



Workshop Manual

CC 2010 ➤ , Golf 2004 ➤ , Golf 2009 ➤ ,
Passat 2006 ➤ , Passat CC 2009 ➤ ,
Sharan 2011 ➤ , Tiguan 2008 ➤

Propshaft and rear final drive

Edition 04.2016



List of Workshop Manual Repair Groups

Repair Group

00 - Technical data

39 - Final drive - rear differential



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.



Contents

00 - Technical data	1
1 Identifying rear final drive	1
2 Identification codes, assembly allocation, capacities - Golf 2004 ►	2
3 Identification codes, assembly allocation, capacities, Passat 2006 ►	4
3.1 Passat with rear final drive 02D/0AV	4
3.2 Passat with rear final drive 01Z	5
3.3 Passat with rear final drive 0BS	6
4 Identification codes, assembly allocation, capacities, Tiguan 2008 ►	7
5 Identification codes, assembly allocation, capacities, Passat CC, CC 2010 ►	9
6 Identification codes, assembly allocation, capacities, Golf 2009 ►	10
7 Identification codes, assembly allocation, capacities, Sharan 2011 ►	11
8 General repair notes	12
8.1 Oil	12
8.2 Components	12
9 Genuine parts	15
39 - Final drive - rear differential	16
1 Vehicle diagnosis, testing and information system VAS 5051 : Connecting and selecting function	16
2 Propshaft - Golf 2004 ► up to calendar week 26/07	18
2.1 Assembly overview - propshaft	18
2.2 Removing and installing propshaft	19
2.3 Repairing propshaft	24
2.4 Removing and installing rear flexible coupling	30
3 Propshaft - Golf 2004 ► from calendar week 27/07 onwards	34
3.1 Assembly overview - propshaft	34
3.2 Removing and installing propshaft	35
4 Propshaft - Passat 2006 ► up to calendar week 26/07	39
4.1 Removing and installing propshaft	39
4.2 Removing and installing front propshaft tube with flexible coupling	44
4.3 Removing and installing rear flexible coupling	46
4.4 Repairing propshaft	51
4.5 Specified torques	56
5 Propshaft - Passat 2006 ► from calendar week 27/07 onwards	57
5.1 Assembly overview - propshaft	57
5.2 Removing and installing propshaft	58
6 Propshaft Tiguan 2008 ►	62
6.1 Assembly overview - propshaft	62
6.2 Removing and installing propshaft	63
6.3 Removing and installing rear flexible coupling	67
7 Propshaft - Passat CC, CC 2010 ► and Golf 2009 ►	71
7.1 Assembly overview - propshaft	71
7.2 Removing and installing propshaft	72
7.3 Removing and installing rear flexible coupling	75
8 Propshaft - Sharan 2011 ►	80
8.1 Assembly overview - propshaft	80
8.2 Removing and installing propshaft	81
8.3 Removing and installing rear flexible coupling	84
9 Removing and installing rear final drive, Golf 2004 ►	88
9.1 Removing rear final drive	88



9.2	Installing rear final drive	90
10	Removing and installing rear final drive, Passat 2006 ►	91
10.1	Removing rear final drive 02D or 0AV	91
10.2	Installing rear final drive 02D or 0AV	95
10.3	Removing rear final drive 01Z	97
10.4	Installing rear final drive 01Z	100
11	Removing and installing rear final drive, Tiguan 2008 ►	103
11.1	Removing	103
11.2	Installing	108
12	Removing and installing rear final drive, Passat CC, CC 2010 ►	112
12.1	Removing	112
12.2	Installing	117
13	Removing and installing rear final drive, Golf 2009 ►	120
13.1	Removing	120
13.2	Installing	124
14	Removing and installing rear final drive, Sharan 2011 ►	128
15	Renewing bonded rubber bush on rear final drive	131
15.1	Renewing bonded rubber bush on rear final drive, Passat with final drive 01Z, Tiguan 2008 ►, Passat CC, CC 2010 ► and Sharan 2011 ►	131
15.2	Assembly overview - bonded rubber mounting	131
15.3	Removing bonded rubber mounting	133
15.4	Installing bonded rubber mounting	135
15.5	Renewing bonded rubber mountings on rear final drive, Golf 2004 ► and Passat 2006 ► with final drive 02D/0AV and Golf 2009 ►	135
15.6	Assembly overview - bonded rubber mounting	135
15.7	Removing and installing bonded rubber mounting	137
16	Renewing oil seals for flange shafts	141
16.1	Removing flange shaft oil seal	141
16.2	Installing flange shaft oil seal	143
17	Renewing propshaft flange oil seal on rear final drive (final drive installed)	145
17.1	Removing	146
17.2	Installing	148
18	Checking function of all-wheel drive coupling "generation II"	149
18.1	Checking function of all-wheel drive coupling - vehicles with manual gearbox	149
18.2	Checking function of all-wheel drive coupling - vehicles with dual clutch gearbox	150
18.3	Checking function of all-wheel drive coupling - vehicles with automatic gearbox	152
19	Checking function of all-wheel drive coupling "generation IV"	153
19.1	Checking function	153
20	Electrical and electronic components and their locations	154
20.1	Electrical and electronic components and their locations, Golf 2004 ►	154
20.2	Electrical and electronic components and their locations, Passat 2006 ►	155
20.3	Electrical and electronic components and their fitting locations, Tiguan 2008 ►, Passat CC, CC 2010 ►, Sharan 2011 ► und Golf 2009 ►, Generation IV	157
20.4	Electrical and electronic components and their fitting locations, Tiguan 2008 ►, Sharan 2011 ►, Generation V	159
21	Assembly overview - all-wheel drive control unit J492 , Golf 2004 ► and Passat 2006 ►	160
21.1	Removing and installing all-wheel drive control unit J492	161
21.2	Removing and installing all-wheel drive coupling pump V181	165
22	Assembly overview - all-wheel drive control unit J492 , Passat CC, CC 2010 ► und Golf 2009 ►	169
22.1	Removing and installing all-wheel drive control unit J492	170
22.2	Removing and installing all-wheel drive coupling pump V181	173
23	Assembly overview - all-wheel drive coupling, Golf 2004 ► and Passat 2006 ►, Passat CC, CC 2010 ► and Golf 2009 ►	176



24	Removing and installing all-wheel drive coupling, Golf 2004 ► and Passat 2006 ►	177
24.1	Removing all-wheel drive coupling	177
24.2	Installing all-wheel drive coupling	178
25	Removing and installing all-wheel drive coupling, Passat CC, CC 2010 ► and Golf 2009 ►	180
25.1	Removing all-wheel drive coupling	180
25.2	Installing all-wheel drive coupling	183
26	Assembly overview - dismantling and assembling all-wheel drive coupling (generation II), Golf 2004 ► and Passat 2006 ►	186
26.1	Renewing grooved ball bearing for all-wheel drive coupling	188
27	Dismantling and assembling all-wheel drive coupling, generation IV, assembly overview, Passat CC, CC 2010 ► and Golf 2009 ►	193
28	Removing and installing oil filter for all-wheel drive coupling, Golf 2004 ► and Passat 2006 ►	195
28.1	Removing	195
28.2	Installing	195
29	All-wheel drive coupling, Tiguan 2008 ►, Sharan 2011 ►	197
29.1	Checking function	197
29.2	Assembly overview - all-wheel drive coupling	198
29.3	Removing and installing all-wheel drive coupling pump V181	201
29.4	Removing and installing all-wheel drive coupling	205
29.5	Removing and installing all-wheel drive control unit J492	218
30	Checking oil level or topping up oil in rear final drive, Golf 2004 ► and Passat 2006 ►	222
30.1	Specified torques	223
31	Checking oil level or topping up oil in rear final drive, Tiguan 2008 ►, Passat CC, CC 2010 ►, Sharan 2011 ► and Golf 2009 ►	224
32	Checking oil level or topping up oil in all-wheel drive coupling, generation II, Golf 2004 ► and Passat 2006 ►	226
32.1	Checking oil level in all-wheel drive coupling	226
32.2	Replenishing oil in all-wheel drive coupling	227
32.3	Draining and replenishing all-wheel drive coupling fluid	229
33	Checking oil level or topping up oil in all-wheel drive coupling, generations IV + V, Tiguan 2008 ►, Passat CC, CC 2010 ►, Sharan 2011 ► and Golf 2009 ►	232
33.1	Checking oil level in all-wheel drive coupling	233
33.2	Replenishing oil in all-wheel drive coupling	233
33.3	Draining and replenishing all-wheel drive coupling fluid	234





00 – Technical data

1 Identifying rear final drive

(VRL009026; Edition 04.2016)



Note

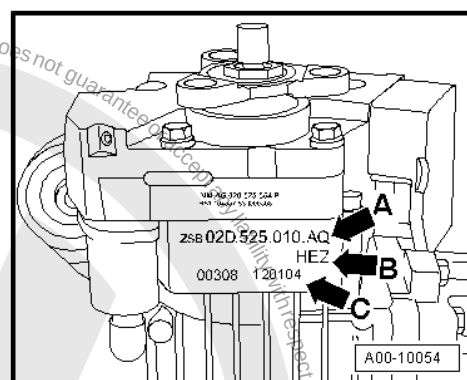
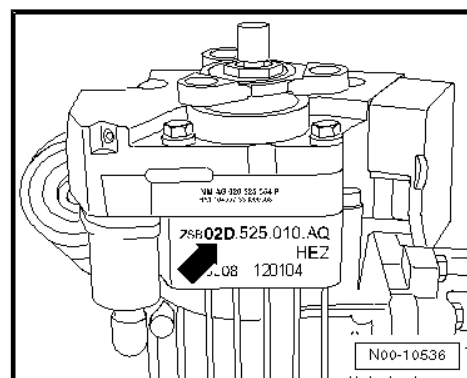
The marking -arrow- on the »bottom« of the final drive provides information about which final drive is installed.

Example of identification on an 02D final drive

- Arrow A- part number of final drive
- Arrow B- code of final drive
- Arrow C- Date of production of final drive

Example:

HEZ	12	01	04
Identification code	Day	Month	Year of manufacture -2004-





2 Identification codes, assembly allocation, capacities - Golf 2004 ►

Rear final drive 02D/0AV				
(All-wheel drive coupling generation II)				
Identification code		FWQ	FWR	HEY
Manufactured	from to	08.04 09.04	08.04 09.04	08.04
Allocation	Model	Golf 4 motion 2005 ▶	Golf 4 motion 2005 ▶	Golf 4 motion 2005 ▶
	Engine	1.9 l - 77 kW turbo diesel 2.0 l - 100 kW turbo diesel 2.0 l - 103 kW turbo diesel	2.0l - 110 kW	1.9 l - 77 kW turbo diesel 2.0 l - 100 kW turbo diesel 2.0 l - 103 kW turbo diesel
Final drive capacity		0.95 l		
All-wheel drive coupling capacity		0.85 l		
Amount in all-wheel drive coupling to be replaced		0.65 l		
• Change interval: ⇒ Maintenance tables “ELSA”				
Drive shaft flange diameter		100 mm	100 mm	100 mm

Oil for the "final drive" and oil for the "all-wheel drive coupling" are available as replacement parts ⇒ Electronic parts catalogue "ET-KA".

Rear final drive 02D/0AV				
(All-wheel drive coupling generation II)				
Identification code		HEZ	HHJ	HHK
Manufactured	from to	08.04	08.05	08.04
Allocation	Model	Golf 4 motion 2005 ▶	Golf 4 motion 2005 ▶	Golf 4 motion 2005 ▶
	Engine	2.0l - 110 kW 	1.4 l - 103 kW 1.4 l - 125 kW 2.0 l - 110 kW 3.2 l - 184 kW	1.9 l - 77 kW turbo diesel 2.0 l - 103 kW turbo diesel 2.0 l - 125 kW turbo diesel
Final drive capacity		0.95 l		
All-wheel drive coupling capacity		0.85 l		
Amount in all-wheel drive coupling to be replaced		0.65 l		
• Change interval: ⇒ Maintenance tables “ELSA”				
Drive shaft flange diameter		100 mm	100 mm	100 mm

Oil for the "final drive" and oil for the "all-wheel drive coupling" are available as replacement parts ⇒ Electronic parts catalogue "ET-KA".



Rear final drive 02D/0AV			
(All-wheel drive coupling generation II)			
Identification code		HVY	HVZ
Manufactured	from to	11.05	08.05
Allocation	Model	Golf 4 motion 2005 ►	Golf 4 motion 2005 ►
	Engine	3.2 l - 184 kW 2.0 l - 110 kW 1.4 l - 125 kW 1.4 l - 103 kW	1.9 l - 77 kW turbo diesel 2.0 l - 103 kW turbo diesel 2.0 l - 125 kW turbo diesel
Final drive capacity			0.95 l
All-wheel drive coupling capacity			0.85 l
Amount in all-wheel drive coupling to be replaced			0.65 l
• Change interval: ⇒ Maintenance tables "ELSA"			
Drive shaft flange diameter		100 mm	100 mm

Oil for the "final drive" and oil for the "all-wheel drive coupling" are available as replacement parts ⇒ Electronic parts catalogue "ET-KA" .



3 Identification codes, assembly allocation, capacities, Passat 2006 ►

3.1 Passat with rear final drive 02D/0AV

Rear final drive 02D/0AV				
(All-wheel drive coupling generation II)				
Identification code		FWQ	FWR	HEY
Manufactured from to		11.04	11.04	11.04
Allocation Model		Passat 4 motion 2006 ▶	Passat 4 motion 2006 ▶	Passat 4 motion 2006 ▶
Engine		2.0 l - 100 kW turbo diesel 2.0 l - 103 kW turbo diesel	2.0 l - 110 kW 3.2 l - 184 kW	2.0 l - 100 kW turbo diesel 2.0 l - 103 kW turbo diesel
Final drive capacity		0.95 l		
All-wheel drive coupling capacity		0.85 l		
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"		0.65 l		
Drive shaft flange diameter		100 mm	100 mm	100 mm

Oil for the "final drive" and oil for the "all-wheel drive coupling" are available as replacement parts ⇒ Electronic parts catalogue "ET-KA".

Rear final drive 02D/0AV				
(All-wheel drive coupling generation II)				
Identification code		HEZ	HHJ	HHK
Manufactured from to		11.04.	09.05.	09.05.
Allocation	Model	Passat 4 motion 2006 ▶	Passat 4 motion 2006 ▶	Passat 4 motion 2006 ▶
	Engine	2.0 l - 110 kW 3.2 l - 184 kW	2.0 l - 110 kW 3.2 l - 184 kW	2.0 l - 103 kW turbo diesel
Final drive capacity		0.95 l		
All-wheel drive coupling capacity		0.85 l		
Amount in all-wheel drive coupling to be replaced		0.65 l		
• Change interval: ⇒ Maintenance tables "ELSA"				
Drive shaft flange diameter		100 mm	100 mm	100 mm

Oil for the "final drive" and oil for the "all-wheel drive coupling" are available as replacement parts ⇒ Electronic parts catalogue "ET-KA".



Rear final drive 02D/0AV			
(All-wheel drive coupling generation II)			
Identification code		HVY	HVZ
Manufactured from to		11.04	09.05
Allocation Model		Passat 4 motion 2006 ►	Passat 4 motion 2006 ►
Engine		1.4 l - 103 kW 1.4 l - 125 kW 2.0 l - 110 kW 3.2 l - 184 kW	2.0 l - 100 kW turbo diesel 2.0 l - 103 kW turbo diesel
Final drive capacity		0.95 l	
All-wheel drive coupling capacity		0.85 l	
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"		0.65 l	
Drive shaft flange diameter		100 mm	100 mm

Oil for the "final drive" and oil for the "all-wheel drive coupling" are available as replacement parts ⇒ Electronic parts catalogue "ET-KA".

3.2 Passat with rear final drive 01Z

Rear final drive 01Z				
(All-wheel drive coupling generation II)				
Gearbox type	Automatic gearbox 09M	6-speed manual gearbox 02S	6-speed manual gearbox 02Q	6-speed dual clutch gearbox 02E
Identification code	FQW, KJP, LGT	JUW, LGV	JUX, KJR, LGW	JUW, KJQ, LGV
Engine	3.6 l - 206 kW	2.0 l - 110 kW	2.0 l - 103 kW	3.2 l - 184 kW 3.6 l - 220 kW
Final drive capacity	0.95 l			
All-wheel drive coupling capacity	0.85 l			
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"	0.70 l			
Drive shaft flange diameter	100 mm			



3.3 Passat with rear final drive OBS

Rear final drive OBS			
(All-wheel drive coupling generation IV)			
Gearbox type	6-speed manual gearbox 02S	6-speed manual gearbox 02Q	6-speed dual clutch gearbox 02E
Identification code	LGM, MBD	LGM, MBD	LGM, MBD
Engine	2.0 l - 110 kW	2.0 l - 103 kW TDI	3.2 l - 184 kW 3.6 l - 220 kW
Final drive capacity	0.95 l		
All-wheel drive coupling capacity	0.85 l		
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "EL-SA"	0.70 l		
Drive shaft flange diameter	100 mm		



4 Identification codes, assembly allocation, capacities, Tiguan 2008 ►

Final drive 0AY				
(All-wheel drive coupling generation IV)				
Gearbox type	6-speed manual gearbox 0A6	6-speed automatic gearbox 09M	7-speed dual clutch gearbox 0BH	
Identification code	HPU, LGX, MBC, NWU, PYK	HPU, LGX, MBC, NWU, PYK	MBC, NWU, PYK	NWU
Engine	1.4 l 110/118 kW TSI 2.0 l 100/103/120/125 /130 kW TDI 2.0 l 125/132/147/155 kW TFSI	2.0 l 100/103 kW TDI 2.0 l 125/132/147 kW TFSI	2.0 l 125/132/147/155 kW TFSI 2.0 l 100/103 kW TDI	130 kW TDI
Final drive capacity	0.95 l			
All-wheel drive coupling capacity	0.85 l			
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"	0.70 l			
Drive shaft flange diameter	100 mm			

Final drive 0AY					
(All-wheel drive coupling generation V)					
Gearbox type	6-speed manual gearbox 0A6	6-speed automatic gearbox 09M	7-speed dual clutch gearbox 0BH		6-speed manual gearbox 02Q
Identification code	PGA, QLY	PGA, QLY	PGA, QLY	QLY	QLY
Engine	1.4 l 118 kW TSI 2.0 l 100/103/125 kW TDI 2.0 l 132/155 kW TFSI	2.0 l 103 kW TDI 2.0 l 125/132/147 kW TFSI	2.0 l 132/155 kW TFSI 2.0 l 100/103/130 kW TDI	2.0 l 110/135 kW TDI	2.0 l 110 kW TDI
Final drive capacity	0.95 l				
All-wheel drive coupling capacity	0.85 l				



Final drive 0AY	
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"	0.70 l
Drive shaft flange Ø	100 mm



5 Identification codes, assembly allocation, capacities, Passat CC, CC 2010 ►

Rear final drive	0BS					0BR
	(All-wheel drive coupling generation IV)					(All-wheel drive coupling generation IV)
Gearbox type	6-speed dual clutch gearbox 02E		6-speed automatic gearbox 09M		6-speed manual gearbox 02Q	6-speed manual gearbox 02Q
Identification code	LGM, MBD	MBD	MBD	LGM, MBD	MBD	KMC
Engine	3.6 220 kW	2.0 155 kW	2.0 125 kW TDI	3.6 206/220 kW	2.0 103 kW TDI	2.0 103 kW TDI
Final drive capacity	0.95 l					
All-wheel drive coupling capacity	0.85 l					
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"	0.70 l					
Drive shaft flange diameter	100 mm					



6 Identification codes, assembly allocation, capacities, Golf 2009 ►

Rear final drive 0BR					
(All-wheel drive coupling generation IV)					
Gearbox type	6-speed dual clutch gearbox 02E		6-speed manual gearbox 02Q		
Identification code	KMC, MMK		KMC, MMK		
Engine	2.0 l 188 kW	2.0 l 199 kW	2.0 l 103 kW TDI	2.0 l 188 kW	2.0 l 199 kW
Final drive capacity	0.95 l				
All-wheel drive coupling capacity	0.85 l				
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "EL-SA"	0.70 l				
Drive shaft flange diameter	100 mm				



7 Identification codes, assembly allocation, capacities, Sharan 2011 ►

Rear final drive 0AY		
(All-wheel drive coupling generation IV)		
Gearbox type	6-speed manual gearbox 0A6	
Identification code	MBC, PYK	
Engine	2.0 I 103 kW TDI	
Final drive capacity	0.95 l	
All-wheel drive coupling capacity	0.85 l	
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"	0.70 l	
Drive shaft flange diameter	100 mm	

Rear final drive 0AY		
(All-wheel drive coupling generation V)		
Gearbox type	6-speed manual gearbox 0A6	
Identification code	PGA, QLY	QLY
Engine	2.0 I 103 kW TDI	2.0 I 110 kW TDI
Final drive capacity	0.95 l	
All-wheel drive coupling capacity	0.85 l	
Amount in all-wheel drive coupling to be replaced • Change interval: ⇒ Maintenance tables "ELSA"	0.70 l	
Drive shaft flange diameter	100 mm	



8 General repair notes

To ensure flawless and successful gearbox repairs, the greatest care and cleanliness as well as the use of good and proper tools are essential. Of course, the basic rules for safety also apply during repair work.

A number of instructions generally applicable to the various repair procedures - which were previously repeated a number of times at various places in the workshop manual are summarized under the topic "components" ⇒ [page 12](#) . They apply to this workshop manual.

8.1 Oil



Note

The final drive and the all-wheel drive coupling have separate »oil circuits«.

The final drive is filled with "axle oil", the all-wheel drive coupling is filled with "high performance oil for all-wheel drive coupling".

Oil for the "final drive" and oil for the "all-wheel drive coupling" are available as replacement parts ⇒ Electronic parts catalogue "ET-KA" .

