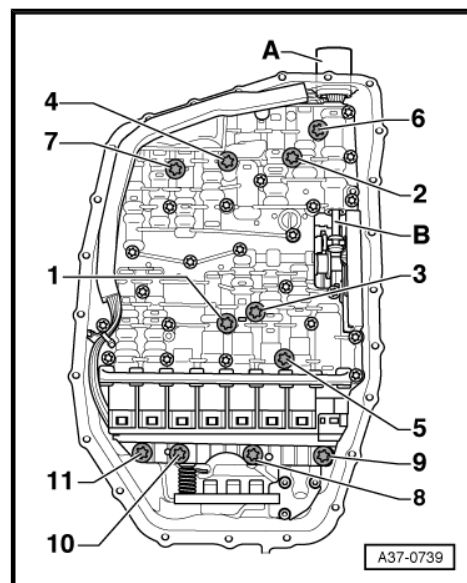
- Install wiring harness connector in gearbox housing.
- Installation position: flat part of rear shoulder faces downwards, the lugs at shoulder are horizontal



- While fitting mechatronic unit without force, insert gearbox selector lever stud -arrow- into groove on selector slide -A- (move selector slide backwards and forwards if necessary).

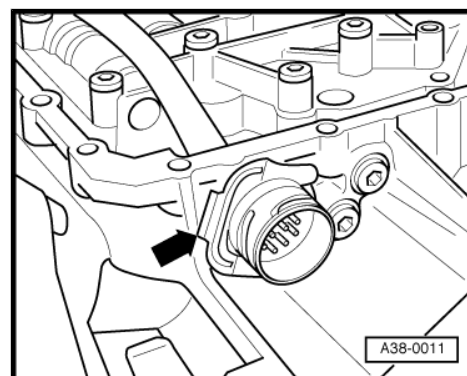


- Tighten securing bolts -1- and -2- for mechatronic unit to 2 Nm.
- Then tighten retaining bolts to 8 Nm in specified sequence -1 ... 11-.



- Push retainer clip -arrow- onto wiring harness connector.
- Install ATF strainer ⇒ [page 141](#) .
- Install oil pan ⇒ [page 138](#) .
- Connect battery ⇒ Electrical system; Rep. gr. 27 ; Battery .
- Fill up with ATF ⇒ [page 125](#) .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



1.4 Removing and installing wiring harness in gearbox

Removing

- Remove mechatronic unit ⇒ [page 142](#)
- Touch some earthed object (e.g. heater) with your hand (without gloves) to discharge any static electricity.



Caution

- ◆ *Before touching or removing the mechatronic unit, always discharge any static electricity by touching vehicle earth or other earthed object with your hand.*
- ◆ *DO NOT touch contacts in 16-pin connector with your hands, as static discharge can seriously damage the control unit and mechatronic unit.*

- Carefully detach wiring harness -A- from mechatronic unit -B-. Make sure to detach tab -arrow- on reverse side of wiring harness from mechatronic unit.



Note

If the tab -arrow- on the reverse side of the wiring harness breaks off, the wiring harness must be replaced ⇒ [page 145](#).

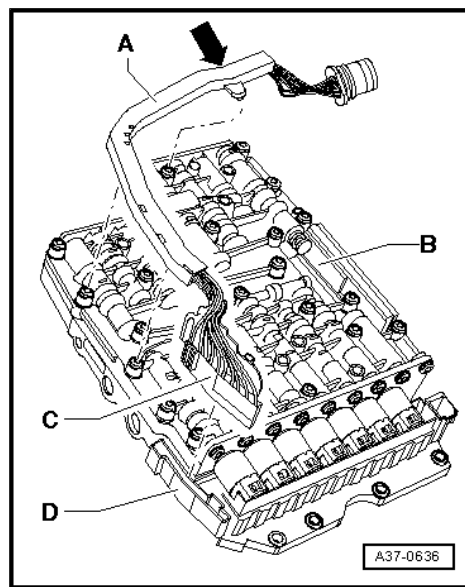
- Carefully detach connector -C- from socket -D- of mechatronic unit.

Installing

Installation is carried out in the reverse order; note the following:

Tightening torques ⇒ [page 136](#)

- Carefully attach connector -C- to socket -D- on mechatronic unit.
- Clip wiring harness -A- onto mechatronic unit -B-. To do so, first attach tab -arrow- on reverse side of wiring harness to mechatronic unit.
- Install mechatronic unit ⇒ [page 142](#).
- Fill up with ATF ⇒ [page 125](#).



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

39 – Final drive - front differential

1 Gear oil level in front final drive



Note

- ◆ *General repair instructions* ⇒ [page 13](#).
- ◆ *Rules for cleanliness when working on the automatic gearbox* ⇒ [page 17](#)

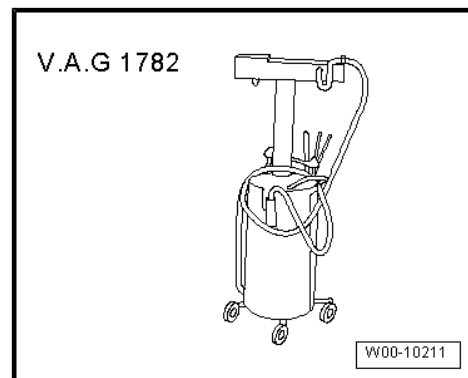
Overview:

- ◆ ⇒ [“1.1 Checking gear oil level in front final drive”, page 147](#)
- ◆ ⇒ [“1.2 Filling up gear oil in front final drive after repairs”, page 148](#)

1.1 Checking gear oil level in front final drive

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ Safety goggles

Test condition

- Gear oil about 20°C (room temperature)

Test sequence

- Drive vehicle onto a four-column lifting platform or over an inspection pit in order for it to be absolutely horizontal.
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.



WARNING

Put on safety goggles.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

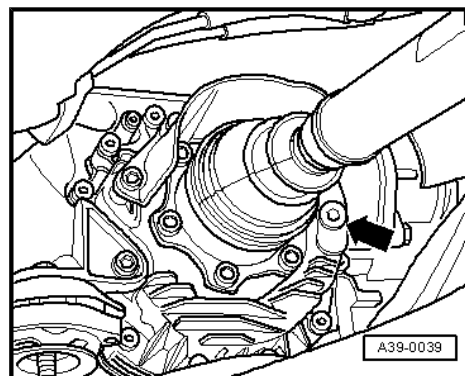
- Remove screw plug -arrow-.
- The oil level must be up to the bottom lip of the filler hole.
- Drain off any excess oil or top up to proper level; specification
⇒ [page 11](#).



Note

The screw plug with seal must be renewed.

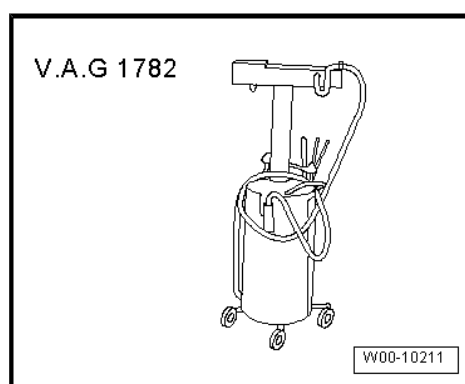
- Tighten new screw plug to 35 Nm.



1.2 Filling up gear oil in front final drive after repairs

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ Safety goggles

Requirements:

- Gear oil about 20°C (room temperature)

Filling



Note

- ◆ *General repair instructions* ⇒ [page 13](#).
- ◆ *Rules for cleanliness when working on the automatic gearbox*
⇒ [page 17](#)
- Drive vehicle onto a four-column lifting platform or over an inspection pit in order for it to be absolutely horizontal.
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Remove screw plug -arrow-.
- Fill front final drive slowly and evenly over at least 5 minutes until gear oil (specification ⇒ [page 11](#)) comes out at bottom lip of oil filler hole.



Note

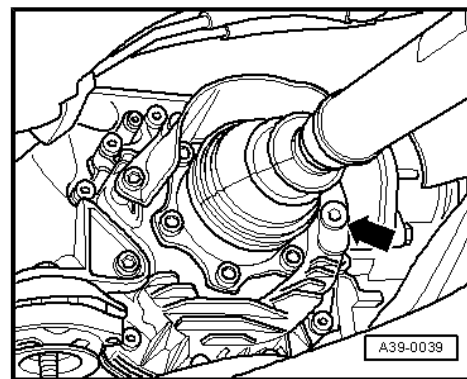
- ◆ *The fill-up period of at least 5 minutes is necessary so that the internal oil level can be balanced out between the differential and the baffle chamber.*
- ◆ *The screw plug with seal must be renewed.*

- Tighten new screw plug to 35 Nm.



