

Workshop Manual Audi A6 2005 ➤

6-speed manual gearbox 0A2, front-wheel drive

Edition 07.2014



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
- 30 - Clutch
- 34 - Controls, housing
- 35 - Gears, shafts
- 39 - Final drive - 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
1.1 Code letters, allocation, transmission ratios, capacities	1
2 Transmission layout	3
3 Calculating ratio "i"	5
4 General repair instructions	6
4.1 Special tools	6
4.2 Gearbox repairs	6
4.3 Components	6
30 - Clutch	9
1 Servicing clutch mechanism	9
1.1 Exploded view - pedal cluster (LHD vehicles)	9
1.2 Removing and installing over-centre spring	11
1.3 Removing and installing clutch pedal switch for engine start F194	11
1.4 Removing and installing clutch position sender G476	13
1.5 Exploded view - pedal cluster (RHD vehicles)	14
1.6 Exploded view - hydraulic system	16
1.7 Notes on removing and installing clutch master cylinder and slave cylinder	17
1.8 Function check for clutch master cylinder and slave cylinder	18
1.9 Removing and installing clutch master cylinder	19
1.10 Bleeding clutch system	21
2 Servicing clutch release mechanism	23
2.1 Removing and installing clutch slave cylinder	29
3 Servicing clutch	35
3.1 Servicing clutch with SAC pressure plate (LuK version)	35
3.2 Removing and installing clutch with SAC pressure plate	38
3.3 Resetting adjuster ring in SAC clutch pressure plate	40
34 - Controls, housing	43
1 Servicing selector mechanism	43
1.1 Installation position of selector mechanism	43
1.2 Exploded view - selector mechanism	45
1.3 Servicing gear lever and gear lever bearing	46
1.4 Servicing selector rod, connecting rod and push rod	47
1.5 Removing and installing gear knob with boot	48
1.6 Removing and installing selector mechanism	49
1.7 Adjusting selector mechanism	51
2 Removing and installing gearbox	54
2.1 Removing gearbox - vehicles with 2.7 ltr. TDI engine	54
2.2 Installing gearbox - vehicles with 2.7 ltr. TDI engine	63
2.3 Transporting gearbox	66
3 Exploded view - gearbox support, gearbox mounting and tunnel cross member	68
3.1 Removing and installing tunnel cross member	68
3.2 Removing and installing gearbox mounting and gearbox support	71
4 Checking oil level in manual gearbox	72
5 Renewing oil seal for selector shaft with gearbox installed	73
6 Removing and installing reversing light switch F4	78
7 Removing and installing selector shaft locking bushes (with gearbox installed in vehicle)	79
8 Removing and installing selector shaft with gearbox installed	82



9	Dismantling and assembling gearbox	88
35 - Gears, shafts		89
1	Input shaft	89
2	Pinion shaft (output shaft)	90
39 - Final drive - differential		91
1	Renewing flange shaft oil seals (left and right)	91
1.1	Renewing flange shaft oil seal (left-side) with gearbox installed	91
1.2	Renewing oil seal for flange shaft (right-side) with gearbox installed	94
2	Differential	98
2.1	Removing and installing differential	98
2.2	Dismantling and assembling differential	98
3	Adjusting pinion shaft and crown wheel	99



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

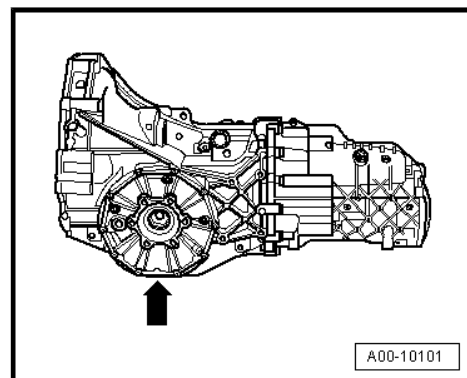
(ARL003911; Edition 07.2014)

The 6-speed manual gearbox 0A2, front-wheel drive is installed in the Audi A6 2005 ► in conjunction with the 2.7 ltr. V6 TDI engine.

Allocation ⇒ [page 1](#) .

Location on gearbox

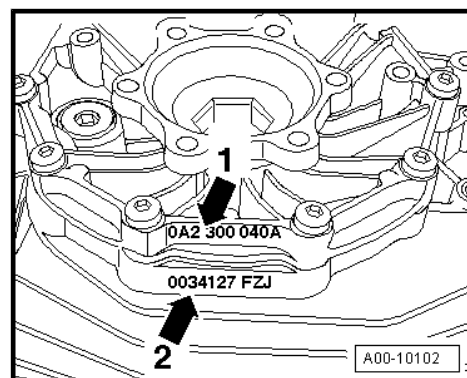
- ◆ Gearbox Part No., code and serial number -arrow-



Manual gearbox 0A2 -arrow 1- with gearbox Part No. (e.g. 0A2 300 040 A)

Gearbox serial number and code letters -arrow 2-

Example:	0034127	FZJ
	Gearbox serial number	Code letters



Additional data are manufacture-related.



Note

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

1.1 Code letters, allocation, transmission ratios, capacities

The following data can be found in the ⇒ [Electronic parts catalogue](#) .

- ◆ Gear oil specification
- ◆ Correct type of flange shafts
- ◆ Correct type of clutch plate and pressure plate

Manual gearbox		6-speed 0A2 (front-wheel drive)		
Code letters		FZJ	HMC	HSU
Manufactured	from	11.04	11.04	02.05
	to	11.04	02.05	05.06
Allocation	Model	A6 2005 ►	A6 2005 ►	A6 2005 ►
	Engine	2.7 ltr. - 130 kW turbo diesel	2.7 ltr. - 130 kW turbo diesel	2.7 ltr. - 130 kW turbo diesel
Ratio	Final drive	31 : 8 = 3.875	31 : 8 = 3.875	30 : 8 = 3.750



Manual gearbox		6-speed 0A2 (front-wheel drive)		
Code letters		FZJ	HMC	HSU
$Z_2 : Z_1 = i$	1st gear	32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556
	2nd gear	40 : 21 = 1.905	40 : 21 = 1.905	40 : 21 = 1.905
	3rd gear	36 : 29 = 1.241	36 : 29 = 1.241	36 : 29 = 1.241
	4th gear	30 : 34 = 0.882	30 : 34 = 0.882	30 : 34 = 0.882
	5th gear	29 : 44 = 0.659	29 : 44 = 0.659	29 : 44 = 0.659
	6th gear	29 : 52 = 0.558	28 : 53 = 0.528	29 : 52 = 0.558
	Reverse gear	30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333
Capacity		3.2 ltr.		
Overall ratio i_{OV} in top gear		2.161	2.047	2.091

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

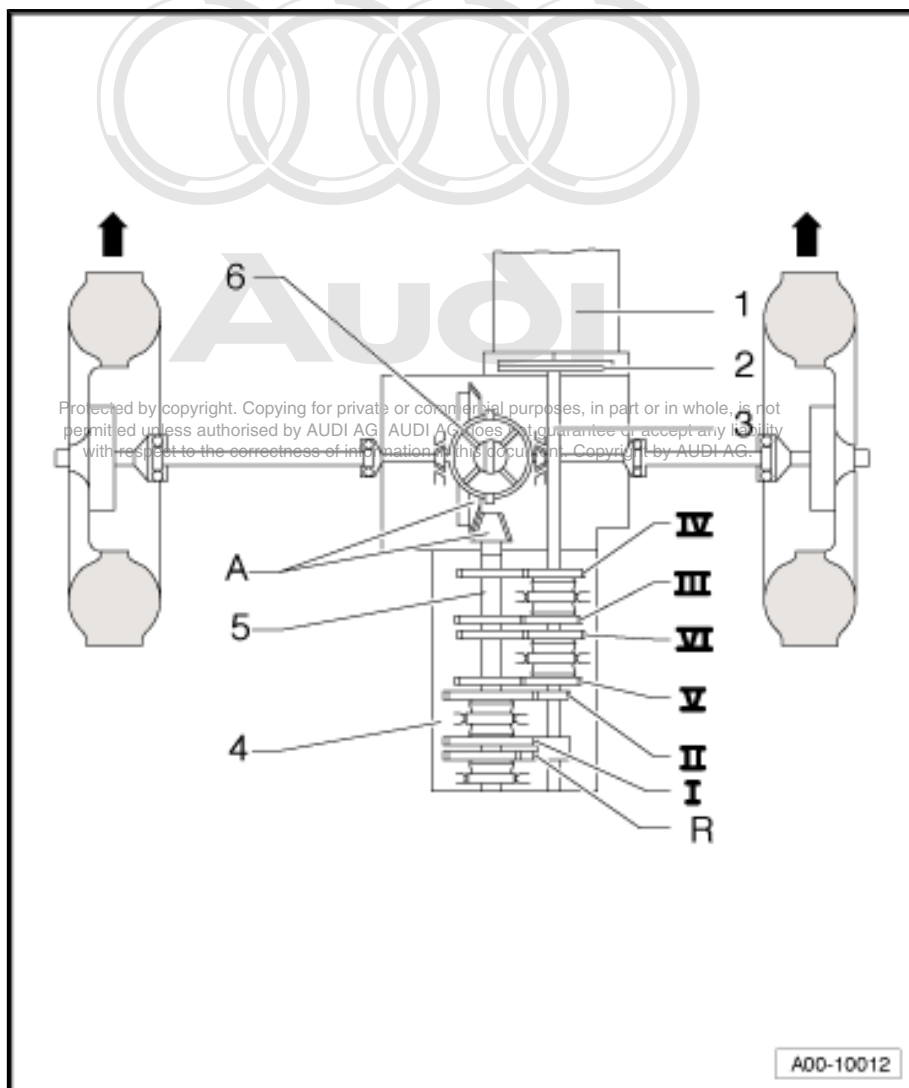
Manual gearbox		6-speed 0A2 (front-wheel drive)		
Code letters		HVD	JMC	JME
Manufactured	from	11.04	05.06	10.08
	to	05.06	10.08	
Allocation	Model	A6 2005 ►	A6 2005 ►	A6 2005 ►
	Engine	2.7 ltr. - 130 kW turbo diesel	2.7 ltr. - 130 kW turbo diesel	2.7 ltr. - 130 kW turbo diesel
$Z_2 : Z_1 = i$	Final drive	31 : 8 = 3.875	31 : 8 = 3.875	30 : 8 = 3.750
	1st gear	32 : 9 = 3.556	32 : 9 = 3.556	32 : 9 = 3.556
	2nd gear	40 : 21 = 1.905	40 : 21 = 1.905	40 : 21 = 1.905
	3rd gear	36 : 29 = 1.241	36 : 29 = 1.241	36 : 29 = 1.241
	4th gear	30 : 34 = 0.882	30 : 34 = 0.882	30 : 34 = 0.882
	5th gear	29 : 44 = 0.659	29 : 44 = 0.659	29 : 44 = 0.659
	6th gear	29 : 52 = 0.558	28 : 53 = 0.528	29 : 52 = 0.558
	Reverse gear	30 : 9 = 3.333	30 : 9 = 3.333	30 : 9 = 3.333
Capacity		3.2 ltr.		
Overall ratio i_{OV} in top gear		2.161	2.047	2.091

2 Transmission layout

Identification

-Arrows- point in direction of travel

- 1 - Engine
- 2 - Clutch
- 3 - Input shaft
- 4 - Manual gearbox
- 5 - Pinion shaft (output shaft)
- 6 - Differential

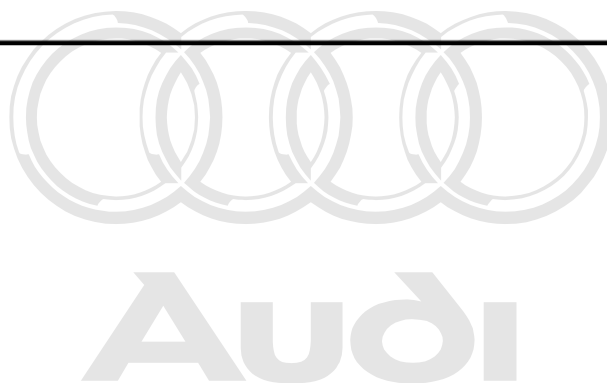
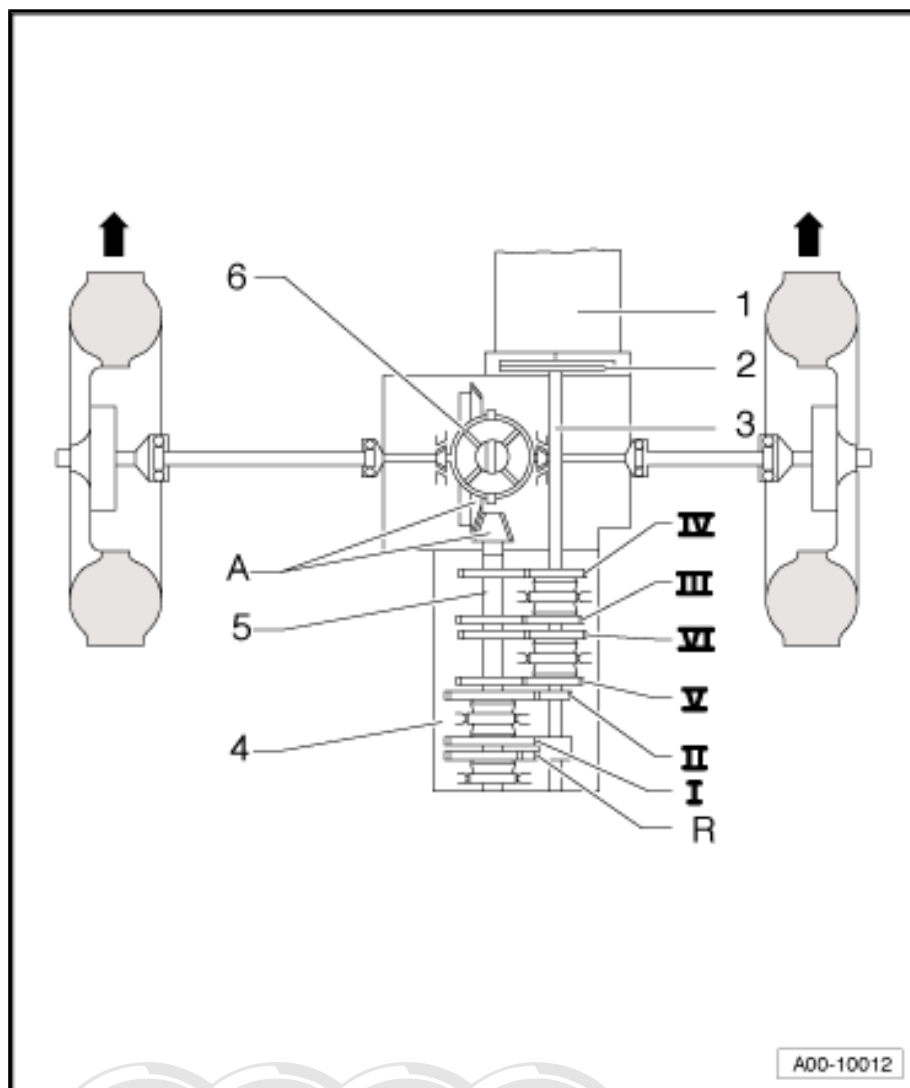


Ratio

-Arrows- point in direction of travel



- I - 1st gear
- II - 2nd gear
- III - 3rd gear
- IV - 4th gear
- V - 5th gear
- VI - 6th gear
- R - Reverse gear
- A - Final drive



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 Calculating ratio "i"

Transmission ratio

Transmission ratio = No. of teeth on driven gear : No. of teeth on driving gear

Ratios	Formula
i_G = Gear ratio	$Z_{G2} : Z_{G1}$
i_A = Axle ratio	$Z_{A2} : Z_{A1}$
i_{ov} = Overall ratio	$i_G \times i_A$

Example:

	6th gear	Final drive
Driving gear	$Z_{G1} = 52$	$Z_{A1} = 8$
Driven gear	$Z_{G2} = 29$	$Z_{A2} = 31$

Calculations:

i_G	=	$29 : 52 = 0.558$
i_A	=	$31 : 8 = 3.875$
i_{ov}	=	$0.558 \times 3.875 = 2.161$

4 General repair instructions

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

To avoid unnecessary repetition, a number of generally applicable instructions for the various repair procedures are summarised here under the heading "Components" ⇒ [page 6](#) . They apply to the work described in this Manual.

4.1 Special tools

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

4.2 Gearbox repairs

For a detailed description of gearbox repairs please refer to the Workshop Manual ⇒ Servicing 6-speed manual gearbox 0A2, front-wheel drive; Rep. gr. 34 .

4.3 Components

Gearbox

- ◆ When installing the gearbox, ensure that the dowel sleeves between the engine and the gearbox are correctly located.
- ◆ When installing mounting brackets as well as other waxed components, the contact surfaces must be cleaned. The contact surfaces must be free of wax and grease.
- ◆ Allocate bolts and other components according to gearbox code letters, refer to ⇒ Electronic parts catalogue ⇒ [page 1](#) .
- ◆ When installing a new gearbox, check the oil level and fill up with oil if necessary ⇒ [page 72](#) .
- ◆ Capacities and specifications ⇒ [page 1](#)
- ◆ Thoroughly clean all joints and connections and the surrounding areas before dismantling.

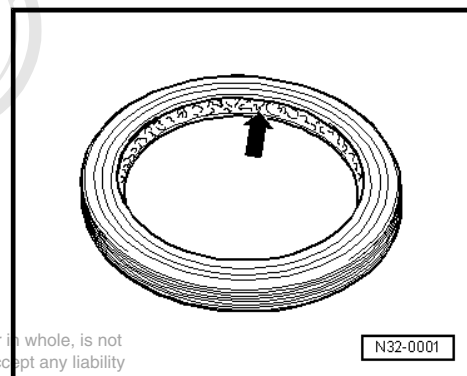
Sealants

- ◆ Thoroughly clean housing contact surfaces before applying sealing paste.
- ◆ Apply sealing paste - AMV 188 001 02- evenly and not too thickly.
- ◆ Breather holes must remain free of sealing paste.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted. All rights reserved 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.

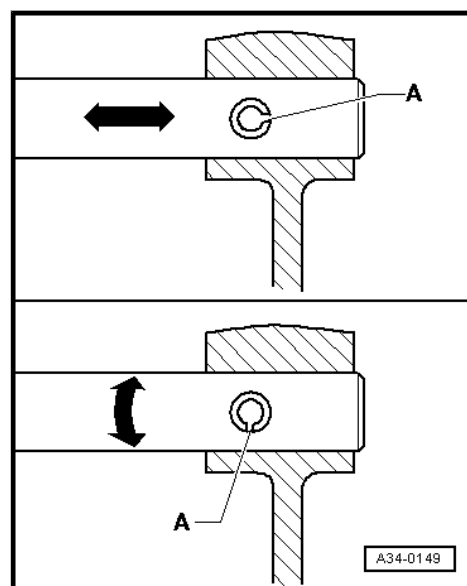
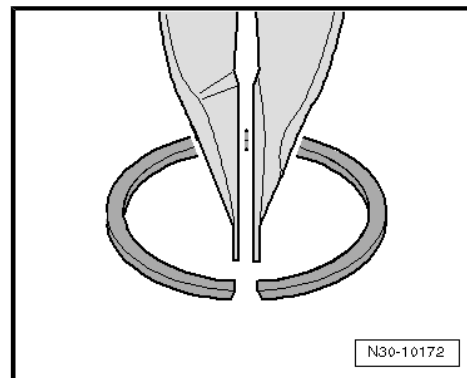
O-rings, oil seals and gaskets

- ◆ Always renew O-rings, oil seals and gaskets.
- ◆ After removing gaskets and oil seals, always inspect the contact surface on the housing or shaft for burrs resulting from removal or for other signs of damage.
- ◆ Thoroughly clean housing joint surfaces before assembling.
- ◆ Before installing oil seals, lightly oil the outer circumference of the seal and 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.
- ◆ 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).
- ◆ Lightly lubricate O-rings before installation to prevent them from being trapped and damaged during assembly.
- ◆ After renewing gaskets and oil seals, check and, if necessary, top up oil level in gearbox ⇒ [page 72](#) .



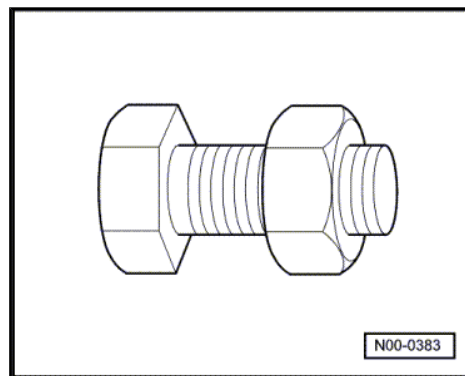
Locking elements

- ◆ Do not over-stretch circlips.
- ◆ Installation position for some circlips: the circlip is fitted so that the narrow part of the gap is at the top. This also gives the pliers a better grip when removing and installing.
- ◆ Always renew circlips which have been damaged or over-stretched.
- ◆ Circlips must be properly seated in the base of the groove.
- ◆ Renew spring pins. Position: the slit -A- should be in line with the line of force -arrow-.



Nuts, bolts

- ◆ Loosen the nuts and 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.
- ◆ Loosen and tighten particularly sensitive parts in diagonal sequence and in stages, taking care to keep them straight.
- ◆ 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 apply locking fluid - AMV 185 101 A1- to bolt threads before installing.
- ◆ Threaded holes which take self-locking bolts or bolts coated with locking fluid must be cleaned (using a thread tap or similar). Otherwise there is a danger of the bolts shearing off the next time they are removed.



Clutch mechanism

- ◆ When removing gearbox, remove clutch slave cylinder without disconnecting pipes.
- ◆ Do not depress the clutch pedal after removing the clutch slave cylinder if the hydraulic pipe is still connected. Otherwise the piston will be pressed out of the clutch slave cylinder. As a result the clutch slave cylinder will be destroyed.
- ◆ If the clutch pedal does not return to its initial position after releasing it (clutch pedal in rest position), you must bleed the clutch system (further measures ⇒ ["1.7 Notes on removing and installing clutch master cylinder and slave cylinder", page 17](#)).
- ◆ The clutch system should be bled at the same intervals as the brake system ⇒ Maintenance ; Booklet 45 .
- ◆ Note assembly instructions for SAC pressure plate ⇒ [page 38](#) .
- ◆ On vehicles with SAC pressure plate an adjuster ring has to be reset when only the clutch plate is renewed ⇒ [page 40](#) .
- ◆ If the clutch has burnt out, thoroughly clean the gearbox housing in area of clutch and parts of the engine facing the gearbox in order to prevent odours.
- ◆ Only blow out dual-mass flywheel with compressed air.

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.

30 – Clutch

1 Servicing clutch mechanism

- ◆ ⇒ [“1.1 Exploded view - pedal cluster \(LHD vehicles\)”, page 9](#)
- ◆ ⇒ [“1.2 Removing and installing over-centre spring”, page 11](#)
- ◆ ⇒ [“1.3 Removing and installing clutch pedal switch for engine start F194”, page 11](#)
- ◆ ⇒ [“1.4 Removing and installing clutch position sender G476”, page 13](#)
- ◆ ⇒ [“1.5 Exploded view - pedal cluster \(RHD vehicles\)”, page 14](#)
- ◆ ⇒ [“1.6 Exploded view - hydraulic system”, page 16](#)
- ◆ ⇒ [“1.7 Notes on removing and installing clutch master cylinder and slave cylinder”, page 17](#)
- ◆ ⇒ [“1.8 Function check for clutch master cylinder and slave cylinder”, page 18](#)
- ◆ ⇒ [“1.9 Removing and installing clutch master cylinder”, page 19](#)
- ◆ ⇒ [“1.10 Bleeding clutch system”, page 21](#)

1.1 Exploded view - pedal cluster (LHD vehicles)



Note

- ◆ *Before working on pedal cluster, remove storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68.*
- ◆ *Apply grease - G 000 450 02- to all bearings and contact surfaces.*
- ◆ *Make sure that no brake fluid escapes into the footwell, the plenum chamber or onto the gearbox below. If this does happen, clean the affected area thoroughly.*
- ◆ *The travel of the brake pedal must not be restricted with additional floor mats or the like.*
- ◆ *When performing work in the footwell, put cloths on the carpet to protect it from possible brake fluid spills.*

1 - Mounting bracket

- Removing and installing
⇒ [page 19](#)

2 - Pivot pin for clutch and brake pedal

3 - Retaining clip

4 - Hexagon socket head bolt

- 25 Nm

5 - Brake pedal

- Maintenance-free bearing, do not grease

6 - Bearing cap

7 - Mounting bracket

8 - Over-centre spring

- Black side points towards clutch pedal
- Removing and installing
⇒ [page 11](#)
- Different versions available; for correct version refer to ⇒ Electronic parts catalogue

9 - Mounting

10 - Clutch pedal stop

- Different versions available; for correct version refer to ⇒ Electronic parts catalogue

11 - Bolt

- 8 Nm + 90°
- For clutch master cylinder

12 - Clutch master cylinder

- Removing and installing ⇒ [page 19](#)

13 - Clutch pedal switch for engine start - F194-

- Can only be installed once
- Different versions; for details refer to ⇒ [page 12](#)
- Depress clutch pedal by hand all the way when removing or installing switch.
- Removing and installing ⇒ [page 11](#)
- Engine can only be started when clutch is fully depressed (clutch pedal switch for engine start activated).

14 - Clutch pedal

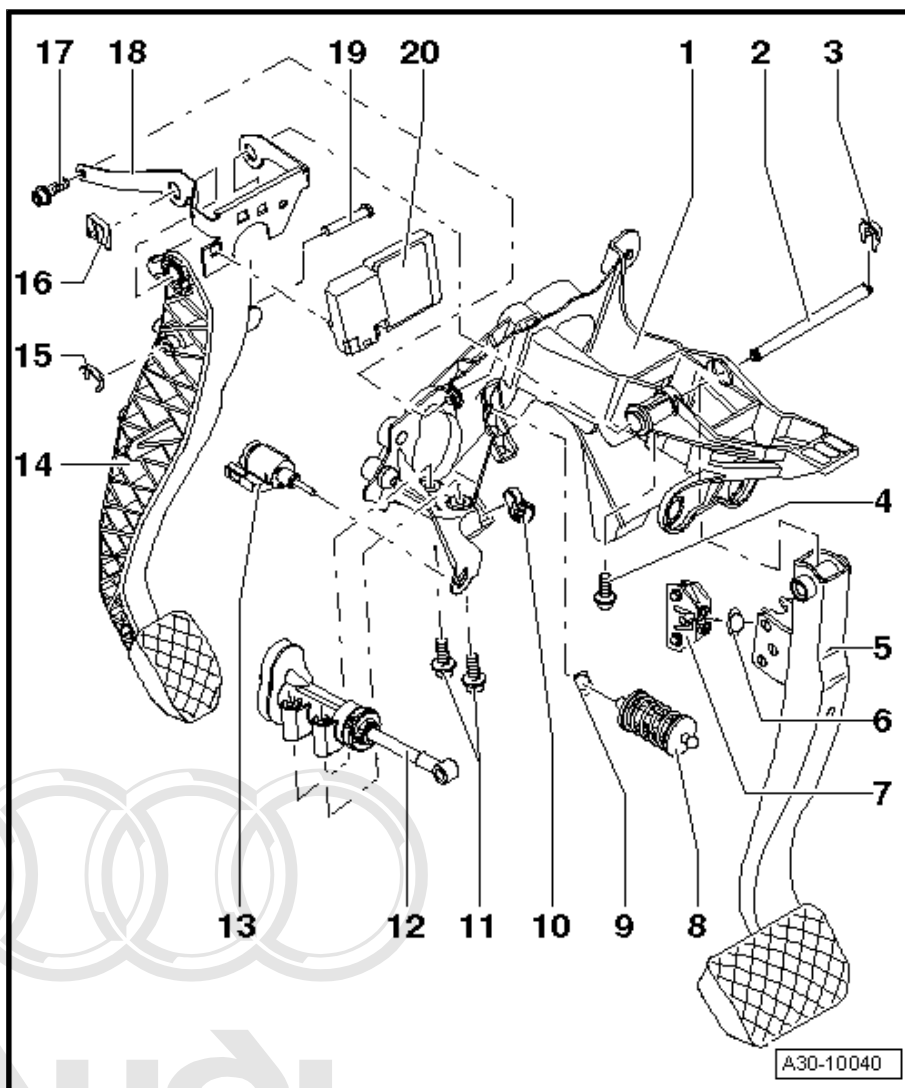
- Removing and installing ⇒ [page 19](#)

15 - Retaining clip

16 - Retaining clip

17 - Bolt

- 10 Nm



18 - Bracket

19 - Pivot pin

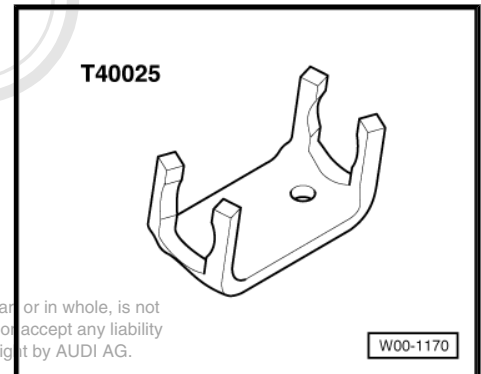
20 - Clutch position sender - G476-

- Removing and installing ⇒ [page 13](#)

1.2 Removing and installing over-centre spring

Special tools and workshop equipment required

- ◆ Assembly clip - T40025-



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.

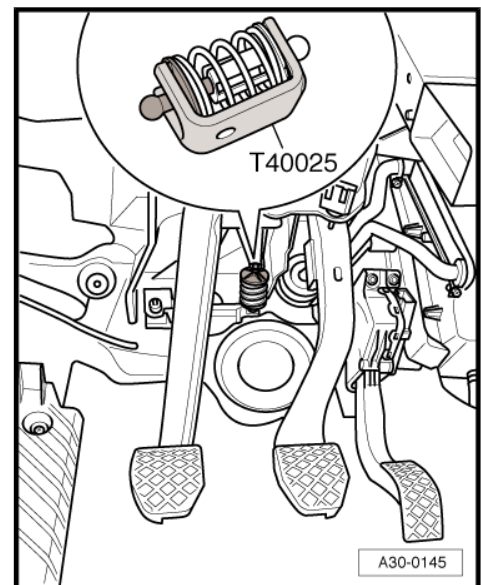
Removing

- Remove storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68 .
- Compress over-centre spring with clutch pedal, at the same time pressing on assembly clip - T40025- .
- Move clutch pedal to rest position and take out over-centre spring together with assembly clip - T40025- downwards.

Installing

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

- Pull clutch pedal into the passenger compartment.
- Installation position of over-centre spring: black side of over-centre spring faces clutch pedal.
- Install over-centre spring with assembly clip - T40025- , operate clutch pedal and remove assembly clamp.
- Install storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68 .



1.3 Removing and installing clutch pedal switch for engine start - F194-



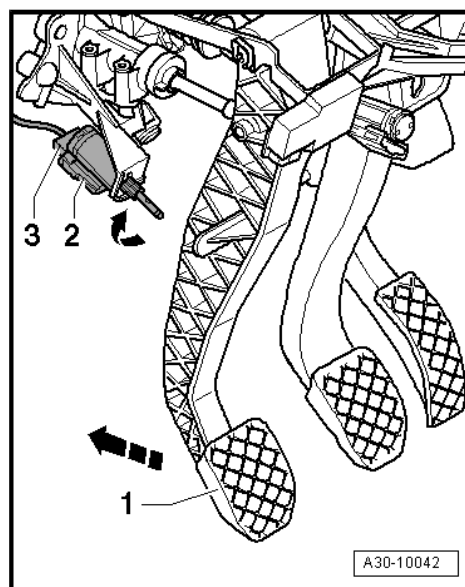
Note

To ensure a secure fit, the clutch pedal switch for engine start - F194- must not be installed more than once.

Removing

- Remove storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68 .
- Detach electrical connector -3- on clutch pedal switch for engine start - F194- .
- Press clutch pedal -1- all the way down and hold it in this position.
- At the same time, release clutch pedal switch for engine start - F194- -2- by turning it 45° in the direction indicated -arrow- and pull it out of the guide.