Do not mix »additives« in oil.

Oil which has been drained out cannot be added again.



Caution

Be careful when working with oil. Dispose of drained oil according to regulations. Remember: one drop of oil will contaminate 1,000 litres of water.

8.2 Components



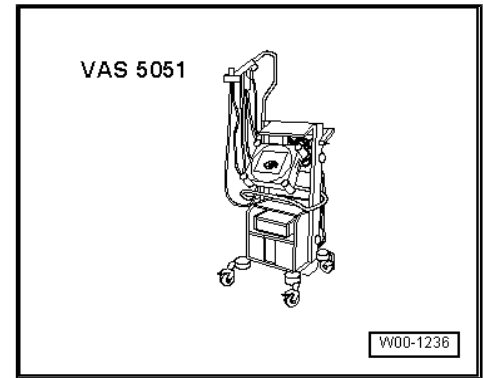
8.2.1 Rear final drive

- ◆ When exchanging the rear final drive, check the oil level in the all-wheel drive coupling and the axle and replenish if necessary.
- ◆ Capacities, Golf 2004 ► ⇒ [page 2](#) .
- ◆ Capacities, Golf 2009 ► ⇒ [page 10](#) .
- ◆ Capacities, Passat 2006 ► ⇒ [page 4](#) .
- ◆ Capacities, Passat CC, CC 2010 ► ⇒ [page 9](#) .
- ◆ Capacities Tiguan 2008 ► ⇒ [page 7](#) .
- ◆ Capacities Sharan 2011 ► ⇒ [page 11](#)
- ◆ When installing mounting brackets or waxed components, clean the contact surfaces. Contact surfaces must be free of wax and grease.



8.2.2 Guided fault finding, vehicle self-diagnosis and testing

- ◆ Before performing repairs on the all-wheel drive coupling, determine the fault cause as accurately as possible using vehicle diagnosis, testing and information system -VAS 5051- in operating modes "Guided fault finding", "Vehicle self-diagnosis" and "Test instruments".

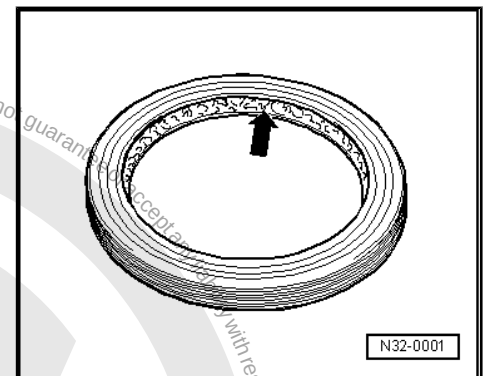


8.2.3 O-ring, seals, gaskets

- ◆ Thoroughly clean joint surfaces.

Before installing:

- ◆ Before installing radial shaft seals, lightly oil outer diameter and half-fill space between sealing lips -arrow- with sealing grease - G 052 128 A1- .
- ◆ Before installing radial shaft seals for propshaft flanges, lightly oil around outside circumference and between sealing lips with high performance oil - G 052 175 A1- for all-wheel drive coupling.
- ◆ The open side of the oil seal faces the side with fluid filling.



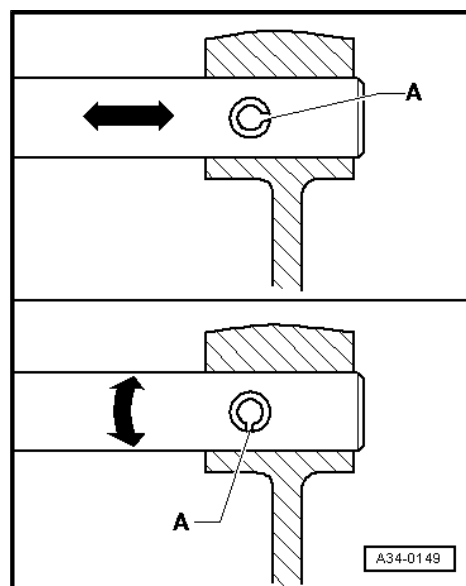
After installation:

- ◆ Checking oil level or topping up oil in rear final drive, Golf 2004 ► and Passat 2006 ► ⇒ [page 222](#) .
- ◆ Checking oil level or topping up oil in rear final drive, Tiguan, Passat CC, CC 2010 ► , Sharan 2011 ► and Golf 2009 ► ⇒ [page 224](#) .
- ◆ Checking oil level or topping up oil in all-wheel drive coupling, Golf 2004 ► and Passat 2006 ► ⇒ [page 226](#) .
- ◆ Checking oil level or topping up oil in all-wheel drive coupling - Tiguan, Passat CC, CC 2010 ► , Sharan 2011 ► and Golf 2009 ► ⇒ [page 232](#) .



8.2.4 Locking devices

- ◆ Do not overstretch retaining rings.
- ◆ Always renew retaining rings which have been damaged or overstretched.
- ◆ Retaining rings must locate properly in grooves.
- ◆ Renew spring pins. Installation position: slit -A- should be in line with the line of force -arrow-.



8.2.5 Nuts and bolts

- ◆ Loosen and tighten bolts and nuts for covers and housings diagonally.
- ◆ Delicate parts in particular must not be canted. Loosen and tighten in stages in a diagonal sequence.
- ◆ Specified torques are stated for uncoiled bolts and nuts.
- ◆ Always renew self-locking bolts and nuts.
- ◆ For all threaded connections, ensure that contact surfaces as well as nuts and bolts are rewaxed only after assembly, if necessary.

8.2.6 Bearings

- ◆ Install needle bearings with lettered side (thicker metal) towards fitting tool.
- ◆ Lubricate all gearbox bearings with gear oil before installing.
- ◆ Tapered roller bearings fitted to one shaft must be renewed as a set. Use same make of bearings.
- ◆ Heat inner races to about 100° C before installing.
- ◆ Do not interchange outer or inner races of bearings of the same size. The bearings are matched in pairs.

8.2.7 Shims

- ◆ Measure shims at several points with a micrometer. The various thicknesses make it possible to achieve the exact shim thickness required.
- ◆ Check for burrs and damage.
- ◆ Install only flawless shims.



9 Genuine parts



Note

*Install only Genuine parts ⇒ Electronic Parts Catalogue "ETKA".
Always take account of the gearbox code in the order.*



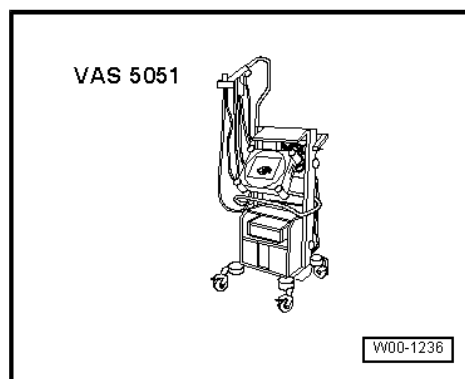


39 – Final drive - rear differential

1 Vehicle diagnosis, testing and information system - VAS 5051- : Connecting and selecting function

Special tools and workshop equipment required

- ♦ Vehicle diagnosis, testing and information system - VAS 5051- or vehicle diagnosis and service information system - VAS 5052-



- ♦ Diagnosis cable, 3 m with voltage supply - VAS 5051/1- or diagnosis cable, 5 m without voltage supply - VAS 5051/3-



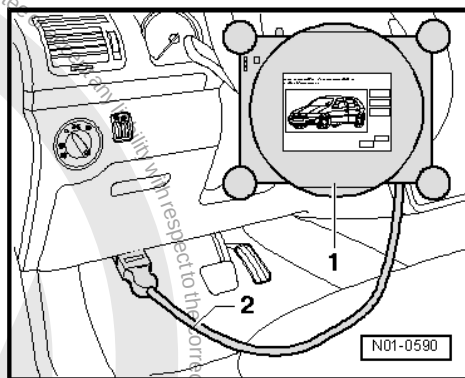
WARNING

To avoid accident risks, proceed as follows during measuring and test drives:

- ♦ *Use only vehicle diagnosis, testing and information system - VAS 5051 A- or vehicle diagnosis and service information system - VAS 5052- to read measured value blocks. Always secure device on rear seat and have a second person operate it from there.*

- Connect vehicle diagnosis, testing and information system - VAS 5051/- -1- to diagnostic terminal with diagnostic cable - VAS 5051/1- or -VAS 5051/3- -2- with the ignition switched off.

Location: in footwell, front left.





- Switch on tester -arrow-.

The tester is operational when it displays a picture of a car.

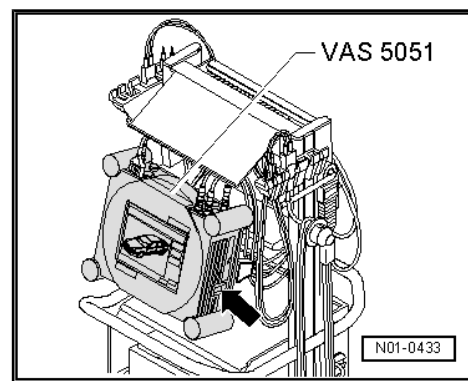
Starting “guided fault finding”

- Switch on ignition.
- Touch “Guided fault finding” button on the screen.
- Then select in succession:
 - ◆ Brand
 - ◆ Model
 - ◆ Model year
 - ◆ Version
 - ◆ Engine code
- Confirm input data.

Wait until tester has read all control units in vehicle.

- Press **Go to** button and select “Select function/component” function.

Now follow information given on screen to start desired functions.





2 Propshaft - Golf 2004 ► up to calendar week 26/07



Note

- ♦ From calendar week 27/07 onwards, a »one-piece« propshaft came into use, which can no longer be separated at the centre bearing ⇒ [page 34](#) .
- ♦ Allocation of propshaft ⇒ Electronic Parts Catalogue "(ETKA)"

2.1 Assembly overview - propshaft

1 - Gearbox with bevel box

2 - 12-point flange bolt, 50 Nm and turn 90° further

- ☐ Always renew

3 - Flexible coupling with heat shield

- ☐ Installation position: open side of heat shield faces gearbox

4 - 12-point flange bolt, 60 Nm

- ☐ Allocation ⇒ [page 23](#)

5 - Front propshaft tube

- ☐ Do not damage centring sleeve or seal inside flange when removing and installing.

6 - Socket head bolt, 40 Nm

7 - Locking plate

8 - Clamp

- ☐ Tightening ⇒ [page 28](#)

9 - Constant velocity joint boot

- ☐ Drive off with a drift before pressing off constant velocity joint
- ☐ Check for damage

10 - Dished washer

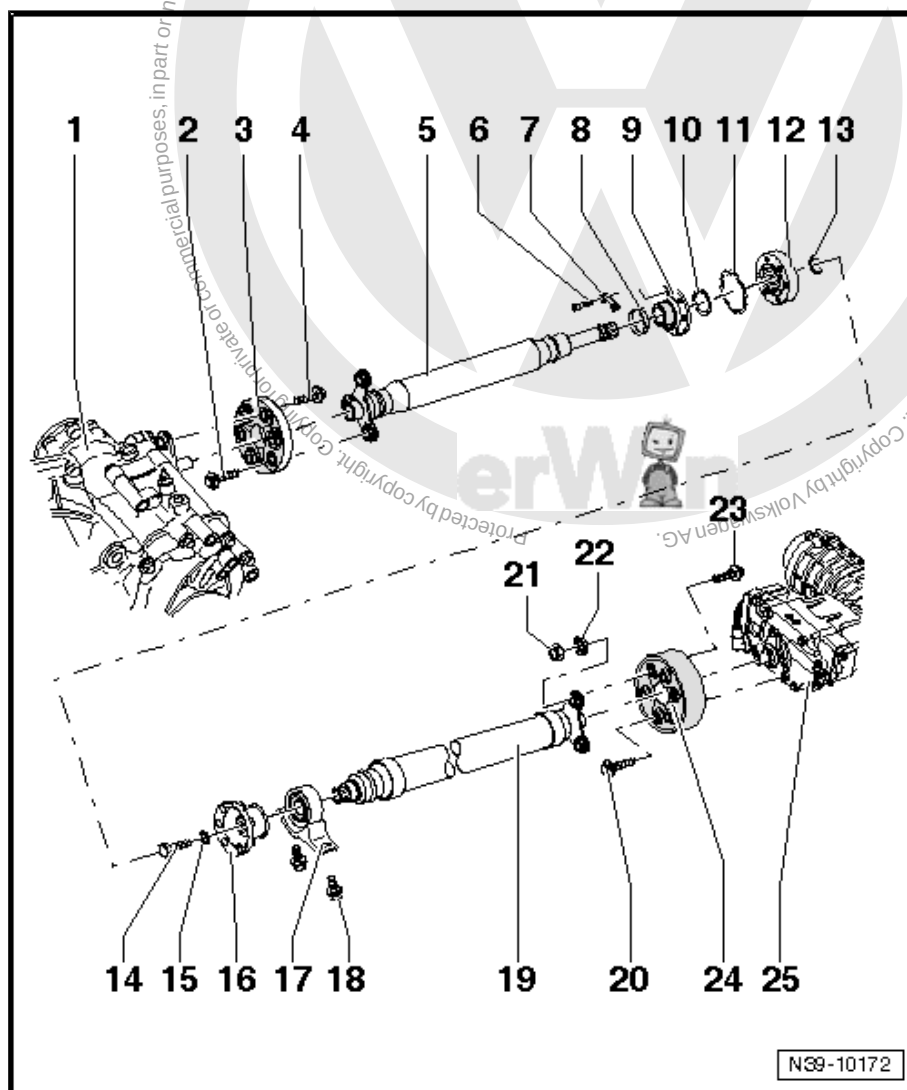
- ☐ Inner circumference serrated.
- ☐ Installation position: Large diameter lies against constant velocity joint.

11 - Seal

- ☐ Renewing: pull off protective foil and stick onto joint

12 - Constant velocity joint

- ☐ Pressing off ⇒ [page 27](#)
- ☐ Pressing on ⇒ [page 27](#)
- ☐ Filling with grease: press 25 g grease - G6.3- into joint from each side (50 g total). Add grease if necessary when renewing joint boot.





13 - Retaining ring

- ☐ Renew
- ☐ Remove and install with circlip pliers - VW 161A-

14 - Hexagon bolt, 45 Nm

15 - Washer

- ☐ Always renew

16 - Flange

- ☐ Pulling off ⇒ [page 28](#)
- ☐ Pulling on ⇒ [page 28](#)

17 - Centre bearing

- ☐ Pulling off ⇒ [page 29](#)
- ☐ Installation position ⇒ [page 29](#)
- ☐ Driving on ⇒ [page 29](#)

18 - Bolt, 25 Nm

- ☐ Also secures heat shield to body

19 - Rear propshaft tube

- ☐ Do not damage centring sleeve or seal inside flange when removing and installing.
- ☐ Secure in a vice to loosen and tighten threaded connections ⇒ [page 28](#)

20 - 12-point flange bolt, 60 Nm

- ☐ Allocation ⇒ [page 23](#)

21 - Balancing nut

- ☐ Not fitted on all propshafts.
- ☐ If flange bolt ⇒ [Item 23 \(page 19\)](#) is loosened, balancing nut and balancing washer ⇒ [Item 22 \(page 19\)](#) must not be reinstalled.

22 - Balancing washer

- ☐ Not fitted on all propshafts.
- ☐ If flange bolt ⇒ [Item 23 \(page 19\)](#) is loosened, balancing nut and balancing washer ⇒ [Item 21 \(page 19\)](#) must not be reinstalled.

23 - Hexagon flange bolt, 50 Nm and turn 90° further

- ☐ Always renew

24 - Flexible coupling with vibration damper

- ☐ Removing and installing ⇒ [page 30](#) .

25 - Rear final drive

2.2 Removing and installing propshaft



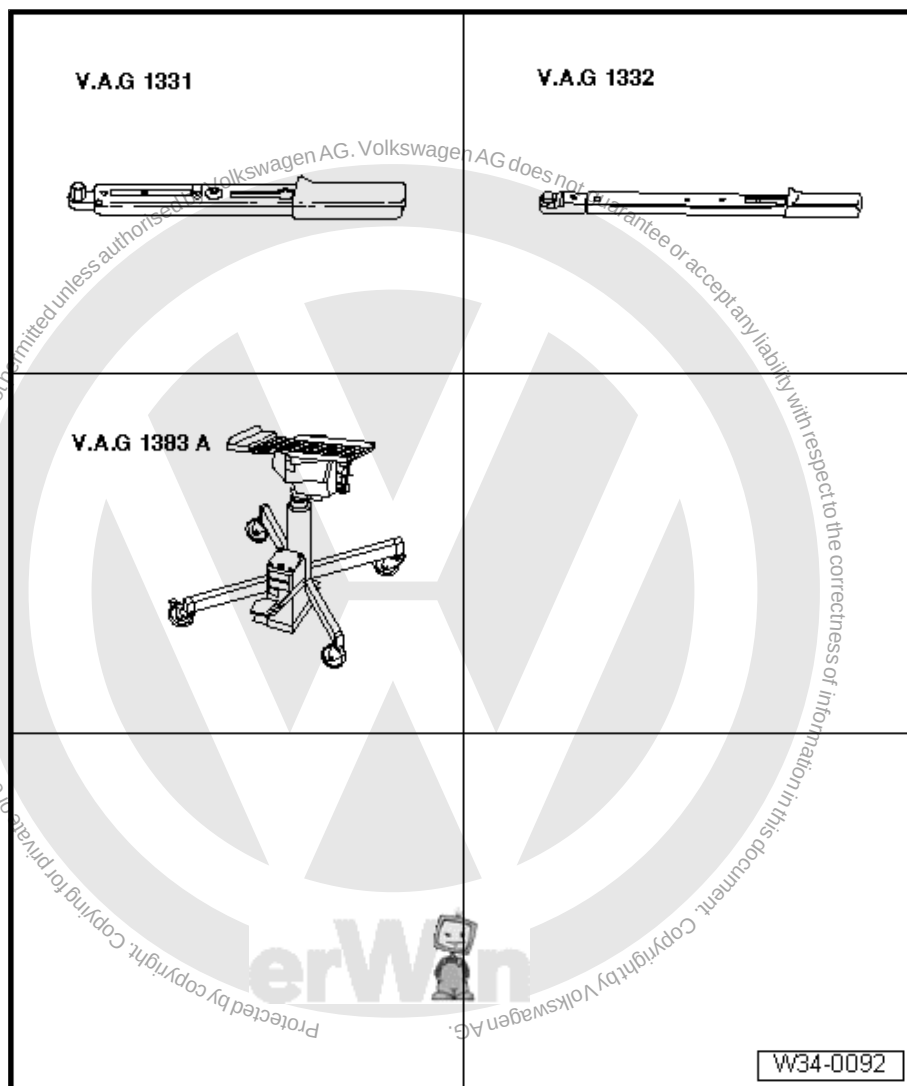
Note

- ◆ A twin pillar lifting platform should be used when working on the propshaft.
- ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ◆ Keep propshaft straight; store and transport fully extended only.



Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with gearbox support - V.A.G 1359/2-

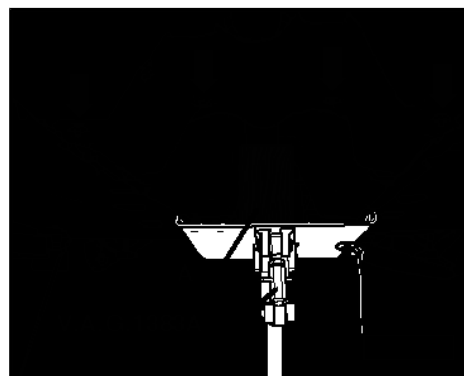


Brief description

First the front propshaft tube is removed, followed by the rear one.

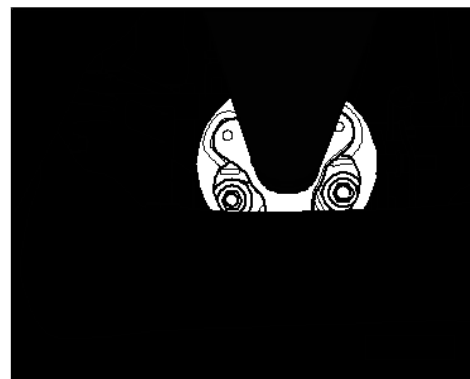
Removing

- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Remove entire exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Support propshaft with engine and gearbox jack - V.A.G 1383 A- and a wooden wedge -A-.
- Then unbolt heat shield -arrows-.
- After removing heat shield, bolt on centre bearing of propshaft again.

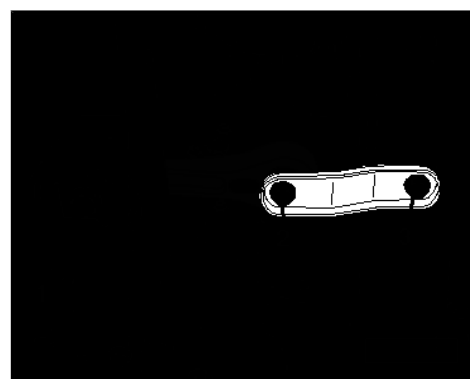




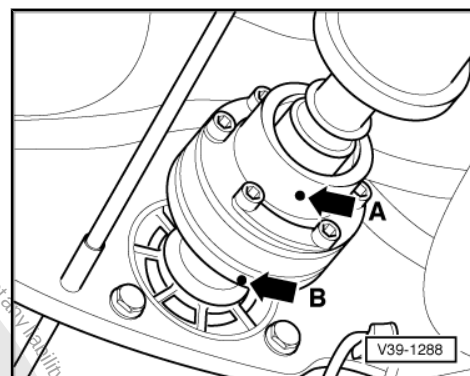
- Unbolt propshaft with flexible coupling from output flange of bevel box.



- Remove pendulum support. First remove bolt -1-, followed by bolts -2- and -3- → Rep. gr. 40 .