Note

The level does not need to be re-checked after this step.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

2 Servicing front final drive - exploded view



Note

- ◆ General repair instructions ⇒ [page 13](#).
- ◆ Rules for cleanliness when working on the automatic gearbox ⇒ [page 17](#)

1 - Oil seal

- ☐ Between final drive and gearbox housing
- ☐ Renewing ⇒ [page 157](#)

2 - Shim

- ☐ Behind tapered roller bearing outer race

3 - Tapered roller bearing outer race

4 - O-ring

- ☐ Renew

5 - Plug

- ☐ 35 Nm
- ☐ Renew

6 - Flange shaft (right-side)

- ☐ Removing and installing ⇒ [page 153](#)

7 - Circlip

- ☐ Renew

8 - Oil seal for flange shaft (right-side)

- ☐ Renewing ⇒ [page 154](#)

9 - Bolt

- ☐ 23 Nm
- ☐ Follow correct tightening sequence ⇒ [page 156](#)

10 - Cover for final drive

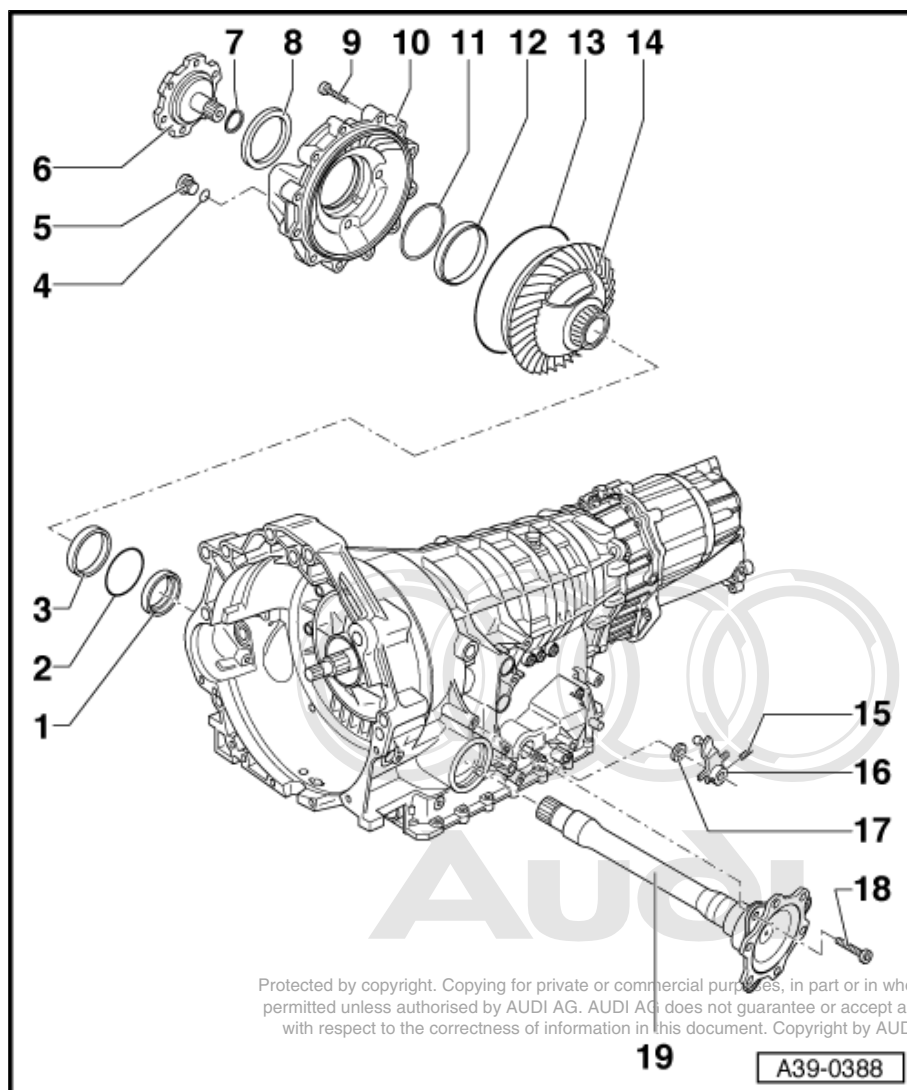
11 - Shim

- ☐ Behind tapered roller bearing outer race

12 - Tapered roller bearing outer race

13 - O-ring for final drive cover

- ☐ Renewing ⇒ [page 156](#)



14 - Differential

15 - Roll pin

16 - Selector shaft lever

17 - Oil seal for selector shaft

- ☐ Renewing ➔ [page 160](#)

18 - Bolt

- ☐ 23 Nm
- ☐ For securing retaining bracket for flange shaft (left-side) to gearbox

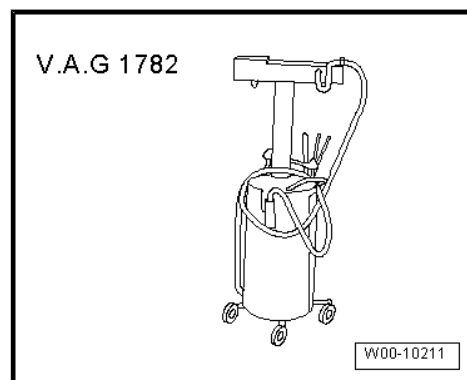
19 - Flange shaft (left-side)

- ☐ Removing and installing ➔ [page 151](#)

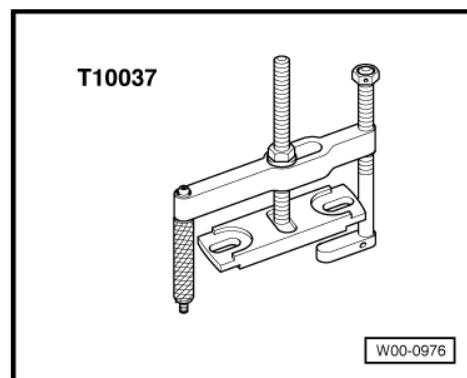
2.1 Removing and installing flange shaft (left-side)

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ Puller - T10037-



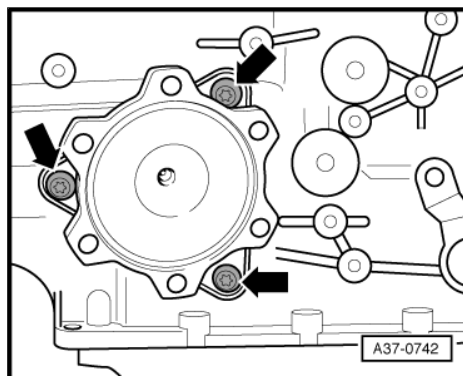
Removing

- Gearbox removed

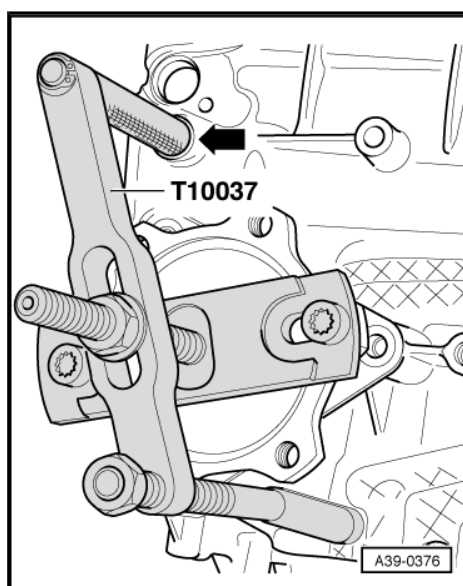
Place used oil collection and extraction unit V.A.G 1782 below gearbox.

Protected by copyright. All rights reserved. This document is the property of Audi AG. Audi AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by Audi AG.

- Unscrew bolts -arrows- on retaining bracket for left-side flange shaft.



- Screw puller - T10037- onto differential cover -arrow-.
- Pull out left flange shaft using puller - T10037- only until bearing on shaft is removed from gearbox housing.



- Pull left flange shaft -A- out of gearbox making sure that the shaft remains centred in the opening on the differential -arrow-.



Note

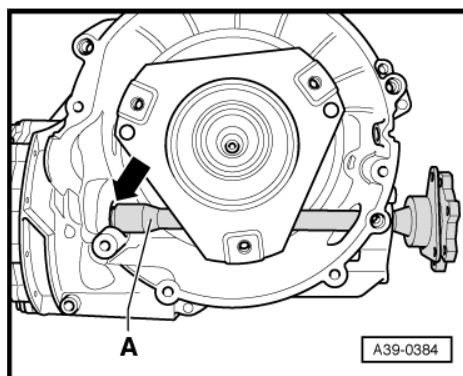
If you do not keep the shaft centred, the splines of the shaft will fall against the inner oil seal between the final drive and the gearbox housing. The oil seal will be damaged and will have to be renewed ⇒ [page 157](#).

Installing

Tightening torques ⇒ [page 150](#)

Installation is carried out in the reverse order; note the following:

- Clean flange shaft.

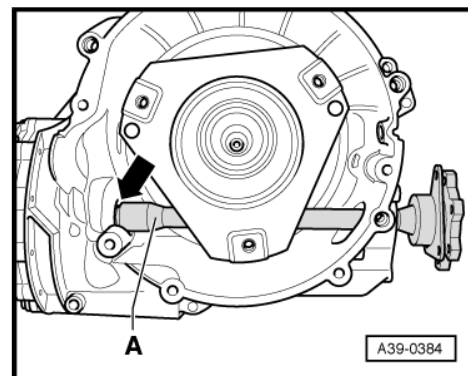


- Insert flange shaft -A- into gearbox and guide shaft into oil seal on differential -arrow-, keeping it centred.