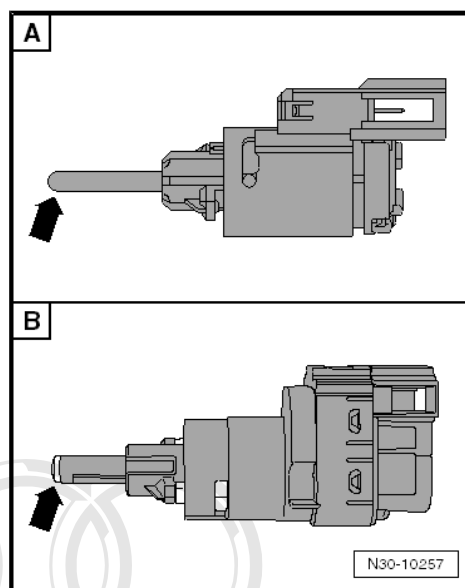
⇒ "1.3.1 Installing clutch pedal switch for engine start F194", page 12



1.3.1 Installing clutch pedal switch for engine start - F194-

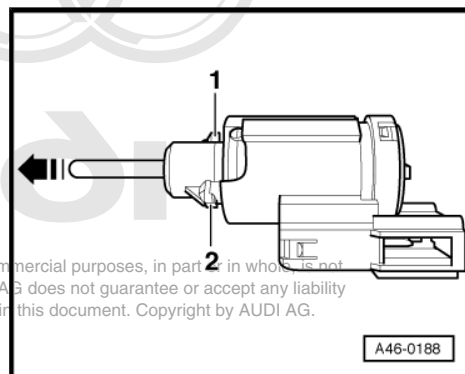
Different versions of clutch pedal switch for engine start - F194-

Clutch pedal switch	
-A- = Without light-coloured cap on plunger head -arrow- Part number -1J0 927 189 F-	• Plunger must be pulled out fully prior to installation.
-B- = With light-coloured cap on plunger head -arrow- Part number -6Q0 927 189-	• Plunger must not be pulled out.



Clutch pedal switch for engine start with part number -1J0 927 189 F-

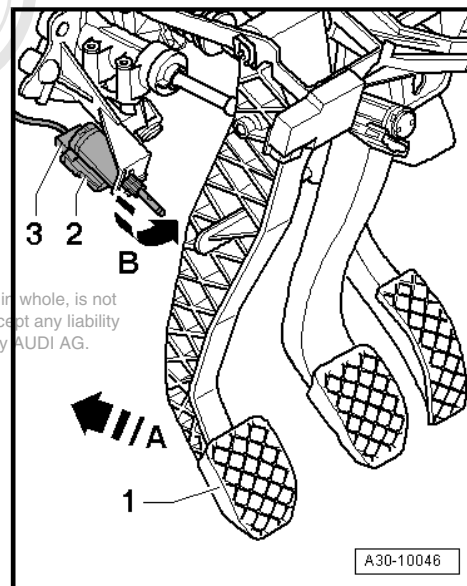
- Pull out plunger -arrow- all the way before installing clutch pedal switch .



Protected by copyright. Copying for private or commercial purposes, in part 2 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.

All versions of clutch pedal switch for engine start (continued)

- When installing clutch pedal switch for engine start, press clutch pedal -1- all the way down -arrow A-. Hold clutch pedal in this position.
- Guide clutch pedal switch for engine start - F194- -2- through mounting hole.
- Press plunger of clutch pedal switch against clutch pedal and at the same time turn clutch pedal switch as far as stop in direction of -arrow B- (approx. 45°).
- Let go of clutch pedal.
- Attach electrical connector -3- on clutch pedal switch for engine start - F194-.
- Install storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68.



1.4 Removing and installing clutch position sender - G476-

Note

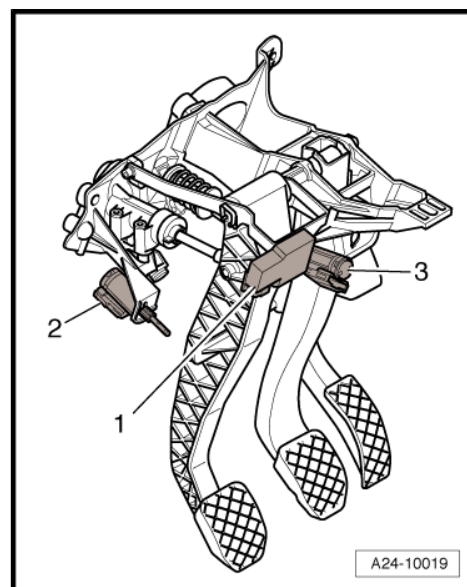
The clutch position sender - G476- can be checked in "Guided Fault Finding" using ⇒ Vehicle diagnostic tester.

Removing

- Remove storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68.
- Unplug connector at clutch position sender - G476- -1-.

Note

-Item 2- and -item 3- can be disregarded.

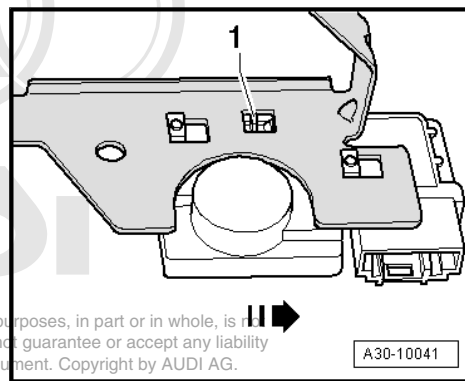


- Press retainer tab -1- inwards and push clutch position sender - G476- in direction of -arrow- onto limit stop.

Installing

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

- The retainer tab -1- should engage with a clicking sound.
- Install storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68 .



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.

1.5 Exploded view - pedal cluster (RHD vehicles)



Note

- ♦ The travel of the brake pedal must not be restricted with additional floor mats or the like.
- ♦ Apply grease - G 000 450 02- to all bearings and contact surfaces.
- ♦ Make sure that no brake fluid escapes into the footwell, the plenum chamber or onto the gearbox below. If this does happen, clean the affected area thoroughly.

1 - Retaining clip

2 - Pivot pin for clutch pedal

3 - Pivot pin for brake pedal

4 - Bolt

- 25 Nm

5 - Brake pedal

- Removing and installing
⇒ Rep. gr. 46

6 - Bracket

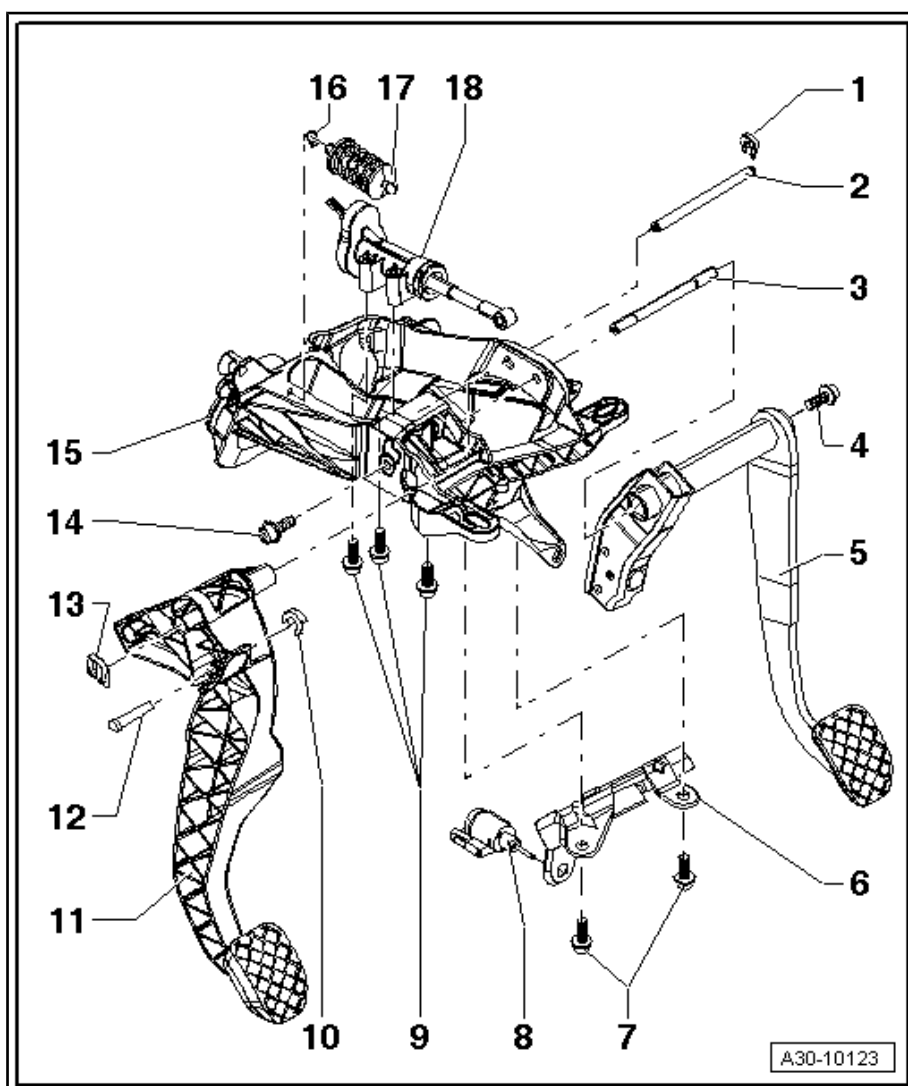
- For clutch pedal switch for engine start - F194-
⇒ [Item 8 \(page 14\)](#)

7 - Bolt

- 10 Nm

8 - Clutch pedal switch for engine start - F194-

- Different versions; for details refer to
⇒ [page 12](#)
- May only be installed once; must always be renewed if removed
- Depress clutch pedal by hand all the way when removing or installing switch.
- Removing and installing
⇒ [page 11](#)
- Engine can only be started when clutch is fully depressed (clutch pedal switch for engine start



activated).

9 - Bolt

- ☐ 8 Nm + 90°
- ☐ For clutch master cylinder

10 - Retaining clip

11 - Clutch pedal

12 - Pin

13 - Retaining clip

14 - Bolt

- ☐ 25 Nm

15 - Mounting bracket for pedal cluster

- ☐ Removing and installing ⇒ Rep. gr. 46

16 - Mounting

- ☐ For over-centre spring

17 - Over-centre spring

- ☐ When installing please note: white spring mounting goes to pedal bracket, black spring mounting goes to clutch pedal

18 - Clutch master cylinder



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.

1.6 Exploded view - hydraulic system



Note

- ◆ Make sure that no brake fluid escapes into the footwell, the plenum chamber or onto the gearbox below. If this does happen, clean the affected area thoroughly.
- ◆ When performing work in the footwell, put cloths on the carpet to protect it from possible brake fluid spills.

1 - Bleeder screw

- Tighten to 4.5 Nm
- Follow correct procedure when bleeding
⇒ [page 21](#)
- If bleeder screw has broken off, it can be removed with 3 mm Allen key

2 - Dust cap

3 - Retaining clip

4 - Grommet

5 - Pipe/hose assembly

- Between clutch master cylinder and clutch slave cylinder
- Removing and installing
⇒ [page 17](#)

6 - Securing bolt

- For brake fluid reservoir

7 - Brake fluid reservoir

8 - Screw plug

- To extract brake fluid

9 - Supply hose

- For clutch master cylinder

10 - Clutch master cylinder

- Removing and installing
⇒ [page 19](#)
- Removing and installing pipe/hose assembly
⇒ [page 17](#)

- Do not remove clip -arrow A- for pipe/hose assembly or seal -arrow B-.

11 - Pivot pin

12 - Retaining clip

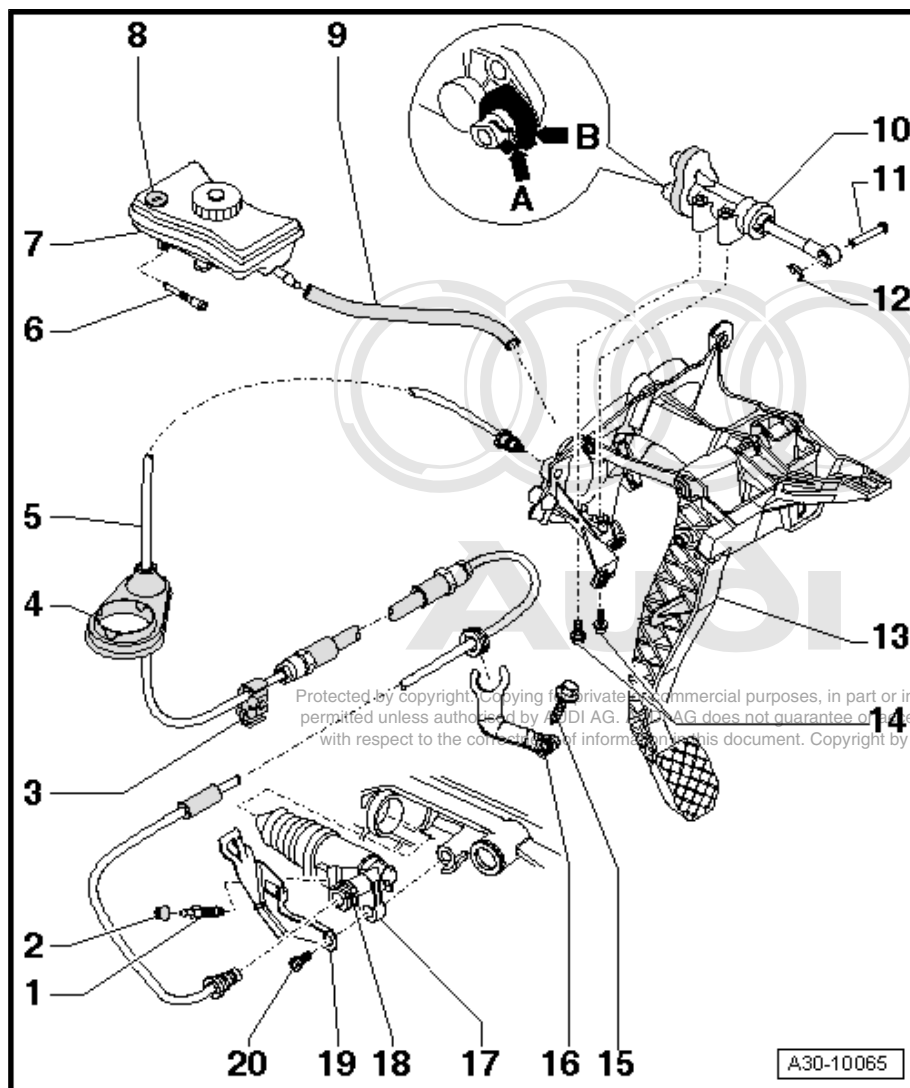
13 - Clutch pedal with mounting bracket

14 - Bolt

- 8 Nm + 90°
- For clutch master cylinder

15 - Bolt

- 23 Nm



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized 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.

- ☐ Also secures connecting rod of selector mechanism

16 - Bracket

- ☐ For pipe/hose assembly
- ☐ Not fitted on all versions
- ☐ Is secured to right side of gearbox with connecting rod of selector mechanism

17 - Clutch slave cylinder

- ☐ Do not operate clutch pedal after slave cylinder has been removed
- ☐ Removing and installing ⇒ [page 29](#)
- ☐ After working on hydraulic clutch mechanism, bleed clutch system ⇒ [page 21](#)
- ☐ Removing and installing pipe/hose assembly ⇒ [page 17](#)

18 - Clip

- ☐ For pipe/hose assembly
- ☐ Must not be removed

19 - Bracket

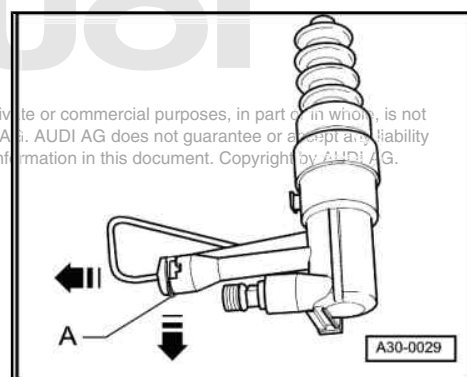
- ☐ For pipe/hose assembly
- ☐ Attached to gearbox together with slave cylinder
- ☐ Not fitted on all versions

20 - Hexagon socket head bolt

- ☐ 25 Nm
- ☐ Self-locking
- ☐ Renew

Removing and installing pipe/hose assembly on clutch master cylinder and clutch slave cylinder

- To remove, release retaining clip -A- using a screwdriver and pull out as far as stop.
- Detach pipe/hose assembly from clutch master cylinder or clutch slave cylinder.
- To install, press in retaining clip onto clutch master cylinder or clutch slave cylinder as far as stop.
- Push pipe/hose assembly onto connection on clutch master cylinder or clutch slave cylinder so that retaining clip snaps into place.
- Pull on pipe/hose assembly to check it is secure.



1.7 Notes on removing and installing clutch master cylinder and slave cylinder

- ◆ Before renewing the clutch master cylinder or slave cylinder on the assumption that it is defective, you must first carry out the appropriate function check
⇒ [“1.8 Function check for clutch master cylinder and slave cylinder”, page 18](#).
- ◆ If the slave cylinder is removed from gearbox with the pipe/hose assembly still attached, make sure you do not press the clutch pedal. Otherwise, the piston will be pressed out of the slave cylinder and be destroyed.
- ◆ After installing the slave cylinder carefully press the clutch pedal. If you feel an unusually strong point of resistance when depressing the clutch pedal, you must not press it down further. The plunger of the slave cylinder is likely to have been guided past the clutch release lever. The slave cylinder would then be destroyed once pedal force exceeds approx. 300 N.

1.8 Function check for clutch master cylinder and slave cylinder

Before you renew the clutch master cylinder or slave cylinder you must - in the case of the following faults - first carry out the appropriate checks.

Noises when operating the clutch:

- ◆ First check the over-centre spring / clutch pedal switch for noise.
- ◆ If you hear a noise, remove over-centre spring and repeat check.
- ◆ Renew relevant component.

After releasing clutch pedal it still remains depressed / does not return to its initial position.

- ◆ Check whether the clutch pedal returns all the way to its initial position, thereby uncovering the vent opening in the master cylinder.
- ◆ The vent opening is integrated in the clutch master cylinder. It is not visible from the outside.
- ◆ The vent opening must be uncovered, otherwise the permanent self-bleeding function for the hydraulic clutch system will no longer be effective.
- ◆ Make the customer aware that the driver must NOT rest his/her foot on the clutch pedal for long periods of time. This could impair the self-bleeding function of the clutch system as the vent opening in the master cylinder can no longer function.
- ◆ The self-bleeding function of the clutch system can be impaired if the footwell trim or floor mats get trapped, if the clutch pedal switch jams or if the driver rests his foot on the clutch pedal for long periods of time.

Check the complete hydraulic system for leaks.

- ◆ Check brake fluid level in brake fluid reservoir.
- ◆ Check clutch master cylinder and slave cylinder as well as the pipe/hose assembly including connections for external leaks (visual inspection).
- ◆ If you identify any leaks you must renew the leaking component.
- ◆ Bleed clutch system ⇒ [page 21](#) .

High pedal force:

- ◆ Clutch plate is worn (except for SAC)
- ◆ Mechanically defective pressure plate/ clutch plate
⇒ [page 35](#)

Pedal forces:

Conventional clutch:

- Clutch lining when new: approx. 115 N
- Clutch lining at wear limit: approx. 160 N

SAC clutch:

- approx. 140 N for complete service life of the clutch

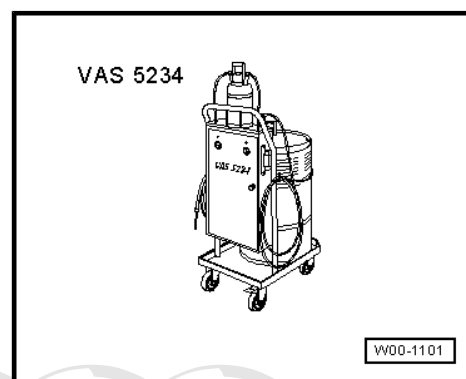
Clutch does not disengage or does not disengage fully:

- ◆ Air in hydraulic system: bleed clutch system ⇒ [page 21](#) and check hydraulic system for external and internal leaks.
- ◆ Clutch plate does not move smoothly on input shaft splines (due to corrosion or dirt, etc.).
- ◆ Needle bearing in flywheel (centring bearing for input shaft) defective, renew needle bearing ⇒ Engine, mechanics; Rep. gr. 13 .
- ◆ Foreign body in clutch system
- ◆ Mechanically defective pressure plate/clutch plate ⇒ [page 35](#) .
- ◆ Wrong components used or components forgotten when carrying out repair work (e.g. intermediate plate).

1.9 Removing and installing clutch master cylinder

Special tools and workshop equipment required

- ◆ Brake filling and bleeding equipment - VAS 5234-

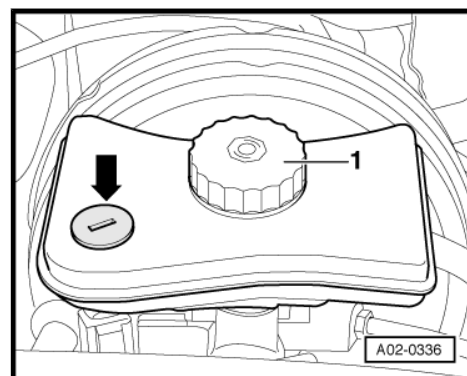


Removing

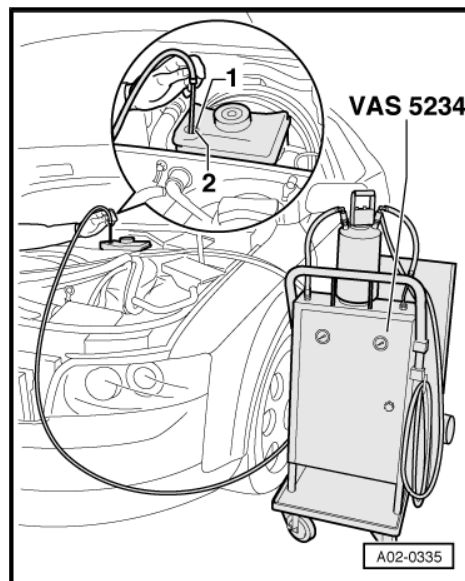


Note

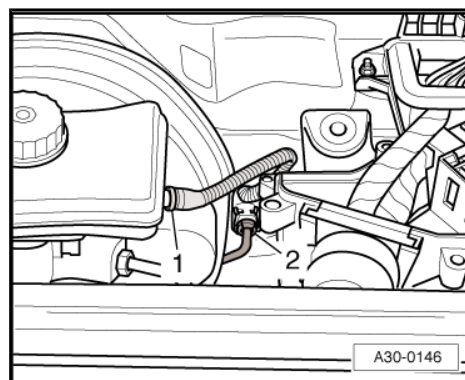
- ◆ *If you suspect a defective clutch master cylinder, perform function test prior to renewing*
⇒ ["1.7 Notes on removing and installing clutch master cylinder and slave cylinder", page 17](#) .
- ◆ *When performing work in the footwell, put cloths on the carpet to protect it from possible brake fluid spills.*
- Remove windscreen wiper motor ⇒ [Electrical system; Rep. gr. 92](#) .
- Unscrew screw plug -arrow- in brake fluid reservoir.



- Connect extraction hose of brake filling and bleeding equipment - VAS 5234- to tube -1- of brake fluid reservoir and extract brake fluid.
- Repeat procedure at tube -2- of brake fluid reservoir.
- Fit screw plug back in brake fluid reservoir.



- Place cloth under connection point.
- Detach hose -1- from brake fluid reservoir and seal opening.
- Release retaining clip -2- using a screwdriver and pull out to limit stop.
- Detach pipe/hose assembly from clutch master cylinder.
- Remove storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68 .
- Remove over-centre spring ⇒ [page 11](#) .

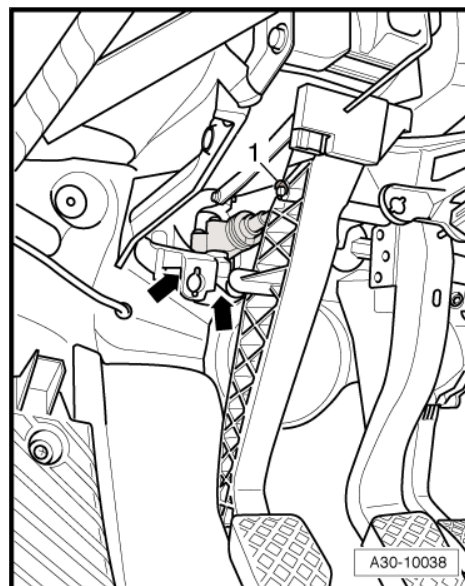


- Detach retaining clip -1- from pin.
- Press pin out of clutch pedal
- Unscrew bolts -arrows- and remove clutch master cylinder.

Installing

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

- Press in retaining clip on clutch master cylinder until limit stop.
- Push pipe/hose assembly onto connection on clutch master cylinder so that retainer clip snaps into place.
- Pull pipe/hose assembly to check that it is securely seated.
- Install over-centre spring ⇒ [page 11](#) .
- Install storage compartment on driver's side ⇒ General body repairs, interior; Rep. gr. 68 .
- Install windscreen wiper motor and mount wiper arms ⇒ Electrical system; Rep. gr. 92 .
- Bleed clutch system ⇒ [page 21](#) .



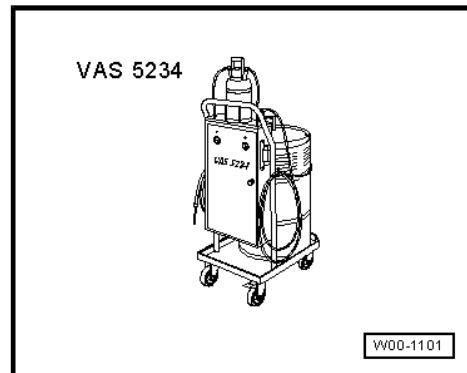
Tightening torque

Component	Nm
Clutch master cylinder to pedal bracket	20

1.10 Bleeding clutch system

Special tools and workshop equipment required

- ◆ Brake filling and bleeding equipment - VAS 5234- or Brake filling and bleeding equipment - V.A.G 1869-



- ◆ Brake fluid specification ⇒ Brake system; Rep. gr. 47 .

Procedure



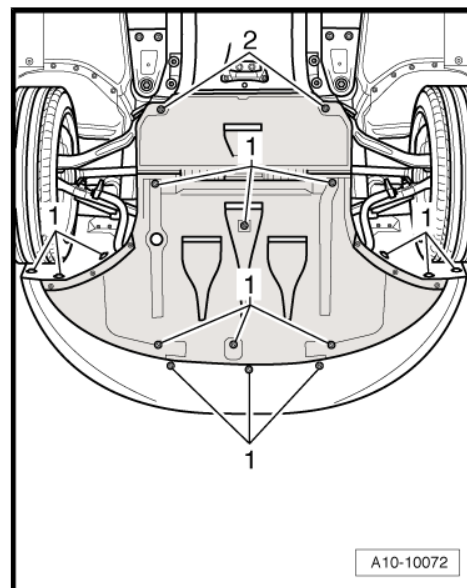
Note

- ◆ *Open the bleeder screw before switching on the bleeding appliance.*
- ◆ *When performing the following steps, make sure that no brake fluid escapes onto the gearbox.*
- ◆ *The clutch system must be bled after performing work on the hydraulic clutch mechanism.*
- ◆ *Before bleeding the clutch system, pull back the clutch pedal to the normal position and top up brake fluid to "Max" marking on brake fluid reservoir.*
- ◆ *The clutch system should be bled at the same intervals as the brake system ⇒ Maintenance ; Booklet 45 .*

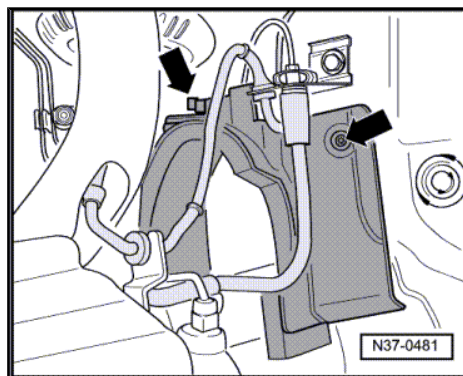
Protected Copyright. Copying, distributing and using for purposes other than those permitted by Audi AG is prohibited. Audi AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by Audi AG.

Connect brake filling and bleeding equipment - V.A.G 1869- or -VAS 5234- , but do not switch on at this stage ⇒ Brake system; Rep. gr. 47 ; Bleeding brake system .

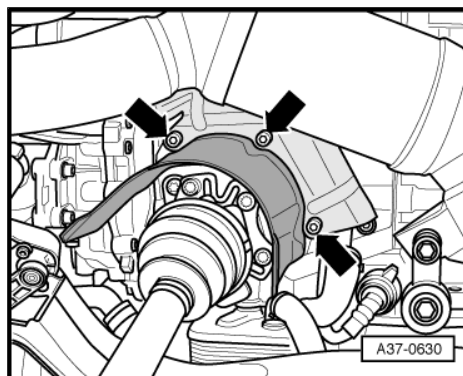
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove noise insulation for drive shaft from left wheel housing.



- Unbolt heat shield -arrows- for drive shaft (left-side).

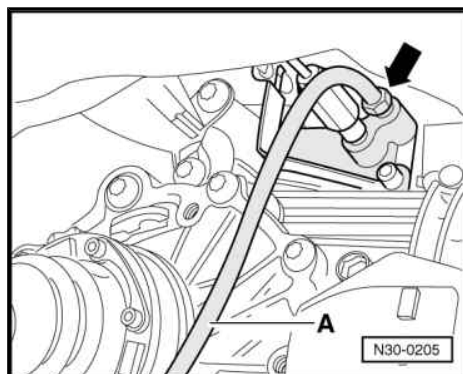


- Connect bleeder hose -A- to slave cylinder -arrow- and open bleeder screw.
- Connect bleeder hose to pressure hose of fluid collector bottle.
- Switch on bleeding appliance and allow about 100 cm³ of brake fluid to drain out.
- Operating pressure 2.0 bar



Note

Ensure bleeder hose is correctly fitted during bleeding operation.



- Close bleeder screw.
- Depress clutch pedal several times after bleeding process is completed.
- Repeat bleeding procedure if necessary.
- Bolt heat shield for drive shaft onto gearbox.
- Install noise insulation for drive shaft in left wheel housing.
- Install noise insulation below gearbox.

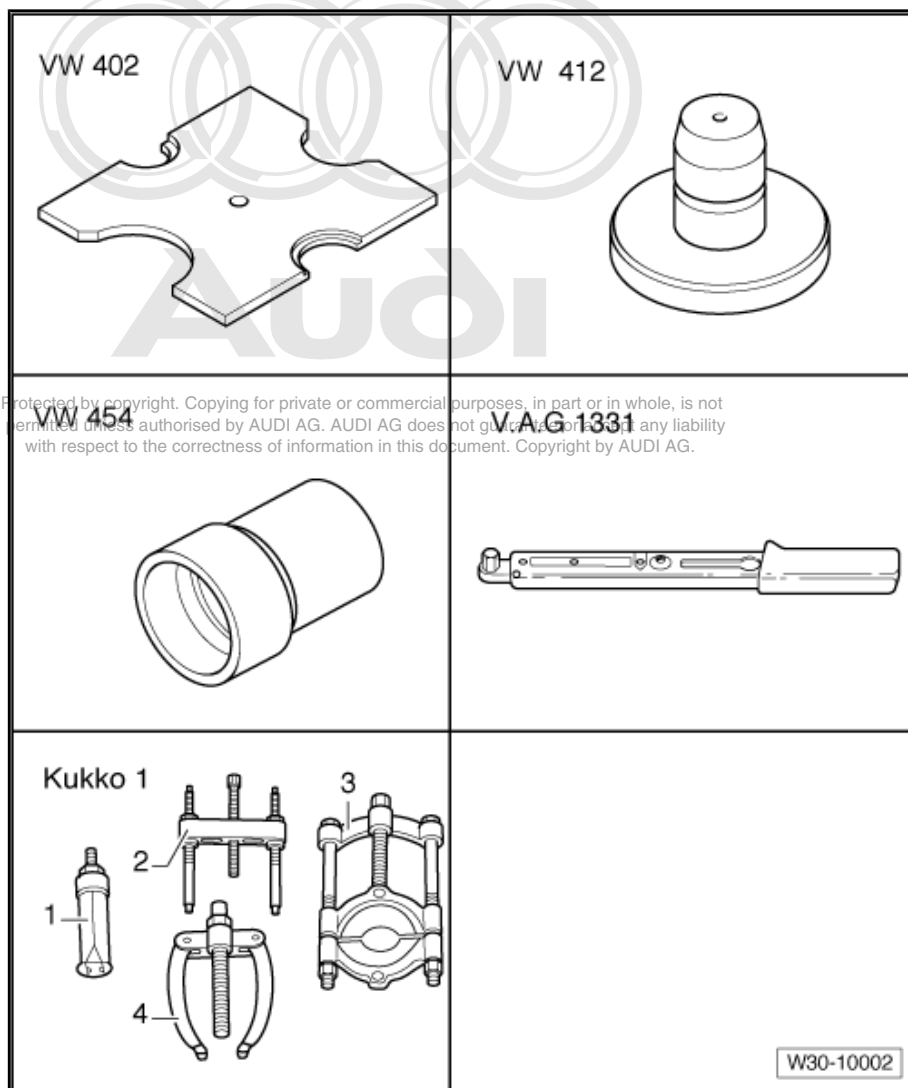
Tightening torques

Component	Nm
Bleeder screw	4.5
Heat shield for drive shaft to gearbox	23

2 Servicing clutch release mechanism

Special tools and workshop equipment required

- ◆ Thrust plate - VW 402-
- ◆ Press tool - VW 412-
- ◆ Press tool - VW 454-
- ◆ Torque wrench - V.A.G 1331-
- ◆ -1- Internal puller - Kukko 21/5-
- ◆ -4- Counter-support - Kukko 22/1-
- ◆ Sealing grease - G 052 128 A1-
- ◆ Adhesive - AMV 195 KD1 01-
- ◆ Copper grease (commercially available)



1 - Clutch slave cylinder

- ☐ Removing and installing
⇒ [page 29](#)
- ☐ Do not operate clutch pedal after slave cylinder has been removed
- ☐ Follow correct procedure when bleeding
⇒ [page 21](#)
- ☐ Tighten bleeder screw to 4.5 Nm
- ☐ When installing, push in until the securing bolt can be fitted.