- Before removal, check whether markings are present on constant velocity joint -arrow A- and on flange -arrow B-. If they are not, apply markings with paint.



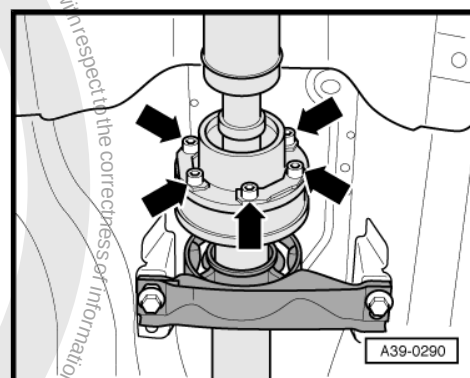
- Disconnect front propshaft tube from rear propshaft tube -arrows-.
- Push front propshaft tube forwards and swing out of flange of rear propshaft tube.



Note

When swinging tube out, ensure that front propshaft tube is flexed as little as possible downwards.

- Carefully pull propshaft off centring pin on bevel box and remove downwards.

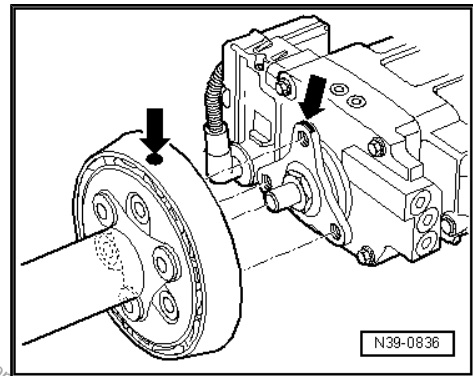
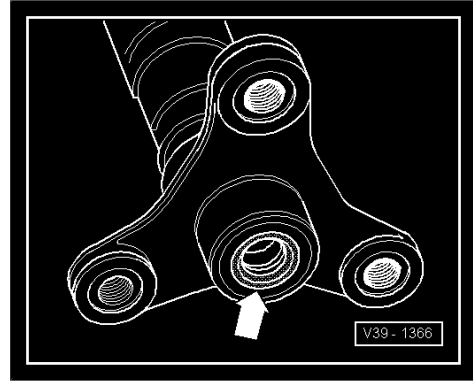




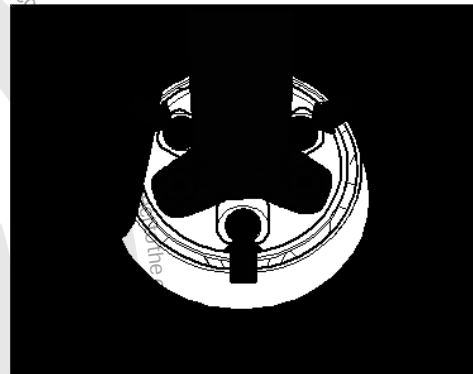
Note

Seal -arrow- in flange of propshaft must not be damaged.

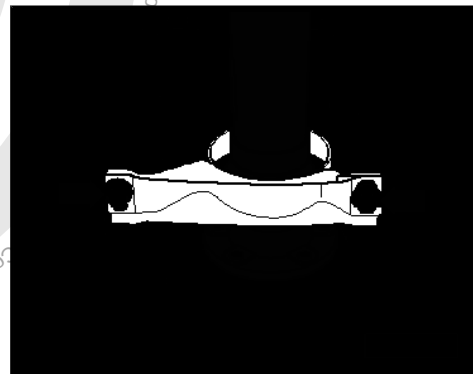
- Before removing rear propshaft tube, check if there are coloured marks on flexible coupling and on flange of rear final drive -arrows-. If not, mark positions of flexible coupling and propshaft flange of rear final drive relative to each other -arrows-.



- Unbolt propshaft with flexible coupling and vibration damper from rear final drive -arrows-.



- Unbolt propshaft centre bearing from body -arrows-.
- Carefully pull rear propshaft tube off centring pin and remove downwards.





Note

- ◆ Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.
- ◆ Flexible coupling and vibration damper cannot be separated from one another.

Installing

Install in the reverse order of removal, observing the following:

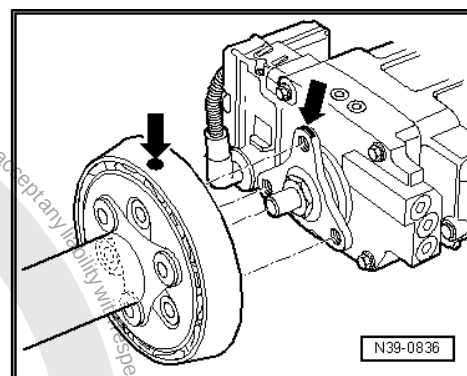


Note

- ◆ Specified torques.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.
- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation. If seals are damaged, renew propshaft.
- ◆ Ensure that propshaft is horizontal when pushed onto respective guide pin.

Installation position:

- ◆ Three projecting sleeves each on the bevel box output flange or the propshaft flange of the rear final drive engage in the mounting holes of the flexible coupling.
- When installing propshaft, make sure that markings -arrows- are lined up.

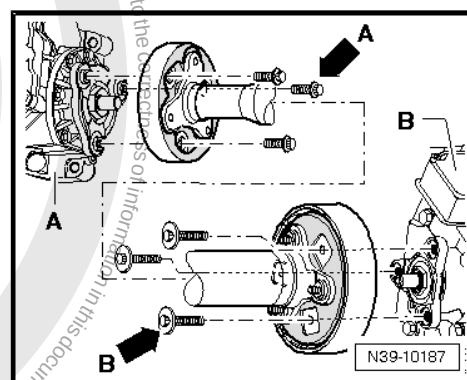


Note installation position of different flange bolts!

Flange bolt with	Location
Small collar -arrow A-	Propshaft to front final drive -A-
Large collar -arrow B-	Propshaft to rear final drive -B-

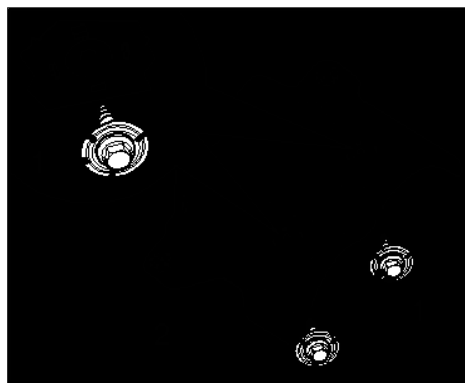
Installing centre bearing free of tension

- ◆ Specified torques ➔ [page 18](#) .
- Align centre bearing in its elongated holes so that neither propshaft nor centre bearing is under tension.
- Do not tighten centre bearings until propshaft has been fitted.





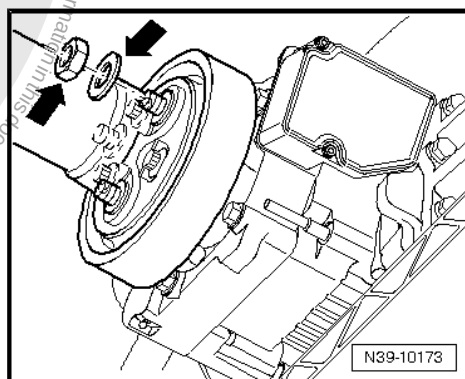
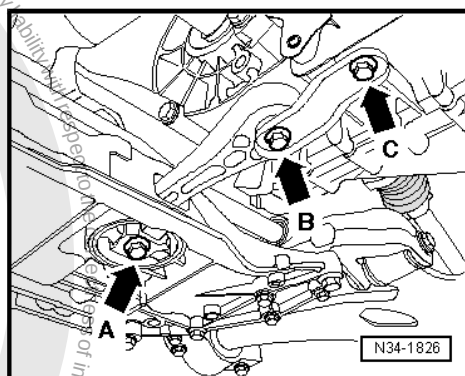
When bolting heat shield -2- to centre bearing, ensure that bolts -1- are located in the four centring tabs.



Bolt pendulum support first to gearbox and then to subframe - bolts -A ... C-. Use new securing bolts ⇒ Running gear, axles, steering; Rep. gr. 40 ; Specified torques, front axle .

- Install exhaust system and align free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .

For propshaft with balancing nut and balancing washers only.



Note

- ♦ If droning noises occur during travel, note the following:
- ♦ Remove balancing nut and balancing washer -arrows-.
- ♦ Then, if necessary, unbolt propshaft with flexible coupling from propshaft flange of rear final drive and offset it by one hole.
- ♦ If droning noises are still audible, front propshaft must be rotated one more hole.

2.3 Repairing propshaft



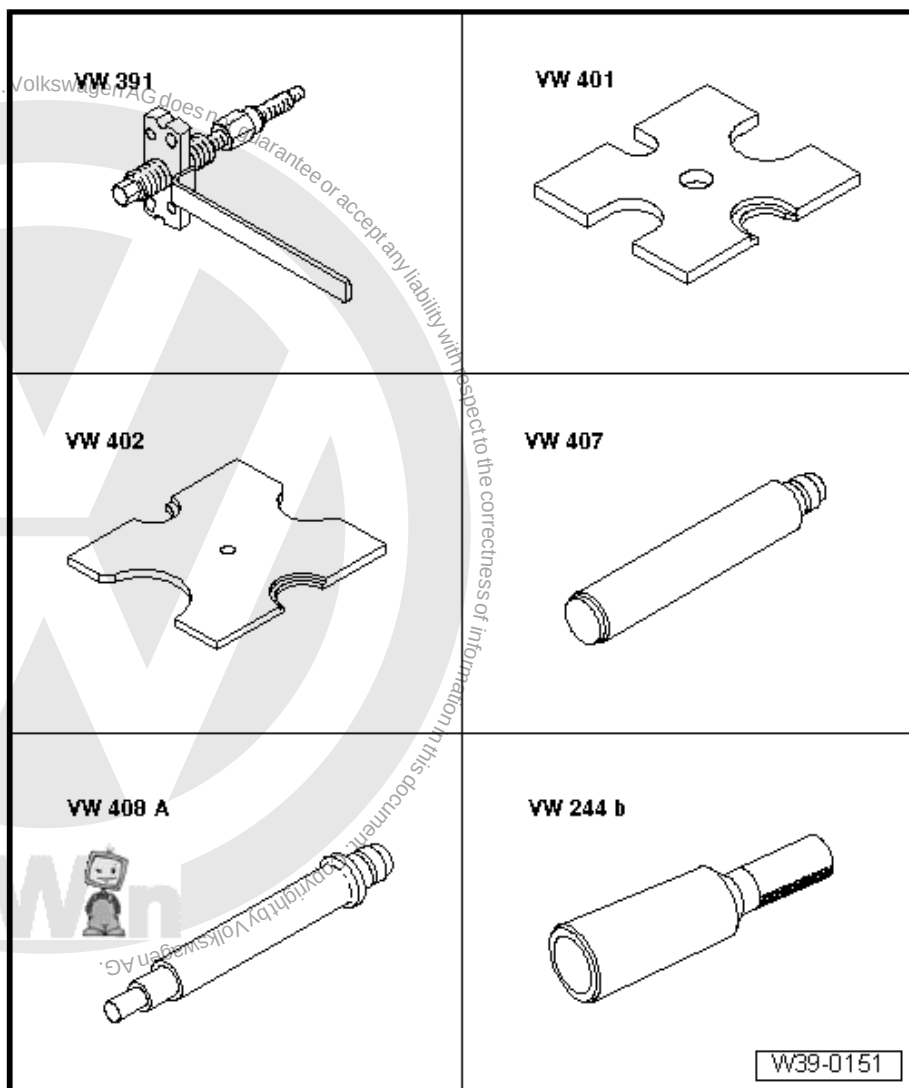
Note

- ♦ To obtain the quietest possible running, the entire propshaft is balanced during manufacture. It is not possible to balance the entire propshaft or separate propshaft tubes with workshop equipment. Therefore, in the event of damage to the front or rear propshaft tube, the entire propshaft must always be renewed.
- ♦ Keep propshaft straight; store and transport fully extended only.
- ♦ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ♦ Removing and installing propshaft ⇒ [page 19](#) .



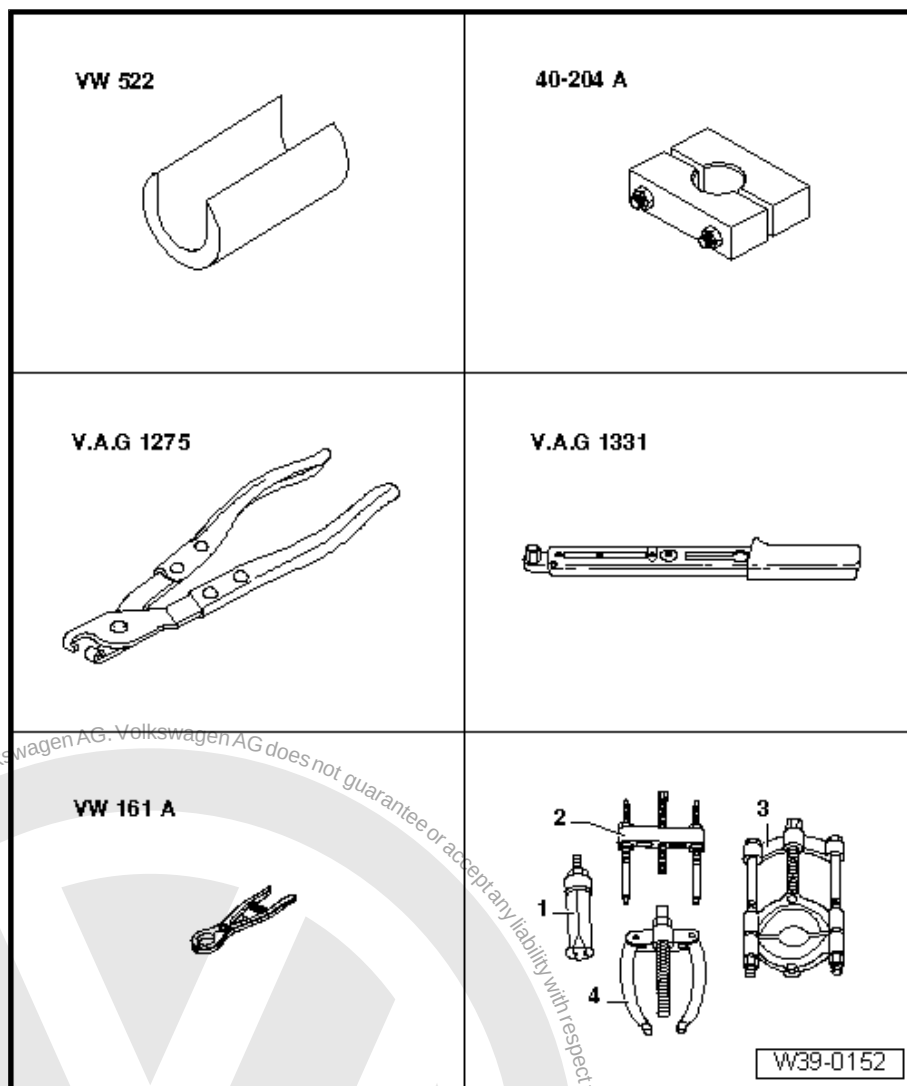
Special tools and workshop equipment required

- ◆ Drive shaft fitting appliance - VW 391-
- ◆ Pressure plate - VW 401-
- ◆ Pressure plate - VW 402-
- ◆ Press tool - VW 407-
- ◆ Press tool - VW 408A-
- ◆ Drift sleeve - VW 244B-



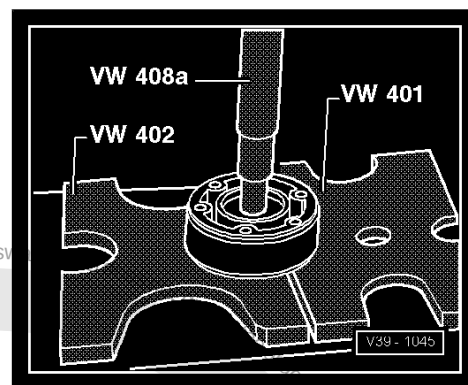
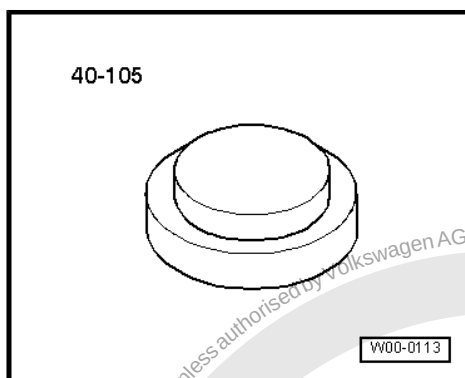


- ◆ Support sleeve - VW 522-
- ◆ Tensioner - V.A.G 40-204A-
- ◆ Hose clip pliers - V.A.G 1275-
- ◆ Torque wrench - V.A.G 1331-
- ◆ Circlip pliers - VW 161A-
- ◆ Puller - 2 - Kukko 18/0-
- ◆ Splitter - 3 - Kukko 17/1-

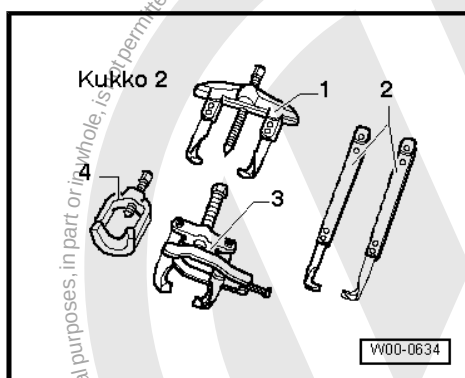




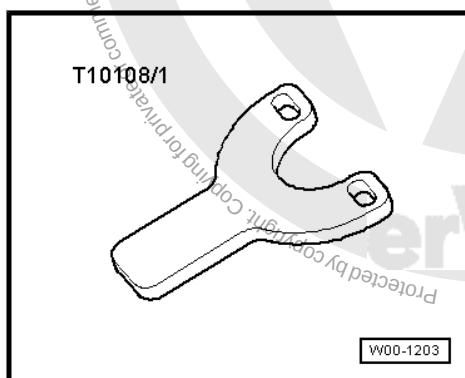
- ◆ Thrust plate - 40 - 105-



- ◆ Two arm puller - 1 Kukko 20/10-



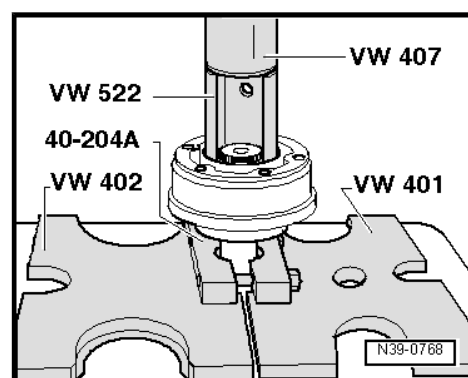
- ◆ Support plate - T10108/1-



Pressing off constant velocity joint

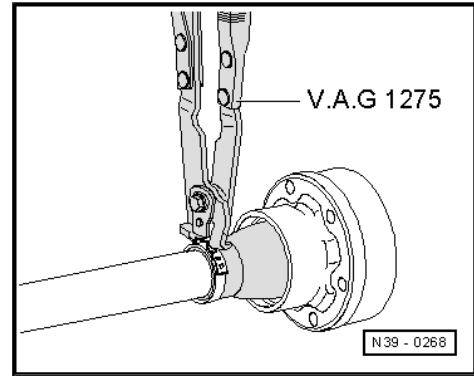
Pressing on constant velocity joint

- Press on carefully.
- Tighten tensioner - 40 - 204 A- securely. Propshaft must not be pushed down within tensioner - 40 - 204 A- , or paintwork will be damaged.
- Any damage to paintwork must be repaired according to the guidelines in ⇒ Paint workshop manual .





Tightening clamp

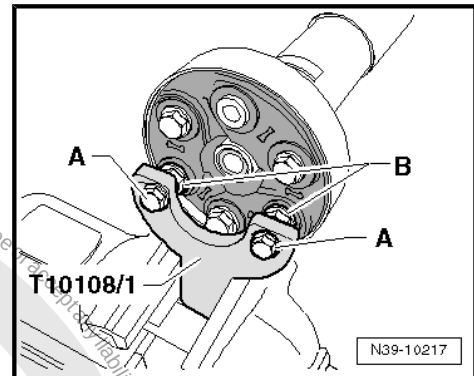


Clamping rear propshaft tube in a vice using stop plate - T10108/1-

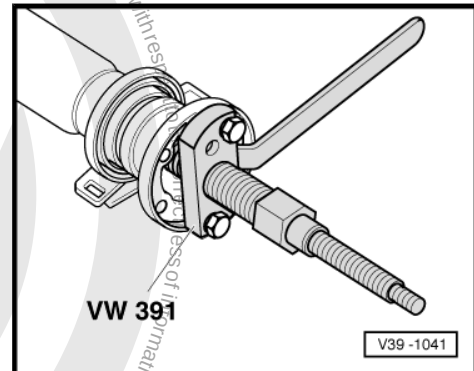
- Secure stop plate - T10108/1- on flexible coupling of propshaft tube.
- Place nuts -B- between stop plate - T10108/1- and flexible coupling onto bolts -A-.

A - Bolt M10 x 70 mm with nut

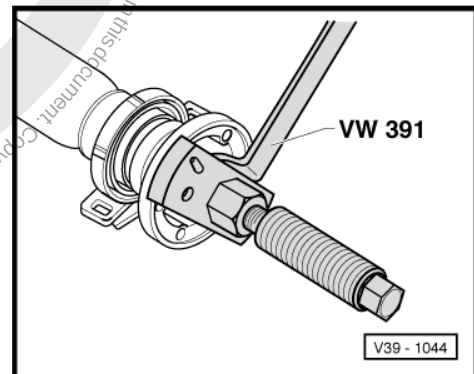
B - Nut M12



Pulling off flange



Pulling on flange





Pulling off centre bearing

- Rubber guide of centre bearing must be cut through and metal casing removed.