Note

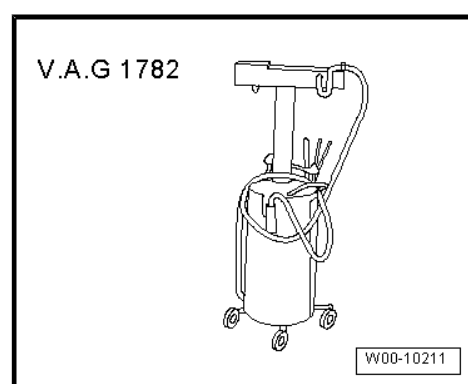
If you do not keep the shaft centred, the splines of the shaft will damage the oil seal between final drive and gearbox housing. In this case, the oil seal will have to be renewed ⇒ [page 157](#).



2.2 Removing and installing flange shaft (right-side)

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



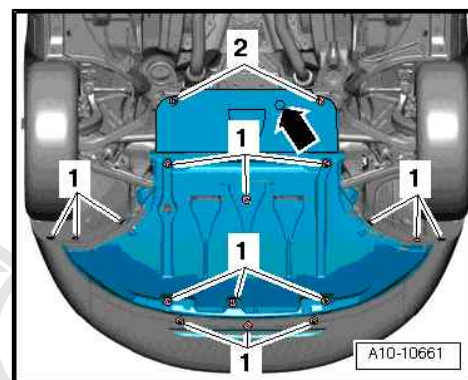
Removing

- Gearbox in vehicle
- Release fasteners marked -2- and -arrow- (if fitted) and remove rear noise insulation panel.
- Unbolt drive shaft (right-side) from flange on gearbox and tie up.



Note

The right-side drive shaft must be removed on vehicles with a front exhaust pipe on the right side ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40



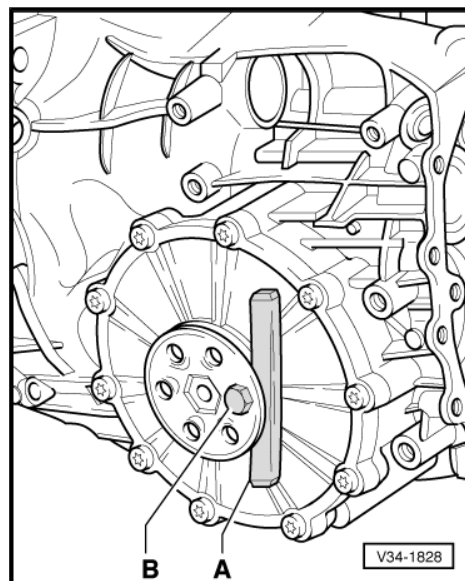
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.

- Remove flange shaft: Place a chisel or suitable spacer -A- under the flange shaft and pull flange shaft out by turning bolt -B-.



Note

If the flange shaft does not come out easily, turn the shaft and screw the bolt into the opposite tapped hole to assist removal.

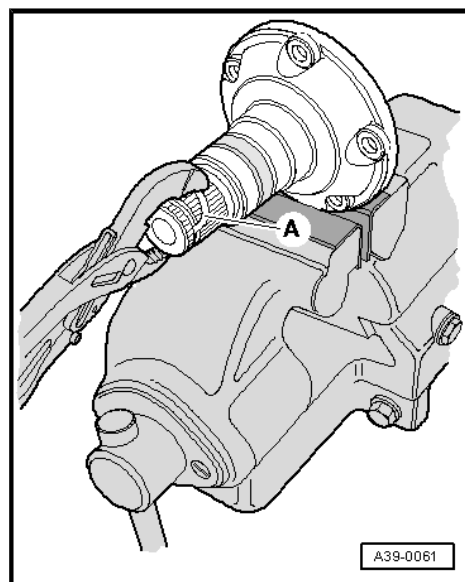


- Renew circlip for flange shaft.
- Clamp flange shaft in vice, using jaw protectors. Use new circlip -A- to press old circlip out of groove in flange shaft.

Installing

Installation is carried out in the reverse order; note the following:

- Clean flange shaft and oil seal.
- If oil seal is damaged, it must be renewed ⇒ [page 154](#) .
- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .
- Insert flange shaft by hand into splines of differential until splines lock properly into place.
- Press flange shaft in by hand or with mandrel - VW 295- as far as the stop.



Note

The circlip on the flange shaft should click into place.

- Bolt drive shaft to flange shaft (right-side) ⇒ Rep. gr. 40 .
- Check oil level in front final drive ⇒ [page 147](#) .

2.3 Renewing oil seal for flange shaft (right-side)

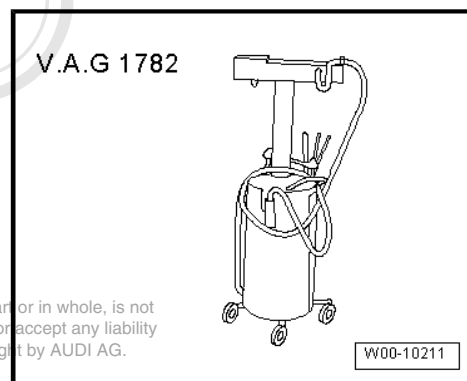
Special tools and workshop equipment required



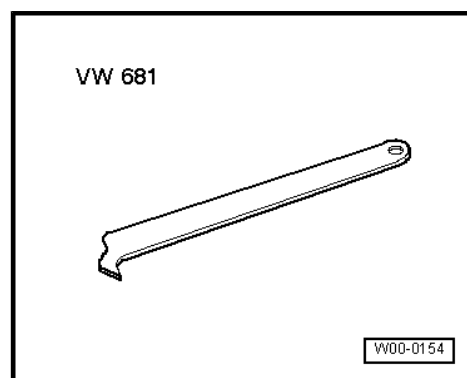
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

◆ Used oil collection and extraction unit - V.A.G 1782-

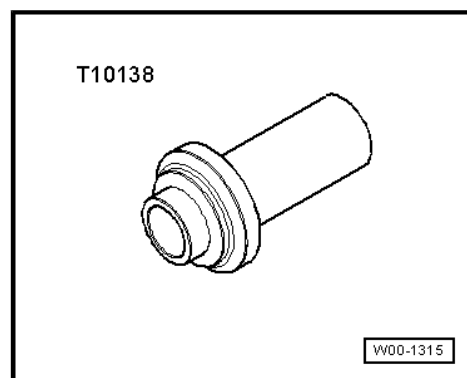
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



◆ Extractor lever - VW 681-



◆ Thrust piece - T10138-



Procedure

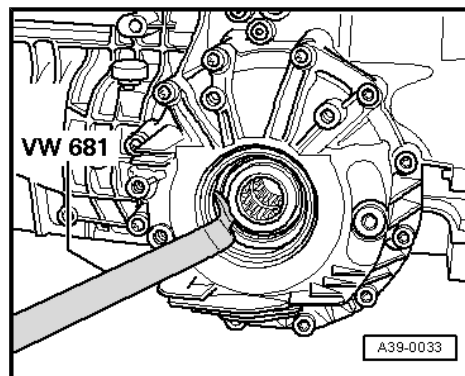
- Gearbox in vehicle



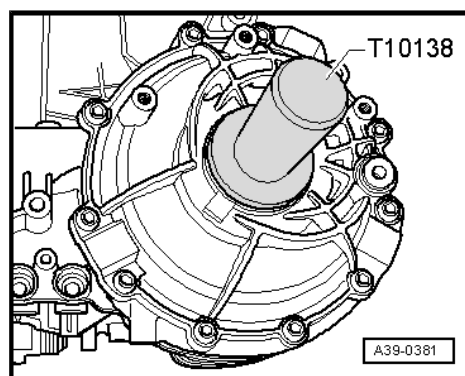
Note

- ◆ *General repair instructions* ⇒ [page 13](#).
- ◆ *Rules for cleanliness when working on the automatic gearbox* ⇒ [page 17](#)
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.
- Remove flange shaft (right-side) ⇒ [page 153](#).

- Pull out flange shaft oil seal.
- Lightly lubricate outer circumference of oil seal with gear oil.