2 - Hexagon socket head bolt

- ☐ 23 Nm
- ☐ Clutch slave cylinder to gearbox
- ☐ Self-locking
- ☐ Renew

3 - Bracket

- ☐ For pipe/hose assembly
- ☐ Bolt to gearbox with clutch slave cylinder
- ☐ Not fitted on all versions

4 - Plunger

- ☐ Lubricate end of plunger with copper grease (commercially available)

5 - O-ring

- ☐ Always renew
⇒ [page 28](#)
- ☐ Lubricate with gear oil before installing

6 - Oil seal

- ☐ For input shaft
- ☐ Pull out of guide sleeve ⇒ [Item 7 \(page 24\)](#) ⇒ [page 28](#) .
- ☐ Installation depth ⇒ [page 29](#)
- ☐ Press into guide sleeve ⇒ [Item 7 \(page 24\)](#) ⇒ [page 29](#)
- ☐ Pack space between sealing lip and dust lip half full with sealing grease - G 052 128 A1-

7 - Guide sleeve

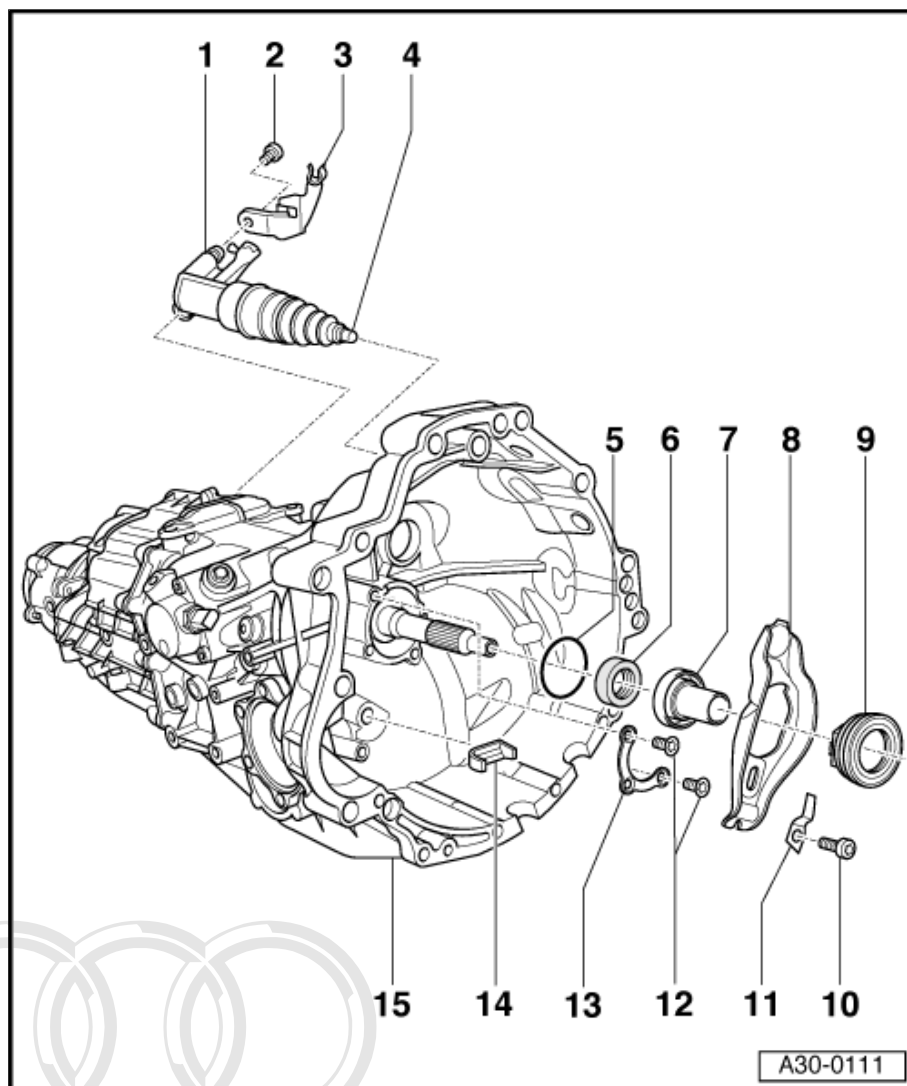
- ☐ Removing and installing ⇒ [page 28](#)
- ☐ Before removing and installing, cover input shaft splines with a shrink-fit hose to protect oil seal

8 - Clutch release lever

- ☐ Different versions
- ☐ New, modified release lever for release bearing with tumbler ring ⇒ [page 27](#)
- ☐ For correct version, refer to ⇒ Electronic parts catalogue
- ☐ Removing and installing ⇒ [page 26](#)
- ☐ Before installing, lubricate area which makes contact with plunger of slave cylinder with copper grease (commercially available).

9 - Release bearing

- ☐ Different versions



- ☐ For correct version, refer to ⇒ Electronic parts catalogue
- ☐ Do not wash out; wipe clean only
- ☐ Renew bearing if noisy
- ☐ Surface on which release bearing moves on guide sleeve must be free of grease
- ☐ Grease bearing surface for clutch release lever thoroughly with lubricating paste - G 000 150-
⇒ [page 27](#) .
- ☐ Retainer lugs on release bearing must engage in release lever

Release bearing with mechanically attached plastic ring

- Checking release bearing with mechanically attached plastic ring ⇒ [page 26](#)
- Renew if groove worn on plastic ring is too deep ⇒ [page 26](#)

Release bearing with glued plastic ring

- Servicing release bearing with glued plastic ring ⇒ [page 26](#)
 - Renew if groove worn on plastic ring is too deep (~~deeper than 0.8 mm~~)
- 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 of information in this document. Copyright by AUDI AG.

Release bearing with tumbler ring

- New, modified release lever for release bearing with tumbler ring
- Checking release bearing with tumbler ring ⇒ [page 27](#)

10 - Bolt

- ☐ 24 Nm
- ☐ Self-locking
- ☐ Before installing bolt, clean thread with wire brush and then apply locking fluid - AMV 185 101 A1-

11 - Leaf spring

12 - Bolt

- ☐ 24 Nm
- ☐ Self-locking
- ☐ Before installing bolt, clean thread with wire brush and then apply locking fluid - AMV 185 101 A1-

13 - Retaining piece

- ☐ For guide sleeve
- ☐ Removing and installing ⇒ [page 28](#)

14 - Intermediate piece

- ☐ Renew if damaged

15 - Gearbox

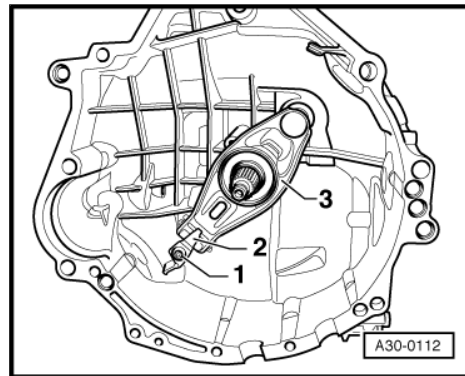
Removing and installing clutch release lever

Removing

- Slacken off bolt -1- and remove leaf spring -2-.
- Remove clutch release lever -3- together with release bearing.
- Disengage retaining tabs of release bearing at release lever.

Installing

- Before installing clutch release lever, apply a thin coat of copper grease (commercially available) to contact surface for plunger of clutch slave cylinder.
- Fit clutch release lever -3- with release bearing onto guide sleeve.
- Insert leaf spring -2-.
- Clean thread of bolt -1- with a wire brush. Then insert bolt -1- with locking fluid - AMV 185 101 A1- and tighten to 24 Nm.



Checking and servicing release bearing with glued plastic ring

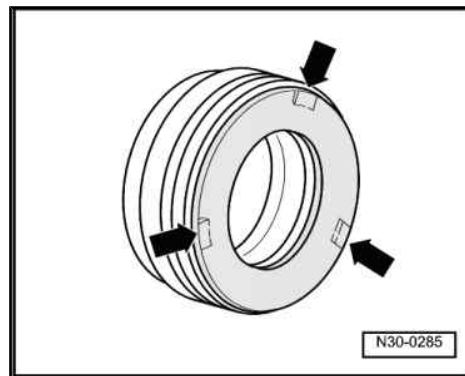
Identification: inner side of plastic ring has three lugs -arrows-.

The plastic ring -arrows- may come loose from the release bearing when the gearbox or release bearing is removed. The release bearing does not have to be renewed if this happens.

- Before installing the gearbox, glue the loose plastic ring back onto the bearing with adhesive - AMV 195 KD1 01- .

The three square lugs -arrows- on the plastic ring engage in the recesses of the bearing ring.

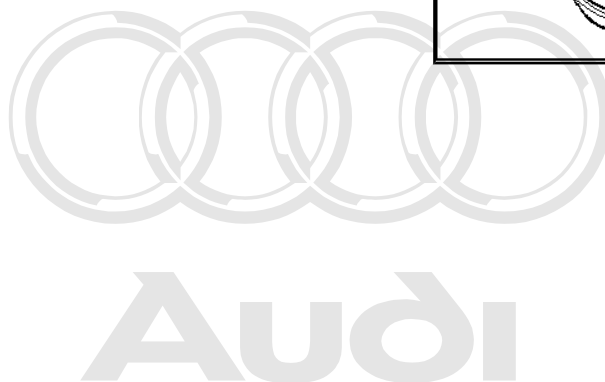
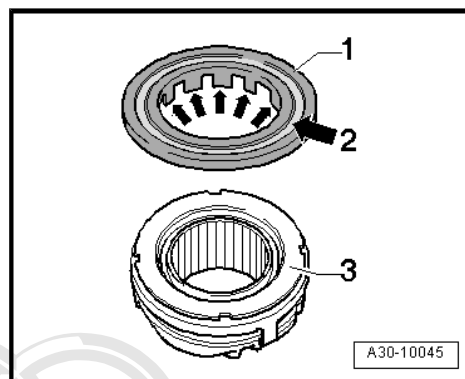
- ◆ The release bearing must be renewed if the groove worn on the plastic ring is deeper than 0.8 mm.



Checking release bearing with mechanically attached plastic ring

Identification: retaining tabs around plastic ring -arrows-.

- ◆ The release bearing must be renewed if the plastic ring -1- has come loose.
- ◆ The release bearing -3- must be renewed if the groove -arrow 2- worn on the plastic ring -1- or individual indentations are deeper than 0.8 mm.



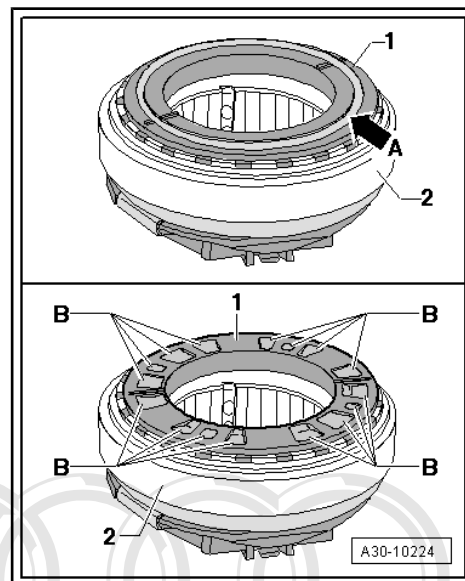
Checking release bearing with tumbler ring -1-

Different versions:

- ◆ Tumbler ring -1- with annular groove -arrow A-
- ◆ Tumbler ring -1- without groove (when new)
- ◆ Tumbler ring -1- with indentations -B- (used release bearing)

Check:

- Axial and radial clearance is permissible on the tumbler ring -1- of the release bearing.
- The tumbler ring (swash plate) -1- should be able to tilt to all sides in the release bearing -2-.
- The tumbler ring is a relatively loose fit when the release bearing is not in contact with the clutch.
- The release bearing must be renewed if the groove -arrow A- or the indentations -B- are deeper than 0.8 mm.



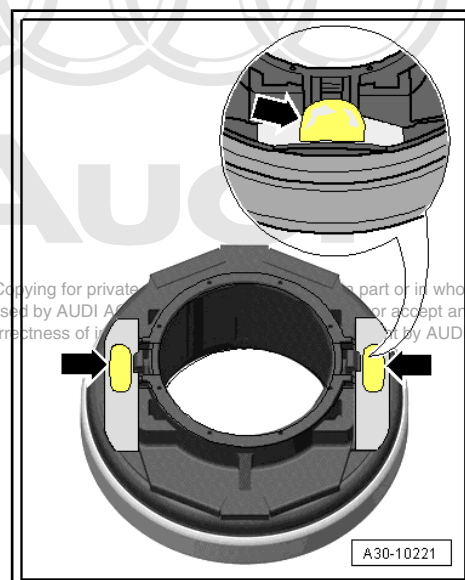
Greasing release bearing



Caution

Grating/creaking noises can occur when clutch is operated.

- *Lack of grease at the bearings -arrows- on the release bearing assembly can cause creaking/grating noises when the clutch is operated.*
- *Grease bearings -arrows- on release bearing assembly thoroughly with lubricating paste - G 000 150- . A thin coating of grease is not sufficient.*
- *Remove grease in bearing surface for guide sleeve: bearing of release bearing on guide sleeve must be free of grease.*



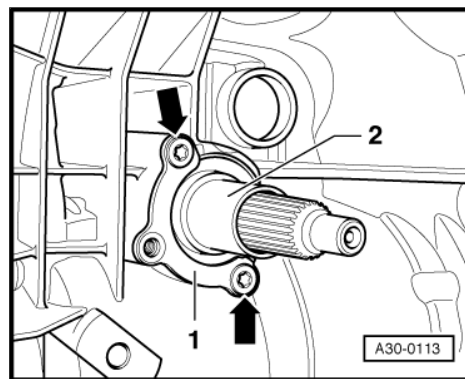
Removing and installing guide sleeve

Removing

- Unscrew bolts -arrows- and remove retaining piece -1-.
- Fit a thin insulating hose or shrink hose tightly over splines of input shaft.
- Pull guide sleeve -2- out of gearbox housing.

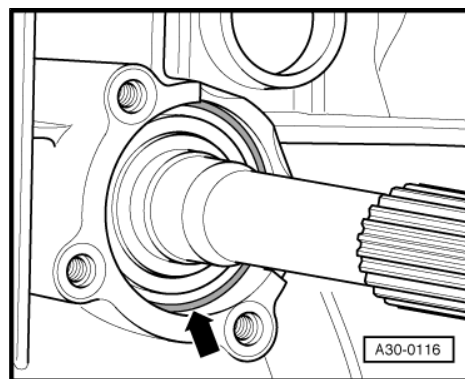
Installing

- Renew O-ring in gearbox housing ⇒ [page 28](#) .
- A thin insulating hose or shrink hose is fitted tightly onto input shaft splines.
- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .
- Coat outer circumference of guide sleeve with gear oil.
- Push guide sleeve -2- over input shaft and into gearbox housing.
- Remove insulating hose/shrink hose.
- Fit retaining piece -1-.
- Clean threads of bolts -arrows- with a wire brush. Then insert bolts with locking fluid - AMV 185 101 A1- and tighten to 24 Nm.



Renew O-ring

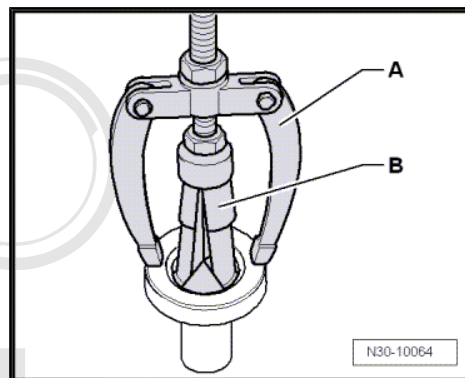
- Pry out O-ring -arrow- using a small screwdriver.
- Lubricate new O-ring with gear oil before installing.



Pulling oil seal for input shaft out of guide sleeve

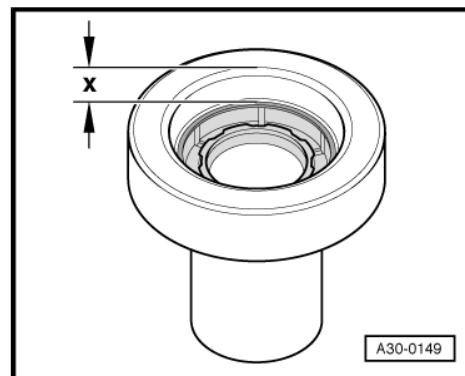
A - Counter-support , e.g. -Kukko 22/1-

B - Internal puller 30 ... 37 mm , e.g. -Kukko 21/5-



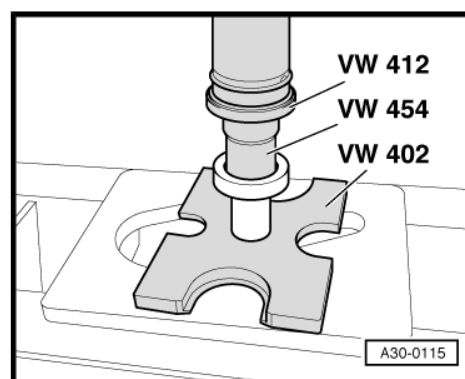
Installation depth - oil seal for input shaft

- Dimension x = 7.75 mm ± 0.5 mm



Pressing oil seal for input shaft into guide sleeve

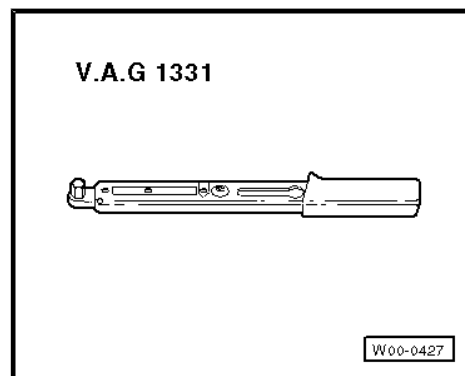
- Lightly lubricate outer circumference of oil seal with gear oil.
- Press in oil seal for input shaft
⇒ Fig. “Installation depth - oil seal for input shaft”, page 29 .
Make sure oil seal remains straight.
- The open side of the oil seal faces towards press tool - VW 454- .
- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .



2.1 Removing and installing clutch slave cylinder

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-



- ◆ Lithium grease - G 052 150 A2-
- ◆ Copper grease (commercially available)

Protecting your rights: 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

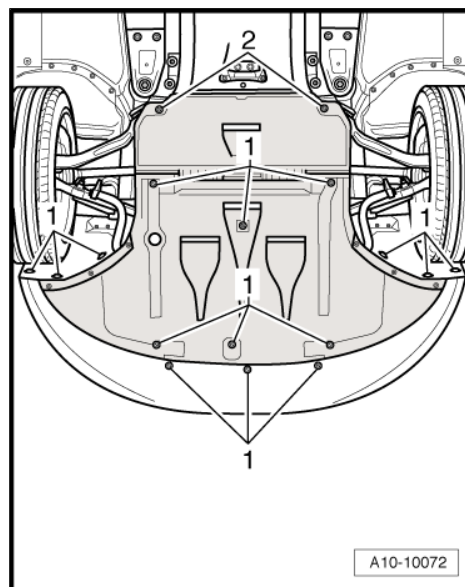
- ◆ If you suspect a defective clutch master cylinder, perform function test prior to renewing
⇒ “1.7 Notes on removing and installing clutch master cylinder and slave cylinder”, page 17 .
- ◆ Do not allow brake fluid to come into contact with the gearbox.
If necessary, clean the gearbox housing.



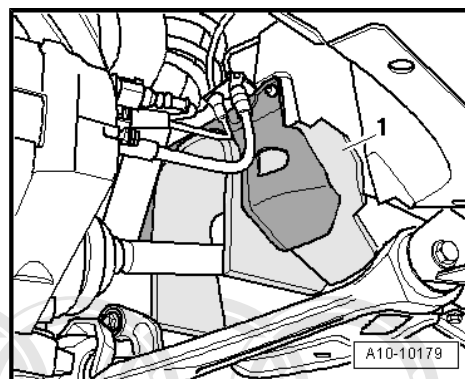
Caution

Make sure you do not press the clutch pedal if the clutch slave cylinder is removed from the gearbox with the pipe/hose assembly still attached. Otherwise, the piston will be pressed out of the slave cylinder and be destroyed.

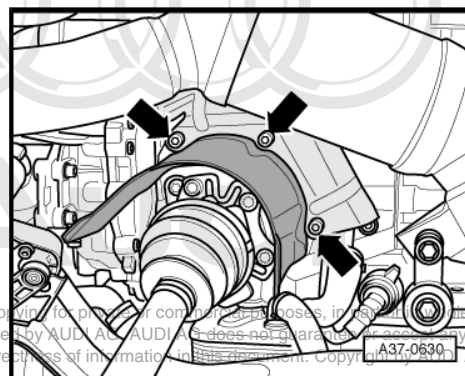
- Loosen bolts and release quick-fasteners -1- and -2- and take off noise insulation panels.



- Remove noise insulation -1- in wheel housing (left-side).

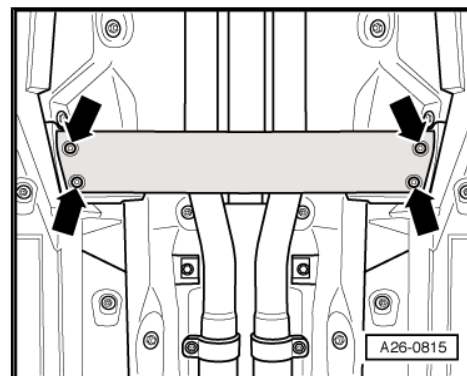


- Unbolt heat shield -arrows- for drive shaft (left-side).

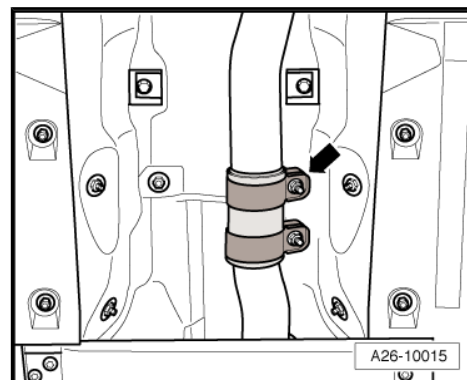


Protected by copyright. Copying for private or commercial purposes, in any form, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee the accuracy of the information in this document. Copyright © 2014 G.

- Unbolt front cross piece -arrows-.



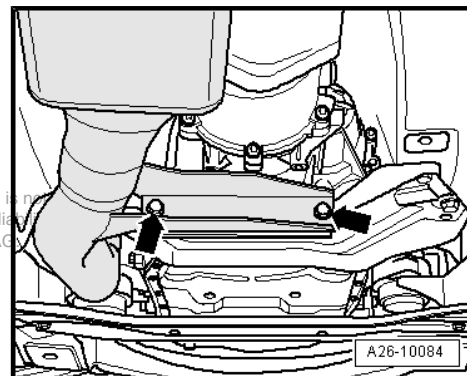
- Disconnect exhaust system at clamp -arrow-.



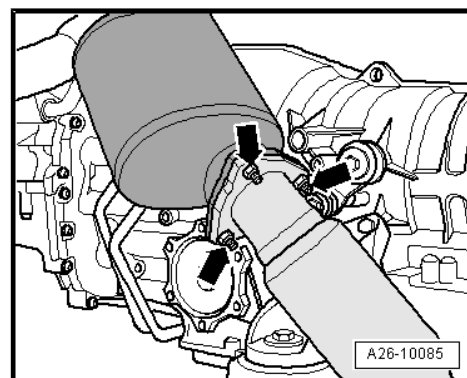
Note

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

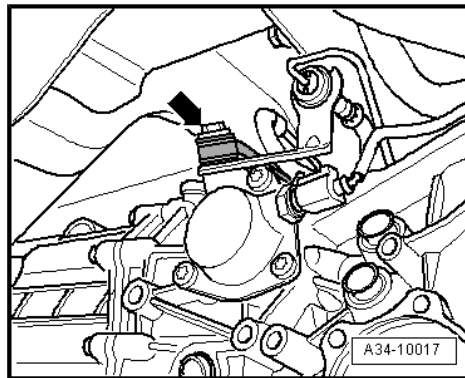
- Unscrew bolts -arrows- at bracket for front exhaust pipe.



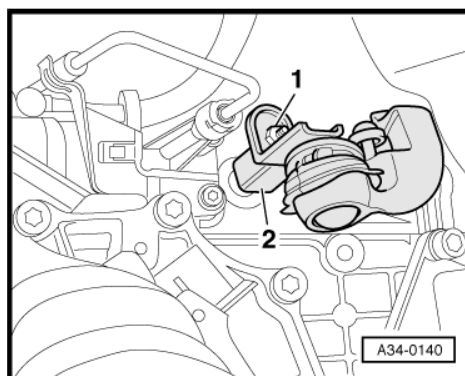
- Remove front exhaust pipe -arrows-.



- Unscrew connecting rod -arrow- for selector rod.



- Unscrew nut -1- and pull gearbox selector lever -2- off gearbox selector shaft.

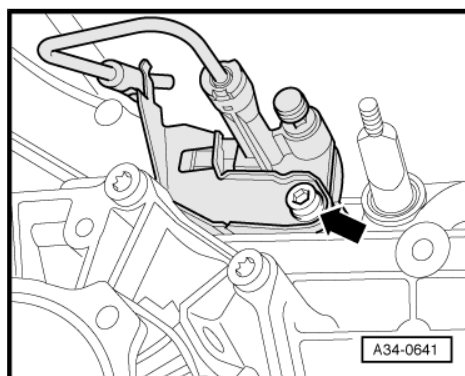


- Remove bolt -arrow- and take out clutch slave cylinder from the rear.



Caution

Do not depress clutch pedal after removing slave cylinder. The slave cylinder would then be destroyed once pedal force exceeds approx. 300 N.



- Release retaining clip -A- using a screwdriver and pull out as far as stop.
- Detach pipe/hose assembly from clutch slave cylinder and seal opening.

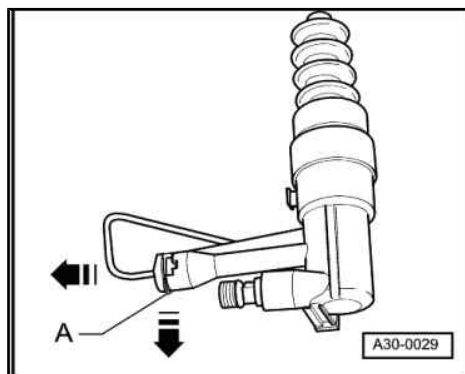
Installing clutch slave cylinder

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

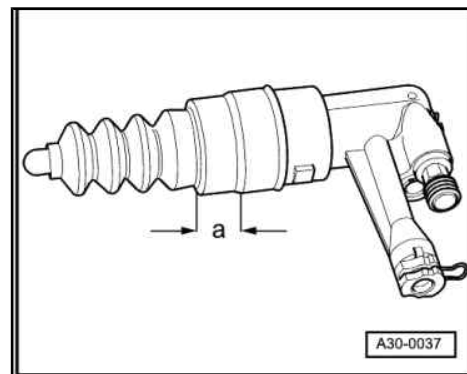


Note

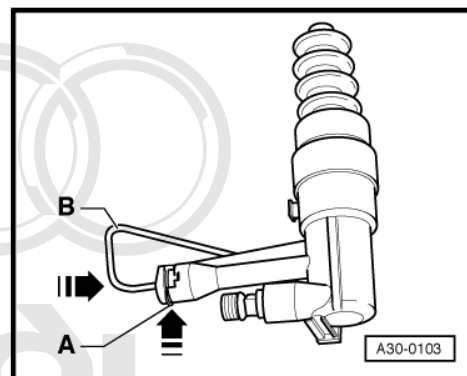
- ◆ Do not allow brake fluid to come into contact with the gearbox. If necessary, clean the gearbox housing.
- ◆ When installing, press in slave cylinder so that securing bolt can be fitted easily.
- ◆ Always renew securing bolt.



- Before inserting slave cylinder in gearbox housing, lubricate area -a- of sleeve with lithium grease - G 052 150 A2- .
- Using copper grease (commercially available), lightly lubricate surface where plunger and clutch release lever make contact.

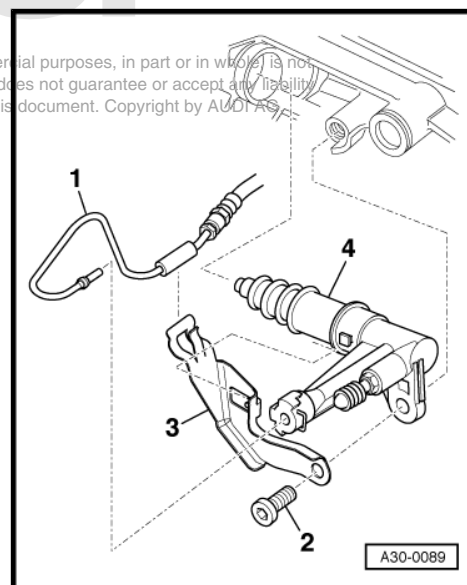


- To connect pipe to clutch slave cylinder, press in retaining clip -A- as far as it will go.
- Push pipe -B- into clutch slave cylinder until it engages audibly.
- Pull on pipe/hose assembly to check it is secure.



- If fitted, attach bracket for hose/pipe assembly -3- to clutch slave cylinder -4-

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.



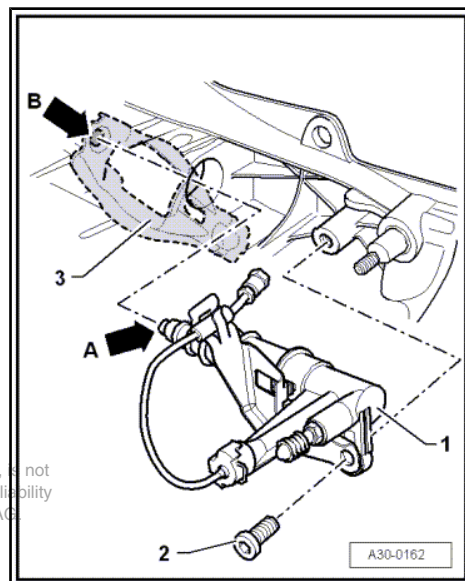
- Guide slave cylinder -1- into mounting hole in gearbox housing, keeping it as far as possible in line with the operating direction of the plunger -arrow A-.
- At the same time insert in recess -arrow B- on clutch release lever -3-.



Note

If the slave cylinder is inserted at an angle, there is a danger that the plunger -arrow A- will be guided past the recess -arrow B-.

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.