A - Splitter, 12...75 mm , e.g. -Kukko 17/1-

B - Puller , e.g. -Kukko 18/0-

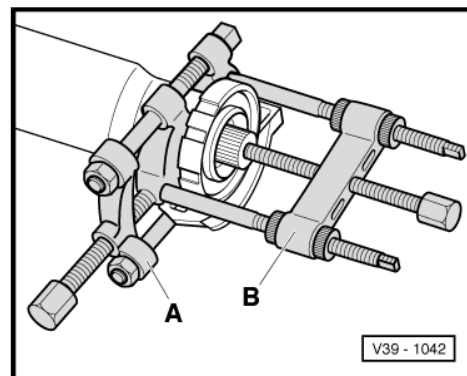
- Tighten splitter -A- with flat side of wedges behind centre bearing.

- Then attach two arm puller -B- to splitter .

- Pull centre bearing off propshaft tube.

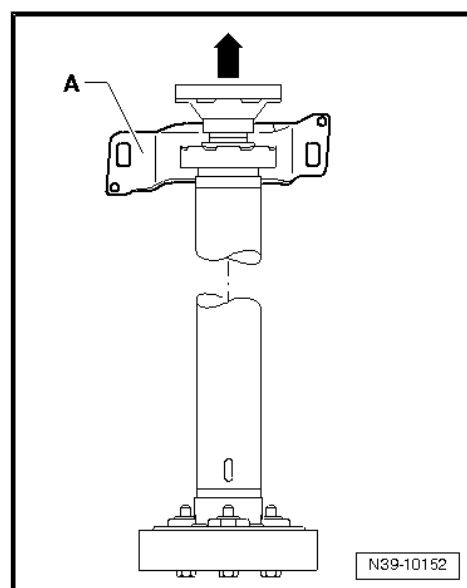
A - Splitter, 12...75 mm , e.g. -Kukko 17/1-

B - Two arm puller , e.g. -Kukko 20/10-



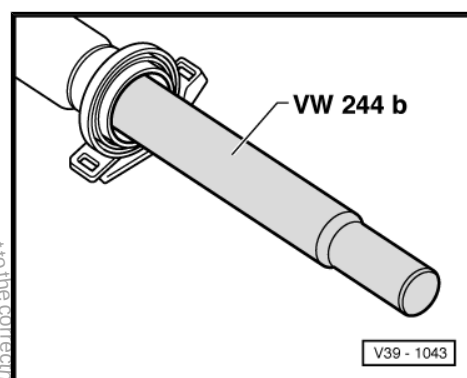
Installation position of centre bearing

The longer support -A- faces to left in direction of travel -arrow-.



Driving on centre bearing

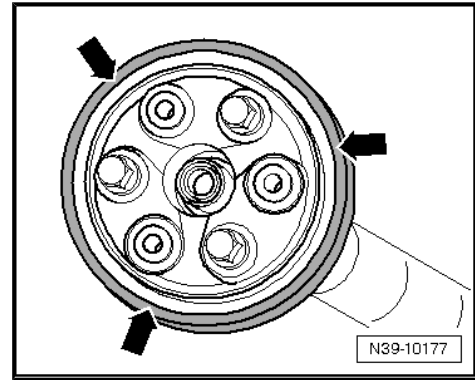
- Drive on centre bearing to stop.





Installation position of flexible coupling with vibration damper

Collar on outer circumference -arrows- faces away from propshaft tube.



2.4 Removing and installing rear flexible coupling

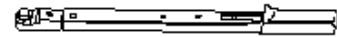
Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with gearbox support - V.A.G 1359/2-

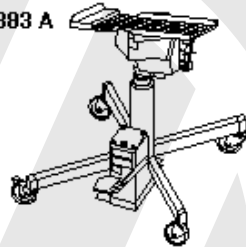
V.A.G 1331



V.A.G 1332



V.A.G 1383 A



W34-0092

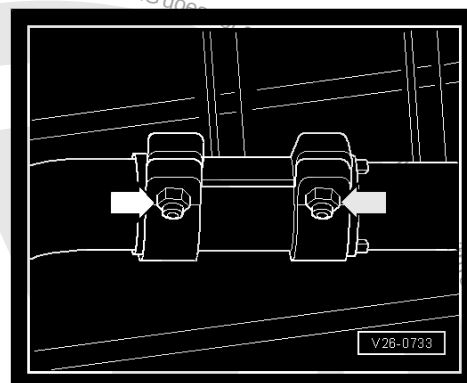


Removing

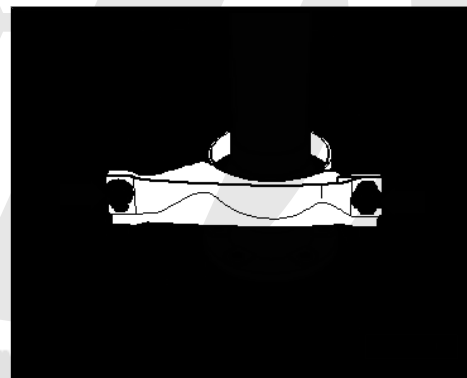


Note

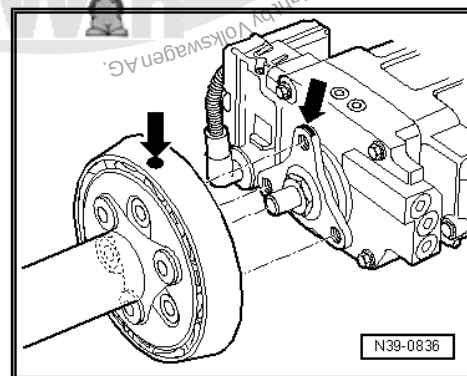
- ◆ A twin pillar lifting platform should be used when working on the propshaft.
- ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ◆ Keep propshaft straight; store and transport fully extended only.
- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .



- Loosen bolts -arrows- of propshaft centre bearing about 2 turns.

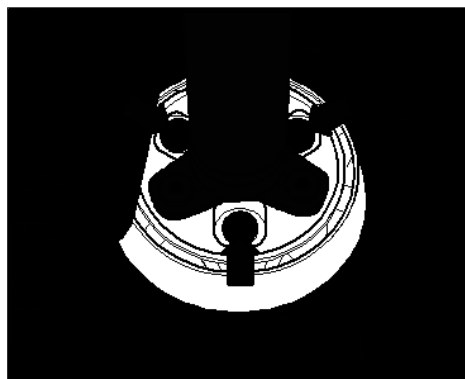


- Check if there is a coloured mark (paint) on flexible coupling and on flange of all-wheel drive coupling -arrows-.
- If not, mark the positions for the flexible coupling and the flange of the all-wheel drive coupling relative to each other -arrows-.





- Unbolt rear propshaft tube with flexible coupling and vibration damper from final drive -arrows-.
- Carefully pull rear propshaft tube off centring pin of propshaft flange of final drive.



Note

- ◆ *Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.*
- ◆ *Flexible coupling and vibration damper cannot be separated from one another.*

- Support propshaft.
- Secure propshaft using belt from gearbox support - V.A.G 1359/2- to prevent it falling down.
- Mark positions of rear flexible coupling and flange of rear propshaft tube relative to each other.
- Unbolt flexible coupling from propshaft tube -arrows-.

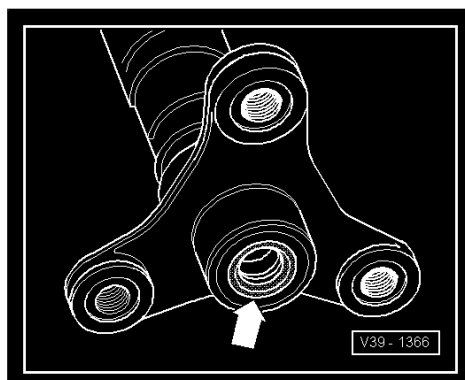
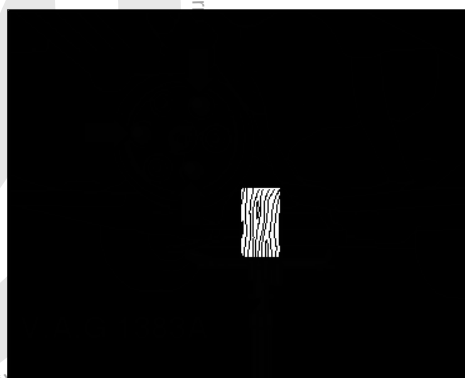
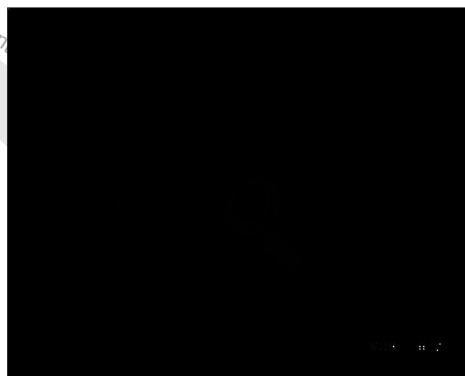
Installing

Install in the reverse order of removal, observing the following:



Note

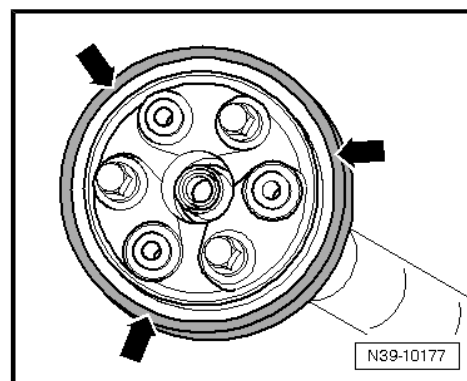
- ◆ *Do not damage seals -arrow- in propshaft flanges during removal and installation.*
- ◆ *Renew propshaft if damaged.*
- ◆ *Do not cant rear propshaft tube; push horizontally onto centring pin.*
- ◆ *All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.*
- ◆ Specified torques ⇒ [page 18](#) .





Installation position, flexible coupling with vibration damper:

- ◆ Collar on outer circumference -arrows- faces away from propshaft tube.
- ◆ Three projecting sleeves each propshaft flange of rear final and propshaft flange engage in flexible coupling mounting holes.

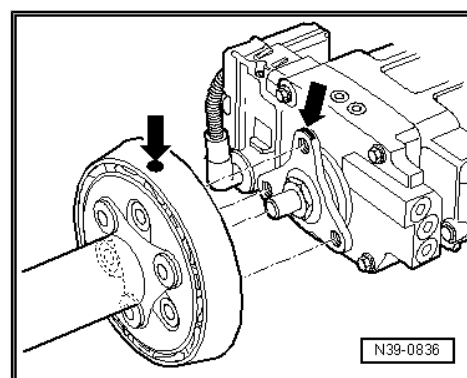


- Attach propshaft to propshaft flange of rear final drive so that marks -arrows- align.

Installing centre bearing free of tension ➔ [page 23](#) .

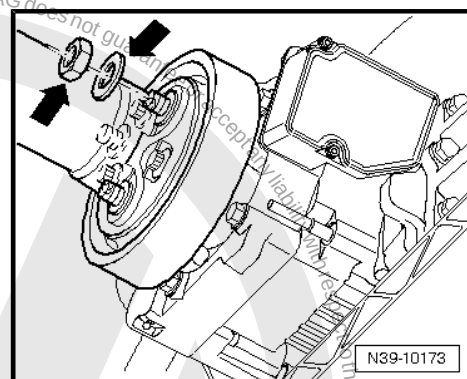
- Install exhaust system and align free of tension ➔ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .

For propshaft with balancing nut and balancing washers only.



Note

- ◆ If droning noises occur during travel, note the following:
- ◆ Remove balancing nut and balancing washer -arrows-.
- ◆ Then, if necessary, unbolt propshaft with flexible coupling from propshaft flange of rear final drive and offset it by one hole.
- ◆ If droning noises are still audible, front propshaft must be rotated one more hole.





3 Propshaft - Golf 2004 ► from calendar week 27/07 onwards



Note

- ◆ From calendar week 27/07 onwards, a »one-piece« propshaft came into use, which can no longer be separated at the centre bearing.
- ◆ Allocation of propshaft ⇒ Electronic Parts Catalogue "(ETKA)"
- ◆ No repairs can be made to the propshaft.

3.1 Assembly overview - propshaft

1 - Gearbox with bevel box

2 - 12-point flange bolt

- ☐ For flexible coupling to propshaft



Note

- ◆ Do not loosen.
- ◆ Not available as replacement part.

3 - Front flexible coupling



Note

- ◆ Do not unbolt from propshaft.
- ◆ Renew complete propshaft in case of a defect.

4 - 12-point flange bolt

Not available as replacement part.

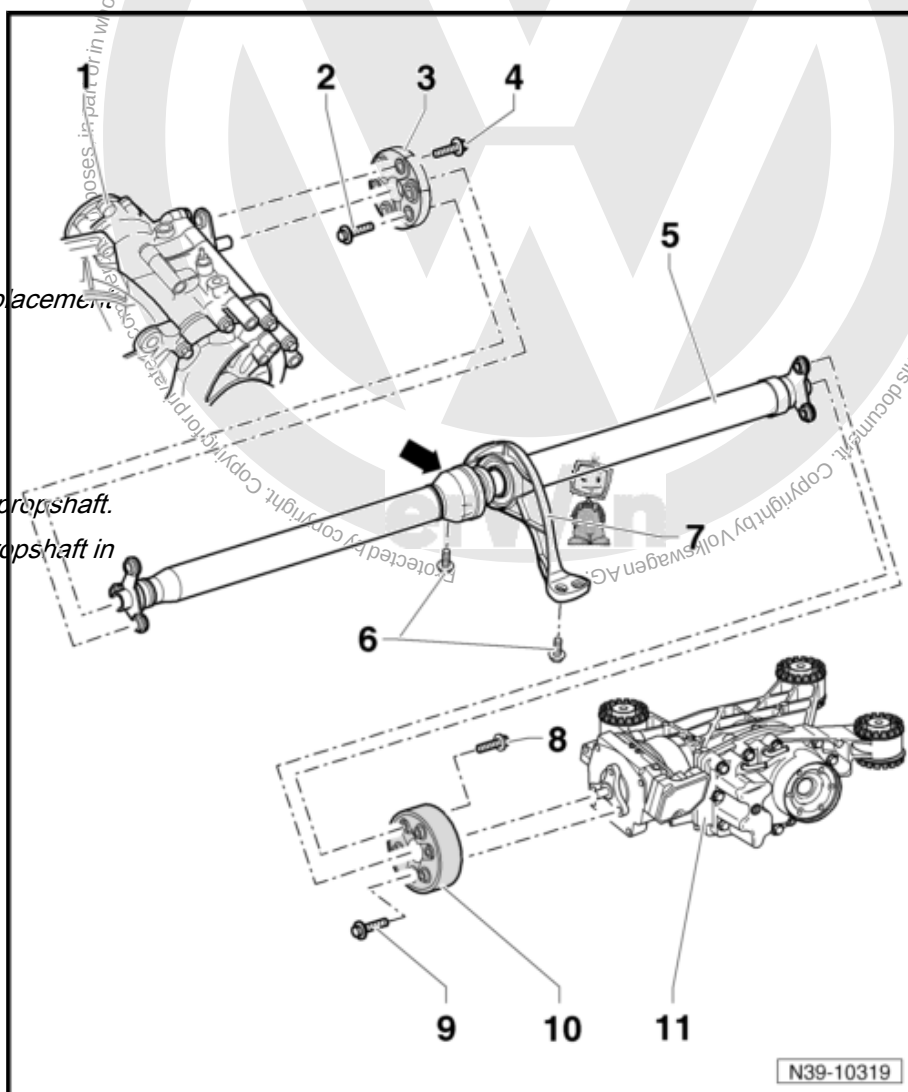
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to bevel box
- ☐ M10 x 30
- ☐ 60 Nm

5 - Propshaft

- ☐ Cannot be separated at joint -arrow-
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing and installing ⇒ [page 35](#)

6 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ 25 Nm





7 - Centre bearing

- ☐ Align free of tension

8 - Bolt

- ☐ For flexible coupling to propshaft
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Always renew
- ☐ 50 Nm and then turn 90° further

9 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to final drive
- ☐ 60 Nm

10 - Flexible coupling with vibration damper

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing and installing ⇒ [page 30](#) .

11 - Rear final drive

3.2 Removing and installing propshaft

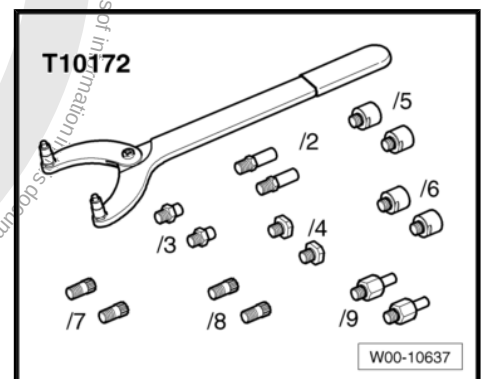


Note

- ◆ If possible, use a twin pillar lifting platform when working on the propshaft.
- ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ◆ Keep propshaft straight; store and transport fully extended only.
- ◆ Do not let propshaft »hang« during removal; always support it.
- ◆ Always pull propshaft from or push it onto drive flange horizontally .

Special tools and workshop equipment required

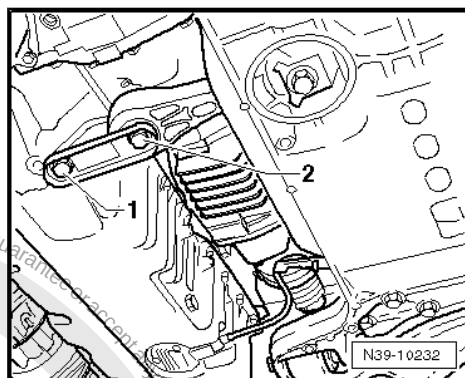
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Counterhold - T10172-



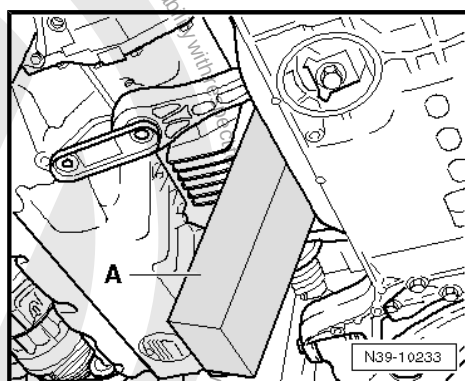


Removing

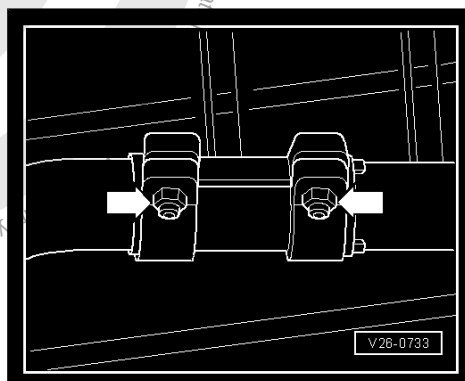
- Remove noise insulation ⇒ General body repairs, exterior;
Rep. gr. 50 ; Noise insulation .
- Unscrew bolts -1- and -2- of pendulum support.



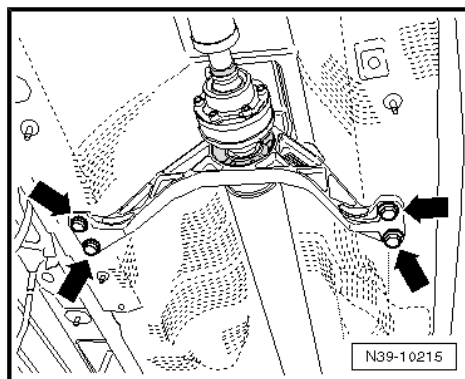
- Press »engine and gearbox« forwards and secure with an appropriate piece of wood -A-.
- Support front section of exhaust system with engine and gearbox jack - V.A.G 1383 A- .



- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system;
Removing and installing parts of exhaust system .
- Remove tunnel cross piece.

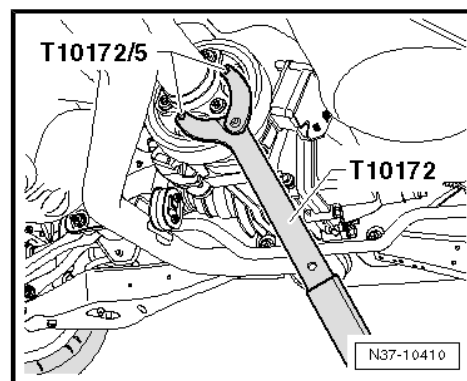


- Unscrew centre bearing bolts -arrows- 2 turns.
- Loosen, but do not remove, front and rear propshaft bolts.

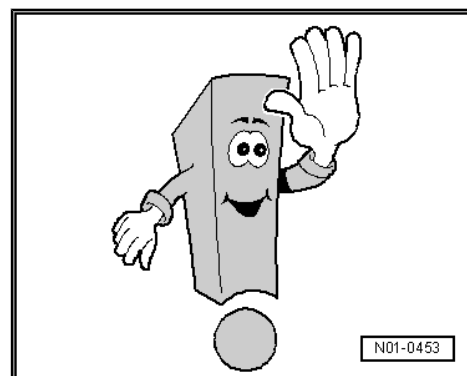




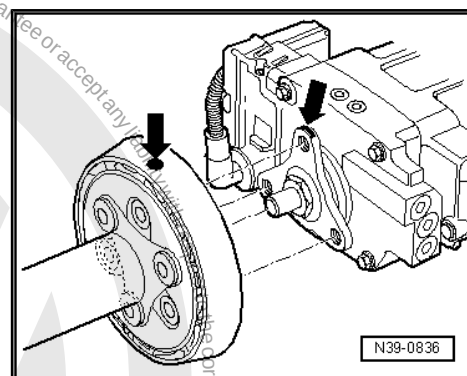
- Counterhold at rear final drive when loosening or tightening propshaft.