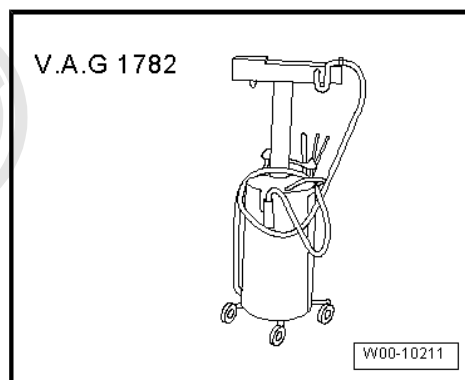
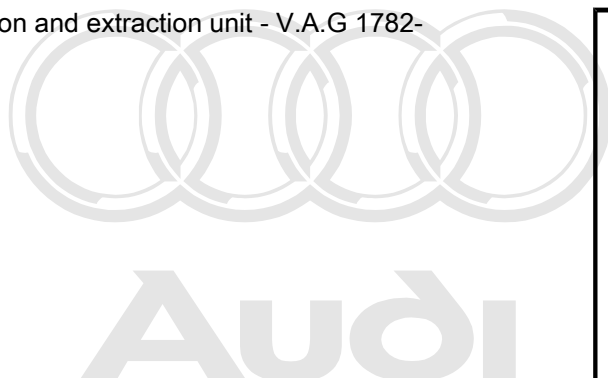
- Drive in new oil seal onto stop (take care to keep oil seal straight).
- Installation position: the open side of the oil seal should face the gearbox.
- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .
- Install flange shaft (right-side) ⇒ [page 153](#) .
- Check oil level in front final drive ⇒ [page 147](#) .



2.4 Renewing O-ring on cover for final drive

Special tools and workshop equipment required

- ♦ Used oil collection and extraction unit - V.A.G 1782-



Procedure

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Gearbox in vehicle
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.
- Remove flange shaft (right-side) ⇒ [page 153](#) .

- Unscrew bolts on final drive cover in the sequence -11 ... 1- and remove cover together with outer race for tapered roller bearing and shim.

 Note

Thickness of shim has been measured to fit; the shim must not be replaced with another shim of different thickness.

- Renew O-ring -arrow-.

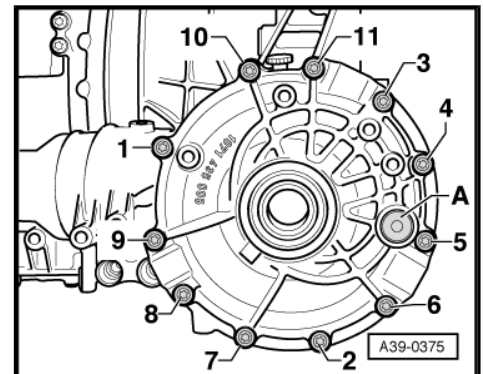
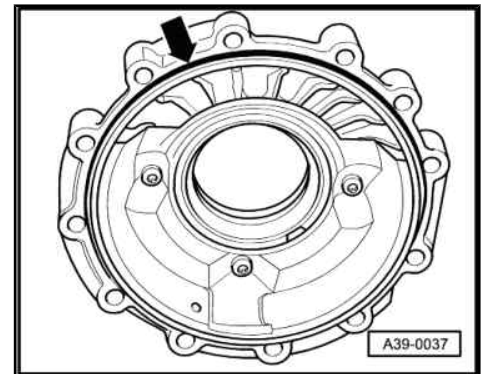
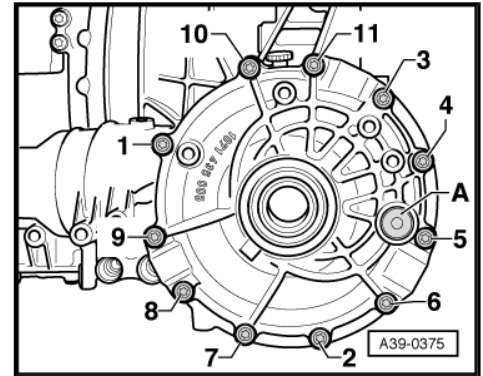
Note the following if the outer race for tapered roller bearing and the shim have dropped out of the final drive cover:

- Lubricate shim and outer race for tapered roller bearing with gear oil and insert in final drive cover as far as the stop.

- Tighten bolts of cover for final drive as follows.

Stage	Tightening sequence
I	– Tighten bolts -1- and -2- to 3 Nm.
II	– Tighten bolts -1 ... 11- to specified torque in the sequence indicated; tightening torques ⇒ page 150 .

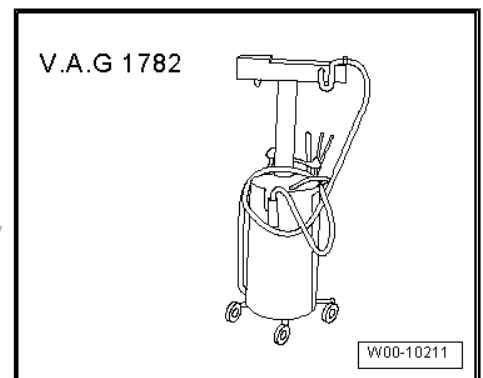
- Install flange shaft (right-side) ⇒ [page 153](#) .
- Check oil level in front final drive ⇒ [page 147](#) .



2.5 Renewing oil seal for final drive/gearbox housing

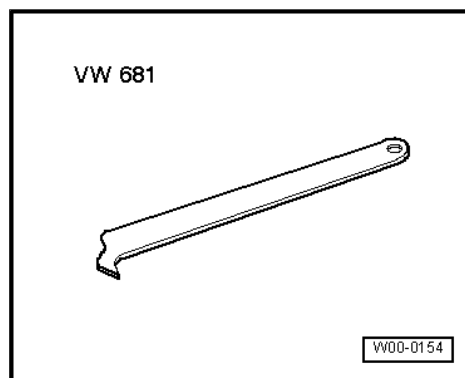
Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-

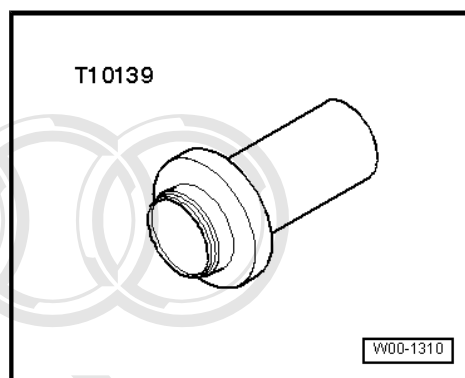


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

◆ Extractor lever - VW 681-



◆ Thrust piece - T10139-



Requirements

- Gearbox removed
- Gearbox secured to assembly stand [⇒ page 112](#)

Please refer to copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



WARNING

The gearbox must not be placed down on ATF cooler or oil pan.

Procedure



Note

- ◆ A defective oil seal allows gear oil to enter the torque converter bellhousing.
- ◆ General repair instructions [⇒ page 13](#).
- ◆ Rules for cleanliness when working on the automatic gearbox [⇒ page 17](#)
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.
- Remove flange shaft (right-side) [⇒ page 153](#).

- Unscrew bolts on final drive cover in the sequence -11 ... 1- and remove cover together with outer race for tapered roller bearing and shim.

 Note

Thickness of shim has been measured to fit; the shim must not be replaced with another shim of different thickness.

- Remove differential.
- Remove tapered roller bearing outer race -1- for differential and shim -2- (behind outer race) from gearbox housing by hand.

 Note

Thickness of shim has been measured to fit; the shim must not be replaced with another shim of different thickness.

- Remove flange shaft (left-side) ⇒ [page 151](#) .

- Pull out oil seal.

 Note

The oil seal extractor lever - VW 681- must be applied behind the two sealing lips of the oil seal. Do not position at outer circumference of oil seal as the contact surface in the gearbox housing could be damaged. Guide the lever carefully when removing the seal.

- Examine oil seal seat in gearbox housing for damage; reface surface if necessary.

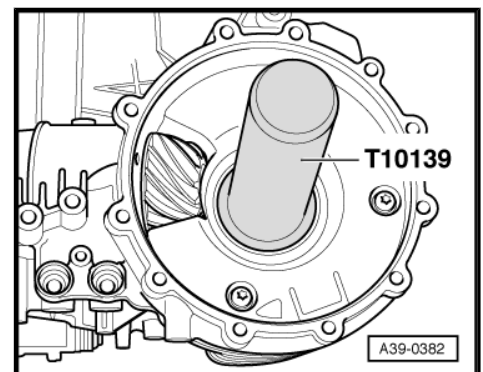
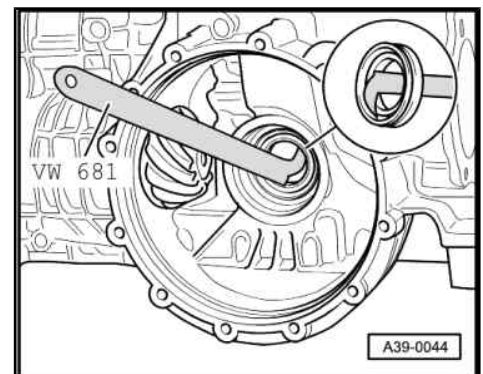
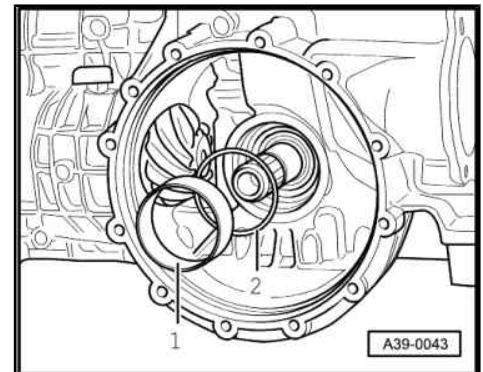
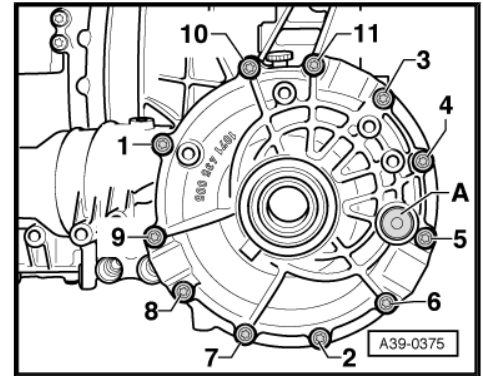
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of Audi AG. Audi AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Lightly lubricate outer circumference and sealing lip of oil seal with gear oil.