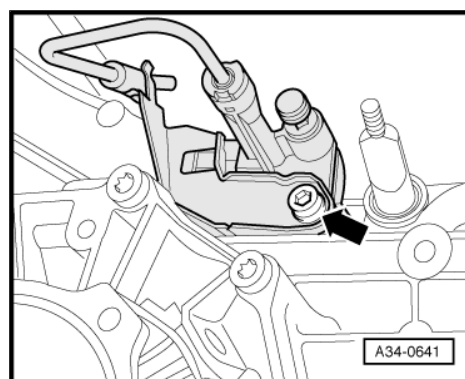


- Tighten new bolt -arrow- to specified torque.



Caution

- ◆ After installing the slave cylinder carefully press the clutch pedal.
- ◆ If you feel an unusually strong point of resistance when depressing the clutch pedal, you must not press it down further.
- ◆ The plunger of the slave cylinder is likely to have been guided past the clutch release lever.
- ◆ The slave cylinder would then be destroyed once pedal force exceeds approx. 300 N.
- ◆ For comparison: normal pedal force is approx. 115 N.



- If the pipe-hose assembly was disconnected at the slave cylinder, the clutch system has to be bled after installing slave cylinder ⇒ [page 21](#).
- Install heat shield for drive shaft (left-side).
- Install exhaust system so it is free of stress ⇒ Engine, mechanics; Rep. gr. 26.
- Install front tunnel cross piece ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40.
- Install noise insulation below gearbox.

Tightening torques

Component	Nm
Clutch slave cylinder to gearbox ¹⁾	23
Gearbox selector lever to selector shaft ²⁾	23
Connecting rod to gearbox	23
Heat shield for drive shaft to gearbox	23
• 1) Renew bolt • 2) Renew nut	

3 Servicing clutch

⇒ [“3.1 Servicing clutch with SAC pressure plate \(LuK version\)”, page 35](#)

⇒ [“3.2 Removing and installing clutch with SAC pressure plate”, page 38](#)

⇒ [“3.3 Resetting adjuster ring in SAC clutch pressure plate”, page 40](#)



Note

- ◆ Refer to general repair instructions ⇒ [page 6](#).
- ◆ Observe the notes on removing and installing the clutch master cylinder and slave cylinder ⇒ [page 17](#).
- ◆ “SAC” stands for “Self-Adjusting Clutch”.
- ◆ On vehicles with SAC pressure plate (self-adjusting clutch) an adjuster ring has to be reset when only the clutch plate is renewed ⇒ [page 40](#).
- ◆ To avoid damaging SAC pressure plate when removing and installing, observe assembly instructions for SAC pressure plate ⇒ [page 38](#).
- ◆ Check that SAC pressure plate is not distorted ⇒ [page 38](#).
- ◆ Renew clutch plate and pressure plate if riveted fastening is damaged or loose.
- ◆ Select the correct clutch plate and pressure plate according to engine code ⇒ *Electronic parts catalogue*.
- ◆ To avoid damaging dual-mass flywheel during removal, please observe instructions for removal ⇒ [page 38](#).
- ◆ Clean input shaft splines and (in the case of used clutch plates) the hub splines. Remove corrosion and apply only a very thin coating of grease for clutch plate splines - G 000 100- to the splines. Then move clutch plate backwards and forwards on input shaft until hub moves freely on shaft. It is important to remove excess grease.
- ◆ Clutch pressure plates have an anti-corrosion coating and are greased. Only the contact surface may be cleaned, otherwise the service life of the clutch will be considerably reduced.
- ◆ The friction surface of the pressure plate and the dual-mass flywheel must be cleaned (degreased) thoroughly.
- ◆ Only blow out dual-mass flywheel with compressed air.
- ◆ If the clutch has burnt out, thoroughly clean the gearbox housing in area of clutch and parts of the engine facing the gearbox in order to prevent odours.

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 for errors or omissions.

3.1 Servicing clutch with SAC pressure plate (LuK version)

1 - Dual-mass flywheel

- ☐ Ensure that dowel pins fit tightly
- ☐ Contact surface for clutch lining must be free of grooves, oil and grease
- ☐ Observe instructions for removal ⇒ [page 38](#)
- ☐ Removing and installing ⇒ Engine, mechanics; Rep. gr. 13

2 - Needle bearing

- ☐ Removing and installing ⇒ Engine, mechanics; Rep. gr. 13

3 - Bolt

- ☐ For flywheel
- ☐ Renew
- ☐ Observe instructions for removal ⇒ [page 38](#)

Tightening torque

- ☐ Bolt length: 22.5 mm; 60 Nm + 90° further
- ☐ Bolt length: 43 mm; 60 Nm + 180° further

4 - Clutch plate

- ☐ For correct version, refer to ⇒ Electronic parts catalogue
- ☐ Installation position: Clutch lining must make full contact with flywheel

- ☐ The marking "Getriebeseite" (gearbox side), if provided, faces towards pressure plate/gearbox
- ☐ Coil springs (damper assembly) point towards pressure plate and gearbox
- ☐ Centralising ⇒ [page 39](#)
- ☐ Lightly grease splines ⇒ [page 35](#)

5 - SAC pressure plate

- ☐ For correct version, refer to ⇒ Electronic parts catalogue
- ☐ Observe assembly instructions ⇒ [page 38](#) when removing and installing
- ☐ Resetting adjuster ring ⇒ [page 40](#)
- ☐ Checking ends of diaphragm spring ⇒ [page 37](#)
- ☐ Checking pressure plate for distortion ⇒ [page 38](#)
- ☐ Checking springs and riveting ⇒ [page 37](#)

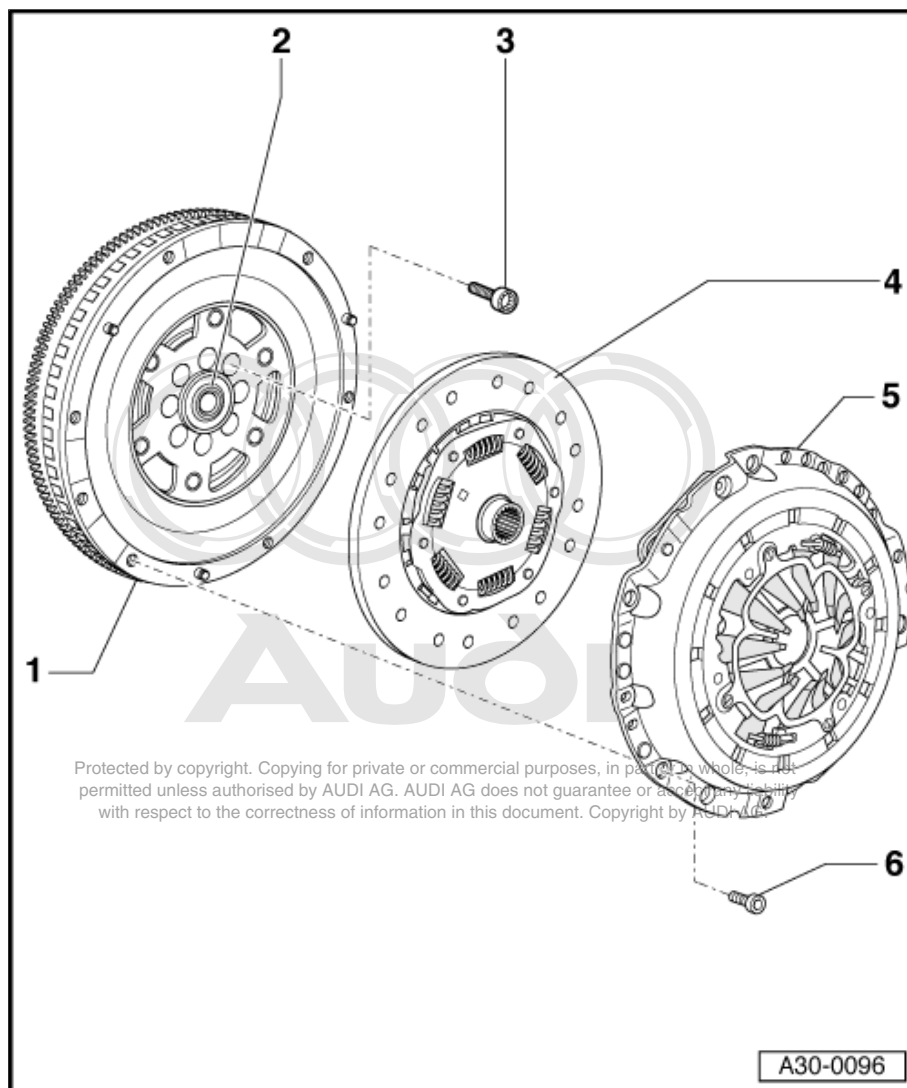
6 - Bolt

Vehicles with 2.5 ltr. TDI engine

- ☐ Tightening torque = 22 Nm

Vehicles with 2.7 ltr. TDI engine

- ☐ Tightening torque = 22 Nm + 90°
- ☐ Always renew



Continued for all vehicles:

- Observe assembly instructions ⇒ [page 38](#) for loosening or tightening

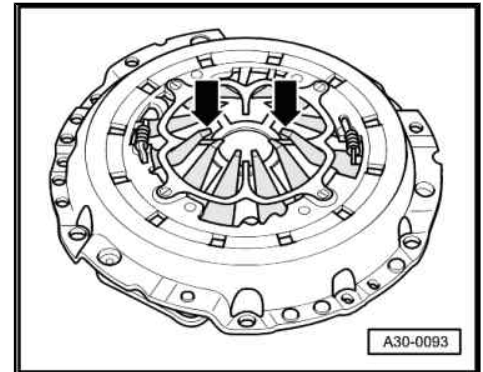
Checking ends of diaphragm spring

- Wear up to half the thickness of the diaphragm spring is permissible.



Note

Important: When performing repairs, always match up pressure plate and clutch plate by checking engine code ⇒ Electronic parts catalogue .



Checking springs and riveting

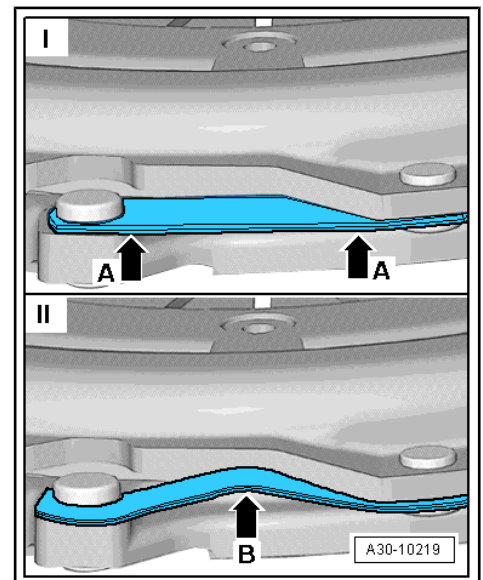
permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability in respect to the correctness of information in this document. Copyright by AUDI AG.

I - Springs OK

- Slight kinking on the outside -arrows A- is normal on production parts.

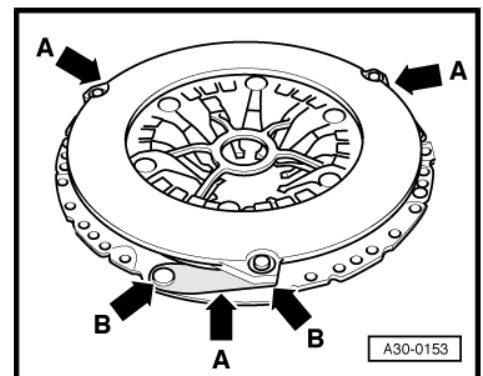
II - Springs damaged

- Renew pressure plate if springs are broken or badly bent -arrow B-.



- Check that riveting -arrows B- is secure at all springs -arrows A-.

- Renew pressure plate if rivets -arrows B- are loose.

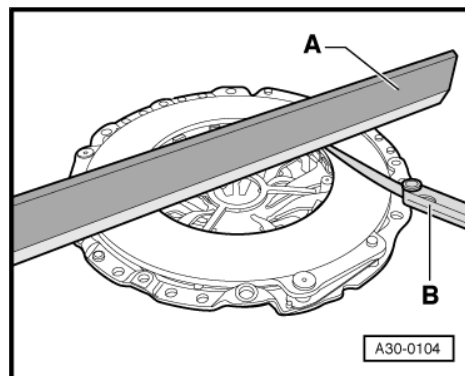


Checking SAC pressure plate for distortion, cracks and burning

A - Straightedge

B - Feeler gauge

- Pressure plate distortion up to 0.8 mm is permissible



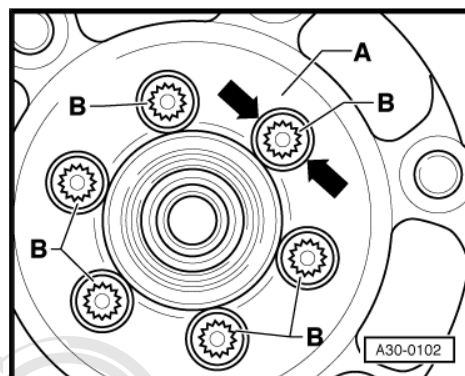
Removing dual-mass flywheel



Caution

Do not use an impact wrench or pneumatic wrench to remove bolts -B-; this would severely damage the dual-mass flywheel. Bolts -B- must always be removed by hand.

- Rotate flywheel -A- so that bolts -B- are aligned centrally behind the holes -arrows-.
- When unscrewing bolts -B-, make sure the bolt heads do not contact the flywheel -arrows- because this would damage the flywheel when the bolts are turned further.



Removing and installing dual-mass flywheel ⇒ Engine, mechanics; Rep. gr. 13

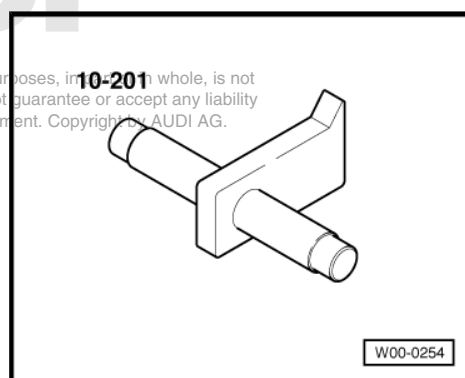
3.2 Removing and installing clutch with SAC pressure plate

Special tools and workshop equipment required

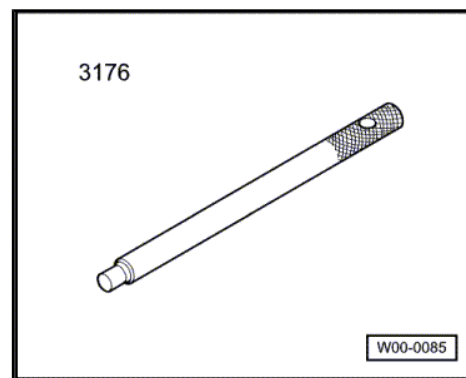
- ◆ Counterhold tool - 10 - 201-

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 guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

10-201



◆ Centring mandrel - 3176-



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.

◆ Grease for clutch plate splines - G 000 100-

Removing

- Attach counterhold tool - 10 - 201- before loosening bolts.

To prevent the pressure plate from becoming distorted during removal (causes clutch grab when driving off), always adhere to the following procedure when unbolting the pressure plate:

- Loosen all six bolts consecutively in clockwise direction and in steps of 90° (1/4 turn) until the pressure plate is released.

Installing



Note

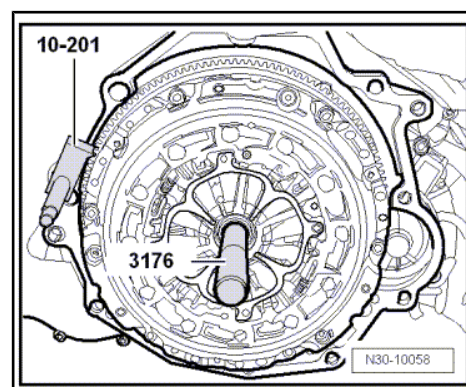
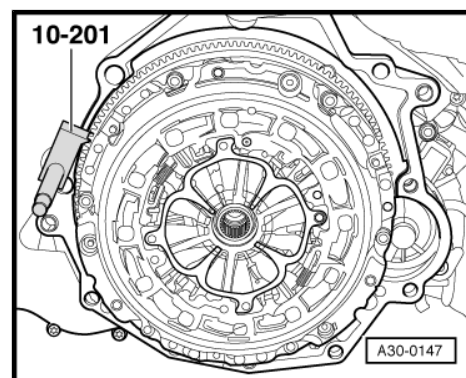
- ◆ *Before you re-install the SAC pressure plate check that it is not distorted ⇒ [page 38](#) .*
- ◆ *When only the clutch plate is renewed, the adjuster ring in the SAC pressure plate has to be reset before assembly ⇒ [page 40](#) .*

- Installation position of clutch plate: coil springs (damper assembly) or marking "Getriebeseite" point towards pressure plate and gearbox.

- Use centring mandrel - 3176- to centralise clutch plate.
- Re-position counterhold tool - 10-201- to tighten bolts.

To prevent the pressure plate from becoming distorted during installation (causes clutch grab when driving off), always adhere to the following procedure when installing the pressure plate:

- Position pressure plate on centring pins.
- Screw in all 6 bolts evenly by hand until bolt heads make contact with pressure plate.
- Tighten all six bolts consecutively in clockwise direction and in steps of 90° (1/4 turn) until the housing makes contact with flywheel.
- Tighten all 6 bolts to final torque consecutively in clockwise direction. Tightening torque ⇒ [Item 6 \(page 36\)](#)



3.3 Resetting adjuster ring in SAC clutch pressure plate

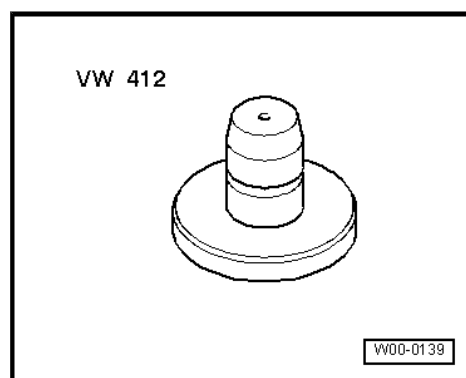


Note

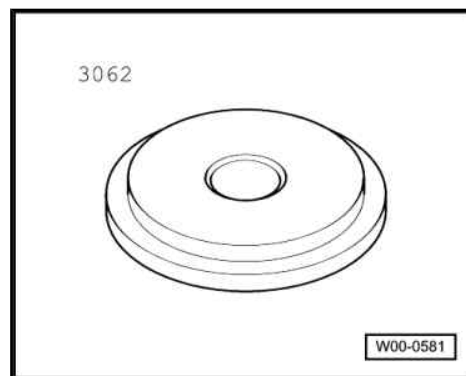
- ◆ *When fitting a new clutch plate in conjunction with a used SAC pressure plate, the adjuster ring in the pressure plate has to be reset by turning it back as far as it will go. If you do not reset the adjuster ring in the pressure plate, the SAC pressure plate will operate with reduced clamping force, which will cause excessive wear, especially of the clutch plate (clutch will then slip).*
- ◆ *If the clutch plate is not renewed, it is not necessary to reset the adjuster ring.*
- ◆ *New SAC pressure plates are pre-set accordingly, and do not have to be reset.*

Special tools and workshop equipment required

- ◆ Press tool - VW 412-

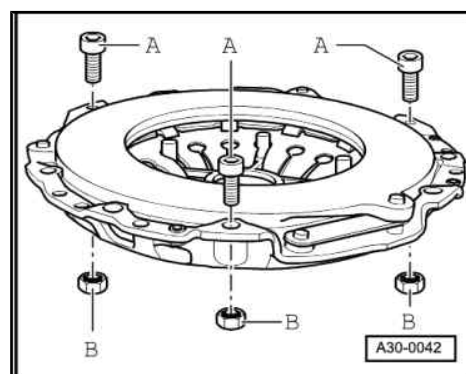


- ◆ Thrust pad - 3062-

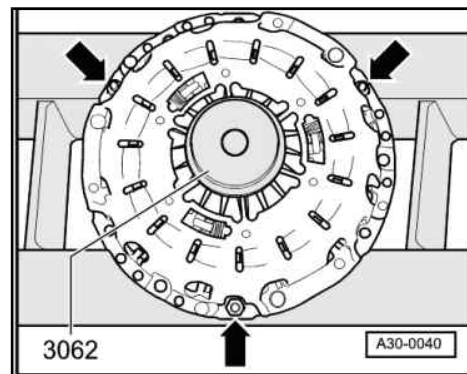


Procedure

- Insert 3 bolts for securing pressure plate -A- into mounting holes in pressure plate at 120° intervals (1/3 turn), as shown in illustration.
- Screw 3 nuts -B- -M8- onto bolts -A- and tighten nuts.



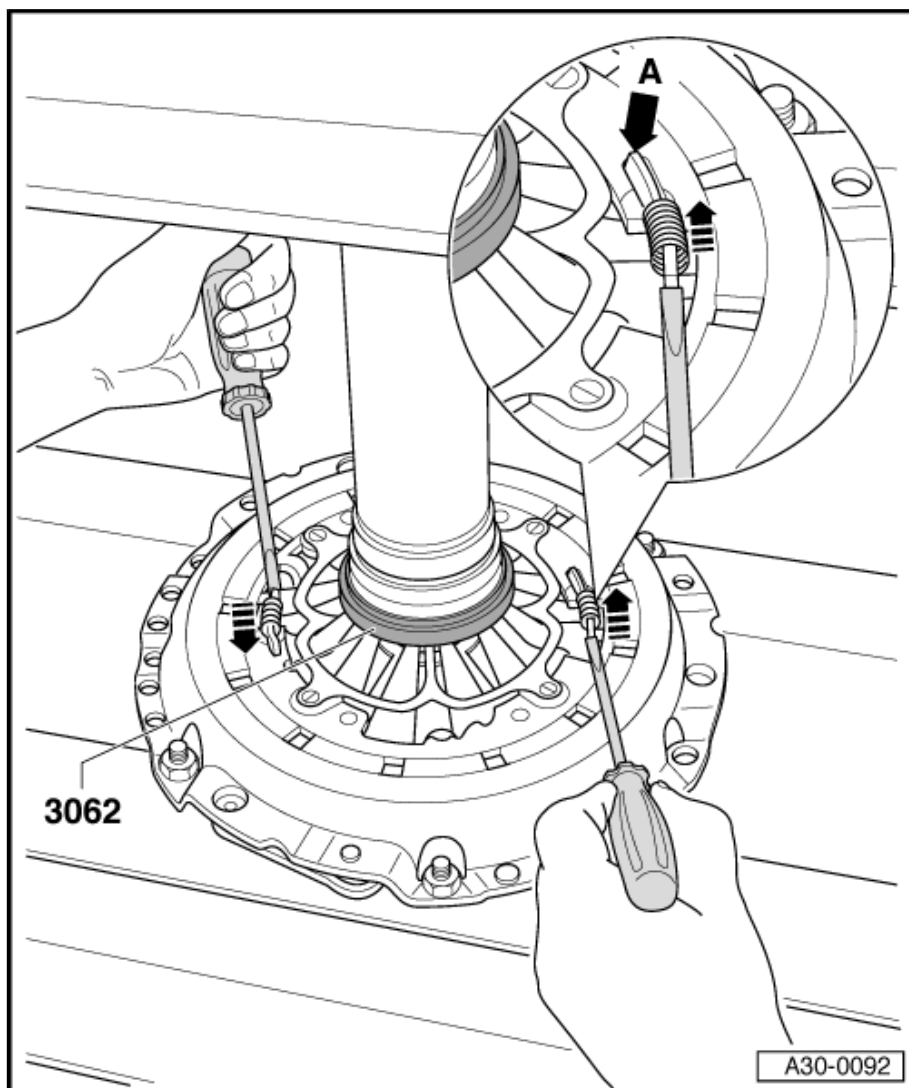
- Place the SAC pressure plate onto the press so that only the 3 bolt heads -arrows- make contact.
- Position thrust pad - 3062- in the centre of the pressure plate.



Caution

Do not use force when performing the following steps, as this could cause the forks on the adjuster ring to break off.

... in whole, is not
... antee or accept any liability
with respect to the correctness of information in this document. Copyright by AUDI AG.



- Apply two screwdrivers to the forks on the adjuster ring.
- Use the press to apply pressure to the pressure plate until it is just possible to move the adjuster ring.



- Using the two screwdrivers, turn back the adjuster ring evenly in the direction of the -arrows- until it reaches the stop -arrow A-.
- Hold the adjuster ring against the stop and relieve the pressure applied by the press so that the adjuster ring is held in this position.

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.

34 – Controls, housing

1 Servicing selector mechanism

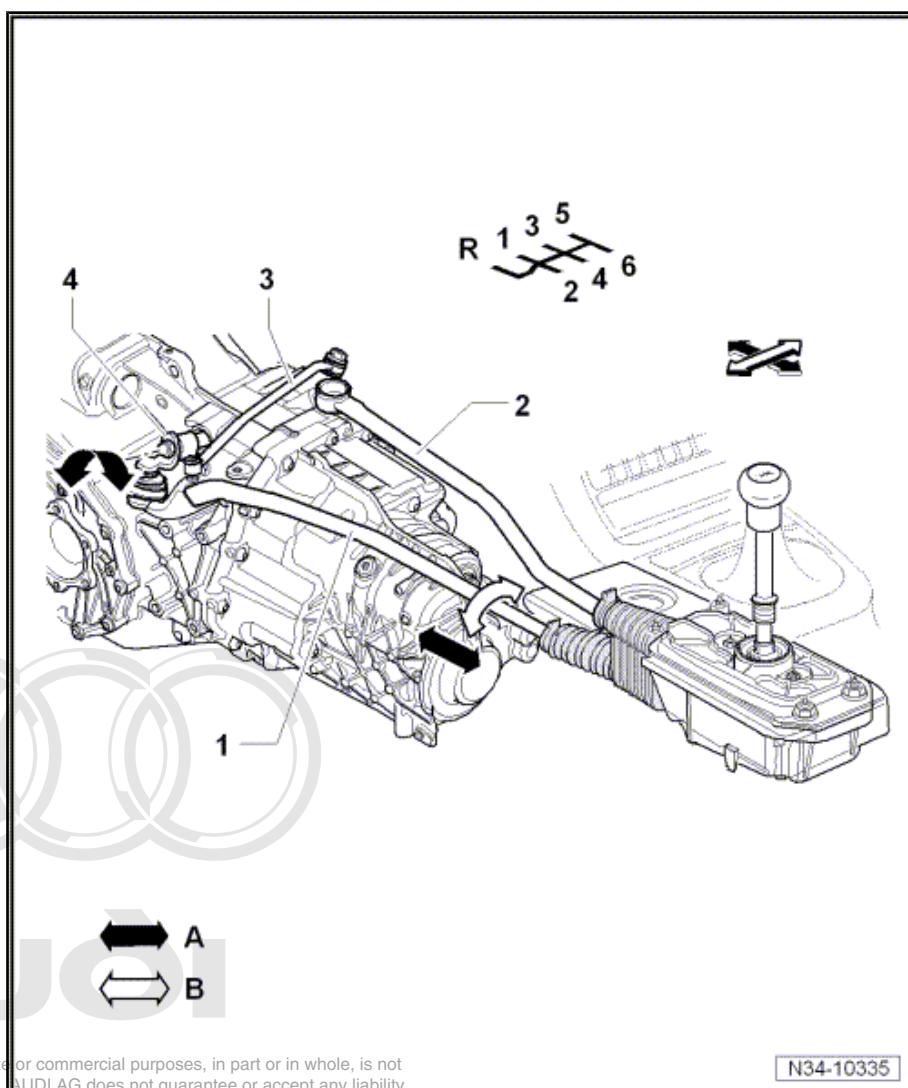
- ◆ ⇒ [“1.1 Installation position of selector mechanism”, page 43](#)
- ◆ ⇒ [“1.2 Exploded view - selector mechanism”, page 45](#)
- ◆ ⇒ [“1.3 Servicing gear lever and gear lever bearing”, page 46](#)
- ◆ ⇒ [“1.4 Servicing selector rod, connecting rod and push rod”, page 47](#)
- ◆ ⇒ [“1.5 Removing and installing gear knob with boot”, page 48](#)
- ◆ ⇒ [“1.6 Removing and installing selector mechanism”, page 49](#)
- ◆ ⇒ [“1.7 Adjusting selector mechanism”, page 51](#)

1.1 Installation position of selector mechanism

-Arrow A- gear selection movement

-Arrow B- gate selection movement

- 1 - Selector rod
- 2 - Push rod
- 3 - Connecting rod
- 4 - Gearbox selector lever



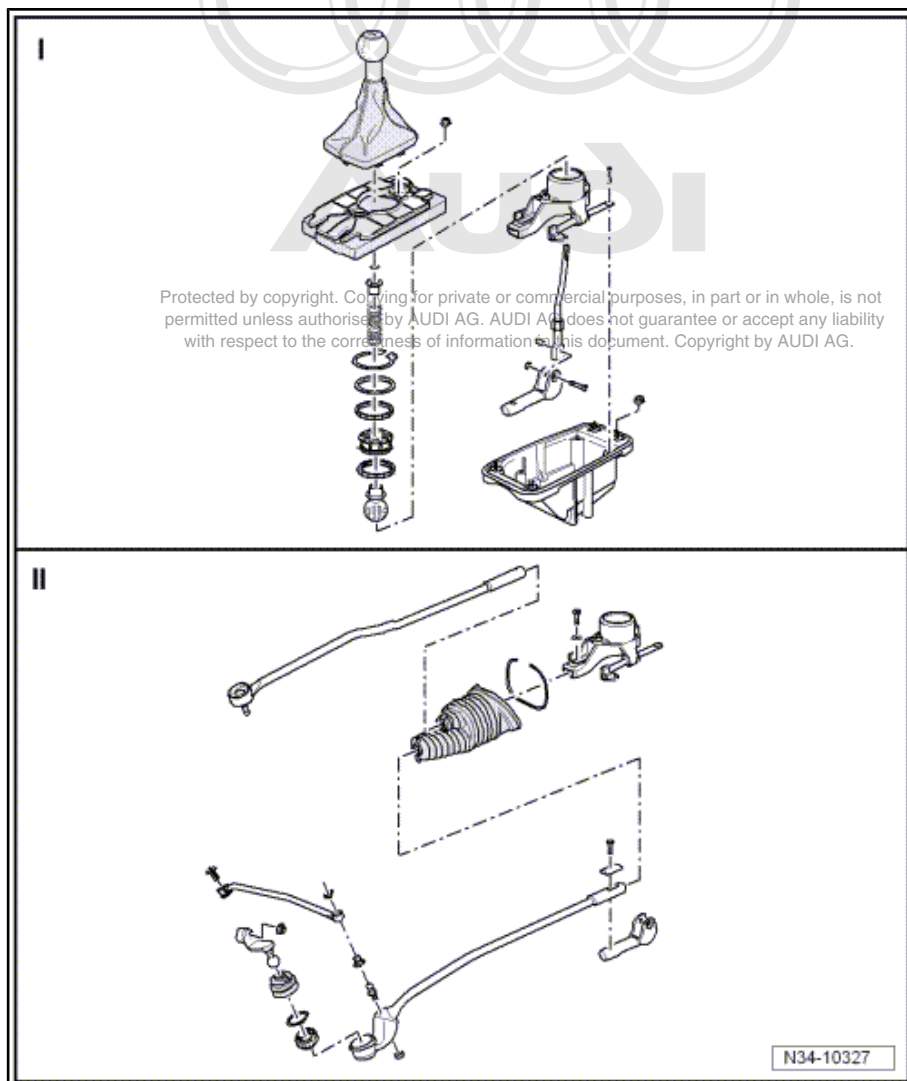
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

N34-10335

1.2 Exploded view - selector mechanism

I - Servicing gear lever and
gear lever bearing
⇒ [page 46](#)

II - Servicing selector rod, con-
necting rod and push rod
⇒ [page 47](#)



1.3 Servicing gear lever and gear lever bearing



Note

Lubricate all bearings and moving surfaces with grease - G 000 450 02- .

1 - Ball

2 - Rubber ring

3 - Ball guide

4 - Rubber ring

5 - Washer

- ☐ Lip points towards ball guide
⇒ [Item 3 \(page 46\)](#)

6 - Circlip

- ☐ Take out before removing ball

7 - Spring

8 - Spacer bush

Protected by copyright. Copying for private or commercial use, 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 the information in this document. Copyright by Audi AG.