To prevent later noise due to imbalance:



- If there are no markings -arrows-, mark position of propshaft relative to final drive flange.
- Also mark position of propshaft relative to bevel box flange.
- Unbolt propshaft from rear final drive and rest it on engine and gearbox jack - V.A.G 1383 A- .





- When pulling off or pushing on propshaft, always ensure that sleeve -arrow- is not damaged.



Note

A second mechanic is required for the further removal of the propshaft.

- Unbolt propshaft from bevel box.



WARNING

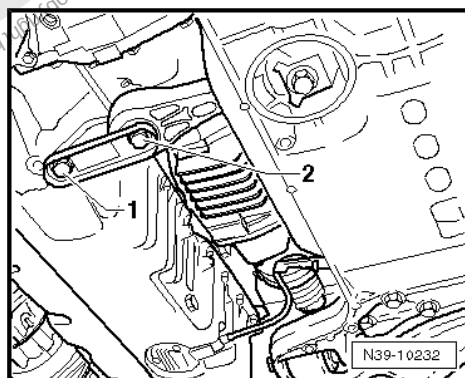
To avoid damaging the protective boot in the centre bearing, remove, store and install the propshaft with the joint as straight as possible.

- Unbolt centre bearing and remove propshaft to rear, keeping the joint as straight as possible.

Installing

Install in the reverse order of removal, observing the following:

- Install all parts which were marked in relation to each other in their original positions.
- Tighten propshaft bolts. Specified torques ⇒ [page 34](#) .
- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40
- Install exhaust system ⇒ Rep. gr. 26 .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .





4 Propshaft - Passat 2006 ► up to calendar week 26/07



Note

- ◆ From calendar week 27/07 onwards, a »one-piece« propshaft came into use, which can no longer be separated at the centre bearing ⇒ [page 57](#).
- ◆ Allocation of propshaft ⇒ Electronic Parts Catalogue "(ETKA)"

4.1 Removing and installing propshaft



Note

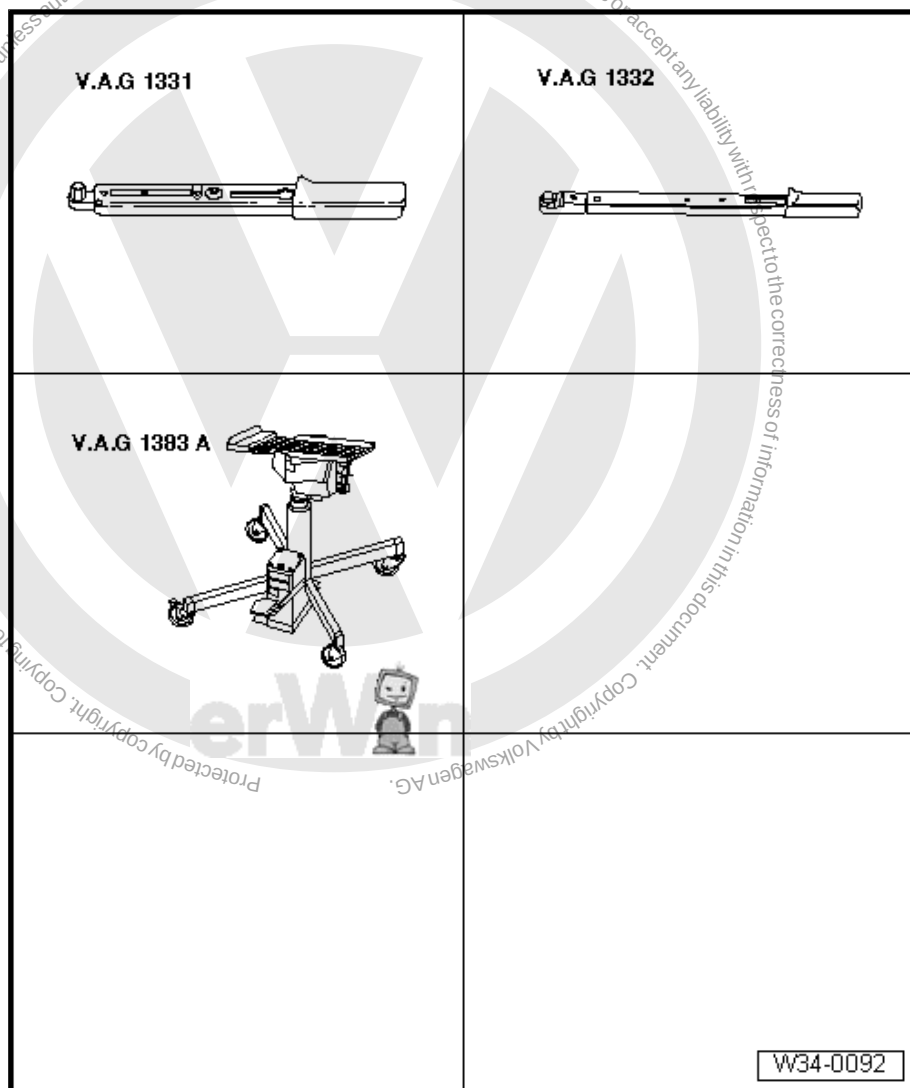
- ◆ A twin pillar lifting platform should be used when working on the propshaft.
- ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ◆ Keep propshaft straight; store and transport fully extended only.





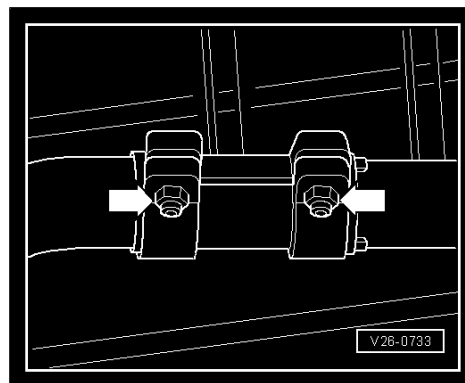
Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with gearbox support - V.A.G 1359/2-



Removing

- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Remove tunnel cross piece and separate exhaust system at clamp -arrows- ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Unhook rear silencer at retaining loops and remove rear part of exhaust system.
- Remove front exhaust pipe ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .





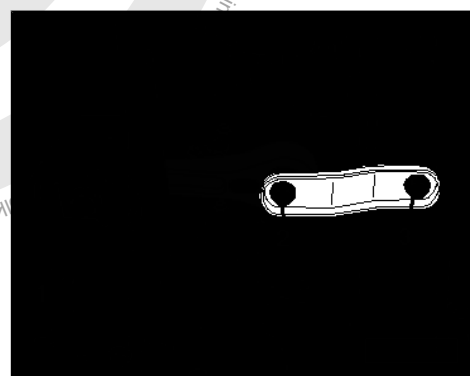
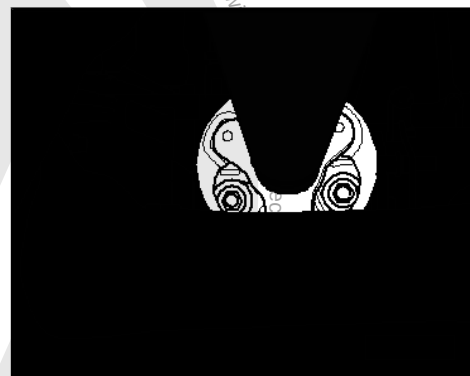
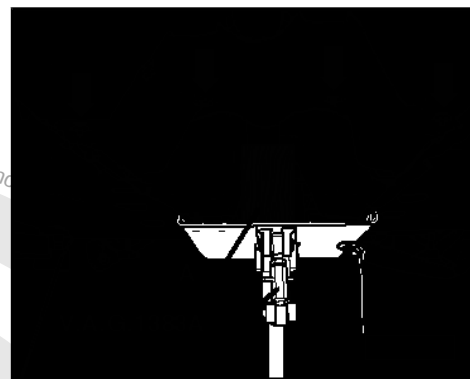
- Remove heat shield under propshaft -arrows-.
- Support propshaft along rear propshaft tube using engine and gearbox jack - V.A.G 1383 A- .

A - Wooden block

- Secure propshaft using belt from gearbox support - V.A.G 1359/2- to prevent it falling down.

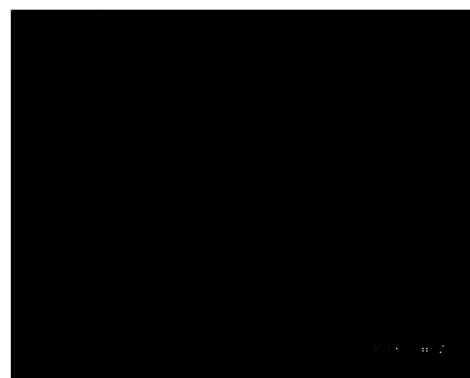
- Mark position of propshaft with flexible coupling relative to output shaft of bevel box.
- Unbolt propshaft with flexible coupling from output shaft of bevel box.

- Remove bolts -2- and -3- for pendulum support on gearbox.



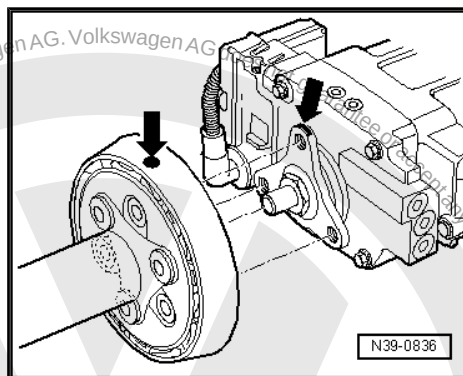
Note

After pendulum support securing bolts are loosened, the engine/gearbox assembly will swing slightly forwards (towards front of car). Ensure that seal -arrow- in flange of propshaft is not damaged during removal or installation.



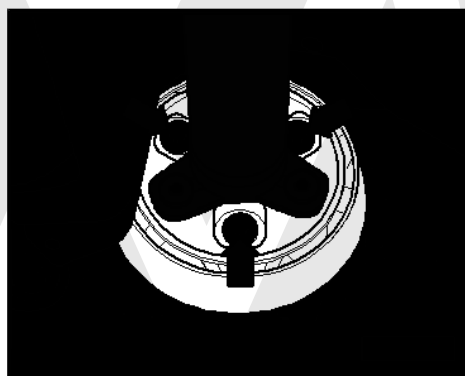


- Before removing rear propshaft tube, check if there are coloured marks on flexible coupling and on flange of rear final drive -arrows-. If not, mark positions of flexible coupling and propshaft flange of rear final drive relative to each other -arrows-.

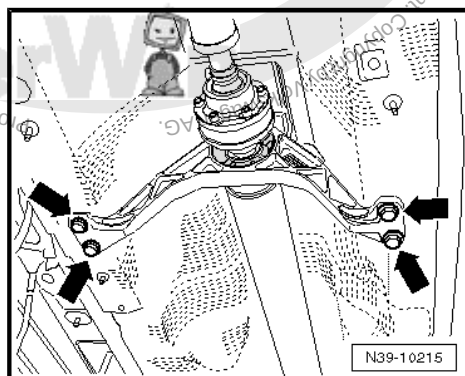


- Unbolt rear propshaft with flexible coupling and vibration damper from rear final drive -arrows-.

To continue removal of the propshaft, have a second mechanic secure the front propshaft tube.



- Unbolt propshaft centre bearing from body -arrows-.
- Guide propshaft forwards (towards front end). In the process, also press engine/gearbox assembly slightly forward if necessary.
- Then pull propshaft off propshaft flange of rear final drive.
- Then pull propshaft off output flange of bevel box.

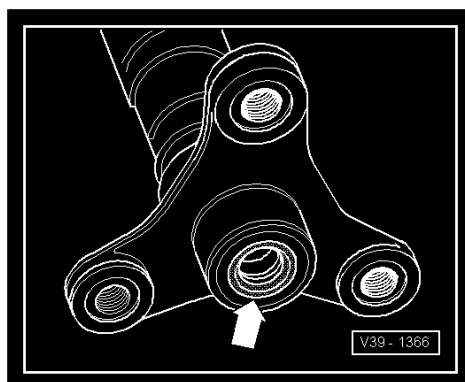


Note

- ♦ Do not cant propshaft during removal; pull horizontally off centring pin. Centring sleeve seal must not be damaged -arrow-; otherwise the complete propshaft must be renewed.
- ♦ Keep propshaft straight; store and transport fully extended only.

Installing

Install in the reverse order of removal, observing the following:



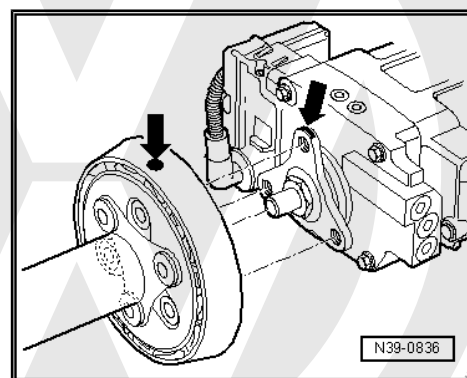
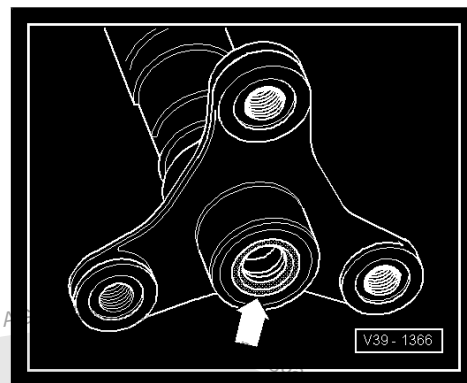


Note

- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation.
- ◆ Renew propshaft if damaged.
- ◆ Do not cant front or rear propshaft tube; push horizontally onto respective centring pin.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.
- ◆ Specified torques.

Installation position of flexible couplings:

- ◆ Three projecting sleeves each on the bevel box output flange or the propshaft flange of the rear final drive engage in the mounting holes of the flexible coupling.
- When installing propshaft, make sure that markings -arrows- are lined up.

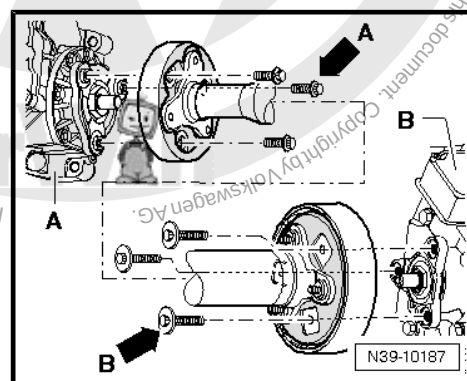


Note installation location of different flange bolts

Flange bolt with	Location
Small collar -arrow A-	Propshaft to front final drive -A-
Large collar -arrow B-	Propshaft to rear final drive -B-

Installing centre bearing free of tension.

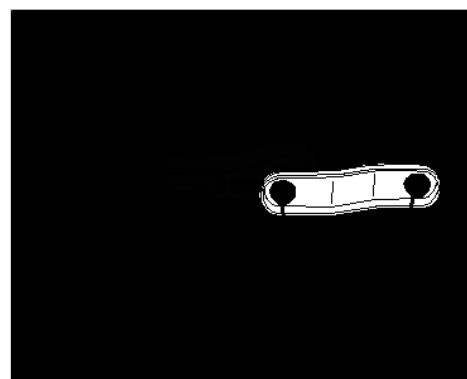
- ◆ Specified torques ⇒ [page 56](#) .
- Align centre bearing in its elongated holes so that neither propshaft nor centre bearing is under tension.
- Do not tighten centre bearings until propshaft has been fitted.



Attach pendulum support with new bolts -2- and -3- to gearbox ⇒ Running gear, axles, steering; Rep. gr. 40 ; Specified torques, front axle .

- Install exhaust system and align free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .

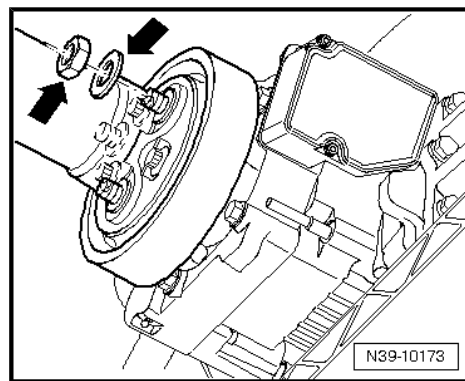
For propshaft with balancing nut and balancing washers only.





Note

- ◆ If droning noises occur during travel, note the following:
- ◆ Remove balancing nut and balancing washer -arrows-.
- ◆ Then, if necessary, unbolt propshaft with flexible coupling from propshaft flange of rear final drive and offset it by one hole.
- ◆ If droning noises are still audible, front propshaft must be rotated one more hole.



4.2 Removing and installing front propshaft tube with flexible coupling

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-

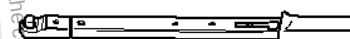
V.A.G 1331



W00-0427

- ◆ Torque wrench - V.A.G 1332-

V.A.G 1332



W00-0428



Note

- ◆ A twin pillar lifting platform should be used when working on the propshaft.
- ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ◆ Keep propshaft straight; store and transport fully extended only.

Removing

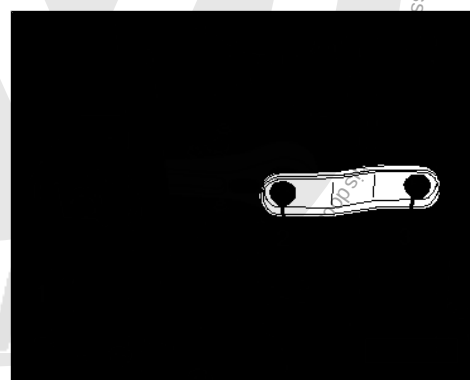
- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .



- Remove front exhaust pipe ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system.
- Remove heat shield beneath propshaft.
- Mark position of propshaft with flexible coupling relative to output shaft of bevel box.
- Unbolt propshaft with flexible coupling from output shaft of bevel box.

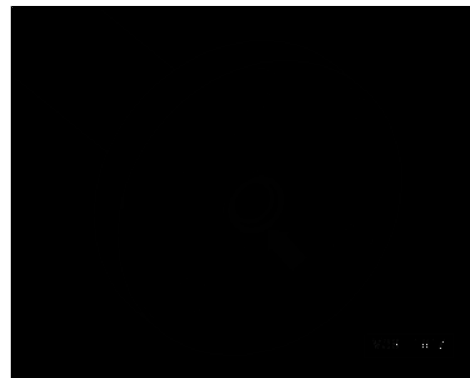


- Remove bolts -2- and -3- for pendulum support on gearbox.

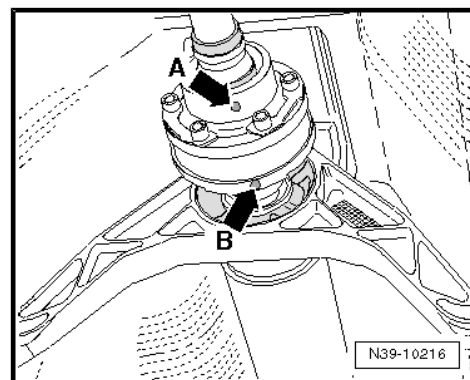


Note

After pendulum support securing bolts are loosened, the engine/gearbox assembly will swing slightly forwards (towards front of car). Ensure that seal -arrow- in flange of propshaft is not damaged during removal or installation.



- Check whether markings are present on flexible coupling and propshaft -arrow A- and -arrow B-. If not, make marks with paint.
- Unbolt front propshaft tube from rear propshaft tube.
- Carefully press engine/gearbox assembly forwards.
- Then swing front propshaft tube out of flange of rear propshaft tube.



Note

When swinging tube out, ensure that front propshaft tube is flexed as little as possible downwards.

- Carefully pull front propshaft tube from centring pin of output flange of bevel box.



Note

- ◆ Seal -arrow- in flange of propshaft must not be damaged.
- ◆ Pull propshaft horizontally off centring pin.

Installing

Install in the reverse order of removal, observing the following:



Note

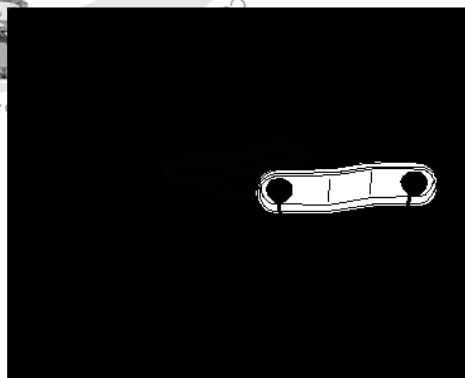
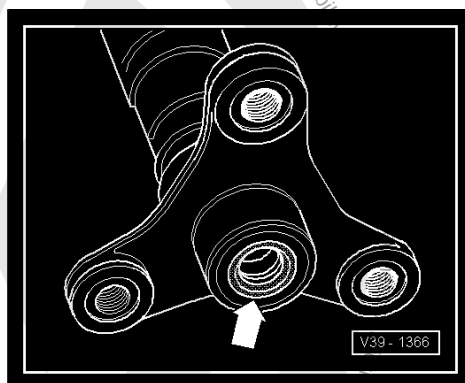
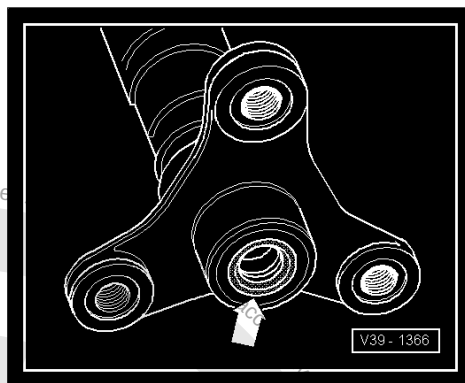
- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation.
- ◆ Renew propshaft if damaged.
- ◆ Do not cant front propshaft tube; push horizontally onto centring pin.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.
- ◆ Specified torques ⇒ [page 56](#).