 Note

Push oil seal onto thrust piece with the protruding sealing lip on the oil seal facing towards the tool.

- Drive in new oil seal as far as stop using thrust piece - T10139- .



- Insert shim -2- and tapered roller bearing outer race -1- for differential onto stop in gearbox housing by hand.



Note

Make sure that shim and outer race are kept straight when inserting.

- Renew O-ring -arrow-.
- Install differential in gearbox housing.

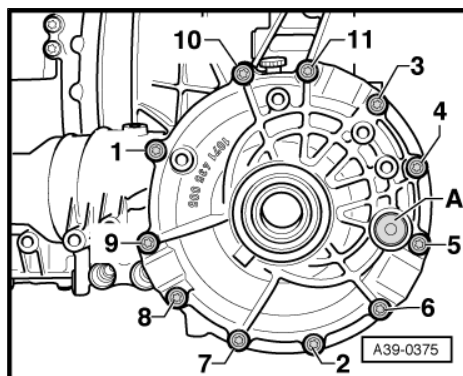
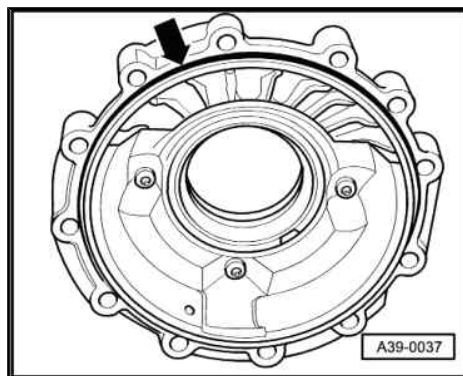
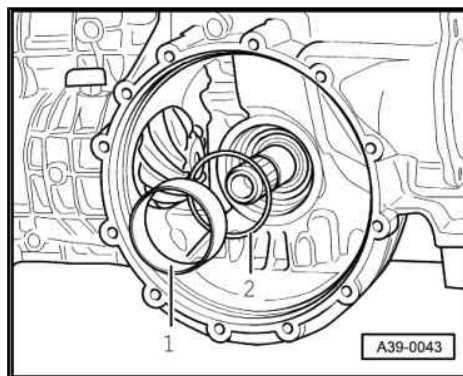
Note the following if the outer race for tapered roller bearing and the shim have dropped out of the final drive cover:

- Lubricate shim and outer race for tapered roller bearing with gear oil and insert in final drive cover as far as the stop.

- Tighten bolts of cover for final drive as follows.

Stage	Tightening sequence
I	– Tighten bolts -1- and -2- to 3 Nm.
II	– Tighten bolts -1 ... 11- to specified torque in the sequence indicated; tightening torques ⇒ page 150 .

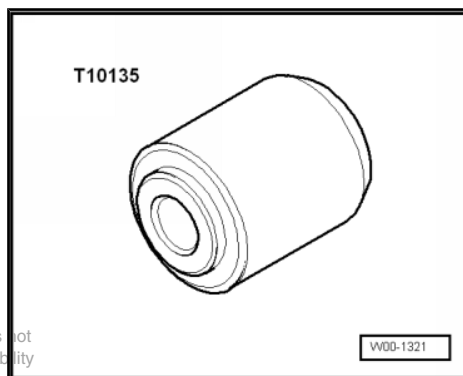
- Install flange shaft (left-side) ⇒ [page 151](#) .
- Install flange shaft (right-side) ⇒ [page 153](#) .
- Check oil level in front final drive ⇒ [page 147](#) .



2.6 Renewing oil seal for selector shaft

Special tools and workshop equipment required

- ◆ Thrust piece - T10135-



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Procedure



Note

- ◆ General repair instructions ➔ [page 13](#).
- ◆ Rules for cleanliness when working on the automatic gearbox ➔ [page 17](#)

- Shift selector lever to position “P”.

On vehicles with 6-cyl. TDI engine:

- Remove gearbox support (left-side) ➔ [page 119](#).

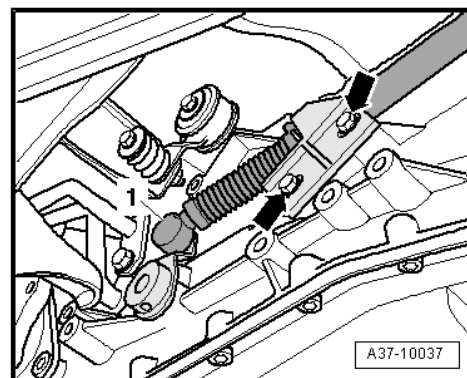
Both versions:

- Pry ball socket -1- of selector lever cable off selector shaft lever.

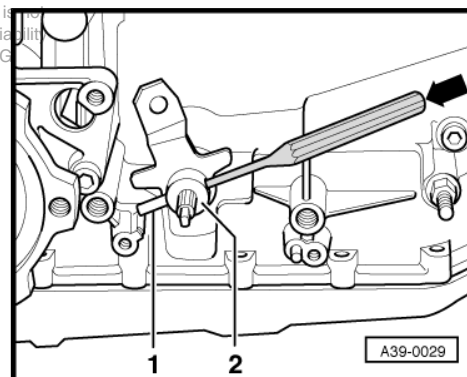


Note

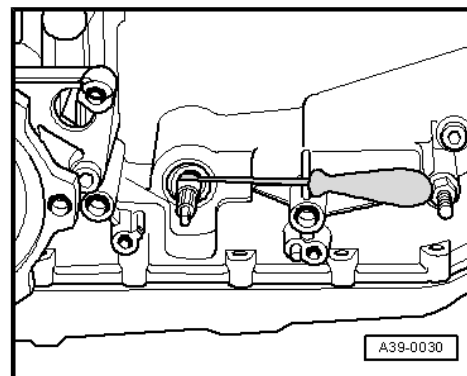
Do not bend or kink the selector lever cable.



- Drive out roll pin -1- at selector shaft lever -2- -arrow- until it is possible to detach selector shaft lever from selector shaft.



- Push a small screwdriver through the oil seal and pull it out.
- Lubricate outer circumference and space between sealing lips of oil seal with ATF.
- Fit new oil seal onto selector shaft.
- Installation position: the open side of the oil seal should face the gearbox.



- Press on new oil seal using thrust piece - T10135- and assembly lever -A- as far as the stop; make sure that oil seal remains straight.

**Note**

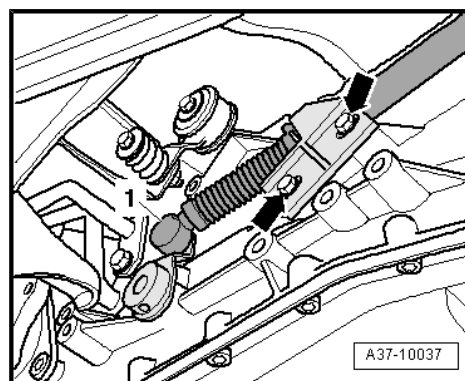
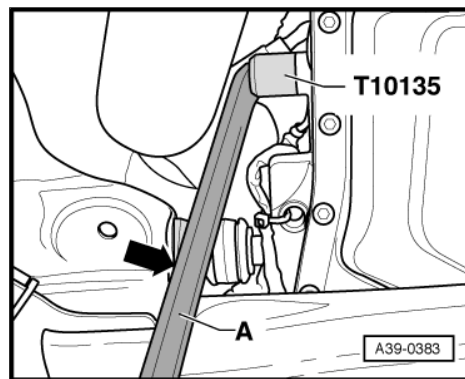
To prevent slippage when pressing in oil seal, place something as a base (e.g. piece of rubber) between assembly lever and subframe -arrow-.

- Before installing, drive the roll pin in the selector shaft lever back through the lever in the opposite direction.
- Push selector shaft lever onto selector shaft and drive in roll pin.
- Press on ball socket -1- of selector lever cable onto selector shaft lever.

**Note**

Do not bend the selector shaft lever when pressing on the ball socket, as otherwise it will no longer be possible to precisely adjust the gear selector mechanism.