9 - Washer

- ☐ Not fitted on all versions

10 - Circlip

- ☐ Always renew

11 - Noise insulation

- ☐ -Arrow- marked on noise insulation points in direction of travel

12 - Gear knob

- ☐ With boot
- ☐ Removing and installing
⇒ [page 48](#)

13 - Nut

- ☐ 8 Nm

14 - Gear lever bearing

- ☐ Removing and installing
⇒ [page 49](#)

15 - Bolt

- ☐ 6 Nm
- ☐ Secures gear lever bearing to selector housing

16 - Gear lever

- ☐ Bend points towards rear

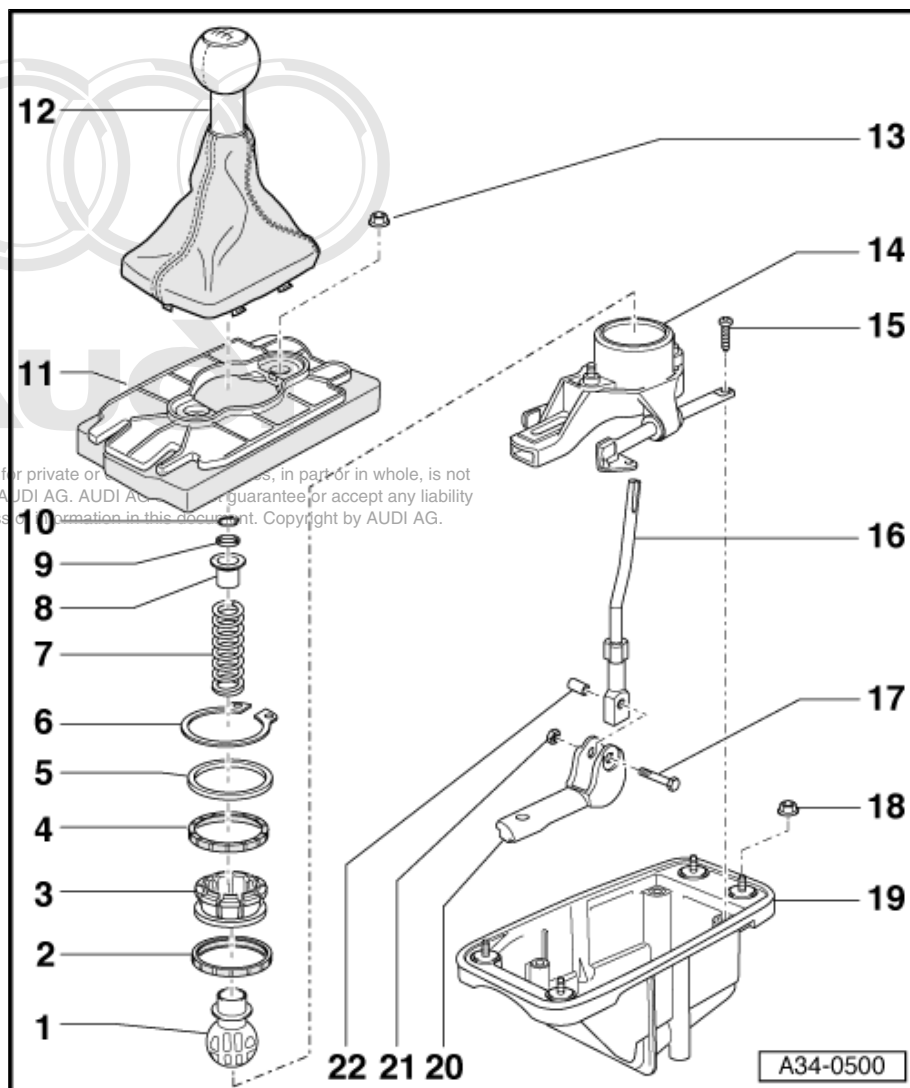
17 - Bolt

18 - Nut

- ☐ 8 Nm

19 - Selector housing

- ☐ Removing and installing ⇒ [page 49](#)



20 - Joint

- ☐ For selector rod/gear lever

21 - Nut

- ☐ 10 Nm
- ☐ Self-locking
- ☐ Renew

22 - Bush

1.4 Servicing selector rod, connecting rod and push rod



Note

Lubricate all bearings and moving surfaces with grease - G 000 450 02- .

1 - Ball socket

- ☐ To remove, bend open peened points on selector rod
⇒ [Item 19 \(page 48\)](#) .

2 - Washer

3 - Bearing bush

- ☐ To remove, pull off retaining clip
⇒ [Item 9 \(page 47\)](#)

4 - Boot

5 - Gearbox selector lever

6 - Cap nut

- ☐ 23 Nm
- ☐ Self-locking
- ☐ Always renew

7 - Bolt

- ☐ 23 Nm

8 - Connecting rod

- ☐ To remove, pull off retaining clip
⇒ [Item 9 \(page 47\)](#)

9 - Retaining clip

10 - Bolt

- ☐ 23 Nm

11 - Push rod

- ☐ With bush, bolt
⇒ [Item 10 \(page 47\)](#) and washers

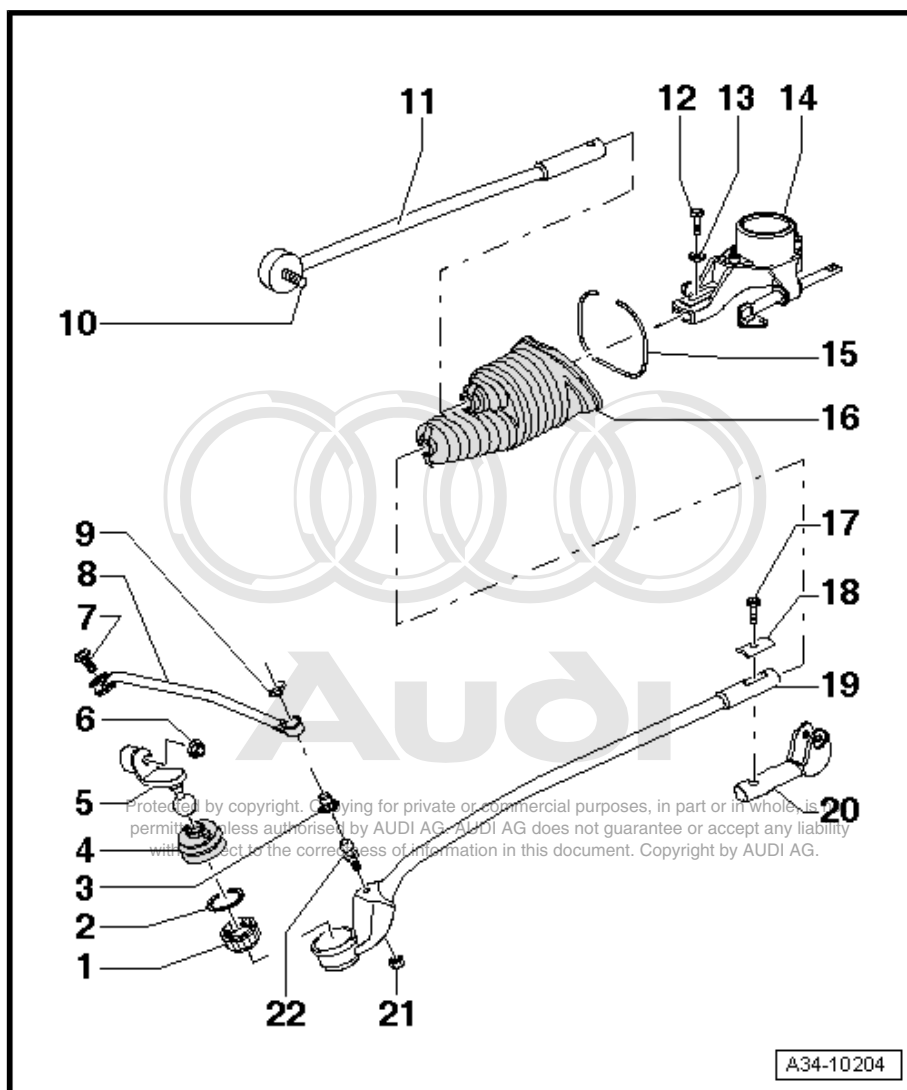
12 - Hexagon socket head bolt

- ☐ 23 Nm

13 - Washer

14 - Gear lever bearing

- ☐ Removing and installing ⇒ [page 49](#)



15 - Tensioning ring

- ☐ For bellows

16 - Bellows

- ☐ To remove, carefully pull bellows over selector rod ⇒ [Item 19 \(page 48\)](#) and push rod ⇒ [Item 11 \(page 47\)](#).
- ☐ When installing, align with markings on selector rod ⇒ [Item 19 \(page 48\)](#) and push rod ⇒ [Item 11 \(page 47\)](#).

17 - Hexagon socket head bolt

- ☐ 23 Nm

18 - Clamp

19 - Selector rod

20 - Joint

- ☐ For selector rod/gear lever

21 - Nut

- ☐ 10 Nm

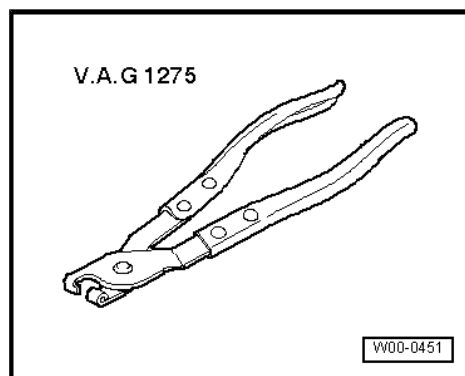
22 - Ball stud

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.

1.5 Removing and installing gear knob with boot

Special tools and workshop equipment required

- ◆ Hose clip pliers - V.A.G 1275-



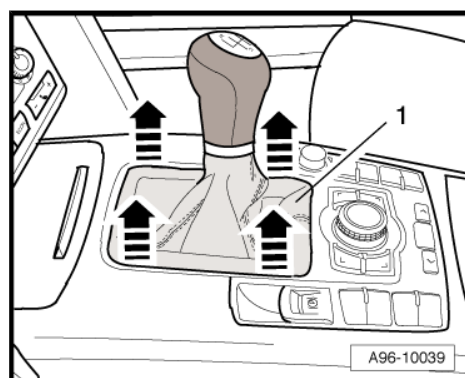
Removing



Note

The gear knob is removed together with the gear lever boot.

- Unclip retaining frame for gear lever boot from front section of centre console and lift it off -arrows-.

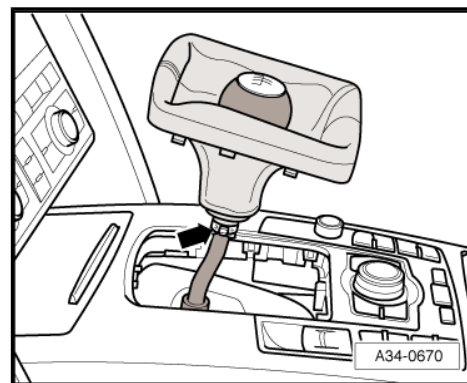


- Pull gear lever boot up and over gear knob.
- Open clip -arrow- and pull off gear knob together with gear lever boot.

Installing

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

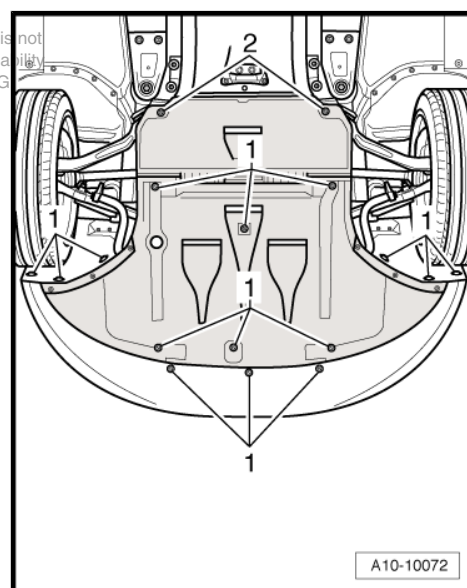
- Use a new clip -arrow- to secure gear knob on gear lever.



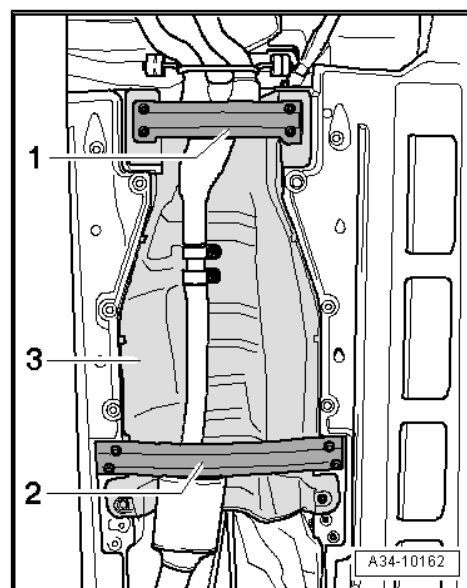
1.6 Removing and installing selector mechanism

Removing

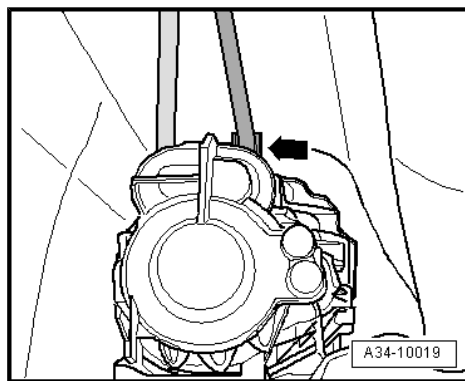
- Loosen bolts and release quick-fasteners -1- and -2- and take off noise insulation panels.



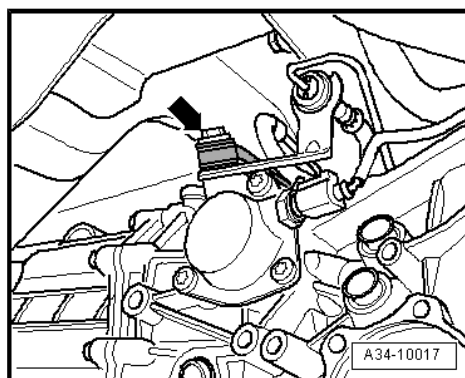
- Remove tunnel cross piece (front -2- and rear -1-).
- Release inner side of covers on vehicle underbody (left and right).
- Remove heat shield for exhaust system -3- from below selector mechanism.



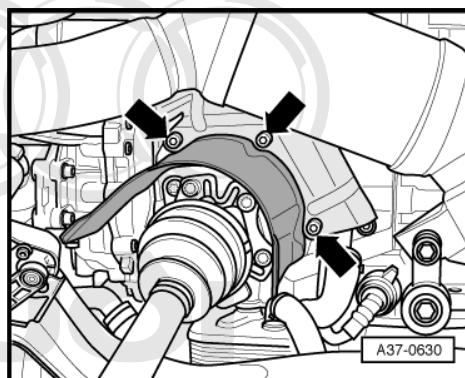
- Unscrew bolt with 8 mm hexagon key and detach push rod -arrow-.



- Unscrew connecting rod -arrow- for selector rod.



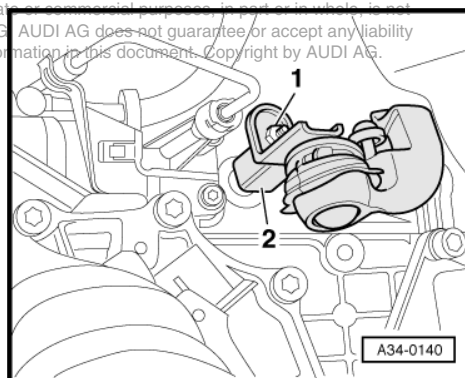
- Unbolt heat shield -arrows- for drive shaft (left-side).



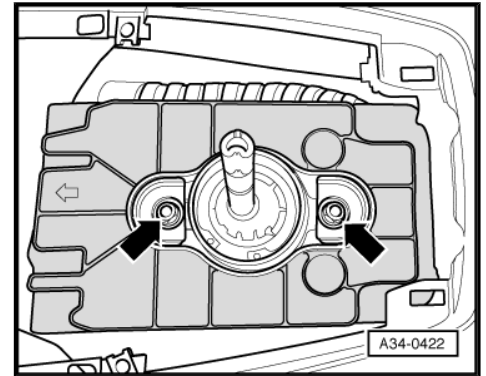
- Unscrew nut -1- and pull gearbox selector lever -2- off gearbox selector shaft.

- Remove gear knob together with gear lever boot ⇒ [page 48](#) .

- Remove rear and front sections of centre console ⇒ General body repairs, interior; Rep. gr. 68 .



- Lift out noise insulation above selector mechanism.
- Unscrew noise insulation for selector housing -arrows-.



 Note

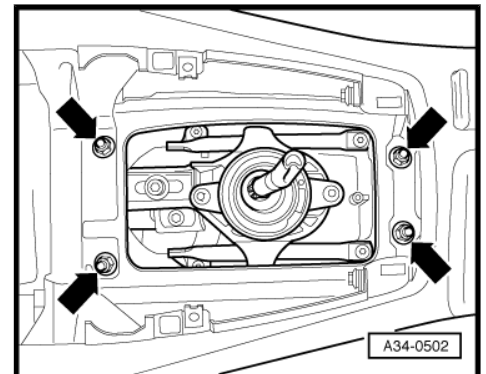
A second mechanic is required to support the selector mechanism from below when unscrewing the securing nuts.

- Remove nuts -arrows-.
- Swing selector housing with selector rod and push rod down and remove.

Installing

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

- Install tunnel cross pieces ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Install noise insulation below gearbox.
- Adjust selector mechanism ⇒ [page 51](#) .
- Install rear and front sections of centre console ⇒ General body repairs, interior; Rep. gr. 68 .



Tightening torques

Component	Nm
Gearbox selector lever to selector shaft ¹⁾	23
Push rod to gearbox	23
Connecting rod to gearbox	23
Heat shield for drive shaft to gearbox	23
Selector mechanism to body	8
Noise insulation to selector mechanism	8
• ¹⁾ Renew cap nut	

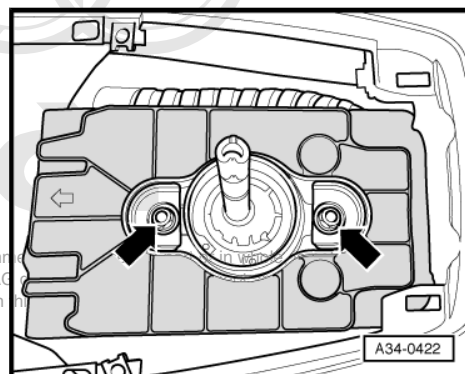
1.7 Adjusting selector mechanism

The following are prerequisites for correct gear lever alignment:

- Gear selector linkage must be in proper condition and undamaged.
- Selector mechanism must move freely.
- Gearbox, clutch and clutch mechanism must be in proper condition.
- Gearbox in neutral.

Procedure

- Remove rear and front sections of centre console ⇒ General body repairs, interior; Rep. gr. 68 .
- Remove noise insulation above selector mechanism.
- Unscrew noise insulation for selector housing -arrows-.



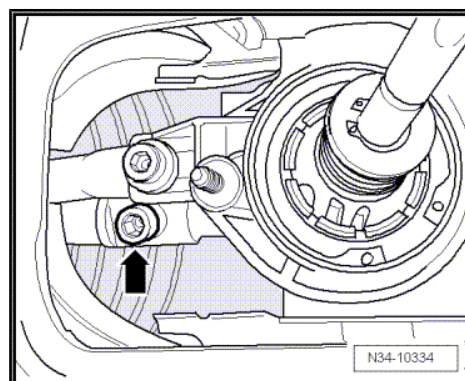
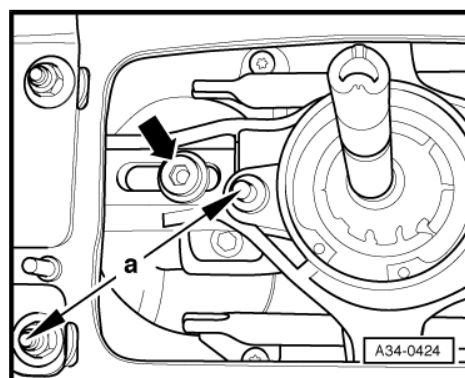
- Measure distance -a- between the two studs in the selector mechanism.
- Specification: distance -a- = 85 mm.



Note

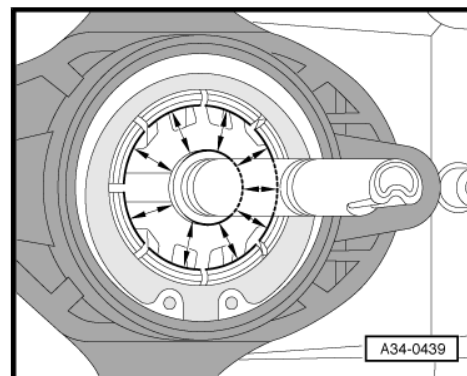
Measure from centre of one stud to centre of the other.

- If distance measured is not correct, adjust dimension -a- as follows:
- Loosen bolt -arrow- for push rod.
- The gear lever bearing should move freely in both directions on slide
- Set distance -a- by moving gear lever bearing.
- Tighten bolt for push rod -arrow- to 23 Nm.
- Loosen bolt for selector rod -arrow-.
- Connection between selector rod and selector mechanism should move freely.

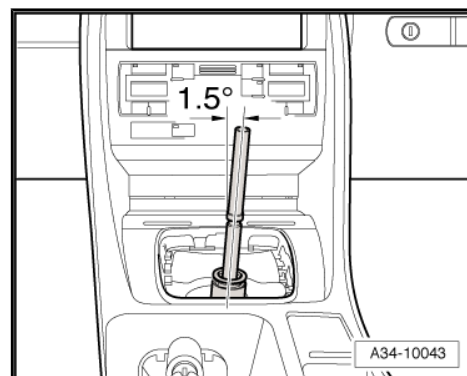


Align the gear lever as follows:

- Position gear lever in centre of ball guide.
- Distance between ball guide and gear lever must be the same at all points -arrows-.



- Align gear lever so that it points slightly (1.5°) to the right, as seen in direction of travel.
- Hold gear lever in this position.



- Tighten bolt for selector rod -arrow- to 23 Nm.



Note

The gear lever must remain in the same position while the bolt is being tightened.

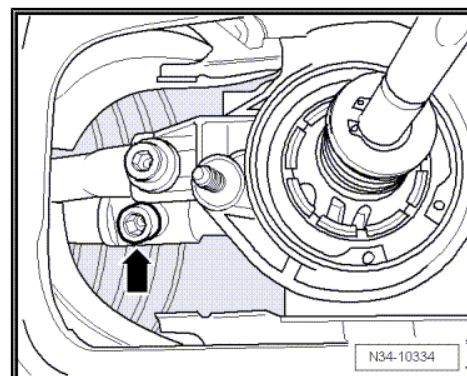
Checking gear lever adjustment

- With the gearbox in neutral, the gear lever should rest in the 3rd/4th gear gate.
- Depress clutch.
- Select all gears several times.
- Pay particular attention to the operation of the reverse gear locking mechanism.
- It should only be possible to engage reverse gear after overcoming the reverse gear detent.
- The gear lever should return by itself from the reverse gear gate to the 3rd/4th gear gate.

If the gear lever sticks or baulks repeatedly when engaging a gear, perform the adjustment procedure again.

Assembly is carried out in the reverse order to removal; note the following:

- Install rear and front sections of centre console $\Rightarrow$ General body repairs, interior; Rep. gr. 68 .



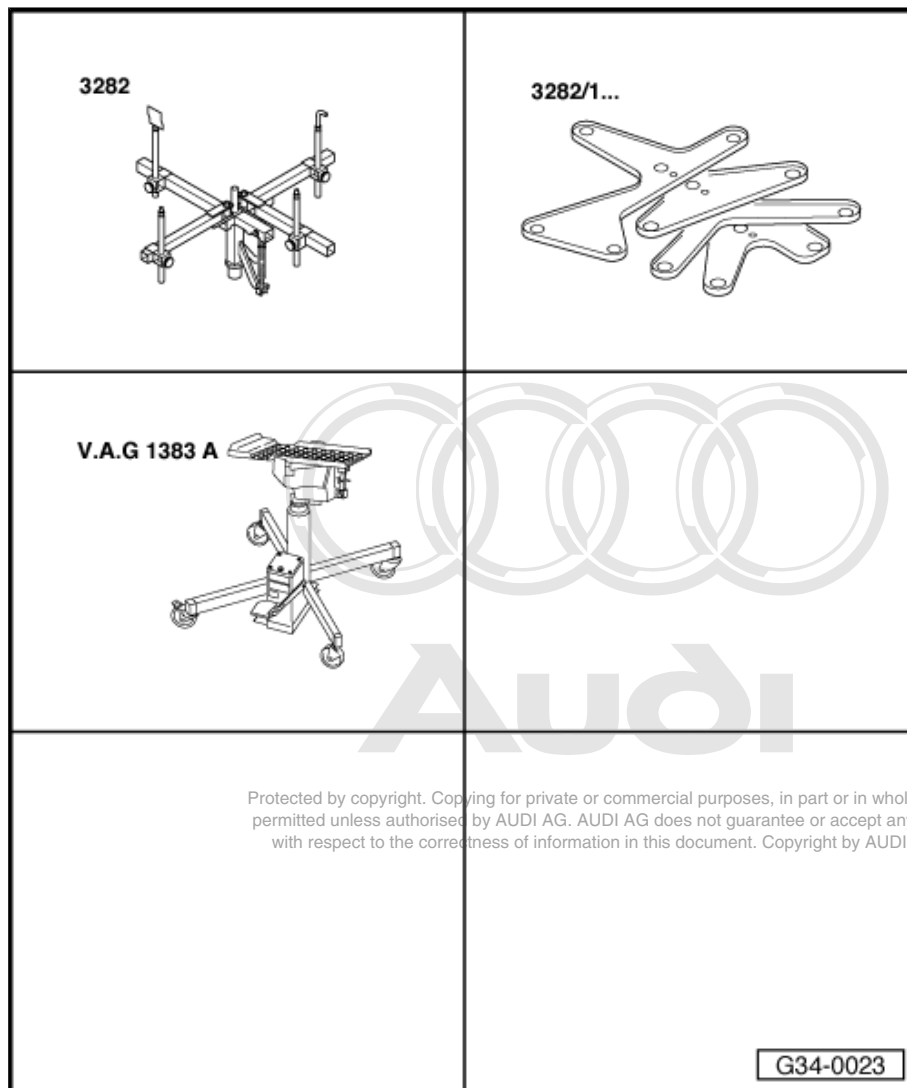
2 Removing and installing gearbox

- ◆ ⇒ [“2.1 Removing gearbox - vehicles with 2.7 ltr. TDI engine”, page 54](#)
- ◆ ⇒ [“2.2 Installing gearbox - vehicles with 2.7 ltr. TDI engine”, page 63](#)
- ◆ ⇒ [“2.3 Transporting gearbox”, page 66](#)

2.1 Removing gearbox - vehicles with 2.7 ltr. TDI engine

Special tools and workshop equipment required

- ◆ Gearbox support - 3282-
- ◆ Adjustment plate - 3282/38-
- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Grease for clutch plate splines - G 000 100-
- ◆ Copper grease (commercially available)
- ◆ 2 bolts (M10 x 20)



Procedure

- Lock carrier and torque reaction support installed.



Note

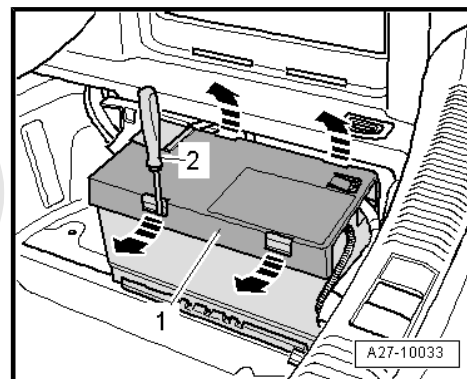
All cable ties which are released or cut open during removal must be fitted in the same position when installing.



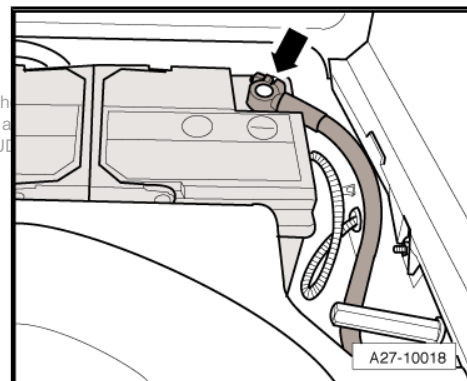
Caution

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

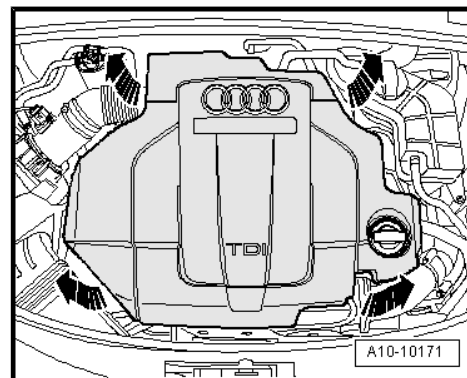
- Switch off ignition and remove ignition key.
- Take out luggage compartment floor covering.
- Release retaining clips -arrows- using a screwdriver -2- and remove cover -1- for negative terminal.



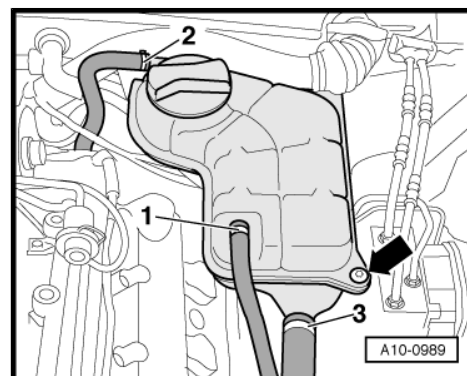
- Disconnect earth wire -arrow- at battery.



- Carefully detach engine cover panel from the four retaining studs -arrows- one by one.

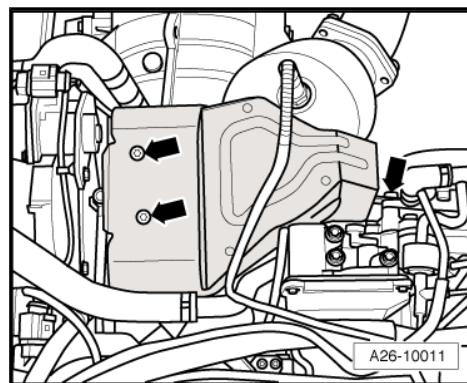


- Unbolt coolant expansion tank -arrow-.
- Unplug electrical connector for coolant shortage indicator switch - F66- at coolant expansion tank (bottom) and move expansion tank (with coolant hoses -1 ... 3- attached) clear to one side.

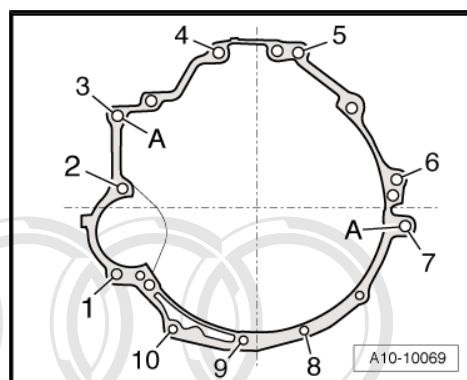


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

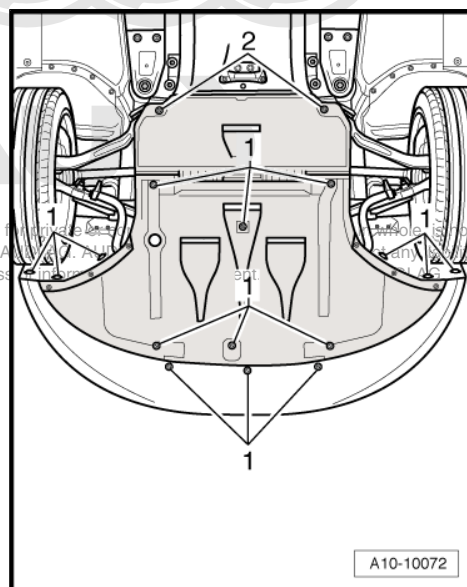
- Remove heat shield for turbocharger -arrows-.



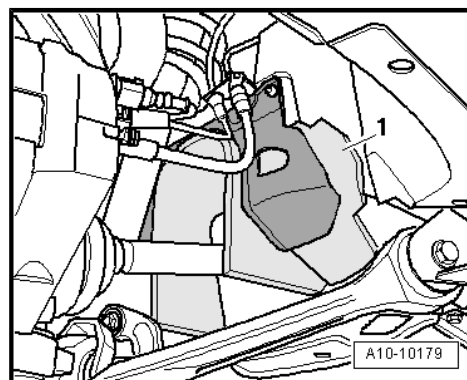
- Unscrew engine/gearbox securing bolts -4- and -5- (accessible from above).



- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove noise insulation -1- in wheel housing (left-side).



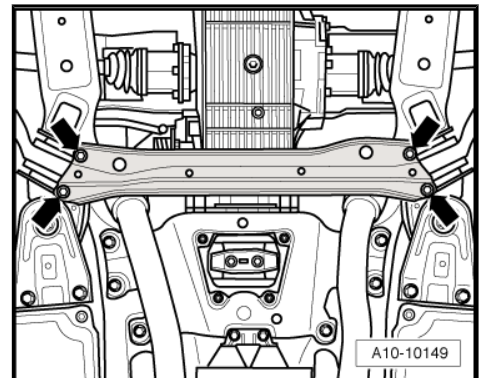
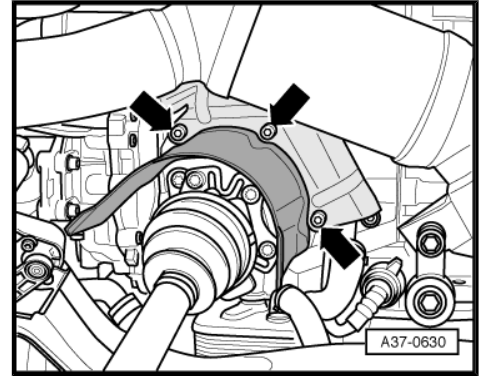
Protected by copyright. Copying for private use is permitted unless authorised by Audi AG. Any other use without the express written permission of Audi AG is prohibited with respect to the correctness of the content.

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

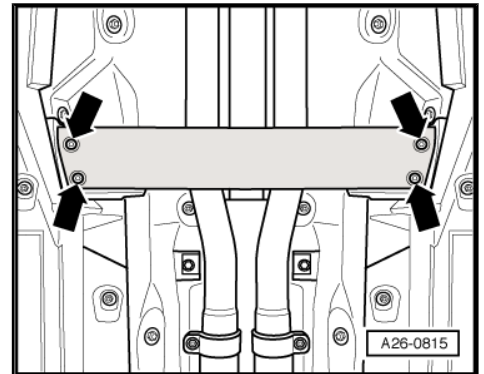
Audi

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 for the use of the information.

- Unscrew cross member from subframe -arrows-.

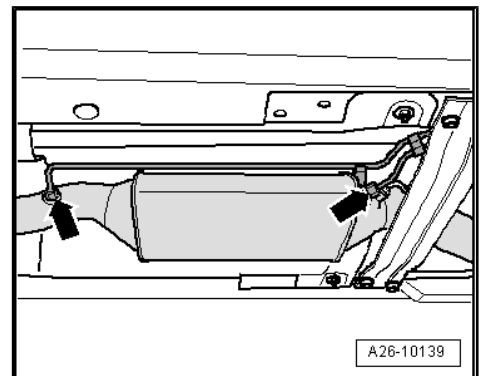


- Remove front cross piece -arrows-.



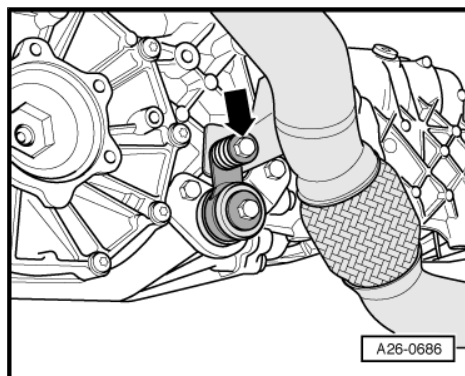
Vehicles with particulate filter

- Detach connections -arrows- and/or sensors from particulate filter and front exhaust pipe ⇒ Engine, mechanics; Rep. gr. 26 .



Continued for all vehicles

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

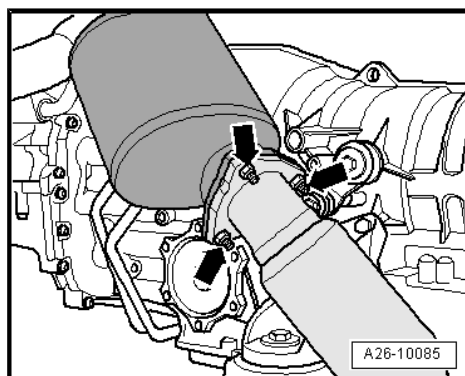


- Remove nuts -arrows-.

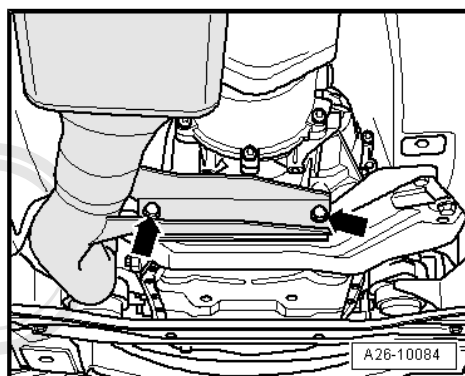


Note

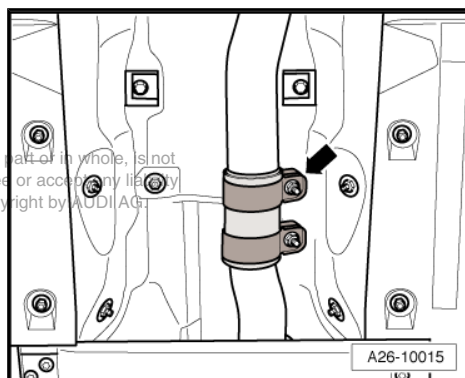
The flexible pipe connection (de-coupling element) on the front exhaust pipe must not be bent more than 10° – otherwise it can be damaged.



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

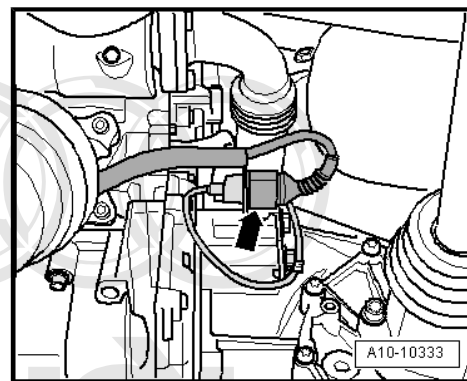


- Release clamp -arrow- to separate exhaust system and remove front exhaust pipe with catalytic converter.



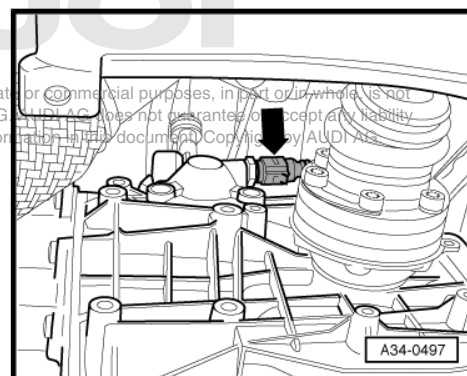
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Unplug electrical connector -arrow- for engine speed sender - G28- and move electrical wire clear.

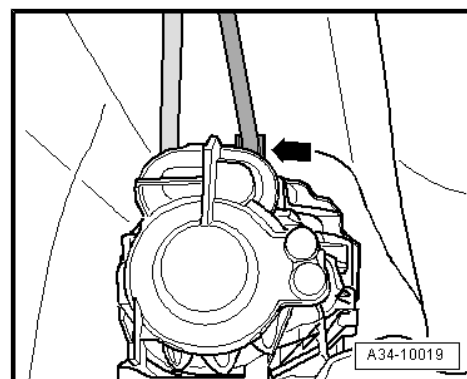


- Unplug electrical connector -arrow- for reversing light switch - F4- and move electrical wire clear.

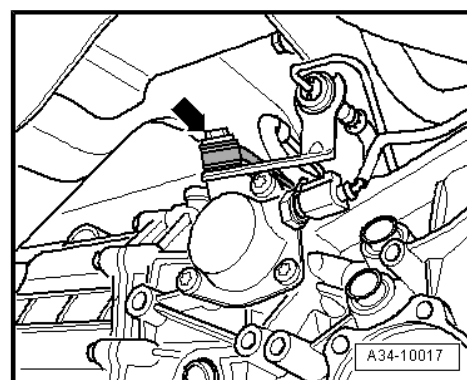
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright © by AUDI AG.



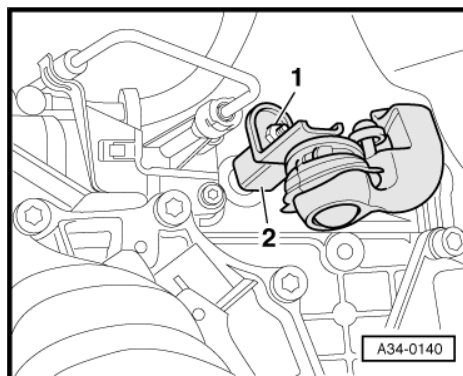
- Unscrew bolt -arrow- on push rod.



- Unscrew connecting rod -arrow- for selector rod.



- Unscrew nut -1- and detach gearbox selector lever -2- from selector shaft.

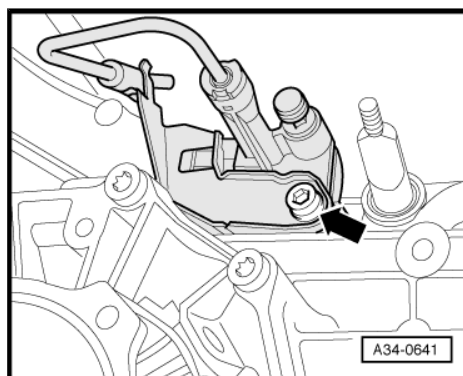


- Remove clutch slave cylinder -arrow-. Do not disconnect hoses/pipes.



Caution

Do not depress clutch pedal after removing slave cylinder. The slave cylinder would then be destroyed once pedal force exceeds 300 N.

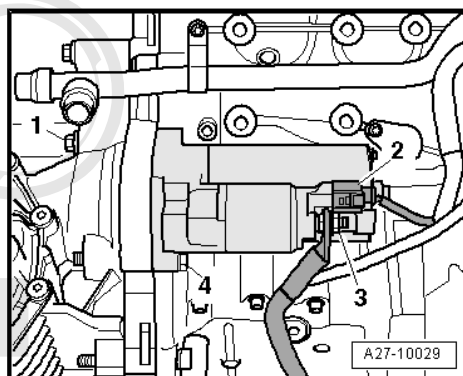


- Unscrew bolt -1- and nut -4- and remove starter.

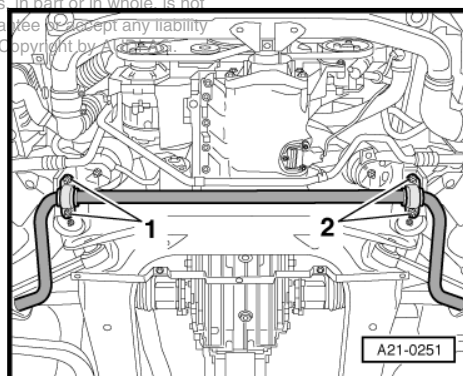


Note

The electrical wires -2- and -3- remain connected



- Detach anti-roll bar mountings -1- and -2- from subframe and pivot anti-roll bar down.

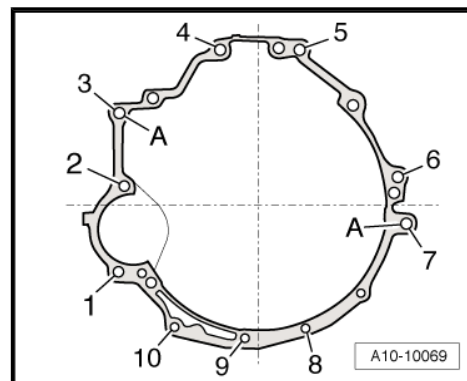


- Unscrew engine/gearbox securing bolts -6 ... 10- (accessible from below).



Note

Bolt -3- should remain screwed in hand-tight.

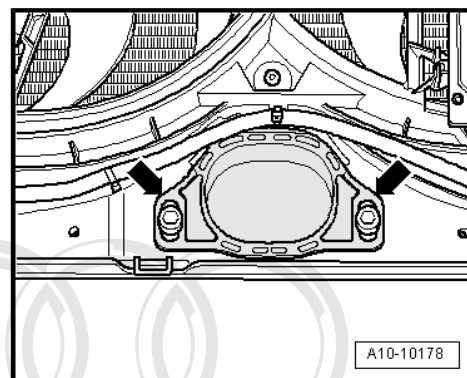


- Slacken bolts -arrows- at stop for torque reaction support.
- Press stop for torque reaction support upwards using a lever and tighten bolts again.



Note

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

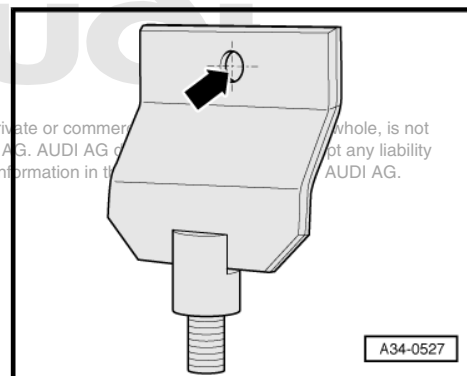


WARNING

The lock carrier must remain installed throughout the following procedure; it must not be moved to the service position.

- If not already provided, drill a hole of 10.2 mm Ø -arrow- in the support elements of gearbox support - 3282- .

Protected by copyright. Copying for private or commercial use, without the express permission of AUDI AG, is not permitted unless authorised by AUDI AG. AUDI AG does not accept any liability with respect to the correctness of information in this document.

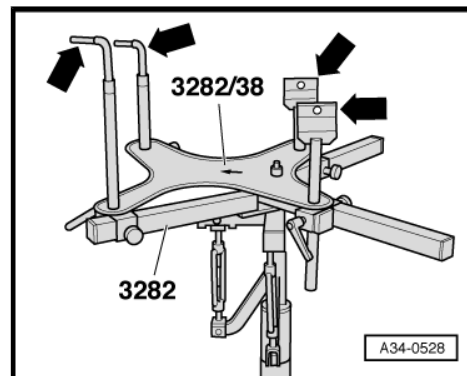


- Set up gearbox support - 3282- for removing manual gearbox 0A2 with adjustment plate - 3282/38- and place on engine and gearbox jack - V.A.G 1383 A- .

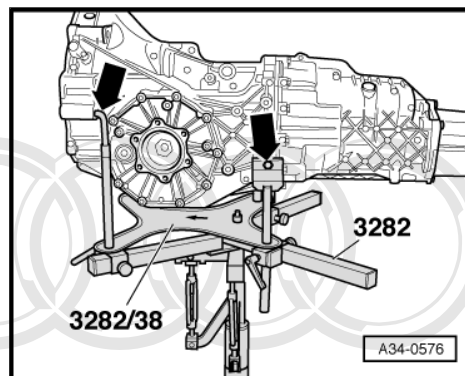


Note

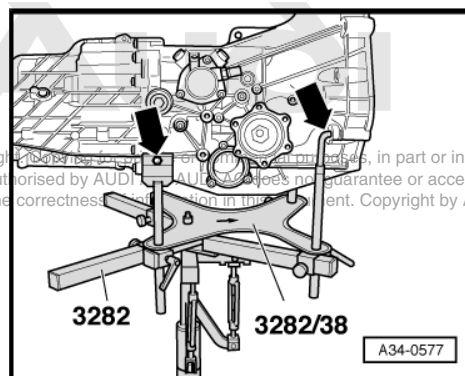
- ◆ *The support elements -arrows- are shown on the adjustment plate in schematic form; the arrow on the adjustment plate points in the direction of travel.*
- ◆ *Adjustment plate can only be fitted in one correct position.*



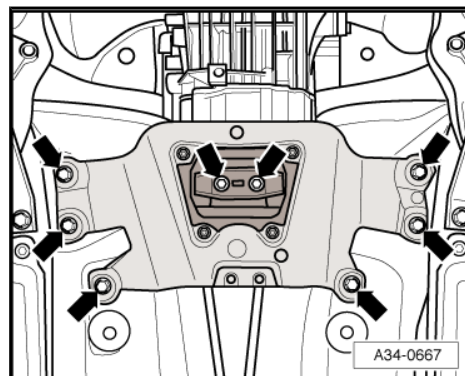
- Align the adjustment plate parallel to the gearbox.
- Secure support elements to left side of gearbox, as shown in illustration. Tighten bolt (M10 x 20) -arrow on right side- to 20 Nm.



- Secure support elements to right side of gearbox, as shown in illustration. Tighten bolt (M10 x 20) -arrow on left side- to 20 Nm.



- Unscrew bolts -arrows- and detach tunnel cross member with gearbox mounting.



Vehicles with particulate filter

- Unplug electrical connectors -1- and -2- and move wiring clear.
- Remove bolts -3- and detach pipes.

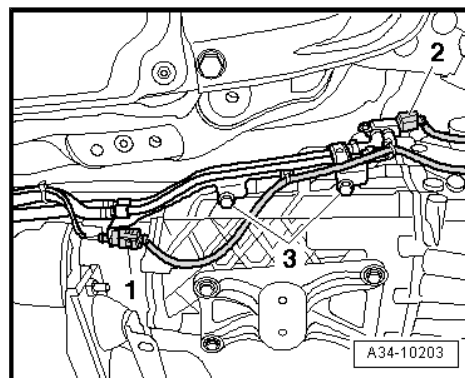
Continued for all vehicles

- Remove the last engine/gearbox securing bolt.
- Unseat gearbox from dowel sleeves and lower carefully with engine and gearbox jack - V.A.G 1383 A- .

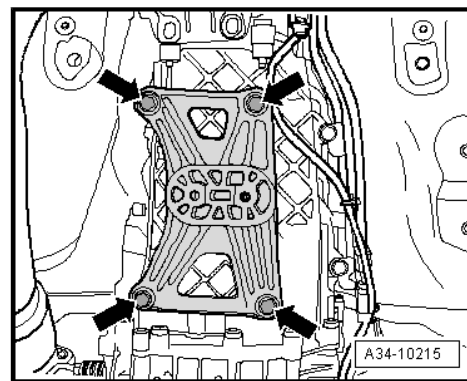


Note

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



- If you will be installing a new gearbox you must also remove the gearbox support -arrows-.



2.2 Installing gearbox - vehicles with 2.7 ltr. TDI engine

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

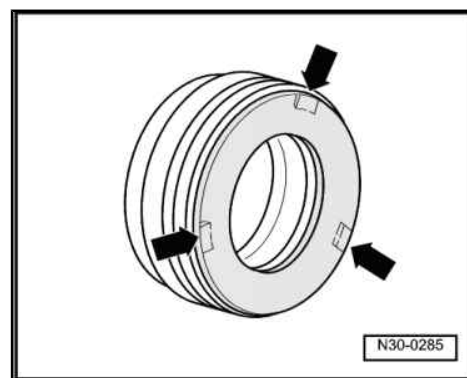
Note

- ◆ *Renew self-locking nuts and bolts when performing assembly work.*
- ◆ *Re-attach all cable ties at the same locations when re-installing.*
- When fitting a new clutch plate in conjunction with a used SAC pressure plate please observe the installation instructions [⇒ page 40](#)
- Clean input shaft splines and (in the case of used clutch plates) the hub splines. Remove corrosion and apply only a very thin coating of grease for clutch plate splines - G 000 100- to the splines. Do not grease the guide sleeve.
- It should be possible to push the clutch plate back and forth slightly on the input shaft.
- Check clutch release bearing for wear and renew if necessary [⇒ Item 9 \(page 24\)](#).
- If plastic ring -arrows- has come loose, service release bearing as required [⇒ page 26](#).

Note

The release bearing must be renewed if the groove worn on the plastic ring is deeper than 0.8 mm.

- Check that dowel sleeves for centralising engine/gearbox are in the cylinder block, install if necessary.
- Push intermediate plate onto dowel sleeves between engine and gearbox.
- Before installing gearbox, tie electrical wiring off to one side so that it cannot be trapped between the engine and the gearbox.



- Lightly lubricate surface where plunger and clutch release lever make contact -arrow B- using copper grease (commercially available).
- Raise gearbox far enough to be able to install clutch slave cylinder.
- Guide slave cylinder -1- into opening in gearbox housing, keeping it as straight as possible (without tilting plunger -arrow A-) and insert in recess -arrow B- on clutch release lever -3-.



Note

If the slave cylinder -1- is inserted at an angle, there is a danger that the plunger -arrow A- will be guided past the clutch release lever -3-.



Caution

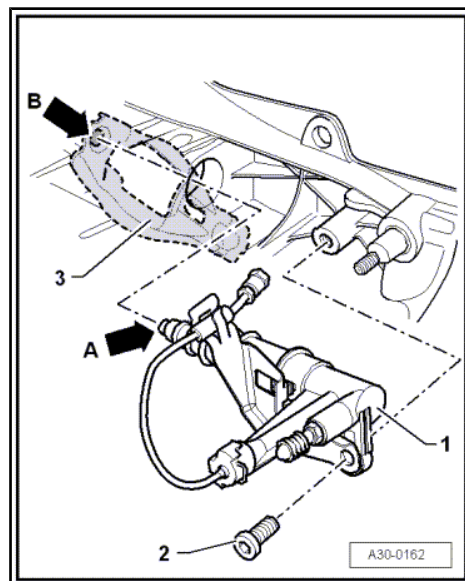
Press the clutch pedal carefully after installing the gearbox.

If you feel an unusually strong point of resistance when depressing the clutch pedal, you must not press it down further.

The plunger of the slave cylinder is likely to have been guided past the clutch release lever.

The slave cylinder would then be destroyed once pedal force exceeds approx. 300 N.

For comparison: normal pedal force is approx. 115 N.

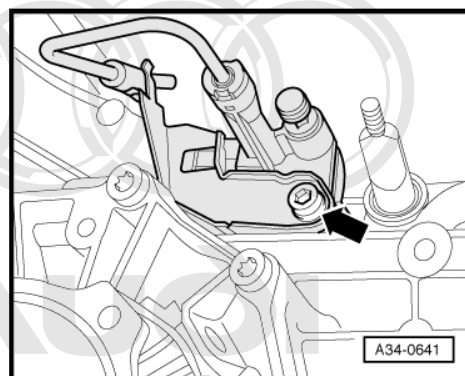


- Secure clutch slave cylinder with new bolt -arrow-.
- When aligning the gearbox with the engine, turn crankshaft back and forth slightly to make it easier to insert the gearbox input shaft splines into the clutch plate.
- Bolt gearbox onto engine.



Note

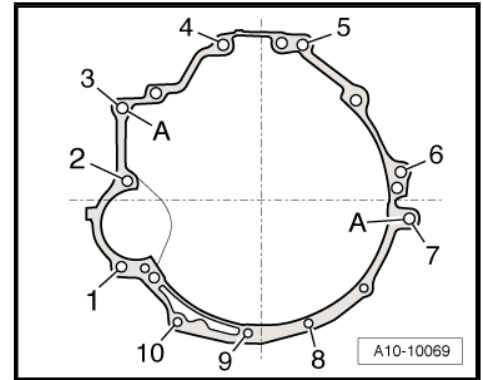
- ◆ *Tightening torques apply only to lightly greased, oiled, phosphated or black-finished nuts and bolts.*
- ◆ *Additional lubricant such as engine or gear oil may be used, but do not use graphite lubricant.*
- ◆ *Do not use parts which have been degraded.*
- ◆ *Tolerance for tightening torques is $\pm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



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.

Engine/gearbox securing bolts

Item	Bolt	Nm
1, 2	M10 x 135	65 ♦ Property class 10.9
3, 4, 5	M12 x 105	65
6, 7	M12 x 120	65
8, 9, 10	M10 x 80	45
A	Dowel sleeves for centralising	

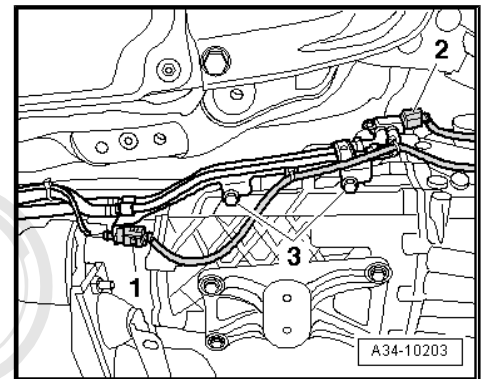


The remaining installation steps are carried out in the reverse sequence; note the following points:

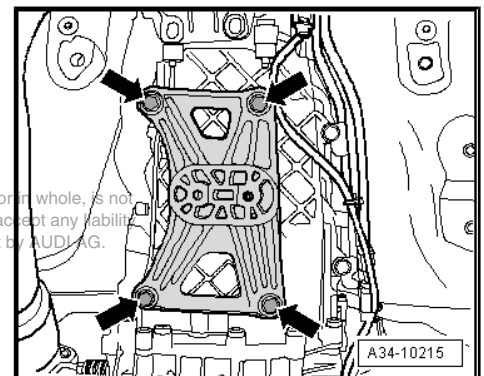
Vehicles with particulate filter

- Attach pipes for particulate filter -3-.
- Plug in connectors -1- and -2-.

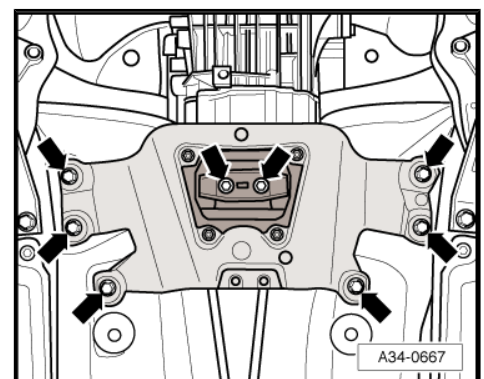
Continued for all vehicles



- If removed earlier, fit gearbox support on gearbox and tighten bolts -arrows- to specified torque [⇒ page 68](#).

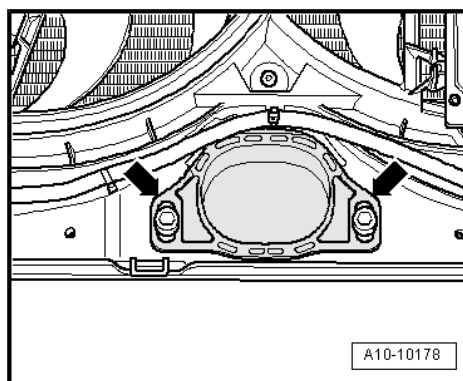
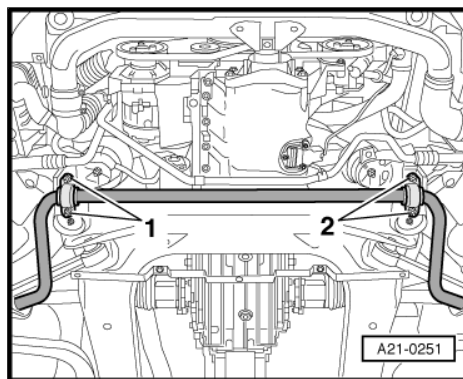


- Install tunnel cross member with gearbox mounting -arrows- [⇒ page 68](#).



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.

- Secure anti-roll bar on subframe ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Fit selector linkage onto gearbox ⇒ [page 49](#) .
- Install front exhaust pipe with catalytic converter ⇒ Engine, mechanics; Rep. gr. 26 .
- Align exhaust system so it is free of stress ⇒ Engine, mechanics; Rep. gr. 26 .
- Bolt drive shafts to flange shafts ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Fit cross member on subframe and install front cross member ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Install torque reaction support and allow stop for torque reaction support to settle on rubber buffer for torque reaction support and re-tighten bolts.
- Electrical connections and routing ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Follow steps required after connecting battery ⇒ Electrical system; Rep. gr. 27 .



Caution

Never use a charger to aid starting. Otherwise, the vehicle's control units could be damaged.

Tightening torques



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 $\pm 15\%$.*

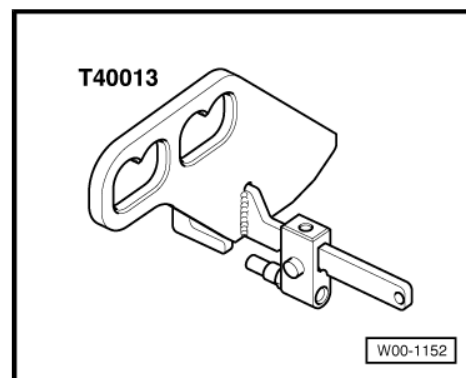
Component		Nm
Bolts/nuts	M6	9
	M8	20
	M10	40
	M12	65
Except for the following:		
Heat shield for drive shaft to gearbox		23
Stop for torque reaction support to lock carrier		40

2.3 Transporting gearbox

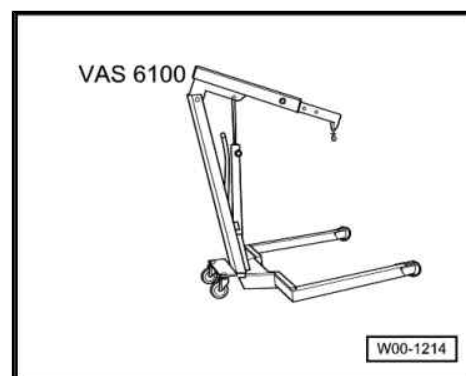
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Special tools and workshop equipment required

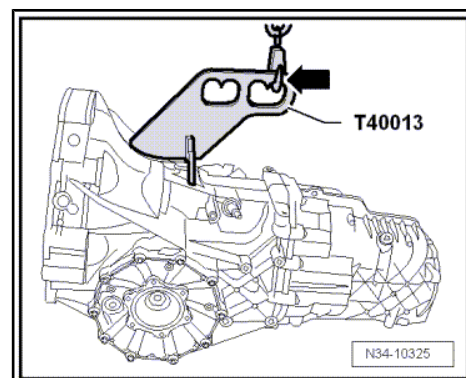
◆ Lifting aid - T40013-



◆ Workshop hoist - VAS 6100-



- Insert lifting aid - T40013- in lifting eye on gearbox and secure.
- Engage hook of workshop hoist in 4th notch -arrow- on lifting aid .
- Lift gearbox with workshop hoist and lifting aid - T40013- .