Installation position of front flexible coupling:

- ◆ Three projecting sleeves each on output flange of bevel box engage in mounting holes of flexible coupling.

Attach pendulum support with new bolts -2- and -3- to gearbox ⇒ Running gear, axles, steering; Rep. gr. 40 ; Specified torques, front axle .

- Install exhaust system and align free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .

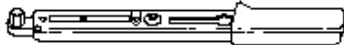
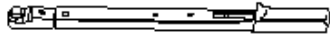
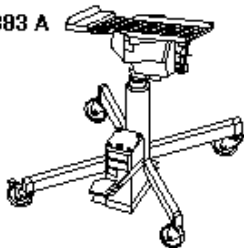


4.3 Removing and installing rear flexible coupling



Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2-

V.A.G 1331 	V.A.G 1332 
V.A.G 1383 A 	
	W34-0092

Removing



Note

- ◆ A twin pillar lifting platform should be used when working on the propshaft.
 - ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
 - ◆ Keep propshaft straight; store and transport fully extended only.
- Remove tunnel cross piece ⇒ Rep. gr. 26 ; Exhaust system;
Removing and installing parts of exhaust system
- Unhook rear silencer from rubber mountings and remove rear section of exhaust system.



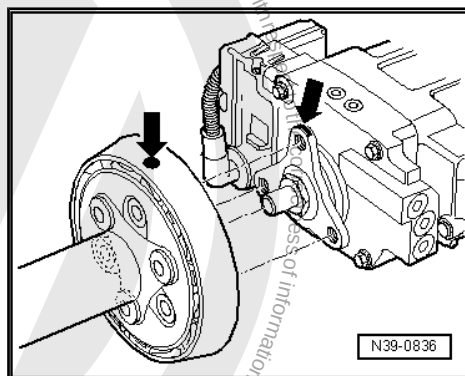
- Remove heat shield under propshaft -arrows-.
- Support propshaft along rear propshaft tube using engine and gearbox jack - V.A.G 1383 A- .

A - Wooden block

- Secure propshaft against falling with belt from universal gearbox support - V.A.G 1359/2- .



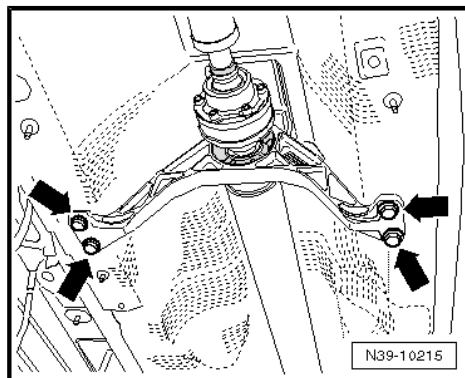
- Check if there are coloured marks on flexible coupling and on propshaft flange of rear final drive -arrows-. If not, mark positions of flexible coupling and propshaft flange of rear final drive relative to each other -arrows-.



- Unbolt rear propshaft with flexible coupling and vibration damper from rear final drive -arrows-.



- Unbolt centre bearing for propshaft from body -arrows-.
- Pull rear propshaft tube off propshaft flange of rear final drive.





Note

- ◆ *If the rear propshaft tube cannot be pulled off centring pin, remove pendulum support from gearbox. To do this, remove bolts -2- and -3- and press engine/gearbox assembly slightly towards front of vehicle.*
- ◆ *Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.*
- ◆ *Flexible coupling and vibration damper cannot be separated from one another.*

Unbolt rear flexible coupling with vibration damper from rear propshaft tube -arrows-.

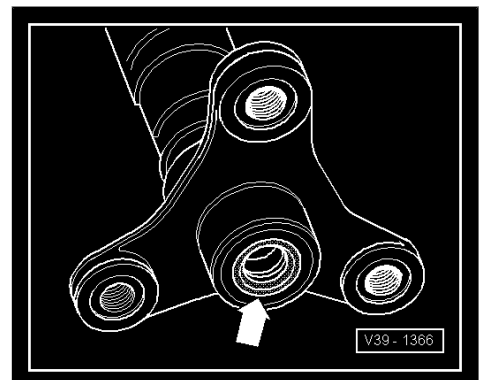
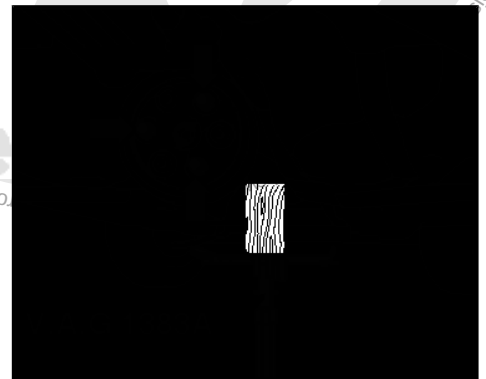
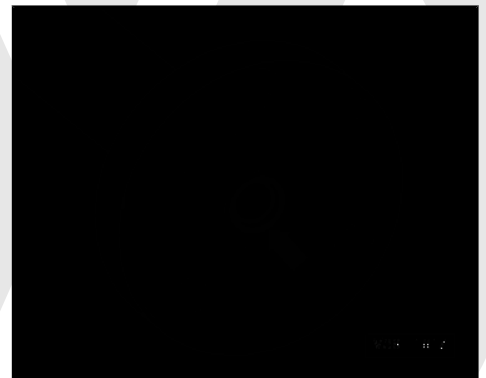
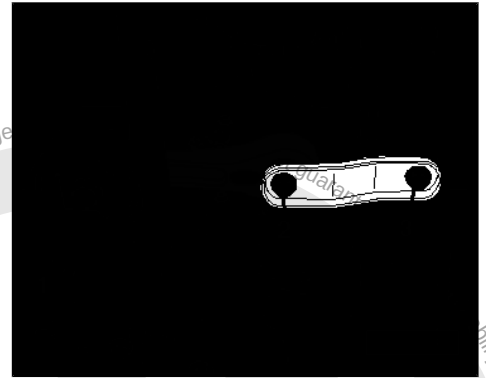
Installing

Install in the reverse order of removal, observing the following:



Note

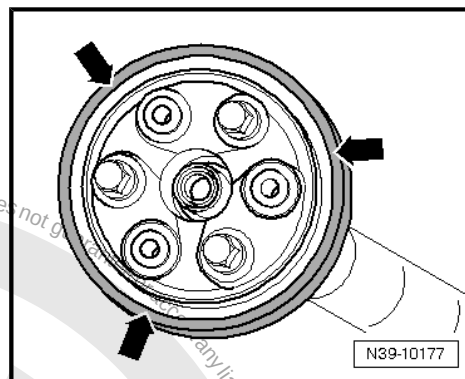
- ◆ *Do not damage seals -arrow- in propshaft flanges during removal and installation.*
- ◆ *Renew propshaft if damaged.*
- ◆ *Do not cant rear propshaft tube; push horizontally onto centring pin.*
- ◆ *All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.*
- ◆ *Specified torques ➔ [page 56](#).*





Installation position, flexible coupling with vibration damper:

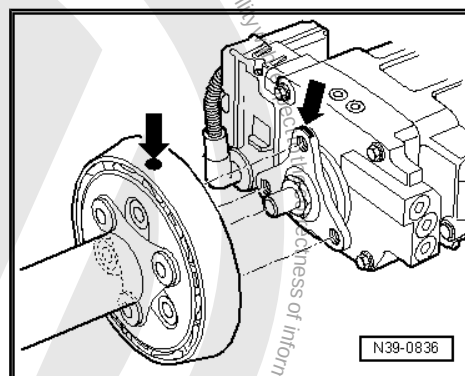
- ◆ Collar on outer circumference -arrows- faces away from propshaft tube.
- ◆ Three projecting sleeves each propshaft flange of rear final and propshaft flange engage in flexible coupling mounting holes.



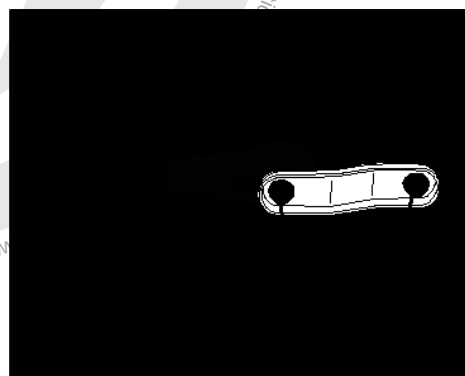
- Attach propshaft to propshaft flange of rear final drive so that marks -arrows- align.

Installing centre bearing free of tension

- ◆ Specified torques.
- Align centre bearing in its elongated holes so that neither propshaft nor centre bearing is under tension.
- Do not tighten centre bearing until propshaft has been tightened.
- If the pendulum support was removed, attach it with new bolts -2- and -3- to gearbox ⇒ Running gear, axles, steering; Rep. gr. 40 ; Specified torques, front axle .
- Install exhaust system and align free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .

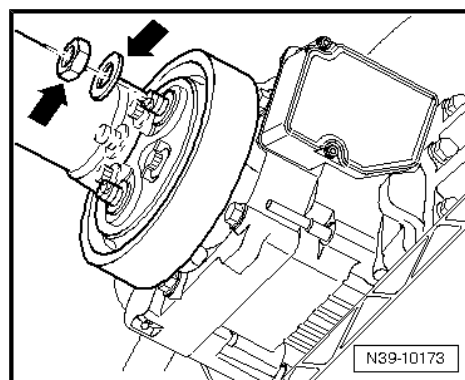


For propshaft with balancing nut and balancing washers only.



Note

- ◆ If droning noises occur during travel, note the following:
- ◆ Remove balancing nut and balancing washer -arrows-.
- ◆ Then, if necessary, unbolt propshaft with flexible coupling from propshaft flange of rear final drive and offset it by one hole.
- ◆ If droning noises are still audible, front propshaft must be rotated one more hole.





4.4 Repairing propshaft

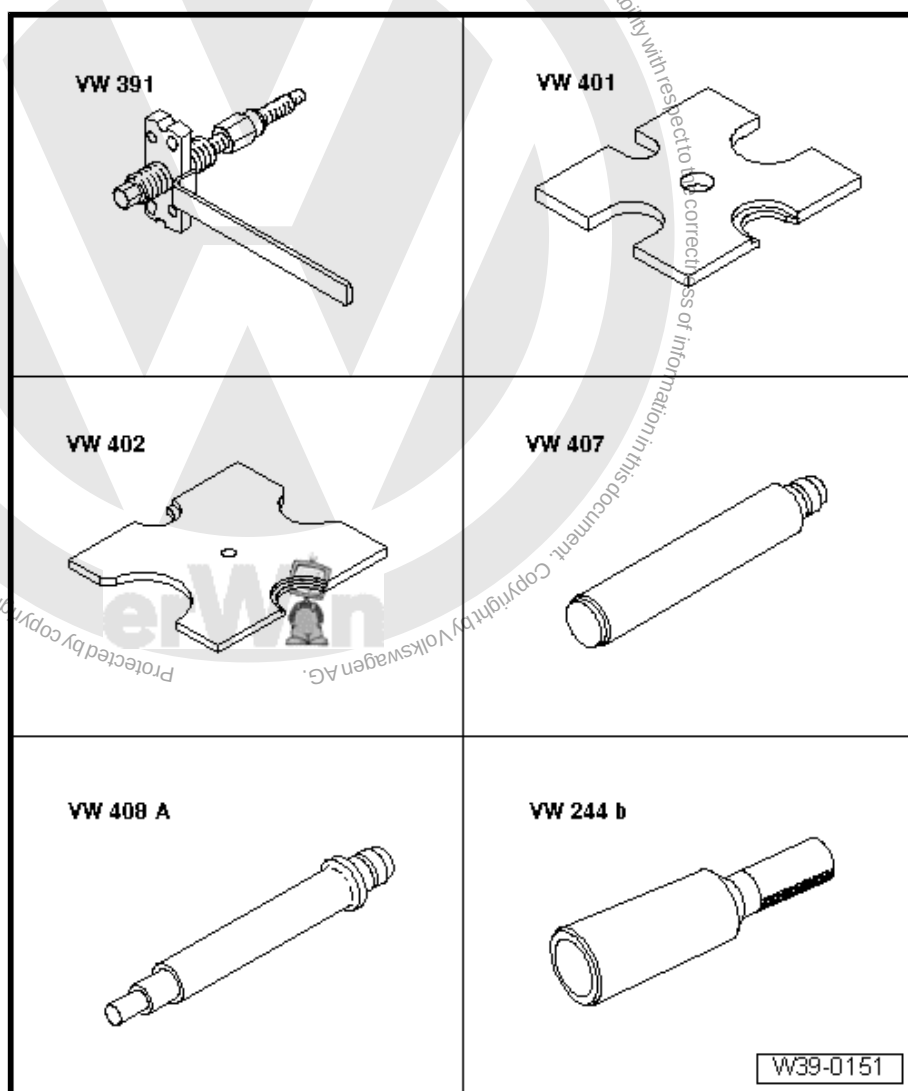


Note

- ◆ To obtain the quietest possible running, the entire propshaft is balanced during manufacture. It is not possible to balance the entire propshaft or separate propshaft tubes with workshop equipment. Therefore, in the event of damage to the front or rear propshaft tube, the entire propshaft must always be renewed.
- ◆ Keep propshaft straight; store and transport fully extended only.
- ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.

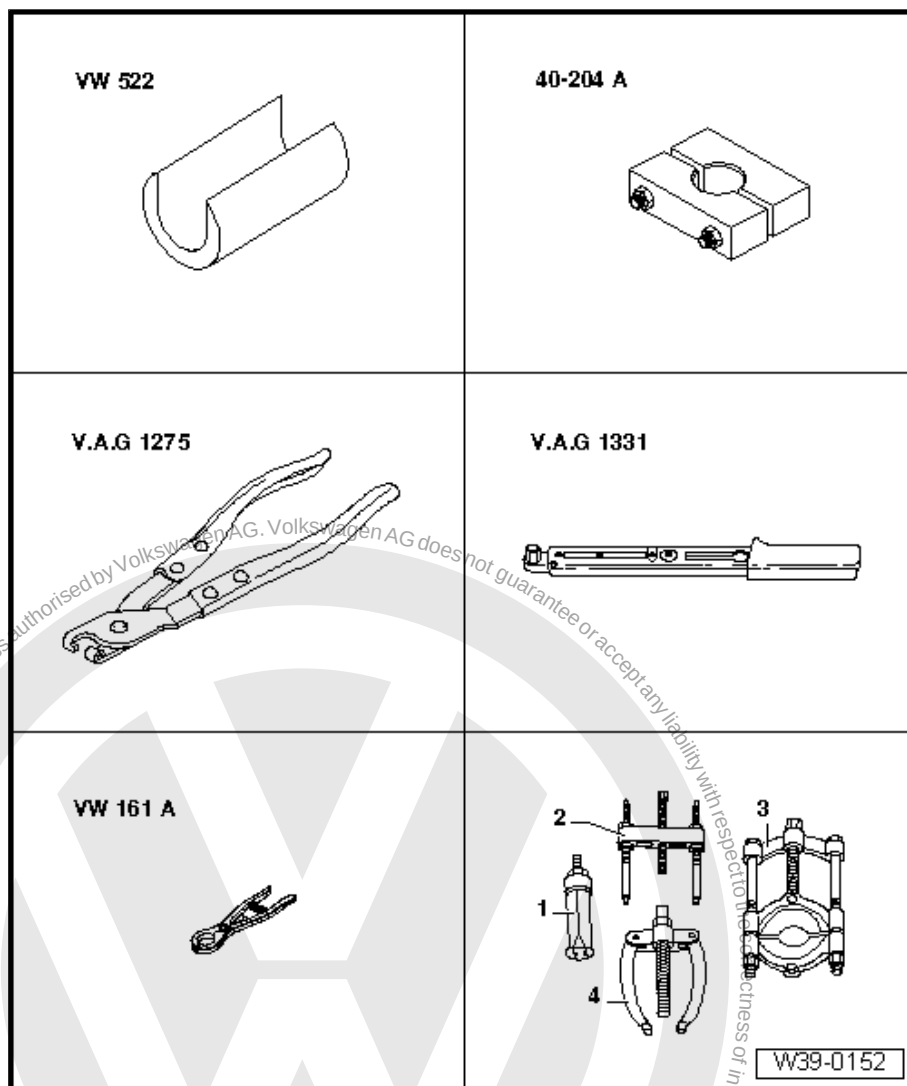
Special tools and workshop equipment required

- ◆ Drive shaft fitting appliance - VW 391-
- ◆ Pressure plate - VW 401-
- ◆ Pressure plate - VW 402-
- ◆ Press tool - VW 407-
- ◆ Press tool - VW 408A-
- ◆ Drift sleeve - VW 244B-



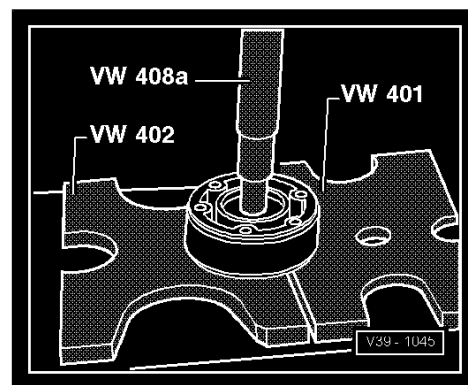
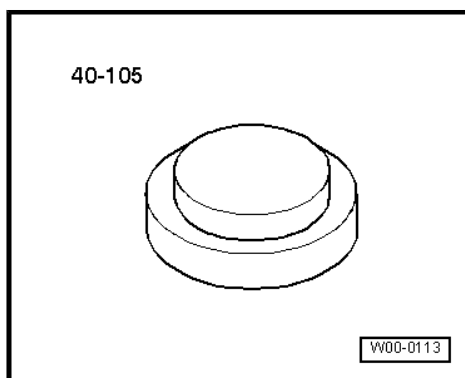


- ◆ Support sleeve - VW 522-
- ◆ Tensioner - V.A.G 40-204A-
- ◆ Hose clip pliers - V.A.G 1275-
- ◆ Torque wrench - V.A.G 1331-
- ◆ Circlip pliers - VW 161A-
- ◆ Puller - 2 - Kukko 18/0-
- ◆ Splitter - 3 - Kukko 17/1-

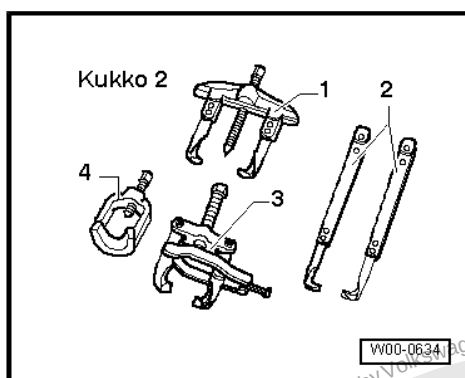




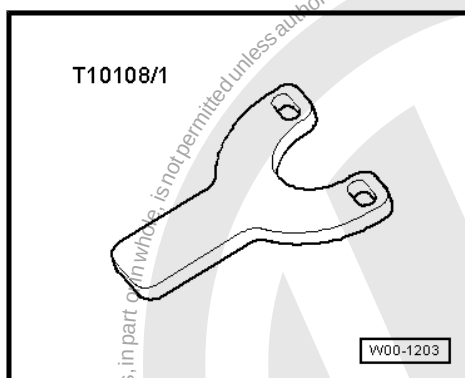
- ◆ Thrust plate - 40 - 105-



- ◆ Two arm puller - 1 Kukko 20/10-



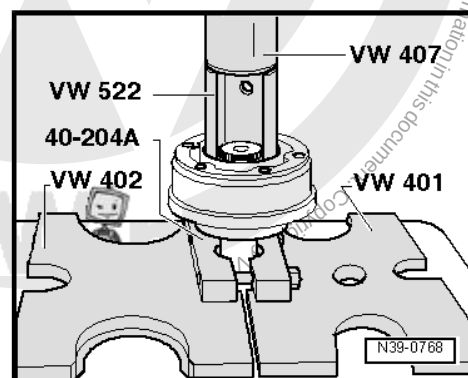
- ◆ Support plate - T10108/1-



Pressing off constant velocity joint

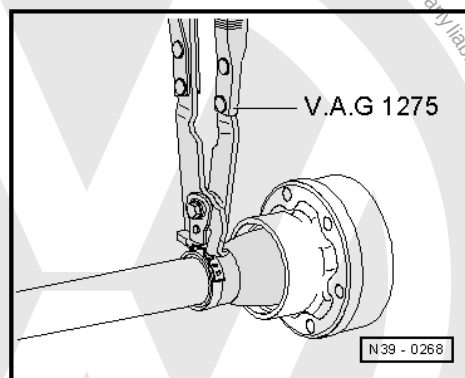
Pressing on constant velocity joint

- Press on carefully.
- Tighten tensioner - 40 - 204 A- securely. Propshaft must not be pushed down within tensioner - 40 - 204 A- , or paintwork will be damaged.
- Any damage to paintwork must be repaired according to the guidelines in ⇒ Paint workshop manual .