- Check ATF level ⇒ [page 122](#) .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

3 Gear oil level in transfer box



Note

- ◆ General repair instructions ➔ [page 13](#).
- ◆ Rules for cleanliness when working on the automatic gearbox ➔ [page 17](#)

Overview:

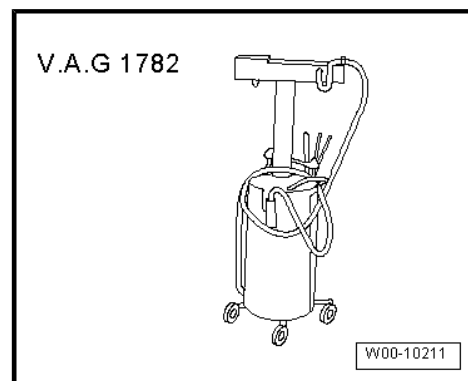
- ◆ ➔ [“3.1 Checking gear oil level in transfer box”, page 163](#)
- ◆ ➔ [“3.2 Filling up gear oil in transfer box after repairs”, page 164](#)

3.1 Checking gear oil level in transfer box

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



- ◆ Safety goggles

Test condition

- Gear oil about 20°C (room temperature)

Test sequence

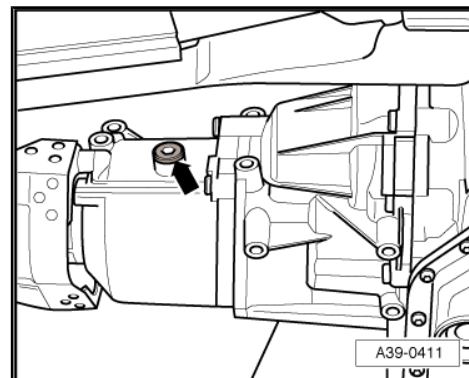
- Drive vehicle onto a four-column lifting platform or over an inspection pit in order for it to be absolutely horizontal.
- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.



WARNING

Put on safety goggles.

- Remove screw plug -arrow-.
- The oil level must be up to the bottom lip of the filler hole.
- Drain off any excess oil or top up to proper level; specification ➔ [page 12](#).



Note

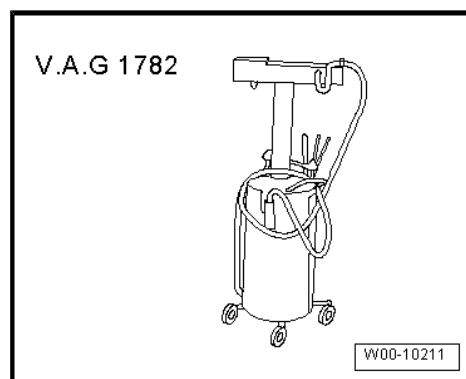
The screw plug with seal must be renewed.

- Tighten new screw plug to 35 Nm.

3.2 Filling up gear oil in transfer box after repairs

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ Safety goggles

Test conditions

- Gear oil about 20°C (room temperature)
- The cover was removed from transfer box and all gear oil was thereby drained.

Test sequence

- Drive vehicle onto a four-column lifting platform or over an inspection pit in order for it to be absolutely horizontal.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.



WARNING

Put on safety goggles.

- Remove screw plug -arrow-.



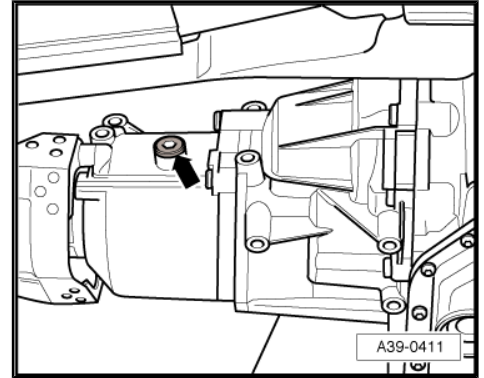
Note

The engine must not be started and vehicle must not be towed without gear oil in gearbox.

- Gear oil specifications ⇒ Electronic parts catalogue

Cover for self-locking centre differential removed:

- Screw suitable filling adapter with non-return valve for hand pump for gear oil - VAS 6617- hand-tight into inspection and filler hole.
- Put in 550 ml of gear oil using hand pump for gear oil - VAS 6617- .
- Wait at least 30 minutes, or road-test vehicle briefly.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the express permission of AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



Note

It is necessary to wait or to road-test the vehicle to allow the internal oil level to balance out between the self-locking centre differential and the baffle chamber.

- Unscrew filling adapter with non-return valve .
- Allow excess gear oil to drain off.

Cover for self-locking centre differential not removed:

- Using hand pump for gear oil - VAS 6617- , fill up with gear oil until oil comes out at filler and inspection hole.
- Repeat the procedure, adding 50 ml of gear oil every 15 seconds until the transfer box will not take any more oil.



Note

It is necessary to wait to allow the internal oil level to balance out between the self-locking centre differential and the baffle chamber.

Both versions:

- Tighten new screw plug to 35 Nm.



Note

The level does not need to be re-checked after this step.

4 Servicing transfer box



WARNING

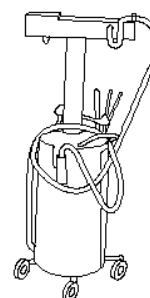
Do not run the engine or tow the vehicle if the self-locking centre differential is removed or if the gear oil has been drained from the gearbox.

4.1 Removing and installing cover for self-locking centre differential

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - V.A.G 1782-

V.A.G 1782



W00-10211

- ◆ Safety goggles

Removing

- Gearbox in vehicle



WARNING

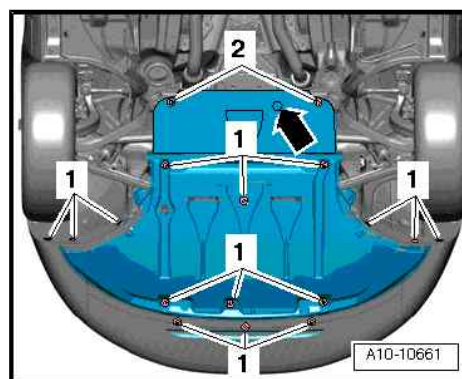
The engine must not be run and the vehicle must not be towed without gear oil.



Note

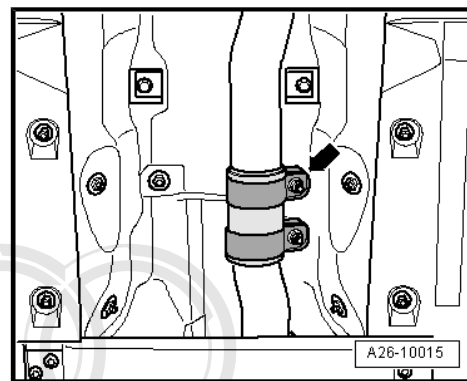
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- ◆ *General repair instructions* ⇒ [page 13](#).
- ◆ *Rules for cleanliness when working on the automatic gearbox* ⇒ [page 17](#)
- Release fasteners marked -1, 2- and -arrow- (if fitted) and remove noise insulation panels.



On vehicles with 6-cyl. TDI engine:

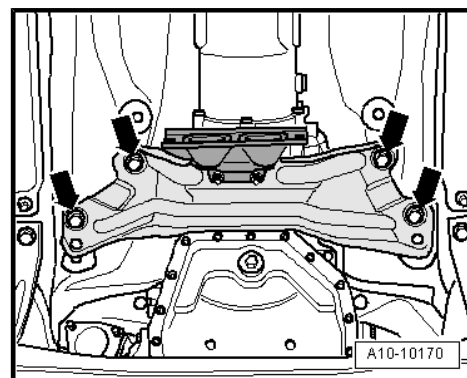
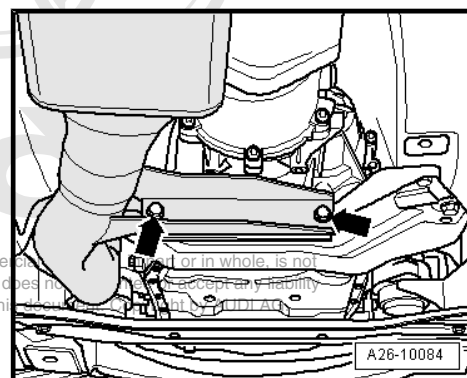
- Disconnect exhaust system at clamp -arrow-.



Note

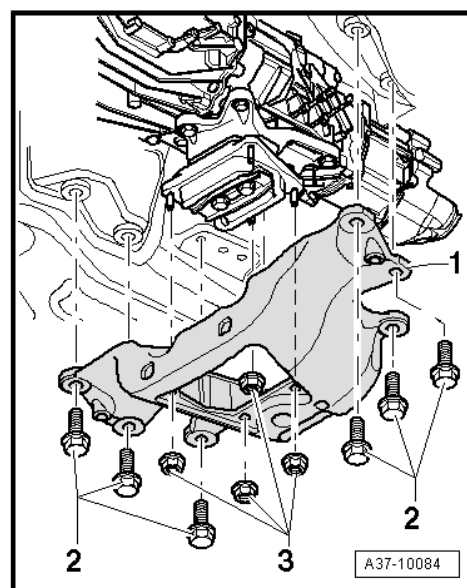
The flexible pipe connection (de-coupling element) on the front exhaust pipe must not be bent more than 10° – otherwise it can be damaged.