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

1 - Gearbox

- ☐ Removing and installing
⇒ [page 54](#)

2 - Gearbox support

- ☐ Removing and installing
⇒ [page 71](#)

3 - Gearbox mounting

- ☐ Removing and installing
⇒ [page 71](#)

4 - Tunnel cross member

- ☐ Removing and installing
⇒ [page 68](#)

5 - Bolt

- ☐ 50 Nm
- ☐ For securing tunnel cross member to body

6 - Nut

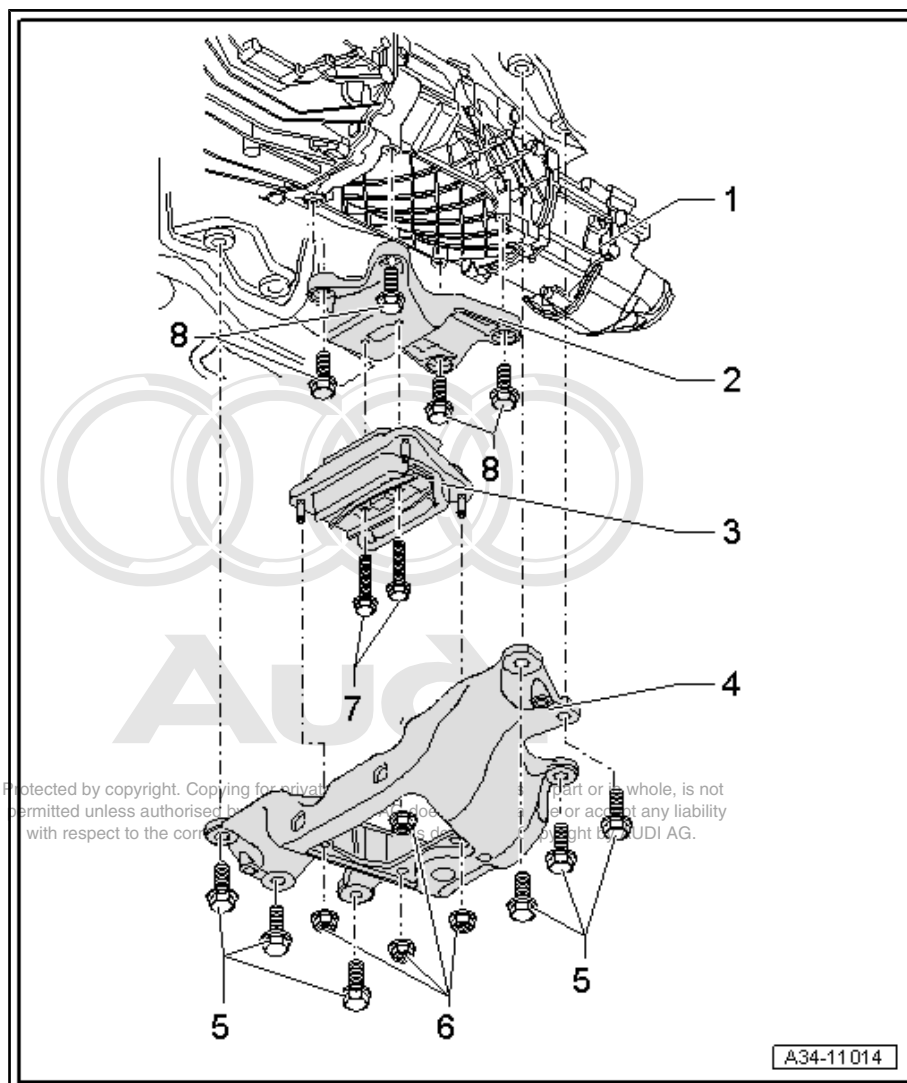
- ☐ 23 Nm
- ☐ For securing tunnel cross member to gearbox mounting

7 - Bolt

- ☐ 23 Nm
- ☐ For securing gearbox mounting to gearbox support

8 - Bolt

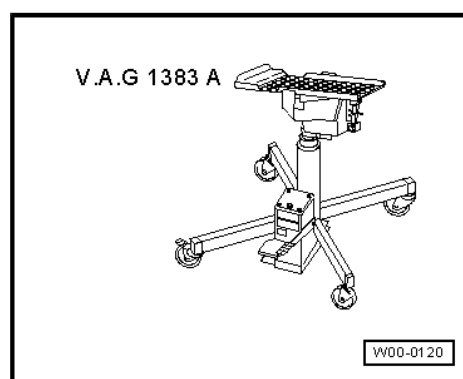
- ☐ 23 Nm
- ☐ For securing gearbox support to gearbox



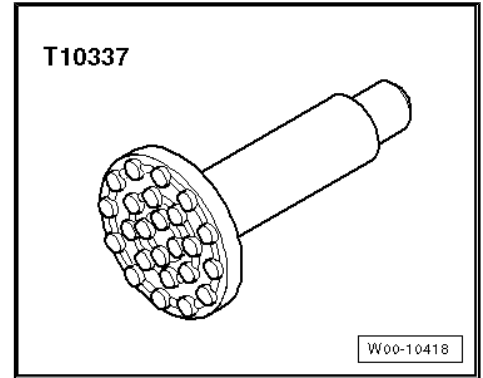
3.1 Removing and installing tunnel cross member

Special tools and workshop equipment required

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



◆ Gearbox support - T10337-



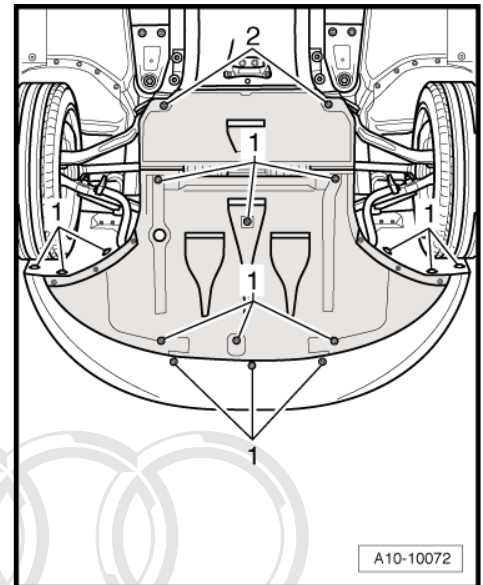
Removing

- Release quick-release fasteners -2- and detach noise insulation (rear).

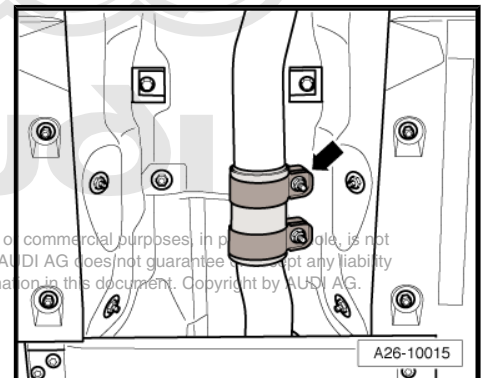


Note

-Item 1- can be disregarded.



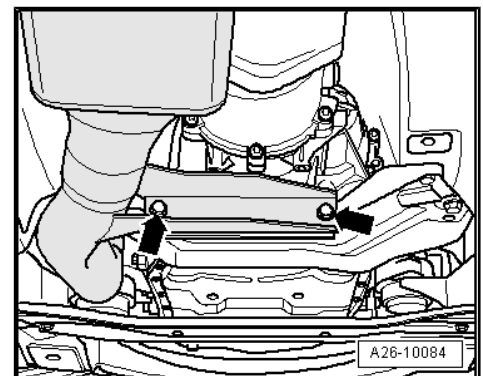
- Disconnect exhaust system at clamp -arrows-.



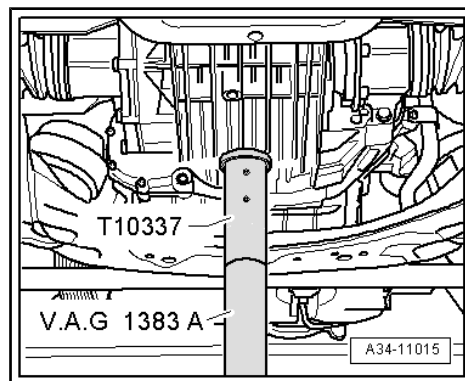
Note

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

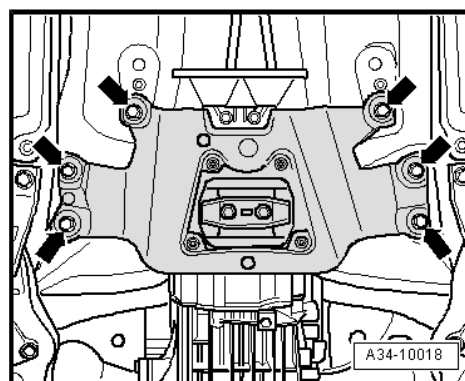
- Unscrew bolts -arrows- at bracket for front exhaust pipe.



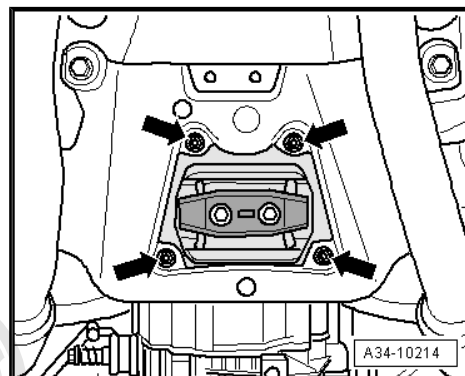
- Apply lifting column of engine and gearbox jack - V.A.G 1383 A- to gearbox from below (with gearbox support - T10337- attached).
- Use engine and gearbox jack - V.A.G 1383 A- to lift gearbox up slightly.



- Remove bolts -arrows- securing tunnel cross member to body.



- Then unscrew nuts -arrows- securing tunnel cross member to gearbox mounting and detach tunnel cross member.



Installing

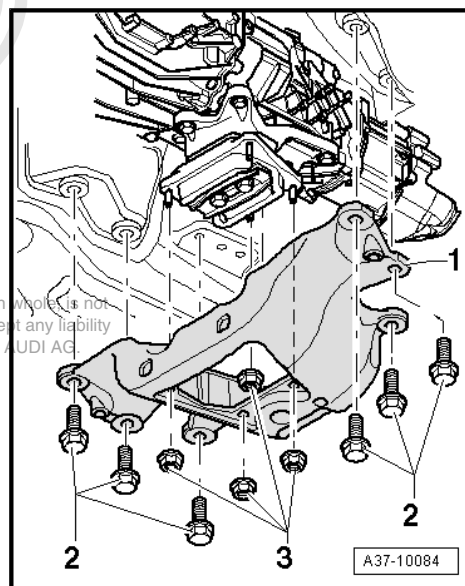
Installation is carried out in reverse sequence; note the following:

- Secure tunnel cross member -1- to gearbox mounting with nuts -3-; tightening torque ⇒ [Item 6 \(page 68\)](#) .
- Then secure tunnel cross member to body with bolts -2-; tightening torque ⇒ [Item 5 \(page 68\)](#) .
- Install exhaust system so it is free of stress ⇒ Engine, mechanics; Rep. gr. 26 .
- Install noise insulation below gearbox!

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.

Tightening torques

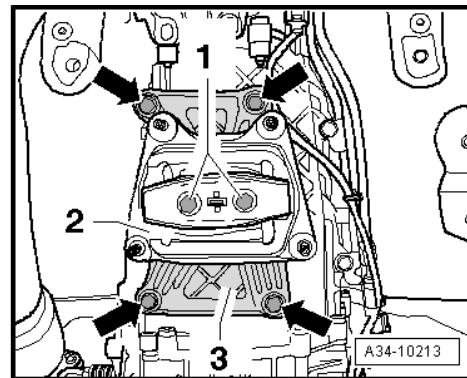
Component	Nm
Bracket for front exhaust pipes to gearbox	23
Front exhaust pipes to bracket	23



3.2 Removing and installing gearbox mounting and gearbox support

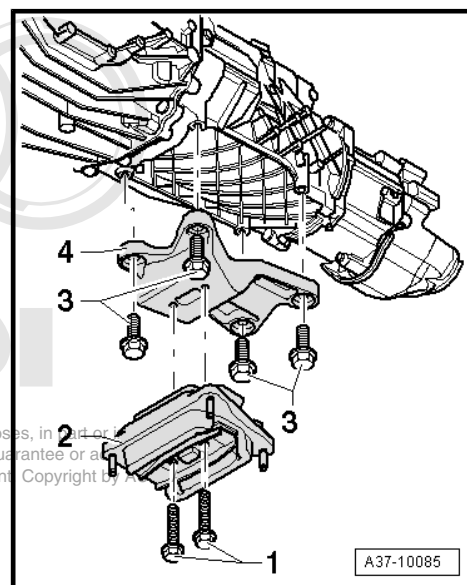
Removing

- Remove tunnel cross member ⇒ [page 68](#) .
- Unscrew bolts -1- and detach gearbox mounting -2-.
- If necessary, unscrew bolts -arrows- and detach gearbox support -3-.



Installing

- If removed earlier, fit gearbox support -4- to gearbox and tighten bolts -3- to specified torque ⇒ [Item 8 \(page 68\)](#) .
- Fit gearbox mounting -2- and tighten bolts -1- to specified torque ⇒ [Item 7 \(page 68\)](#) .
- Install tunnel cross member ⇒ [page 68](#) .



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 guarantee or accept any liability with respect to the correctness of information in this document. Copyright by Audi AG.

4 Checking oil level in manual gearbox

Procedure



Note

The vehicle must be horizontal when checking gear oil level.

The prescribed oil level is to be adhered to exactly; the gearbox reacts very sensitively to over-filling.

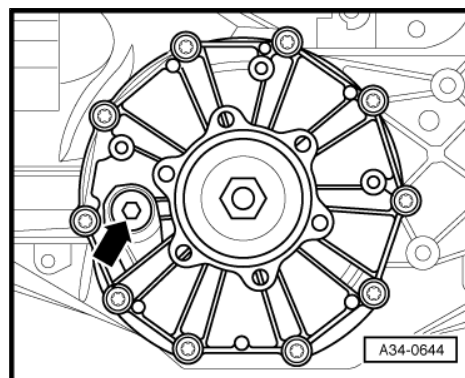
DI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Gear oil level is checked with gearbox installed.

- To check gear oil level, unscrew oil filler plug -arrow-.
- Check oil level with a suitable tool (such as a length of wire bent to shape).
- The oil level is correct when gearbox oil is up to $2\text{ mm} \pm 1\text{ mm}$ below bottom lip of filler hole.
- Top up with gear oil if necessary. Specifications ⇒ Electronic parts catalogue
- Screw in oil filler plug -arrow-.

Tightening torque

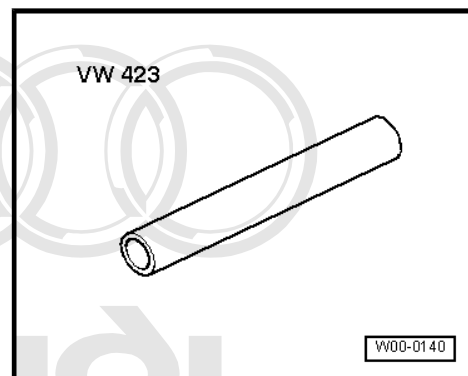
Component	Nm
Oil filler plug	40



5 Renewing oil seal for selector shaft with gearbox installed

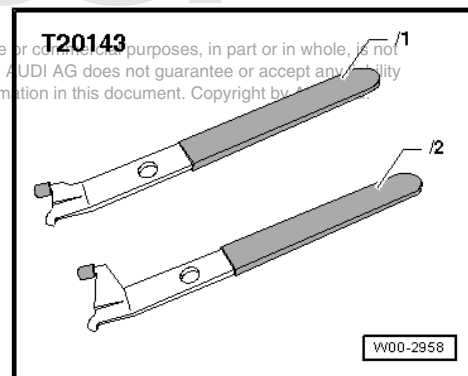
Special tools and workshop equipment required

- ◆ Tube - VW 423-



- ◆ Extractor tool - T20143/1-

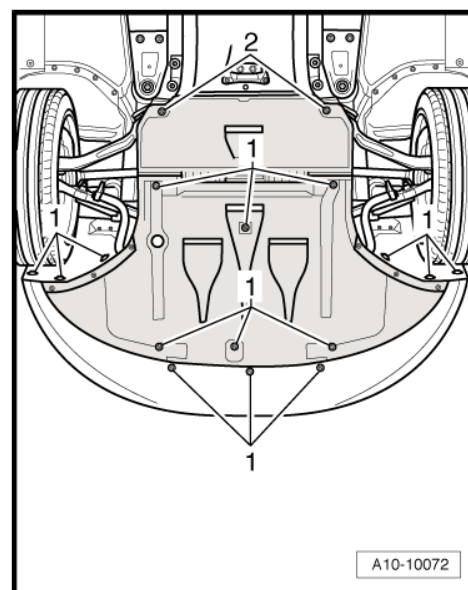
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by Audi AG.



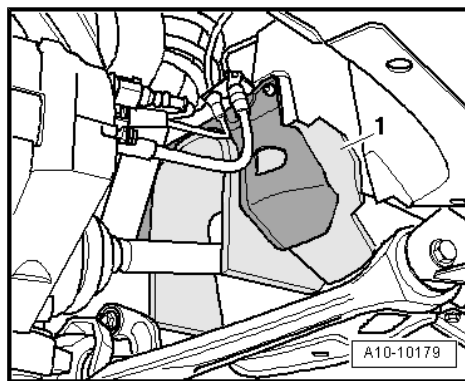
- ◆ Assembly sleeve - 01E 311 120-
- ◆ Sealing grease - G 052 128 A1-

Removing

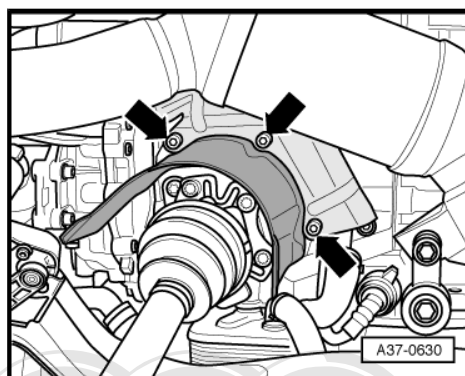
- Loosen bolts and release quick-fasteners -1- and -2- and take off noise insulation panels.



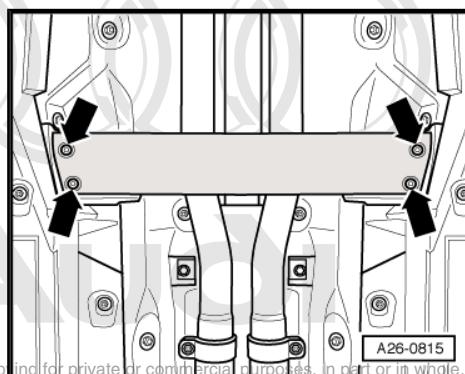
- Remove noise insulation -1- in wheel housing (left-side).



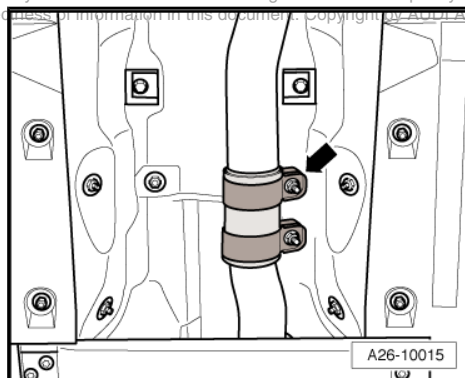
- Unbolt heat shield -arrows- for drive shaft (left-side).



- Unbolt front cross piece -arrows-.



- Disconnect exhaust system at clamp -arrow-.



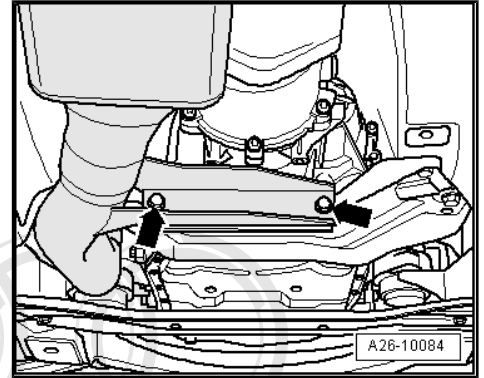
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright © AUDI AG.



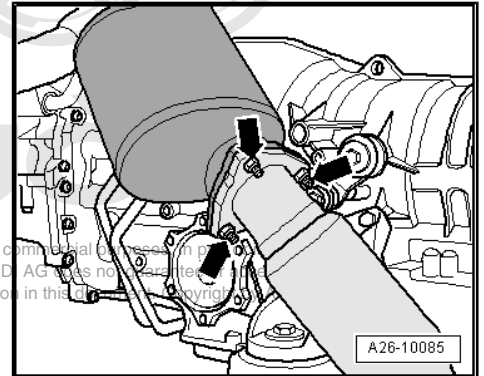
Note

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

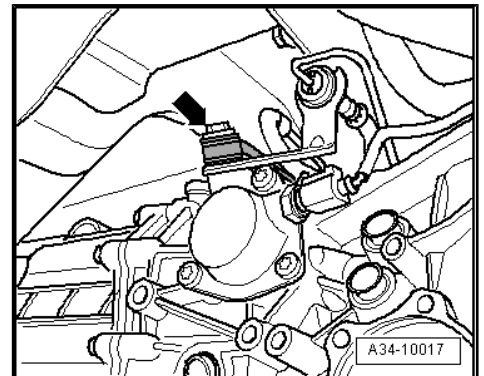
- Unscrew bolts -arrows- at bracket for front exhaust pipe.



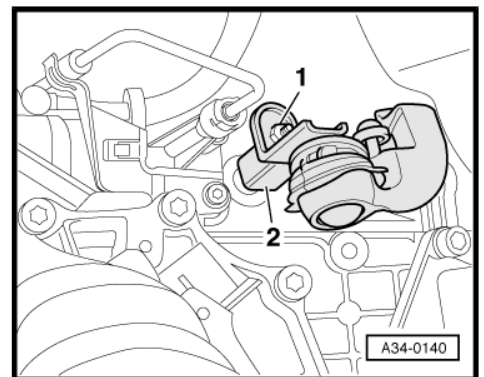
- Remove front exhaust pipe -arrows-.



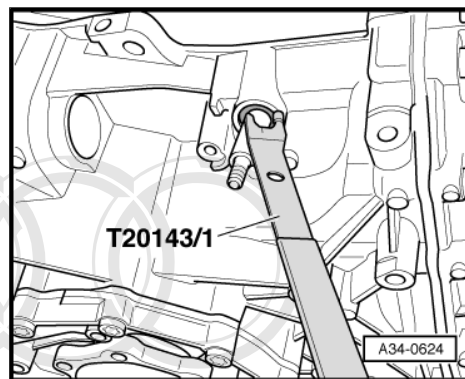
- Unscrew connecting rod -arrow- for selector rod.



- Unscrew nut -1- and pull gearbox selector lever -2- off gearbox selector shaft.



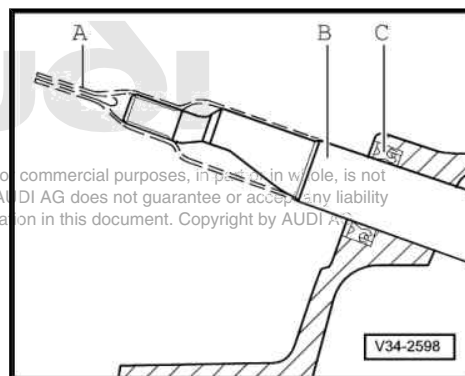
- Carefully lever out oil seal, taking care not to damage shaft.
- Check selector shaft for damage.



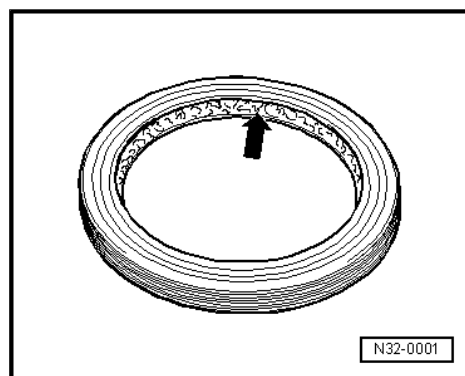
Installing

- To avoid damaging oil seal -C-, always use assembly sleeve -01E 311 120- -A- when installing oil seal and selector shaft.

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.



- Pack space between sealing lip and dust lip -arrow- half full with sealing grease - G 052 128 A1- .
- Lightly oil outer circumference of oil seal.



- Using tube - VW 423- , knock in oil seal -arrow- to a depth of 1.1 mm $\pm$ 0.2 mm.

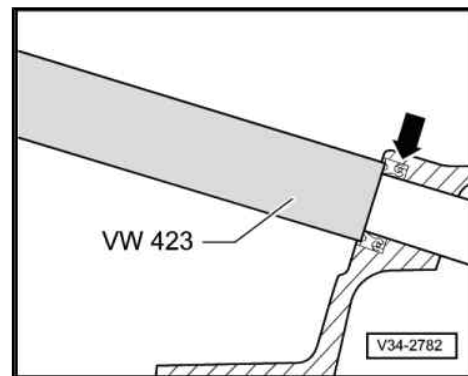
The remaining installation steps are carried out in the reverse sequence; note the following points:

- Check gear oil level in gearbox $\Rightarrow$ [page 72](#) .
- Install front exhaust pipe and align exhaust system so it is free of stress $\Rightarrow$ Engine, mechanics; Rep. gr. 26 .
- Install front cross piece $\Rightarrow$ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Install noise insulation for drive shaft and noise insulation 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 for the completeness of information in this document. Copyright by AUDI AG.

Tightening torques

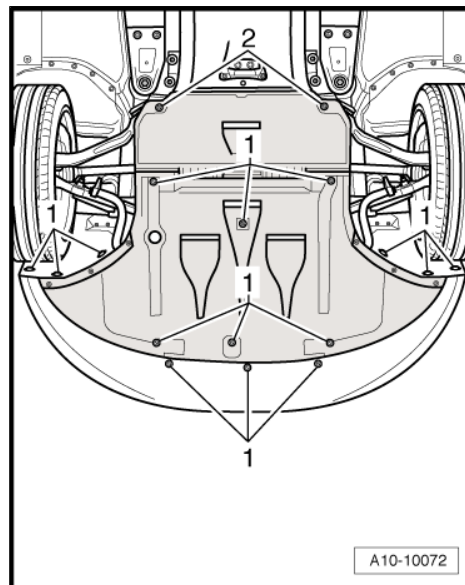
Component	Nm
Gearbox selector lever to selector shaft	23 ♦ Renew cap nut
Connecting rod to gearbox	23
Heat shield for drive shaft to gearbox	23



6 Removing and installing reversing light switch - F4-

Removing

- Release quick-release fasteners -2- and detach noise insulation (rear).



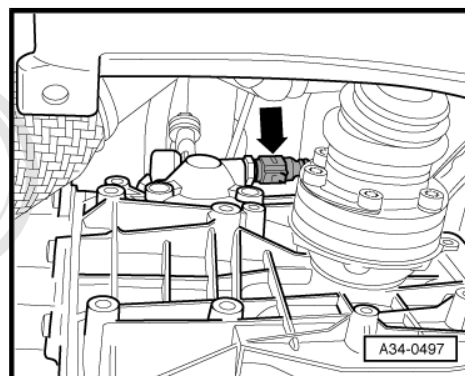
- Unplug connector -arrow- for reversing light switch - F4- on right side of gearbox.
- Unscrew reversing light switch - F4- from selector shaft cover -arrow-.

Installing

Perform installation in reverse sequence of removal.

Tightening torque

Component	Nm
Reversing light switch - F4- in selector shaft cover	20

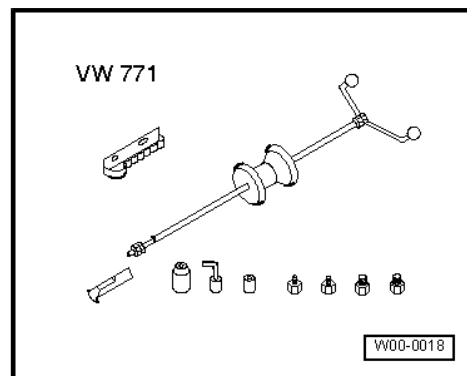


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

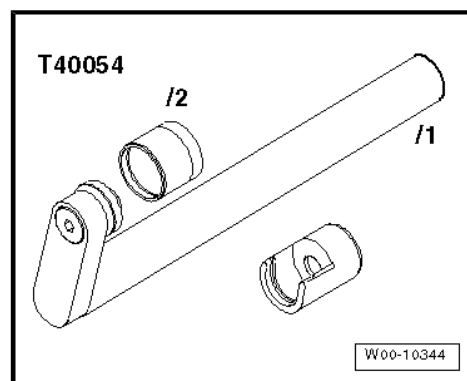
7 Removing and installing selector shaft locking bushes (with gearbox installed in vehicle)

Special tools and workshop equipment required

- ◆ Multi-purpose tool - VW 771-

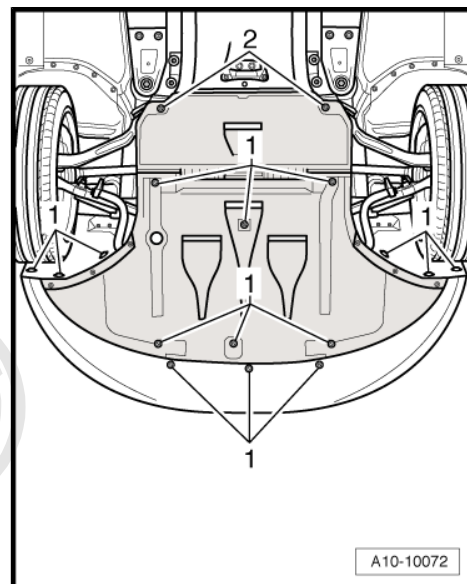


- ◆ Puller - T40054/1 -/2-

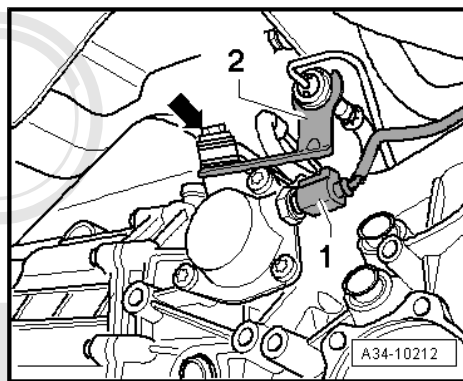


Removing

- Loosen bolts and release quick-fasteners -1- and -2- and take off noise insulation panels.



- Unplug electrical connector -1- at reversing light switch - F4- .
- If clutch pipe bracket -2- is fitted, remove bolt -arrow- and detach bracket.

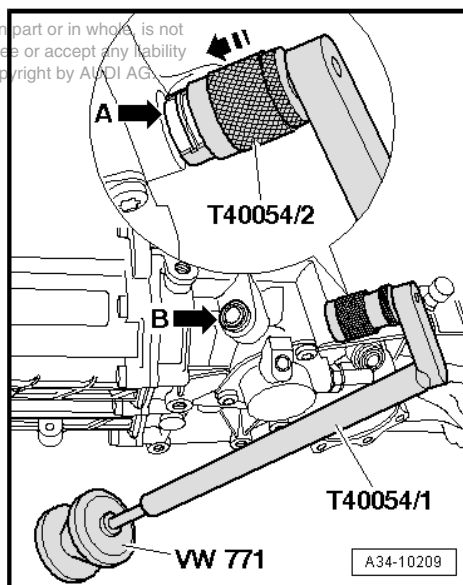


- Screw spindle of multi-purpose tool - VW 771- into stem of puller - T40054/1 - .
- Fit puller onto locking bush -arrow A- .
- Secure puller by sliding on sleeve -T40054/2- as far as stop in direction of -arrow- .
- Drive out locking bush upwards using multi-purpose tool - VW 771- .



Note

The other locking bush -arrow B- is removed in the same manner.



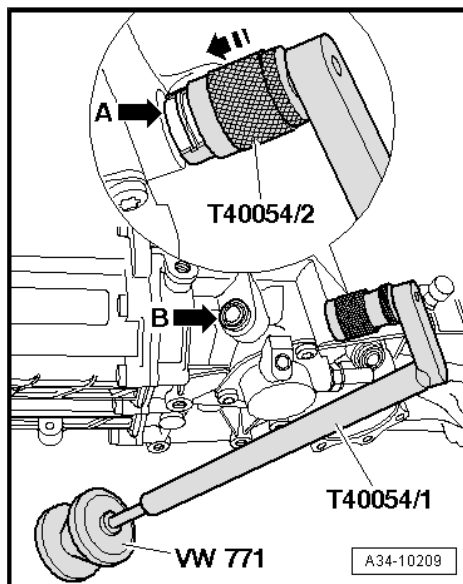
Installing

- Lightly oil stems of locking bushes and holes in gearbox with gear oil.
- Place locking bush in puller - T40054/1- -arrow A- and secure it in place by sliding down sleeve - T40054/2- .
- Use multi-purpose tool - VW 771- to drive locking bush into gearbox as far as stop.



Note

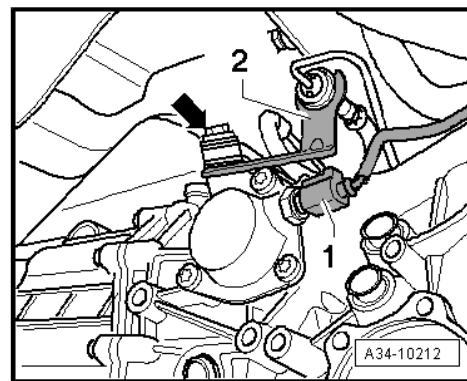
- ◆ Make sure locking bushes remain in straight position when installing.
- ◆ The other locking bush -arrow B- is installed in the same manner.



- Plug connector -1- onto reversing light switch - F4- .
- If fitted, secure clutch pipe bracket -2- together with connecting rod -arrow-.
- Install noise insulation panels.