Tightening clamp

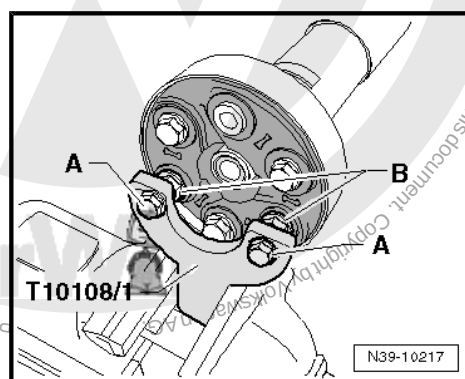


Clamping rear propshaft tube in a vice using stop plate - T10108/1-

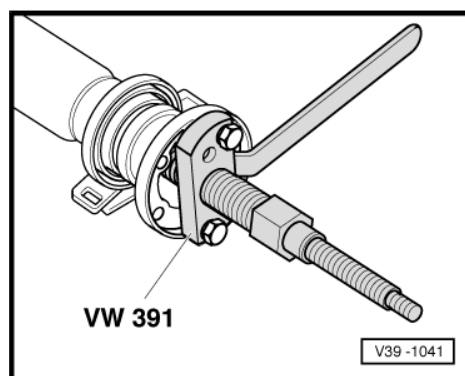
- Secure stop plate - T10108/1- to flexible coupling of propshaft tube.
- To do this, screw nuts -B- between stop plate - T10108/1- and flexible coupling onto bolts -A-.

A - Bolt M10 x 70 mm with nut

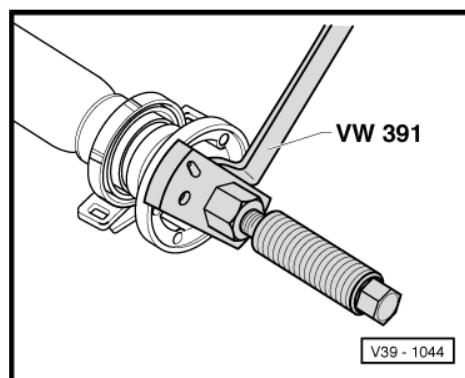
B - Nut M12



Pulling off flange



Pulling on flange



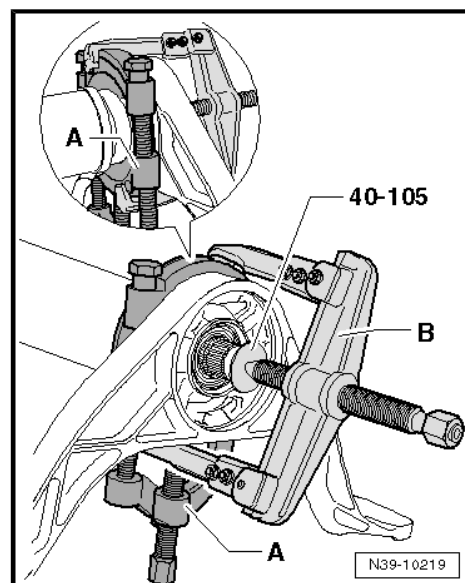


Pulling off centre bearing

- Tighten splitter -A- with flat side of wedges behind centre bearing.
- Then attach two arm puller -B- to splitter .
- Pull centre bearing off propshaft tube.

A - Splitter, 12...75 mm , e.g. -Kukko 17/1-

B - Two arm puller , e.g. -Kukko 20/10-

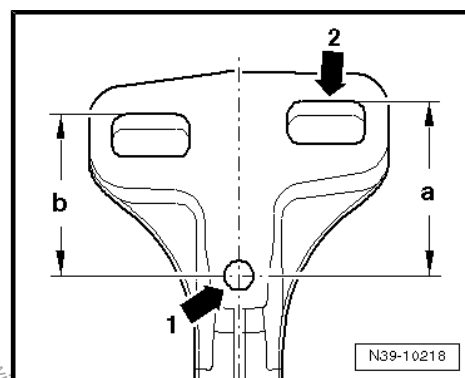


Installation position of centre bearing

Dimension -a- = 49 mm

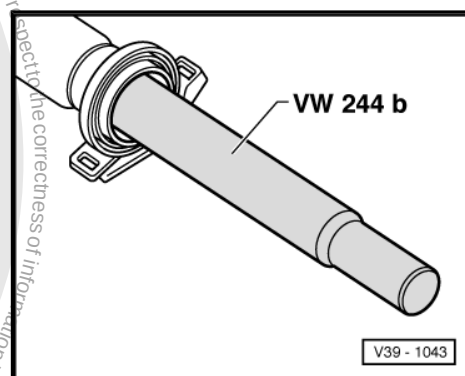
Dimension -b- = 45.5 mm

- The greater distance -a- measured from the centre of hole -arrow 1- to outer edge of hole -arrow 2- must face flexible coupling with vibration damper (to back, in direction of travel).



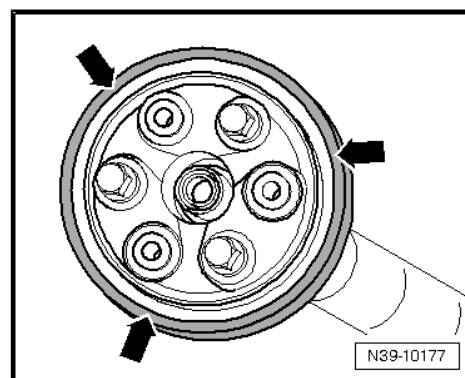
Driving on centre bearing

- Drive on centre bearing to stop.



Installation position of flexible coupling with vibration damper

Collar on outer circumference -arrows- faces away from propshaft tube.





4.5 Specified torques

Component	Nm
Front to rear propshaft tubes	40
Flexible coupling to rear final drive	60
Flexible coupling to propshaft ♦ Renew bolts.	50 Nm and then turn 90° further
Centre bearing to body	25
Flexible coupling to bevel box	60



5 Propshaft - Passat 2006 ► from calendar week 27/07 onwards



Note

- ◆ From calendar week 27/07 onwards, a »one-piece« propshaft came into use, which can no longer be separated at the centre bearing.
- ◆ Allocation of propshaft ⇒ Electronic Parts Catalogue "(ETKA)"
- ◆ No repairs can be made to the propshaft.

5.1 Assembly overview - propshaft

1 - Gearbox with bevel box

2 - 12-point flange bolt

- ☐ For flexible coupling to propshaft



Note

- ◆ Do not loosen.
- ◆ Not available as replacement part.

3 - Front flexible coupling



Note

- ◆ Do not unbolt from propshaft.
- ◆ Renew complete propshaft in case of a defect.

4 - 12-point flange bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to bevel box
- ☐ M10 x 30
- ☐ 60 Nm

5 - Propshaft

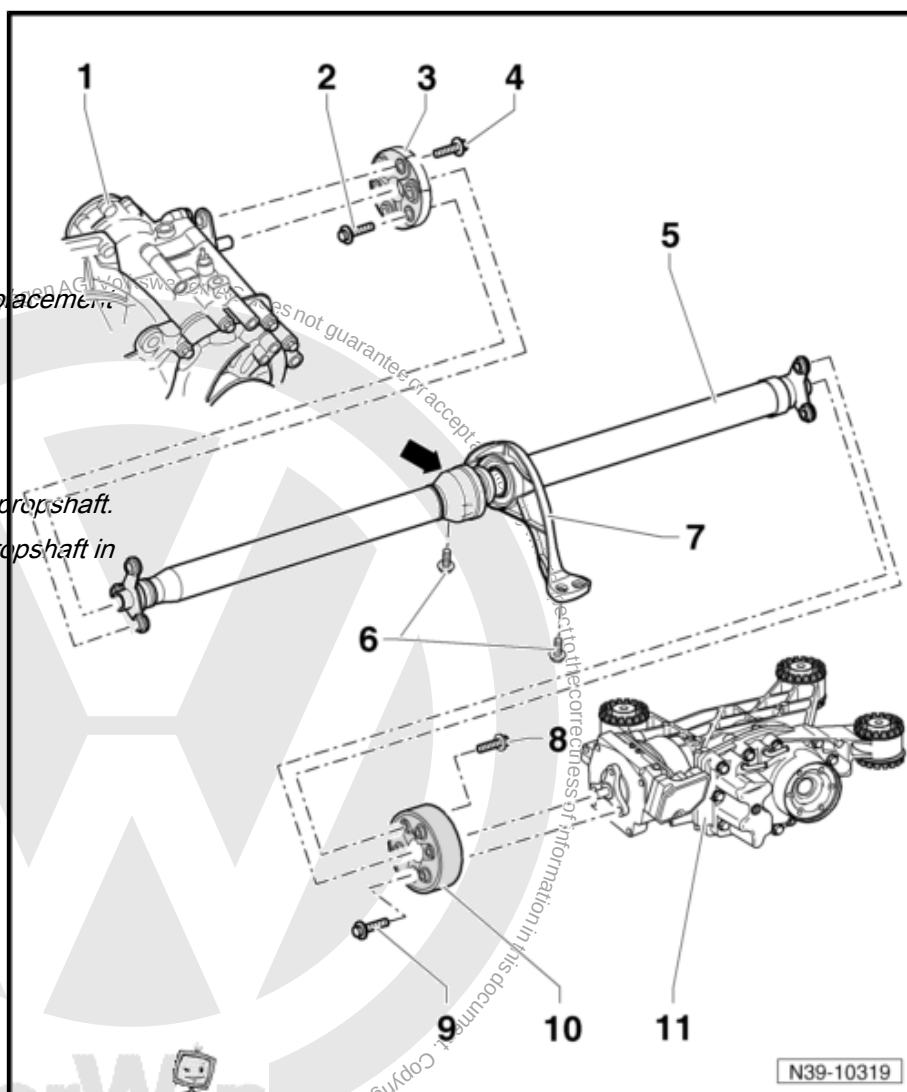
- ☐ Cannot be separated at joint - arrow -
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing and installing ⇒ [page 58](#)

6 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ 25 Nm

7 - Centre bearing

- ☐ Align free of tension





8 - Bolt

- ☐ For flexible coupling to propshaft
- ☐ Allocation ⇒ Electronic Parts Catalogue “(ETKA)”
- ☐ Always renew
- ☐ 50 Nm and then turn 90° further

9 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue “(ETKA)”
- ☐ For flexible coupling to final drive
- ☐ 60 Nm

10 - Flexible coupling with vibration damper

- ☐ Allocation ⇒ Electronic Parts Catalogue “(ETKA)”
- ☐ Removing and installing ⇒ [page 46](#) .

11 - Rear final drive

5.2 Removing and installing propshaft

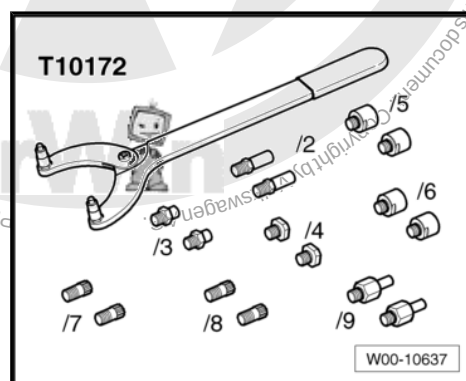


Note

- ◆ *If possible, use a twin pillar lifting platform when working on the propshaft.*
- ◆ *Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.*
- ◆ *Keep propshaft straight; store and transport fully extended only.*
- ◆ *Do not let propshaft »hang« during removal; always support it.*
- ◆ *Always pull propshaft from or push it onto drive flange horizontally .*

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Counterhold - T10172-

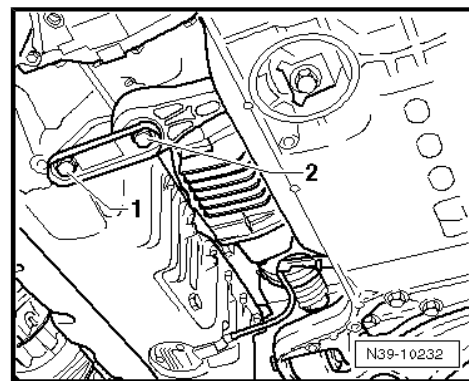


Removing

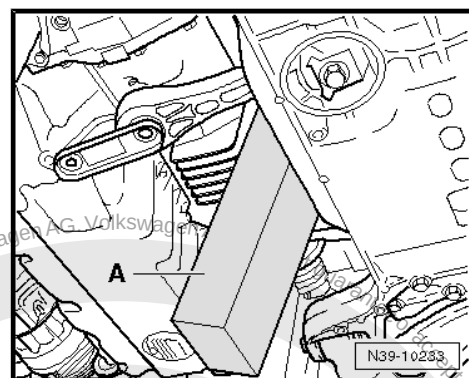
- Remove noise insulation ⇒ General body repairs, exterior;
Rep. gr. 50 ; Noise insulation .



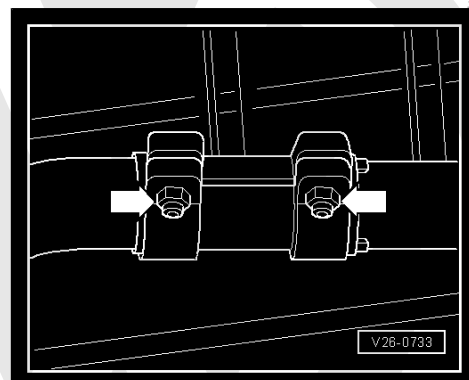
- Remove bolts -1- and -2- for pendulum support.



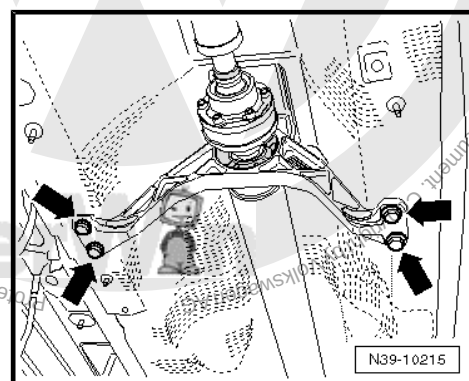
- Press »engine and gearbox« forwards and fix in this position with an appropriate piece of wood -A-.
- Support front section of exhaust system with engine and gearbox jack - V.A.G 1383 A- .



- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26; Exhaust system; Removing and installing parts of exhaust system .
- Remove tunnel cross piece.

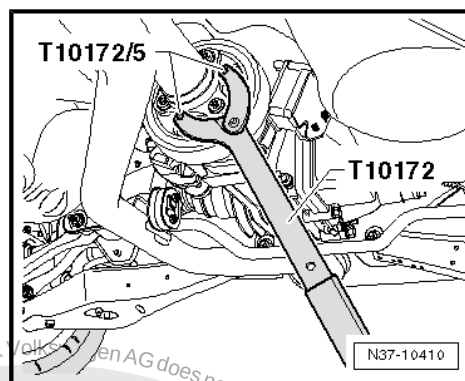


- Unscrew centre bearing bolts -arrows- 2 turns.
- Loosen, but do not remove, front and rear propshaft bolts.



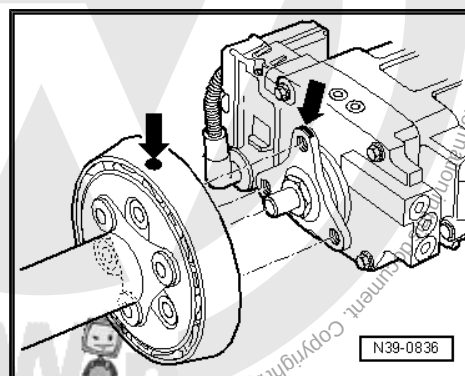
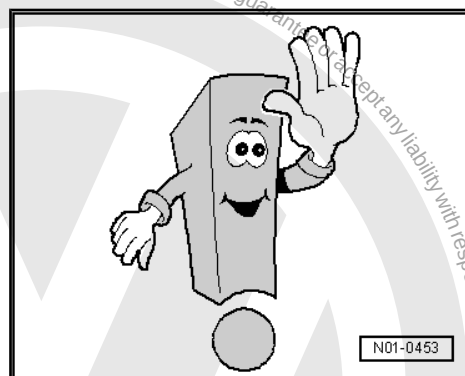


- Counterhold at rear final drive when loosening or tightening propshaft.



To prevent later noise due to imbalance:

- If there are no markings -arrows-, mark position of propshaft relative to final drive flange.
- Also mark position of propshaft relative to bevel box flange.
- Unbolt propshaft from rear final drive and rest it on engine and gearbox jack - V.A.G 1383 A- .





- When pulling off or pushing on propshaft, always ensure that sleeve -arrow- is not damaged.



Note

A second mechanic is required for the further removal of the propshaft.

- Unbolt propshaft from bevel box.



WARNING

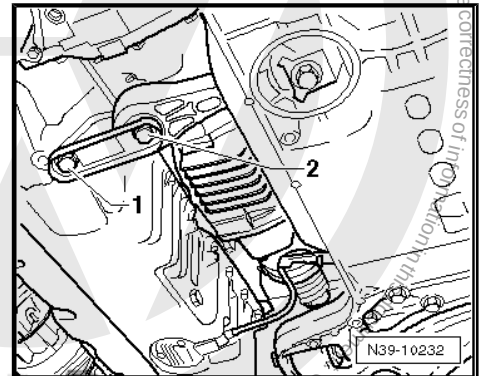
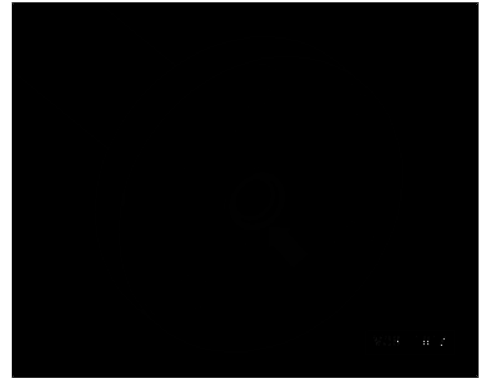
To avoid damaging the protective boot in the centre bearing, remove, store and install the propshaft with the joint as straight as possible.

- Unbolt centre bearing and remove propshaft to rear, keeping the joint as straight as possible.

Installing

Install in the reverse order of removal, observing the following:

- Install all parts which were marked in relation to each other in their original positions.
- Tighten propshaft bolts. Specified torques ⇒ [page 57](#) .
- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install exhaust system ⇒ Rep. gr. 26 .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .





6 Propshaft Tiguan 2008 ►

6.1 Assembly overview - propshaft



Note

No repairs can be made to the propshaft.

1 - Gearbox with bevel box

2 - 12-point flange bolt

- ☐ For flexible coupling to propshaft



Note

- ◆ Do not loosen.
- ◆ Not available as replacement part.

3 - Front flexible coupling



Note

- ◆ Do not unbolt from propshaft.
- ◆ Renew complete propshaft in case of a defect.

4 - 12-point flange bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to bevel box
- ☐ M10 x 30
- ☐ Always renew
- ☐ 50 Nm and then turn 90° further

5 - Propshaft

- ☐ Cannot be separated at joint -arrow-
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing and installing ⇒ [page 63](#)

6 - Bolt

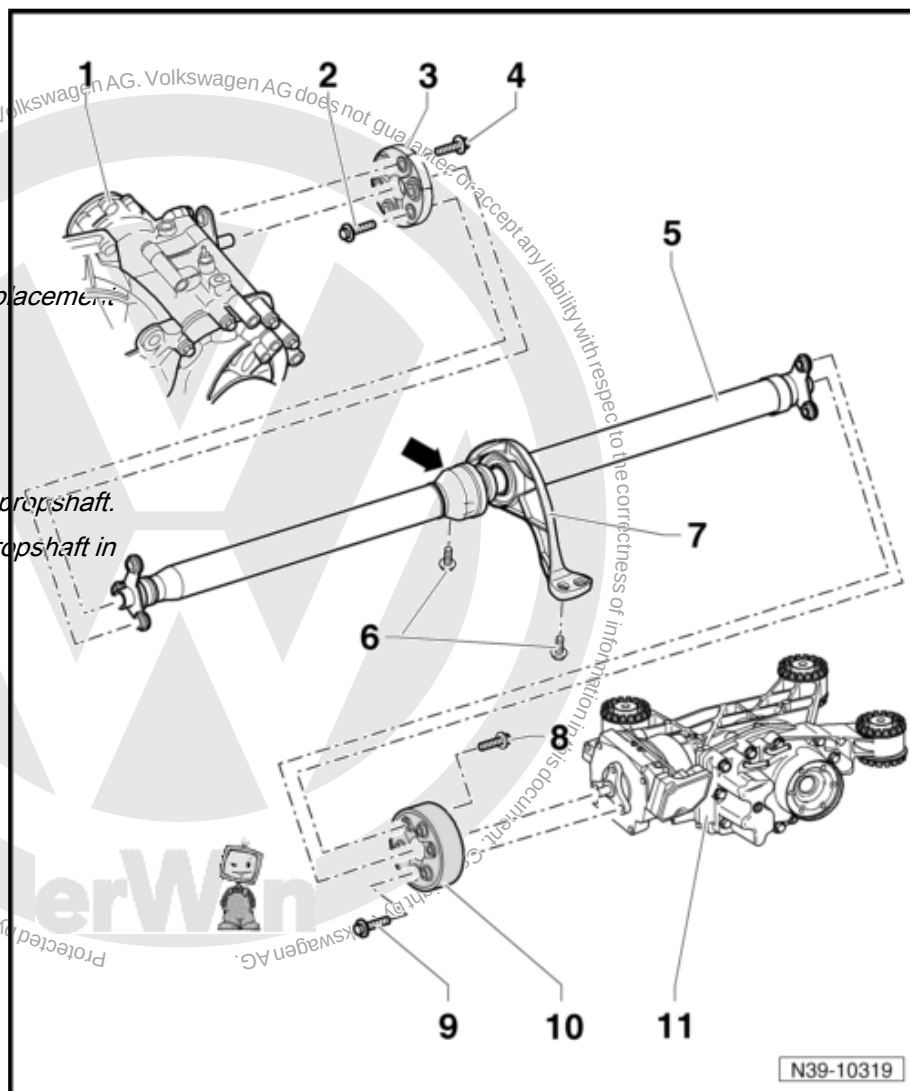
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ 25 Nm

7 - Centre bearing

- ☐ Align free of tension

8 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"





- ☐ For flexible coupling to propshaft
- ☐ Always renew
- ☐ 50 Nm and then turn 90° further

9 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to final drive
- ☐ Always renew
- ☐ 50 Nm and then turn 90° further

10 - Flexible coupling with vibration damper

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing and installing ⇒ [page 67](#) .