- Unscrew bolts -arrows- at centre bracket for front exhaust pipe.
- Tie up front exhaust pipe to side or support from below.
- Remove bolts -arrows- at tunnel cross member.
- Remove tunnel cross member with centre bracket for front exhaust pipe.



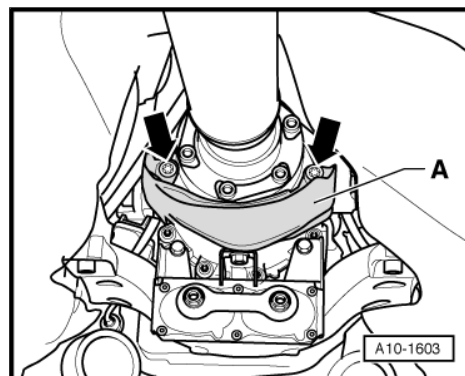
On vehicles with 6-cyl. and 8-cyl. petrol engine:

- Remove tunnel cross member -1- [⇒ page 117](#) .



Both versions:

- Unbolt heat shield -A- for propshaft -arrows-.
- Unscrew bolts at gearbox/propshaft flange.
- Slide propshaft together towards rear final drive. The constant velocity joints can be moved axially.
- Tie up propshaft to side.



- Place used oil collection and extraction unit - V.A.G 1782- below gearbox.



WARNING

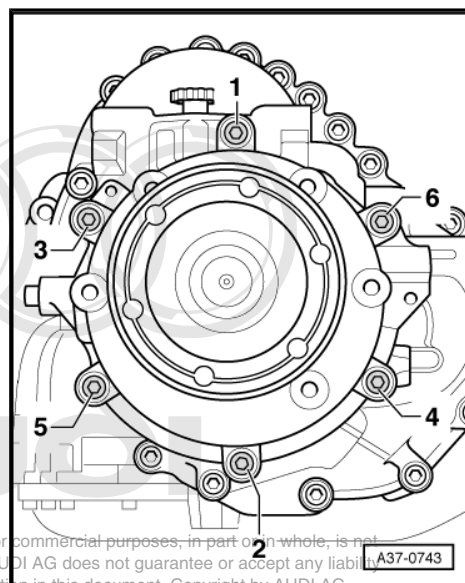
Put on safety goggles.

- Slacken and remove securing bolts for cover for self-locking centre differential in sequence -6 ... 1-; allow gear oil to drain out.



Note

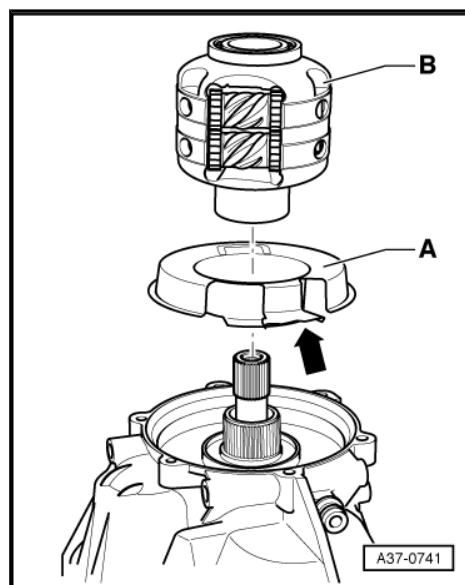
The cover is not equipped with a drain plug; drain gear oil by removing the cover.



Caution

Pull the cover for the self-locking centre differential carefully towards the rear off the gearbox. Take care that self-locking centre differential does not drop out of gearbox.

- Secure self-locking centre differential -B- and baffle plate -A- to prevent them dropping out, or pull them off the output shaft towards the rear.



Installing

Installation is carried out in the reverse order; note the following:



Note

Renew O-ring on cover for transfer box.

Note the following if the self-locking centre differential -B- and the baffle plate -A- have been removed:

- Clean baffle plate, lubricate with gear oil and insert in gearbox.
- Installation position: tongue -A- on baffle plate should be positioned on the gearbox so that the side lugs are located above opening -B-.
- Fit self-locking centre differential -B- onto splines of output shaft (turn slightly at the same time).



Note

Check installation position of tongue on baffle plate -arrow- again.

- Check that self-locking centre differential can be turned by hand when it is in position.
- Check whether the tongue -arrow- on the baffle plate is still located properly.
- Place cover onto self-locking centre differential with shaft installed; turn slightly if necessary.

- Tighten bolts of cover for self-locking centre differential as follows:

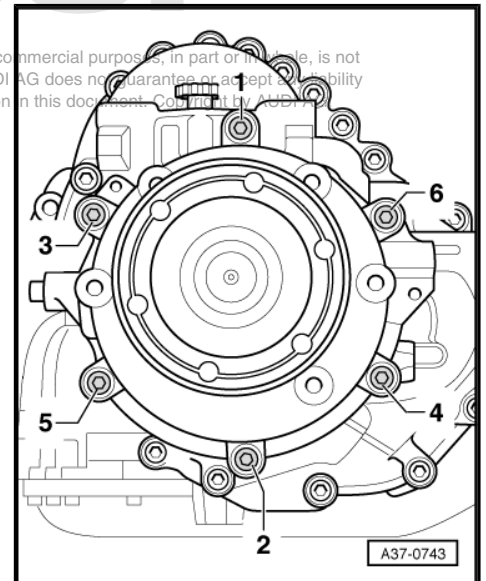
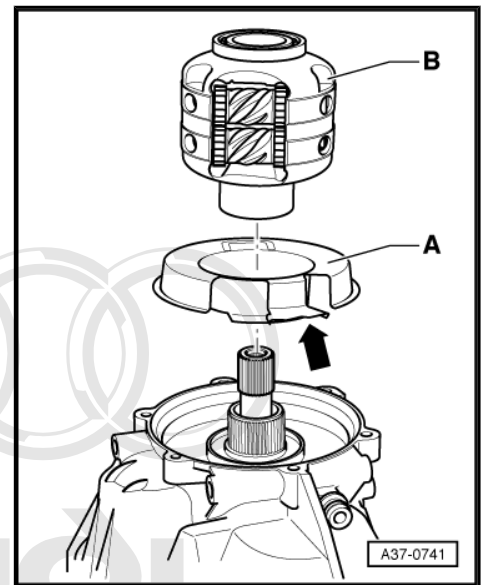
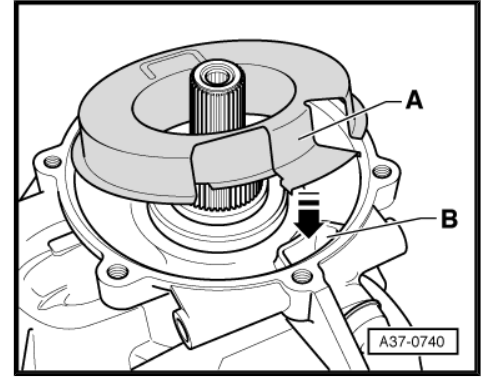
Stage	Tightening sequence
I	- Tighten bolts -1- and -2- to 3 Nm.
II	- Tighten bolts -1 to 6- to 23 Nm in the sequence indicated.

- Install propshaft ⇒ Rear final drive 01R; Rep. gr. 39 or ⇒ Rear final drive 0AR; Rep. gr. 39 .
- Install exhaust system ⇒ Rep. gr. 26 .
- Fill up gear oil in transfer box ⇒ [page 164](#)

Tightening torques

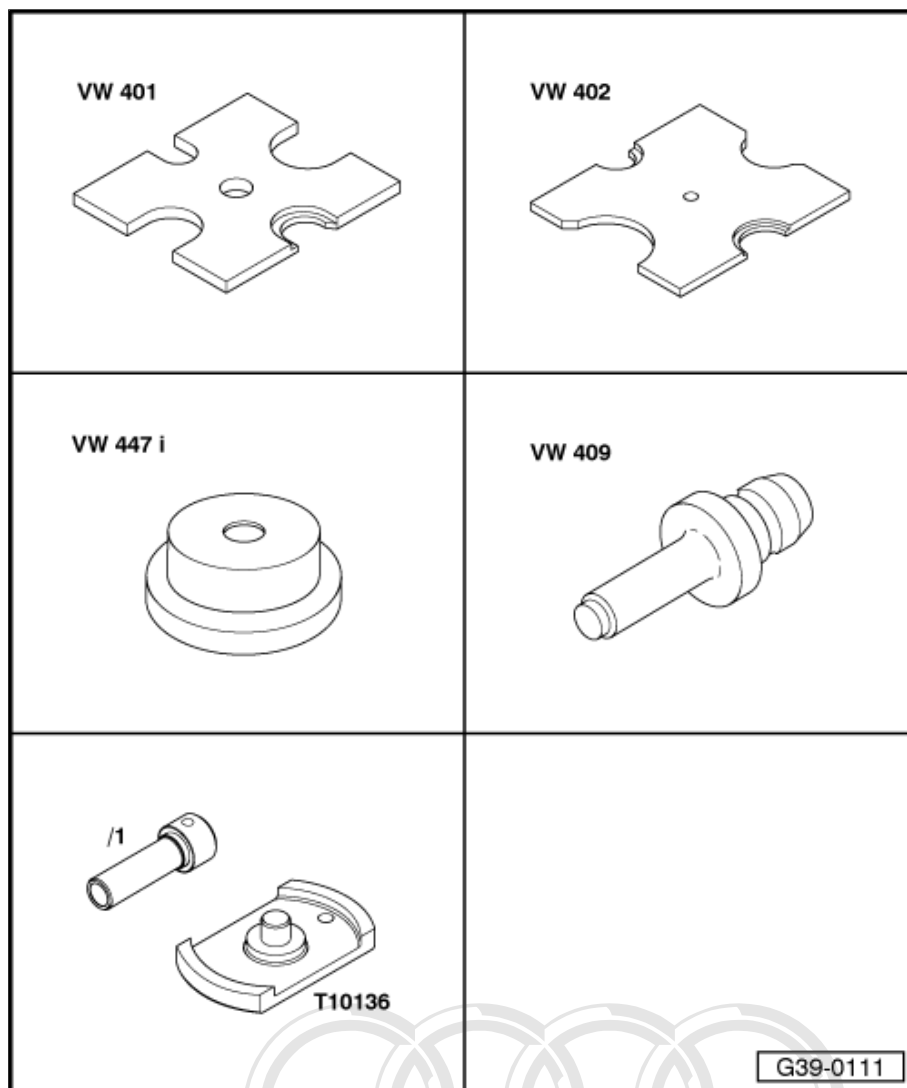
Component	Nm
Cross member to body	23
Heat shield for drive shaft to gearbox	23