Tightening torque

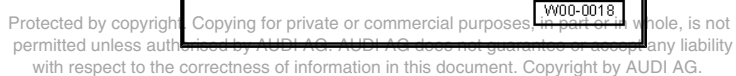
Component	Nm
Connecting rod to gearbox	23



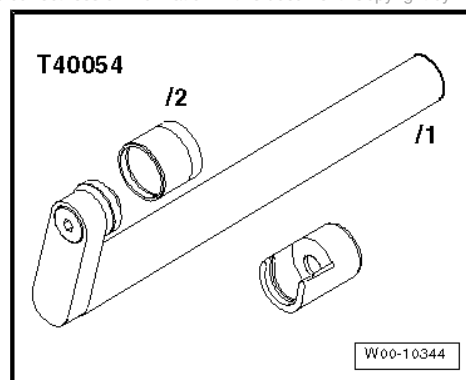
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Special tools and workshop equipment required

- ◆ Multi-purpose tool - VW 771-



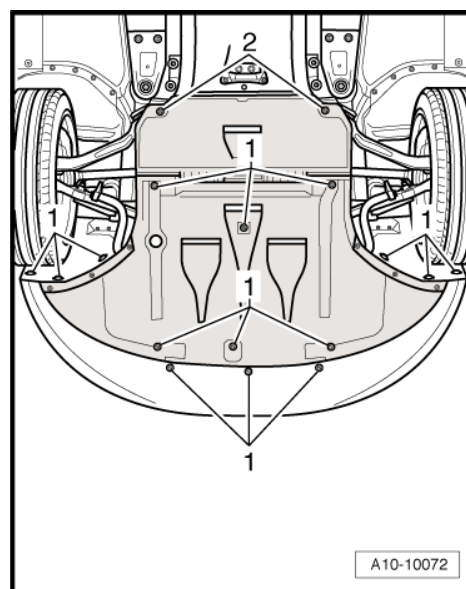
- ◆ Puller - T40054/1 -/2-



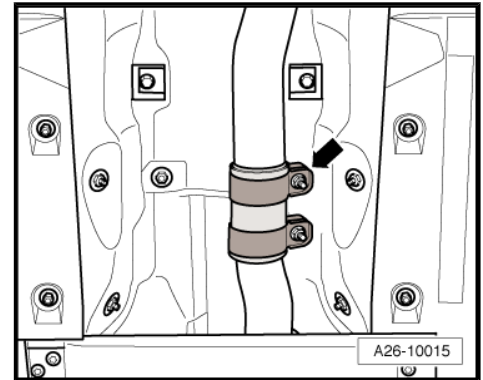
- ◆ Assembly sleeve - 01E 311 120-
- ◆ Locking fluid - AMV 185 101 A1-

Removing

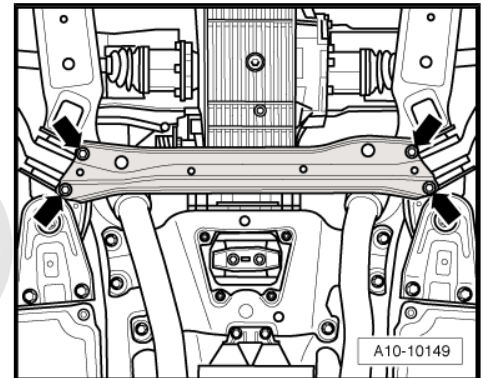
- Loosen bolts and release quick-fasteners -1- and -2- and take off noise insulation panels.



- Disconnect exhaust system at clamp -arrow-.

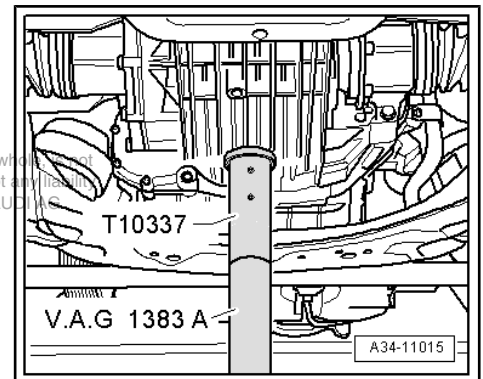


- Unscrew cross member from subframe -arrows-.

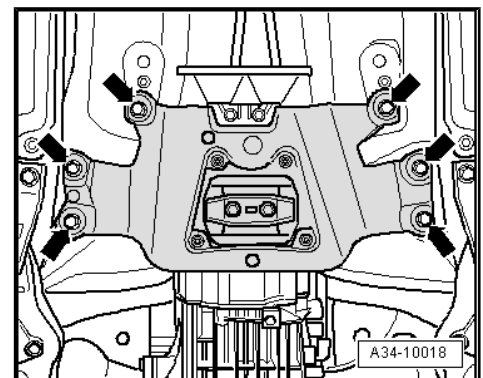


- Apply lifting column of engine and gearbox jack - V.A.G 1383 A- to gearbox from below (with gearbox support - T10337- attached).
- Use engine and gearbox jack - V.A.G 1383 A- to lift gearbox up slightly.

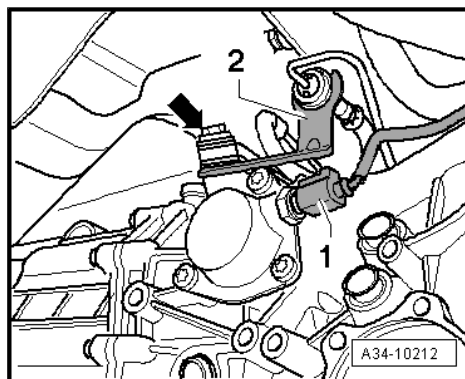
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



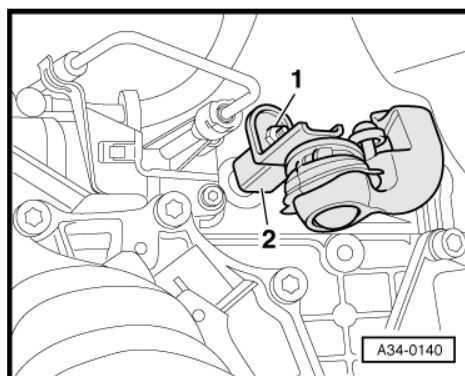
- Remove bolts -arrows- for tunnel cross member.
- Lower gearbox slightly.



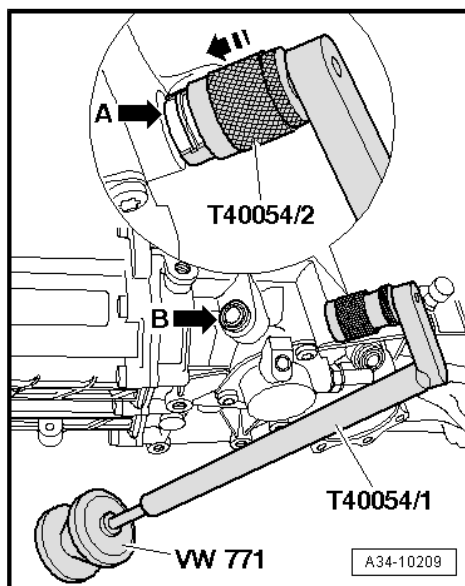
- Unplug electrical connector -1- at reversing light switch - F4- .
- Unscrew bolt -arrow- and detach clutch pipe bracket -2-.



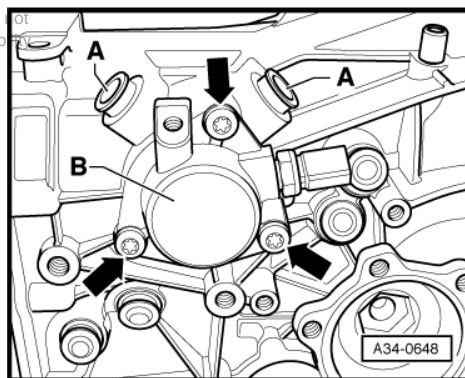
- Unscrew nut -1- and pull gearbox selector lever -2- off gearbox selector shaft.



- Screw spindle of multi-purpose tool - VW 771- into stem of puller - T40054/1 - .
- Fit puller onto locking bush -arrow A-.
- Secure puller by sliding on sleeve - T40054/2- as far as stop in direction of -arrow-.
- Drive out locking bush upwards using multi-purpose tool - VW 771- .
- The other locking bush -arrow B- is removed in the same manner.



- Remove bolts -arrows- and take off selector shaft cover -B-.



- Push selector shaft -A- into gearbox as far as it will go, simultaneously removing pin -B-.
- Make sure that no gear has been engaged.
- Pull out selector shaft.

Installing

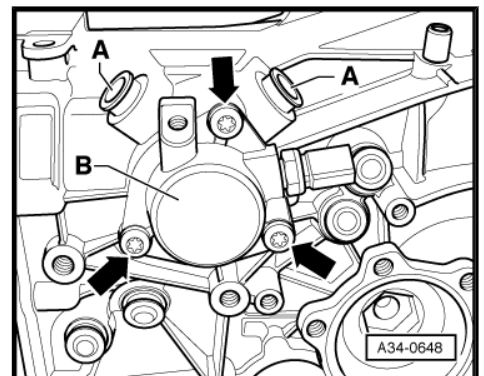
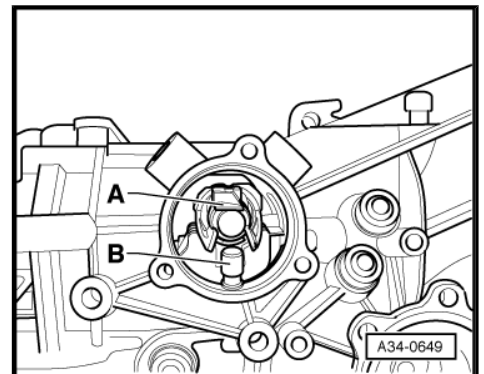
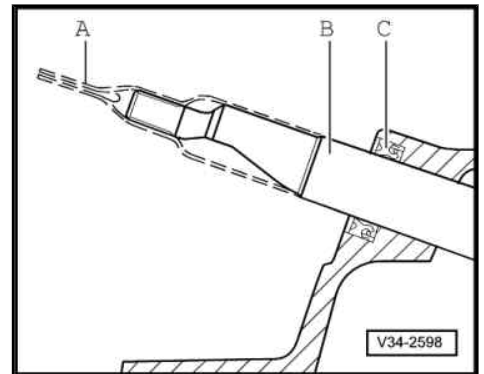
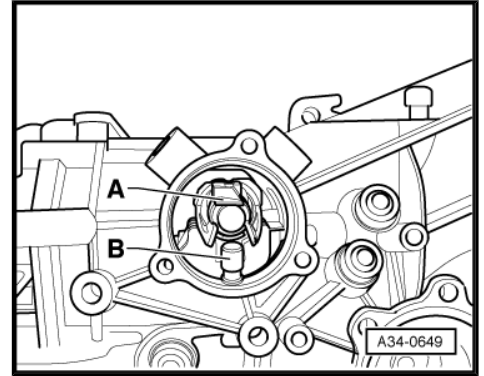
Installation is carried out in reverse sequence; note the following:

- Push assembly sleeve - 01E 311 120- -A- onto selector shaft -B-.
- Install complete selector shaft.
- ◆ Installation position: Chamfer of selector shaft points downwards.

- Push selector shaft -A- into gearbox as far as it will go, simultaneously inserting pin -B-.

Installation position of pin -B-: lug on pin points in direction of gearbox housing.

- Fit cover -B- with new O-ring.
- Clean threads of bolts -arrows- with a wire brush. Then apply locking fluid - AMV 185 101 A1- to bolts and tighten.

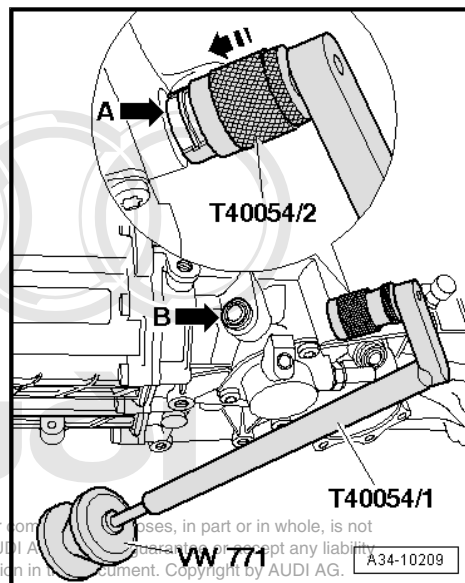


- Lightly oil stems of locking bushes and holes in gearbox with gear oil.
- Place locking bush in puller - T40054/1- -arrow A- and secure it in place by sliding down sleeve - T40054/2- .
- Use multi-purpose tool - VW 771- to drive locking bush into gearbox as far as stop.



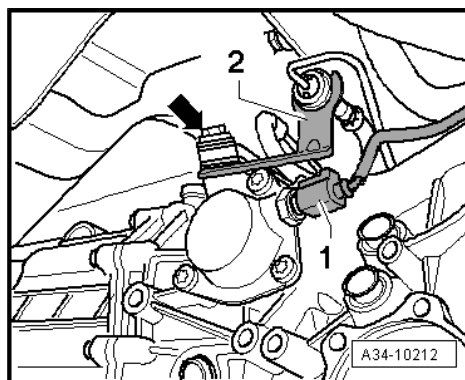
Note

- ◆ *Make sure locking bushes remain in straight position when installing.*
- ◆ *The other locking bush -arrow B- is installed in the same manner.*

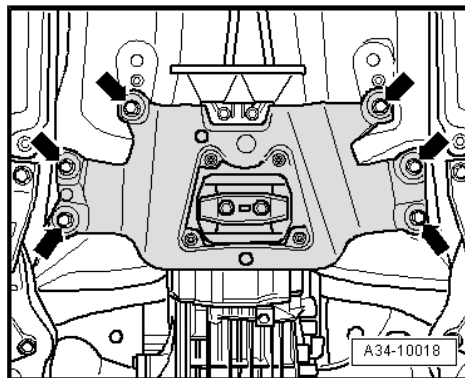


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG assumes no liability for any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Secure clutch pipe bracket -2- together with connecting rod -arrow-.
- Plug electrical connector -1- in at reversing light switch - F4- .



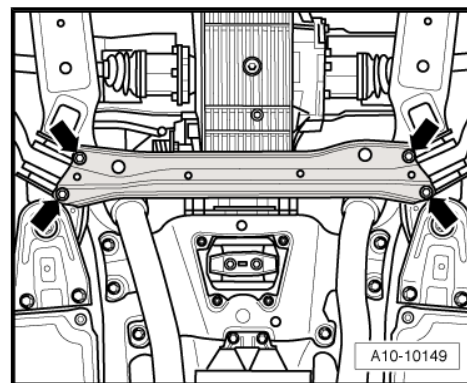
- Lift gearbox using engine and gearbox jack - V.A.G 1383 A- .
- Secure tunnel cross member ⇒ [page 68](#) .



- Secure cross member to subframe ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Install exhaust system so it is free of stress ⇒ Engine, mechanics; Rep. gr. 26 .
- Install noise insulation panels.

Tightening torques

Component	Nm
Selector mechanism cover to gearbox	25
Connecting rod with clutch pipe bracket to gearbox	23
Gearbox selector lever to selector shaft	23 ♦ Renew cap nut
Clamp	40





9 Dismantling and assembling gearbox

Dismantling and assembling gearbox ⇒ Servicing 6-speed manual gearbox 0A2, front-wheel drive; Rep. gr. 34



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.

35 – Gears, shafts

1 Input shaft

Dismantling and assembling input shaft ⇒ Servicing 6-speed manual gearbox 0A2, front-wheel drive; Rep. gr. 35



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 Pinion shaft (output shaft)

Dismantling and assembling pinion shaft ⇒ Servicing 6-speed manual gearbox 0A2, front-wheel drive; Rep. gr. 35



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 - differential

1 Renewing flange shaft oil seals (left and right)

- ◆ ⇒ [“1.1 Renewing flange shaft oil seal \(left-side\) with gearbox installed”, page 91](#)
- ◆ ⇒ [“1.2 Renewing oil seal for flange shaft \(right-side\) with gearbox installed”, page 94](#)

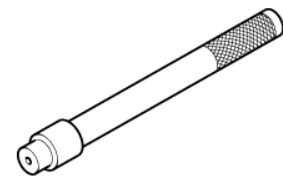
1.1 Renewing flange shaft oil seal (left-side) with gearbox installed

Special tools and workshop equipment required

- ◆ Drift - VW 295-

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.

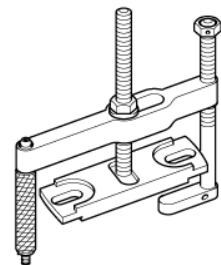
VW 295



W00-0125

- ◆ Puller - T10037-

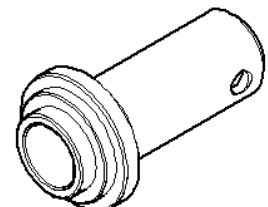
T10037



W00-0976

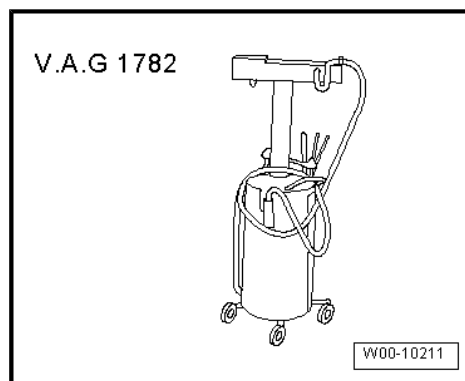
- ◆ Thrust piece - T10387-

T10387



W00-10683

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

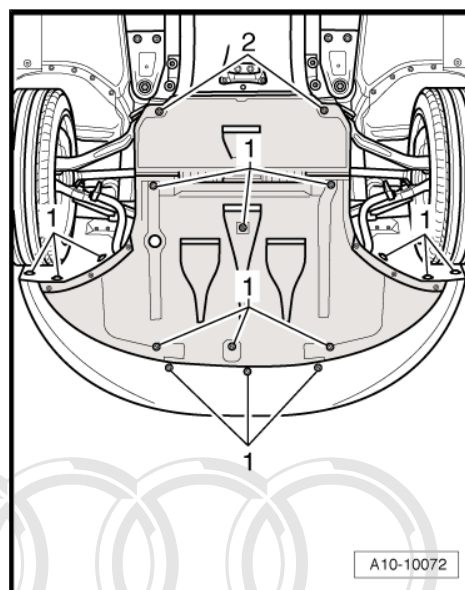


◆ Sealing grease - G 052 128 A1-

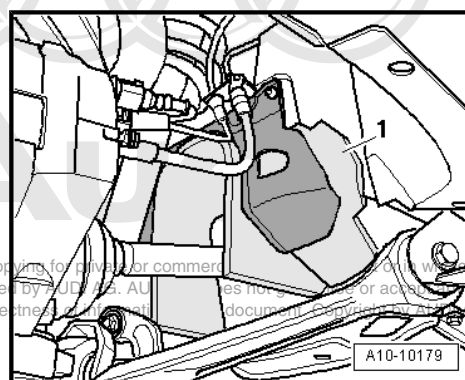
Removing

Observe the general repair instructions → [page 6](#) .

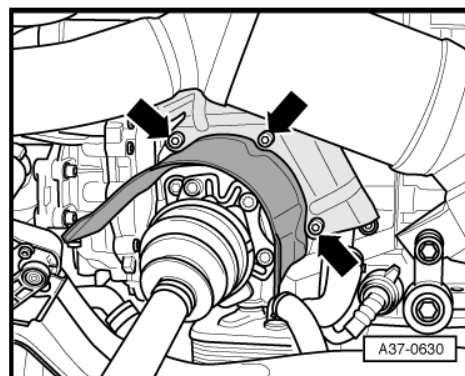
- Remove front left wheel.
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove noise insulation for drive shaft (left-side) -1- from wheel housing.

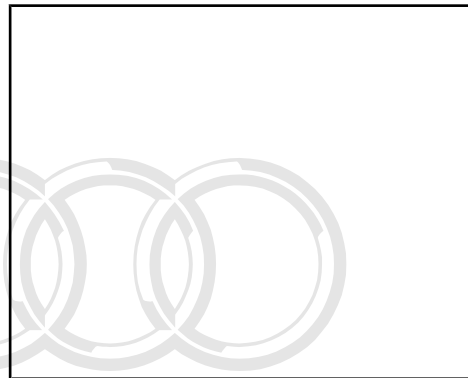


- Unbolt heat shield for drive shaft (left-side) -arrows- (3 bolts).
- Detach drive shaft from flange shaft and tie as far as possible to front, taking care not to damage surface protection.
- Place used oil collection and extraction unit - V.A.G 1782- underneath.

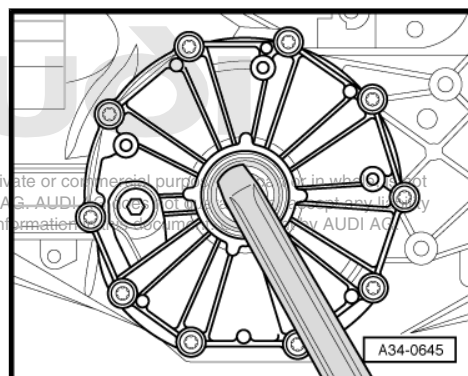


Protected by copyright. Copying for private or commercial use without the written permission of Audi AG is not permitted unless authorised by Audi AG. Audi AG does not accept any liability with respect to the correctness of this document. Copyright by Audi AG.

- Remove flange shaft (left-side); to do so, secure puller - T10037- to cover for final drive -arrow-.

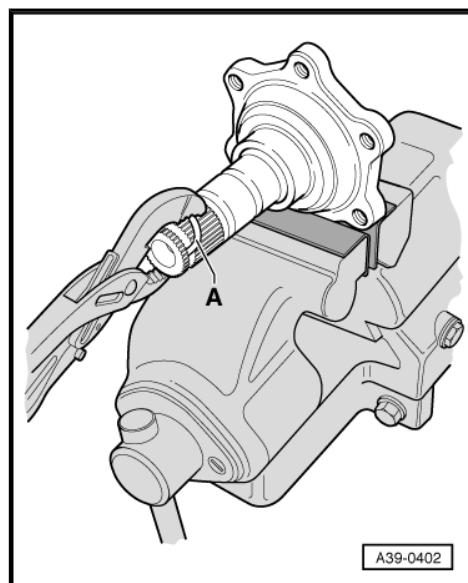


- Lever out flange shaft oil seal using a suitable lever.



Installing

- Always 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.

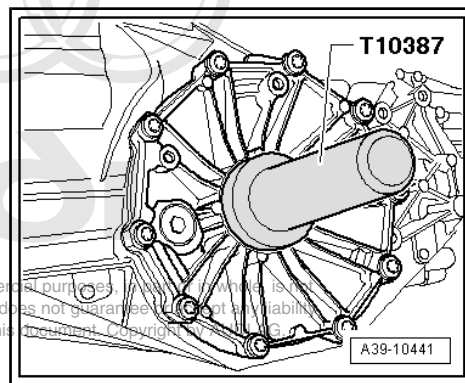


- Lightly oil outer circumference of new oil seal.
- Drive in new flange shaft oil seal using thrust piece - T10387- until thrust piece reaches stop; keep seal straight when installing.



Note

- ◆ *Driving-in depth (standard): 5.5 mm beneath surface of cover*
- ◆ *When carrying out a repair, the oil seal is driven in to a depth of 6.5 mm using thrust piece - T10387- , so that the new seal does not bear on the same contact surface on the used flange shaft.*



- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .
- Knock flange shaft in with drift - VW 295- .
- Check oil level in gearbox and top up with gear oil if necessary
⇒ [page 72](#) .

The remaining installation steps are carried out in the reverse sequence; note the following points:

- Bolt drive shaft to flange shaft ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Bolt on heat shield for drive shaft (left-side).
- Install noise insulation for drive shaft and noise insulation below gearbox.

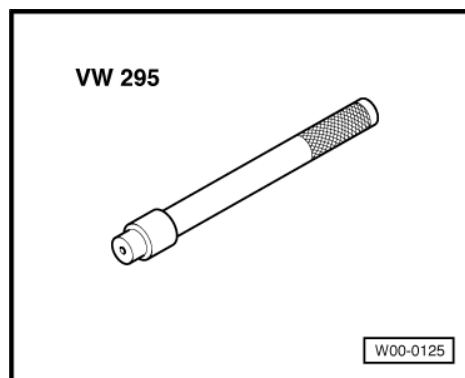
Tightening torque

Component	Nm
Heat shield for drive shaft to gearbox	23

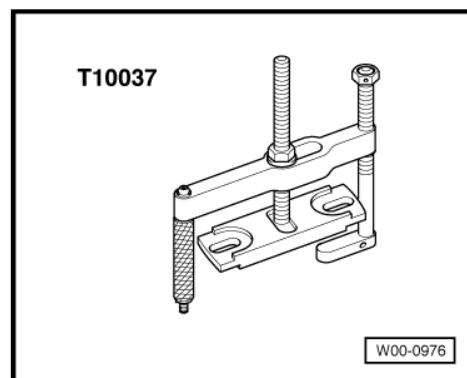
1.2 Renewing oil seal for flange shaft (right-side) with gearbox installed

Special tools and workshop equipment required

- ◆ Drift - VW 295-

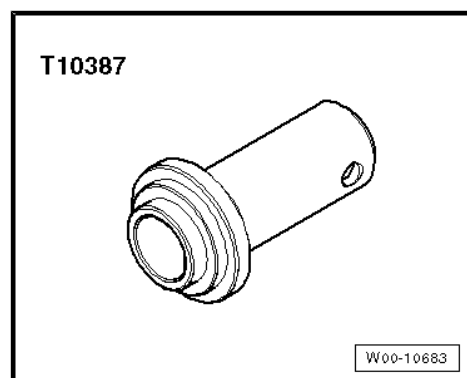


◆ Puller - T10037-

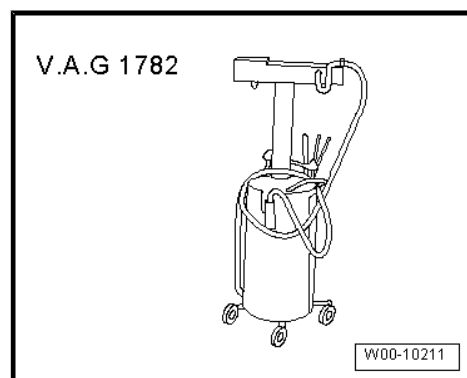


◆ Thrust piece - T10387-

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-

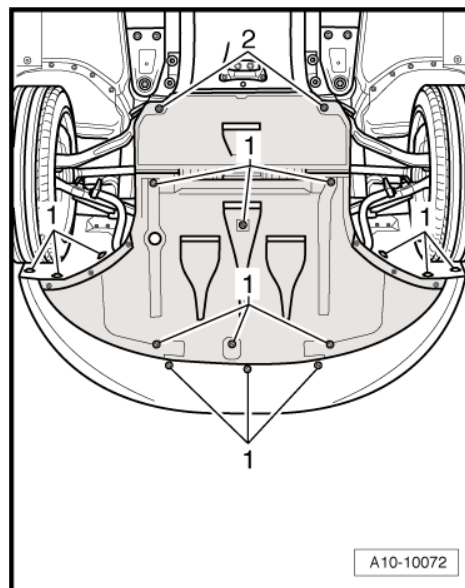


◆ Sealing grease - G 052 128 A1-

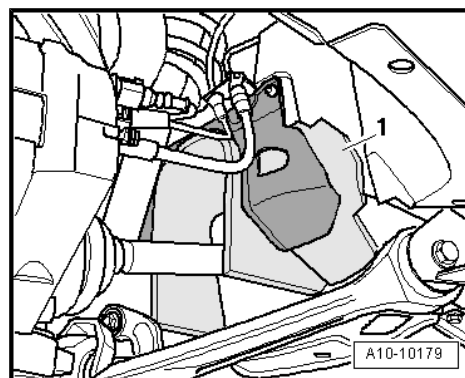
Removing

Observe the general repair instructions ⇒ [page 6](#) .

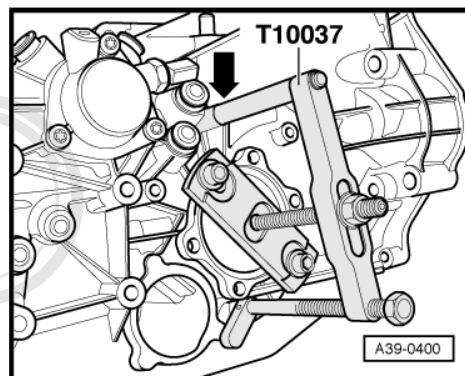
- Remove front right wheel.
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



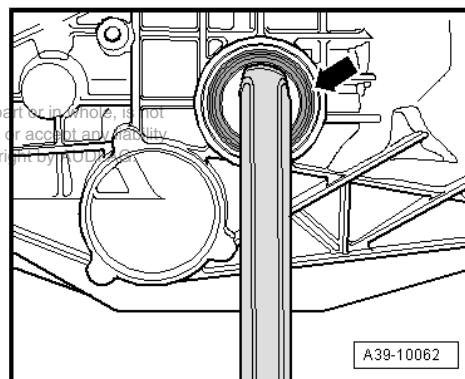
- Remove noise insulation for drive shaft (right-side) -1- from wheel housing.
- Detach drive shaft (right-side) from flange shaft and tie as far as possible to front, taking care not to damage surface protection.
- Place used oil collection and extraction unit - V.A.G 1782- underneath.



- Remove flange shaft (right-side); to do so, secure puller - T10037- to gearbox housing -arrow-.



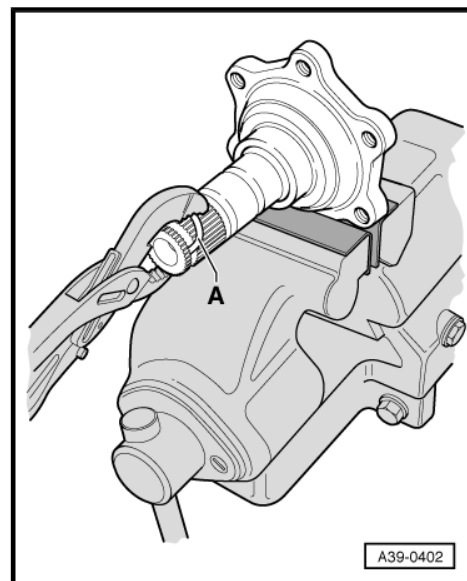
- Lever out flange shaft oil seal -arrow- using a suitable lever.



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 responsibility with respect to the correctness of information in this document. Copyright © AUDI AG

Installing

- Always 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.

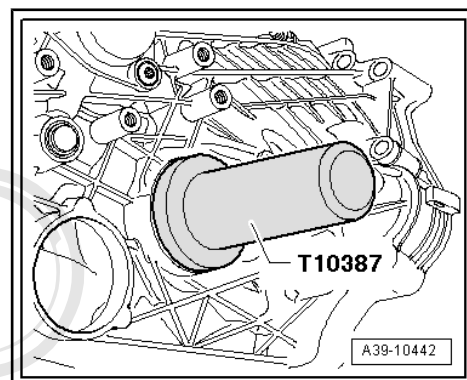


- Lightly oil outer circumference of new oil seal.
- Drive in new flange shaft oil seal using thrust piece - T10387- until thrust piece reaches stop; keep seal straight when installing.



Note

- ◆ *Driving-in depth (standard): 5.5 mm beneath surface of housing*
- ◆ *When carrying out a repair, the oil seal is driven in to a depth of 6.5 mm using thrust piece - T10387-, so that the new seal does not bear on the same contact surface on the used flange shaft.*



- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .
- Knock flange shaft in with drift - VW 295- .

The remaining installation steps are carried out in the reverse sequence; note the following points:

- Bolt drive shaft to flange shaft ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. gr. 40 .
- Check oil level in gearbox and top up with gear oil if necessary ⇒ [page 72](#) .
- Install noise insulation for drive shaft and noise insulation below gearbox.



2 Differential

2.1 Removing and installing differential

Removing and installing differential ⇒ Servicing 6-speed manual gearbox 0A2, front-wheel drive; Rep. gr. 39

2.2 Dismantling and assembling differential

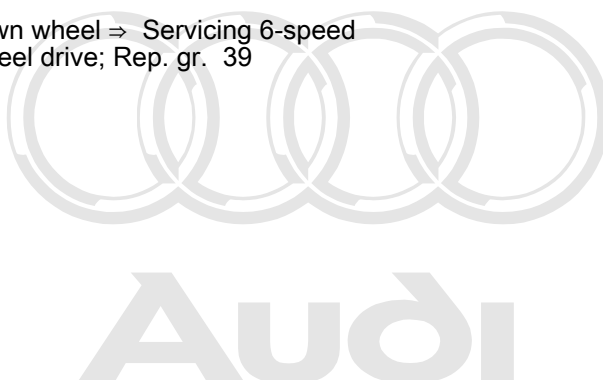
Dismantling and assembling differential ⇒ Servicing 6-speed manual gearbox 0A2, front-wheel drive; Rep. gr. 39



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.

3 Adjusting pinion shaft and crown wheel

Adjusting pinion shaft and crown wheel ⇒ Servicing 6-speed manual gearbox 0A2, front-wheel drive; 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.