4.2 Renewing oil seal for flange shaft (rear)



Special tools and workshop equipment required

- ◆ Thrust plate - VW 401-
- ◆ Thrust plate - VW 402-
- ◆ Thrust pad - VW 447 i-
- ◆ Press tool - VW 409-
- ◆ Fitting tool - T10136-



Procedure

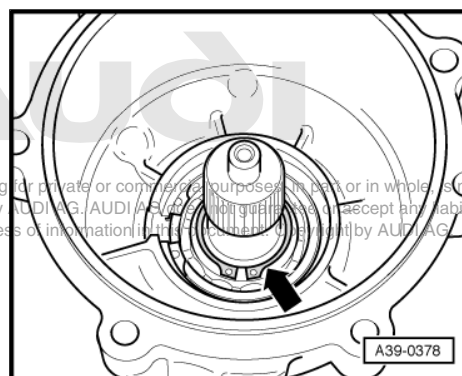
- Remove cover for self-locking centre differential ⇒ [page 166](#) .
- Remove circlip -arrow- on inner side of cover.



Note

The circlip locates the flange shaft on the bearing in the cover.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this publication. Copyright by AUDI AG.



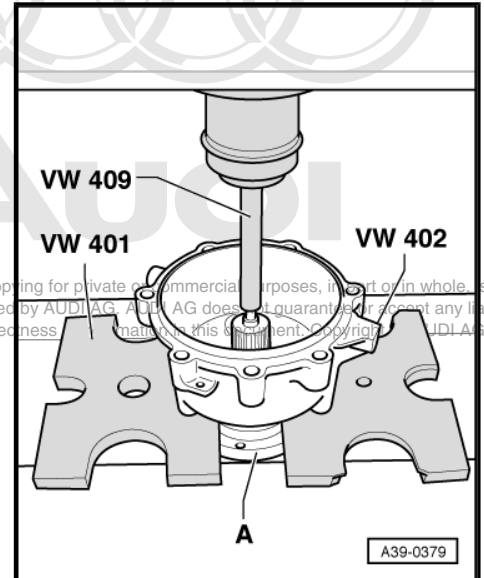
- Using press tool - VW 409- , press flange shaft out of cover for self-locking centre differential; to do so, place cover on thrust plate - VW 401- and thrust plate - VW 402- .



Note

Hold flange shaft -A- with one hand to prevent it falling.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of the information in this document. Copyright © AUDI AG.

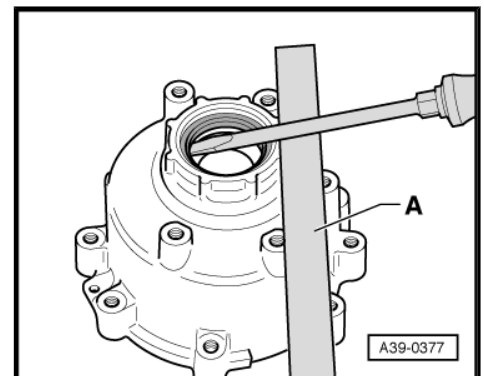


- Pry out oil seal.



Note

To prevent damage to the housing, place something underneath (e.g. metal bar -A-).



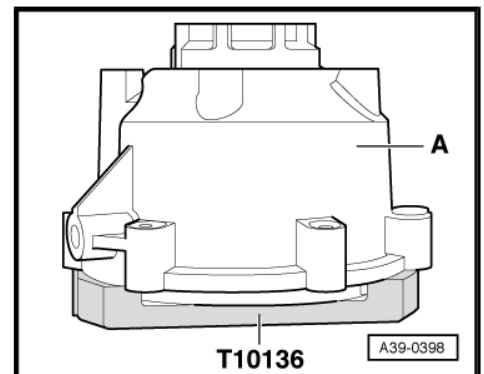
- Place cover -A- for self-locking centre differential on fitting tool - T10136- .



Note

The peg in the middle of the tool is centred and faces upwards in the cover. It serves as a guide and stop for press tool - T10136/1- .

- Lightly lubricate outer circumference of oil seal with gear oil.
- Push new oil seal onto press tool - T10136/1- .
- Installation position: the open side of the seal should face the cover.



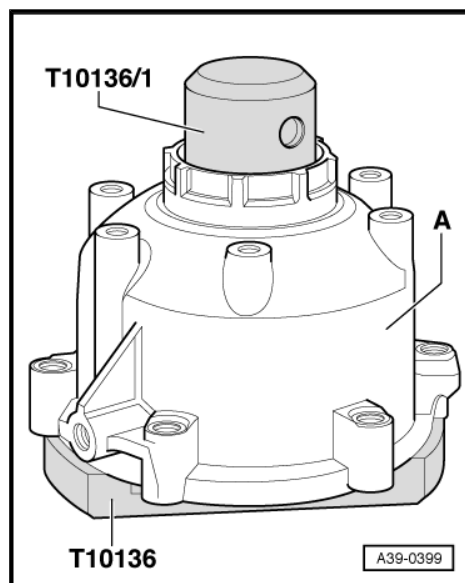
- Insert press tool - T10136/1- with oil seal into cover from above.



Note

The peg of the thrust piece - T10136- serves as a guide from below and also as a stop for press tool - T10136/1- .

- Drive in new oil seal onto stop (take care to keep oil seal straight).
- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .

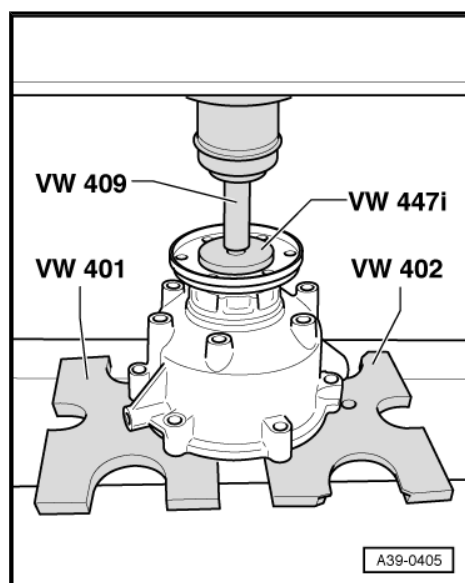


- Press flange shaft with press tool - VW 409- and thrust pad - VW 447 i- into cover for self-locking centre differential; to do so, place cover on thrust plate - VW 401- and thrust plate - VW 402- .

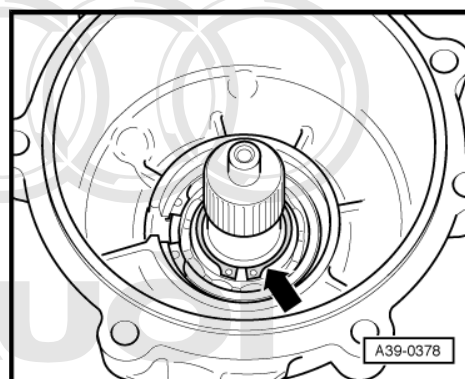


Note

Only insert flange shaft as far as necessary to install circlip.



- Install circlip -arrow- in groove of flange shaft on inner side of cover.
- Install cover for self-locking centre differential ⇒ [page 166](#) .
- Fill up gear oil in transfer box ⇒ [page 164](#)



4.3 Dismantling and servicing gearbox, common faults

All further repairs, servicing and common faults can be found in the Workshop Manual ⇒ Servicing automatic gearbox 09L, four-wheel drive; Rep. gr. 00 .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the prior written authorisation by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.