11 - Rear final drive

6.2 Removing and installing propshaft

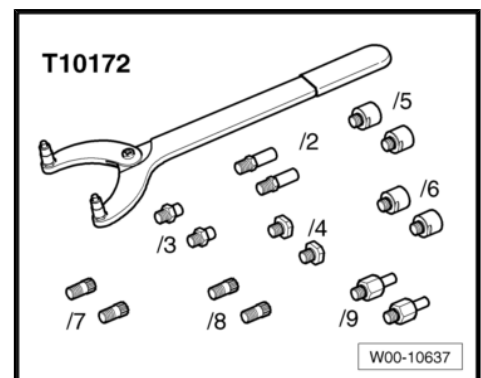


Note

- ◆ *If possible, use a twin pillar lifting platform when working on the propshaft.*
- ◆ *Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.*
- ◆ *Keep propshaft straight; store and transport fully extended only.*
- ◆ *Do not let propshaft »hang« during removal; always support it.*
- ◆ *Always pull propshaft from or push it onto drive flange horizontally .*

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Counterhold - T10172-



Removing

- Remove noise insulation ⇒ General body repairs, exterior;
Rep. gr. 50 ; Noise insulation .

If fitted, remove heat shield for propshaft.

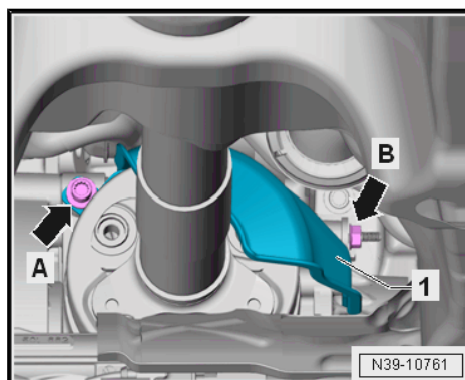
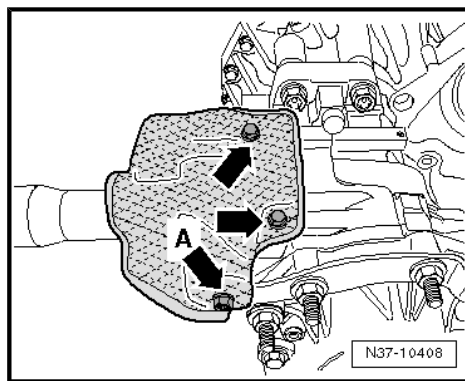


Version 1:

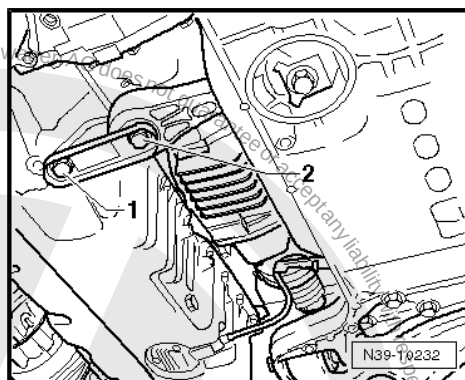
- Remove bolts -arrows-, and remove heat shield -A-.

Version 2:

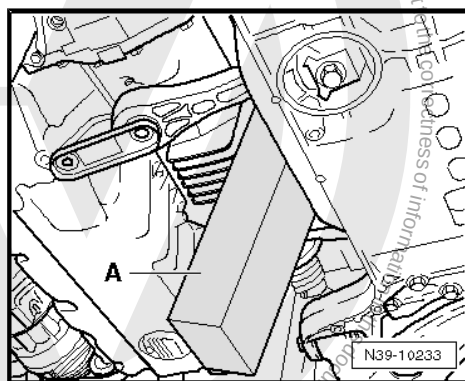
- Unscrew bolts -A- and -B- from bevel box, and remove heat shield -1-.
- Remove front exhaust system from engine, raise and tie ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .



- Unscrew bolts -1- and -2- of pendulum support.

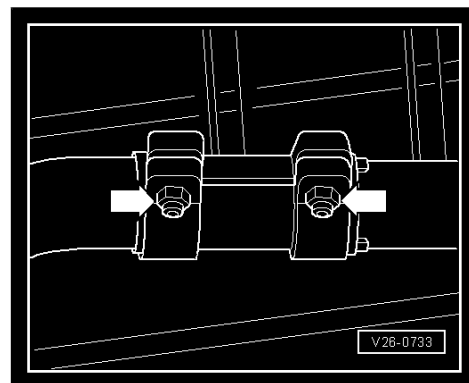


- Press »engine and gearbox« forwards and secure in position with an appropriate piece of wood -A-.
- Support front section of exhaust system with engine and gearbox jack - V.A.G 1383 A- .

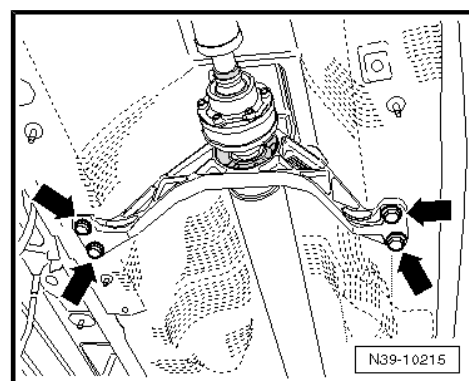




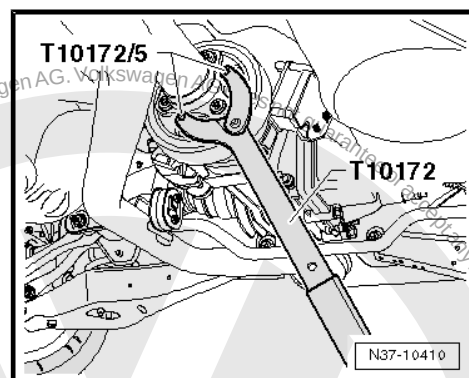
- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Remove tunnel cross piece.



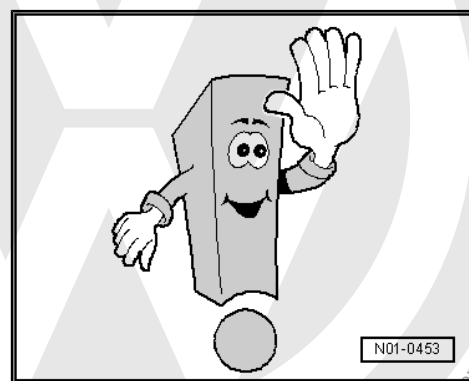
- Unscrew centre bearing bolts -arrows- 2 turns.
- Loosen, but do not remove, front and rear propshaft bolts.



- Counterhold at rear final drive when loosening or tightening propshaft.

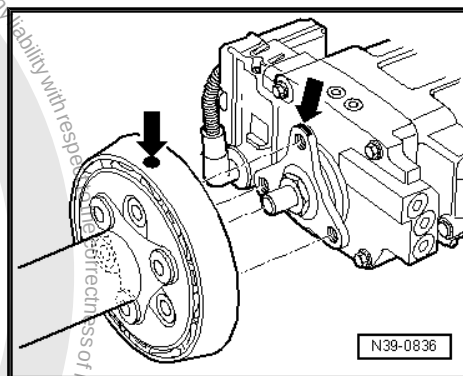


To prevent later noise due to imbalance:

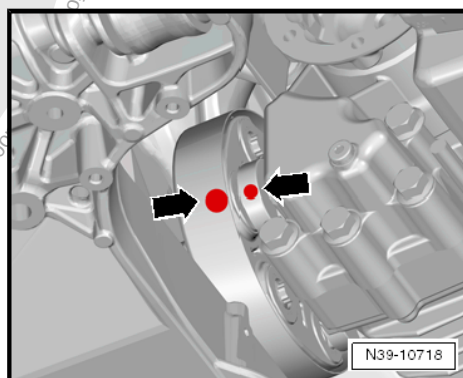




- If there are no markings -arrows-, mark position of propshaft relative to final drive flange.



- Also mark position of propshaft relative to bevel box flange -arrows-.
- Unbolt propshaft from rear final drive and rest it on engine and gearbox jack - V.A.G 1383 A- .



- When pulling off or pushing on propshaft, always ensure that sleeve -arrow- is not damaged.



Note

A second mechanic is required for the further removal of the propshaft.

- Unbolt propshaft from bevel box.



WARNING

To avoid damaging the protective boot in the centre bearing, remove, store and install the propshaft with the joint as straight as possible.

- Unbolt centre bearing and remove propshaft to rear, keeping the joint as straight as possible.

Installing

Install in the reverse order of removal, observing the following:

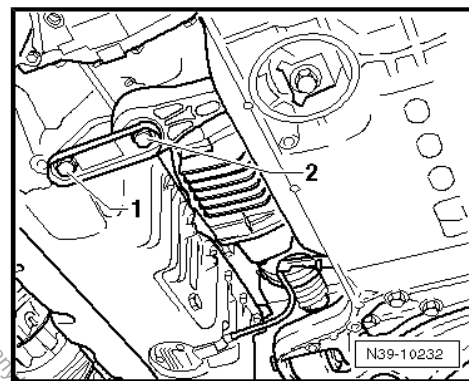
- Install all parts which were marked in relation to each other in their original positions.
- Tighten propshaft bolts. Specified torques ⇒ [page 62](#) .



- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install exhaust system ⇒ Rep. gr. 26 .

If heat shield for propshaft was removed, install it ⇒ Rep. gr. 34 ;
Removing and installing gearbox; Specified torques .

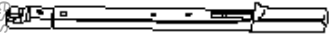
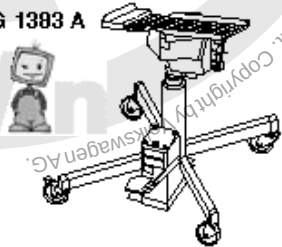
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .



6.3 Removing and installing rear flexible coupling

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2-

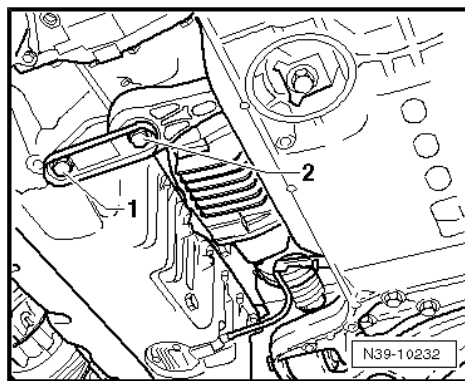
V.A.G 1331 	V.A.G 1332 
V.A.G 1383 A 	
	W34-0092

Removing

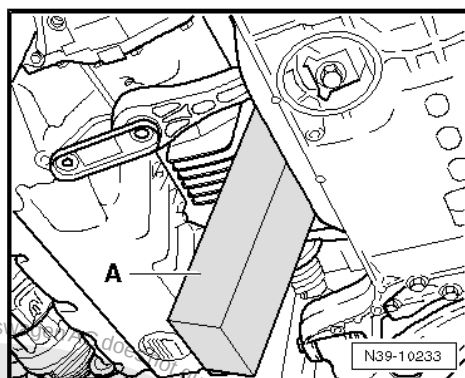
- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .



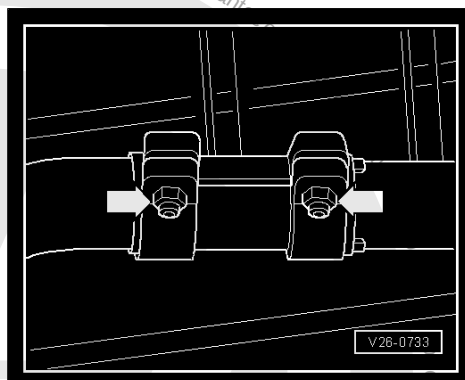
- Unscrew bolts -1- and -2- of pendulum support.



- Press »engine and gearbox« forwards and secure in position with an appropriate piece of wood -A-.
- Support front section of exhaust system with engine and gearbox jack - V.A.G 1383 A- .



- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Remove tunnel cross piece.
- Unscrew centre bearing bolts -arrows- 2 turns.

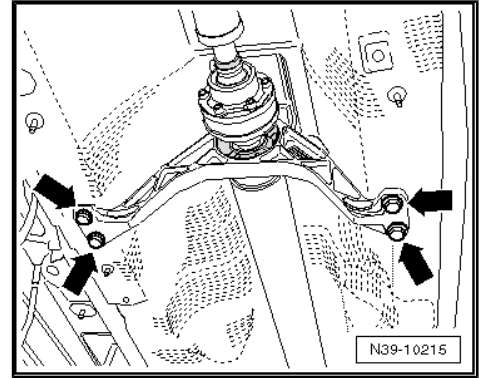


- Unbolt rear propshaft with flexible coupling and vibration damper from rear final drive -arrows-.





- Unscrew centre bearing bolts -arrows-.
- Carefully pull rear propshaft tube off centring pin of propshaft flange of final drive.



Note

- ◆ Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.
- ◆ Flexible coupling and vibration damper cannot be separated from one another.

- Support propshaft.
- Mark positions of rear flexible coupling and flange of rear propshaft tube relative to each other.
- Unbolt flexible coupling from propshaft tube -arrows-.

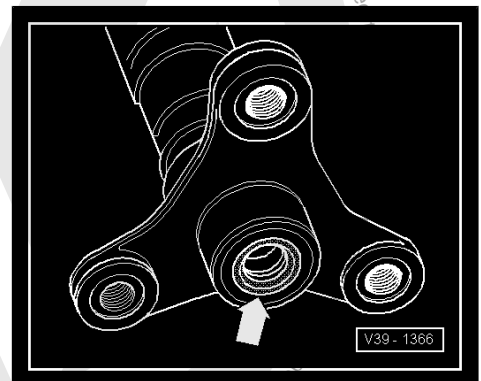
Installing

Install in the reverse order of removal, observing the following:



Note

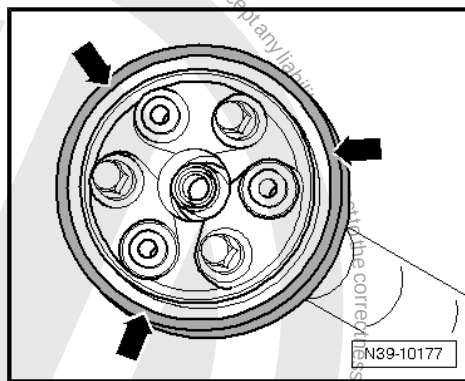
- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation.
- ◆ Renew propshaft if damaged.
- ◆ Do not cant rear propshaft tube; push horizontally onto centring pin.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.
- ◆ Specified torques ⇒ [page 56](#)





Installation position, flexible coupling with vibration damper:

- ◆ Collar on outer circumference -arrows- faces away from propshaft tube.
- ◆ Three projecting sleeves each propshaft flange of rear final and propshaft flange engage in flexible coupling mounting holes.

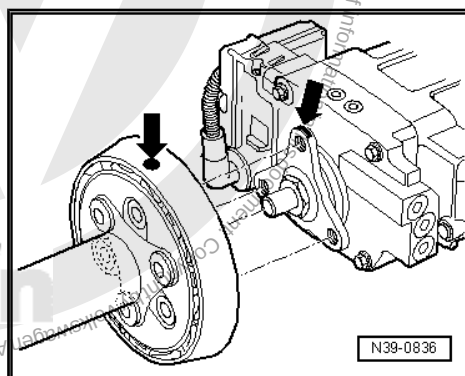


- Attach propshaft to propshaft flange of rear final drive so that marks -arrows- align.

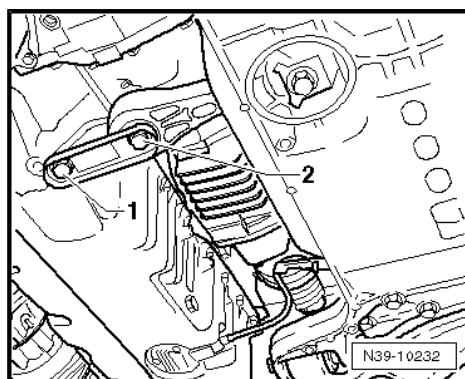
Installing centre bearing free of tension

- Align centre bearing in its elongated holes so that neither propshaft nor centre bearing is under tension.
- Do not tighten centre bearing until propshaft has been tightened.

- ◆ Specified torques ⇒ [page 62](#) .



- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install exhaust system and align free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .





7 Propshaft - Passat CC, CC 2010 ► and Golf 2009 ►

7.1 Assembly overview - propshaft



Note

No repairs can be made to the propshaft.

1 - Gearbox with bevel box

2 - 12-point flange bolt

- ☐ For flexible coupling to propshaft



Note

- ◆ Do not loosen.
- ◆ Not available as replacement part.

3 - Front flexible coupling



Note

- ◆ Do not unbolt from propshaft.
- ◆ Renew complete propshaft in case of a defect.

4 - 12-point flange bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to bevel box
- ☐ M10 x 30
- ☐ 60 Nm

5 - Propshaft

- ☐ Cannot be separated at joint -arrow-
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing and installing ⇒ [page 72](#)

6 - Bolt

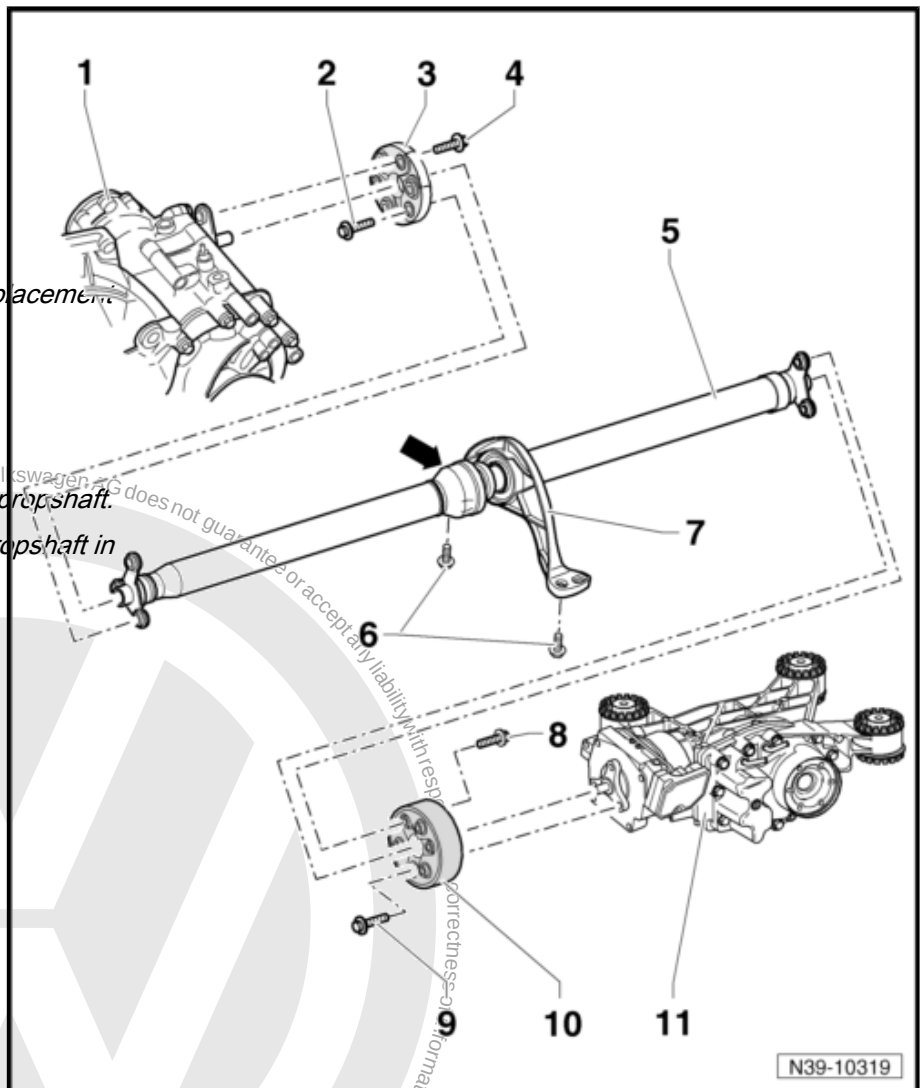
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ 25 Nm

7 - Centre bearing

- ☐ Align free of tension

8 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"



N39-10319



- ☐ For flexible coupling to propshaft
- ☐ Always renew
- ☐ 50 Nm and then turn 90° further

9 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue “(ETKA)”
- ☐ For flexible coupling to final drive
- ☐ 60 Nm

10 - Flexible coupling with vibration damper

- ☐ Allocation ⇒ Electronic Parts Catalogue “(ETKA)”
- ☐ Removing and installing ⇒ [page 75](#) .

11 - Rear final drive

7.2 Removing and installing propshaft

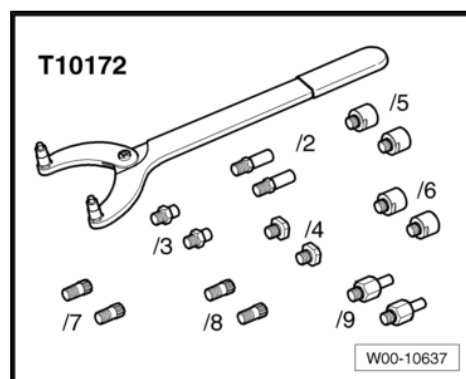


Note

- ♦ *If possible, use a twin pillar lifting platform when working on the propshaft.*
- ♦ *Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.*
- ♦ *Keep propshaft straight; store and transport fully extended only.*
- ♦ *Do not let propshaft »hang« during removal; always support it.*
- ♦ *Always pull propshaft from or push it onto drive flange horizontally .*

Special tools and workshop equipment required

- ♦ Torque wrench - V.A.G 1332-
- ♦ Engine and gearbox jack - V.A.G 1383 A-
- ♦ Counterhold - T10172-

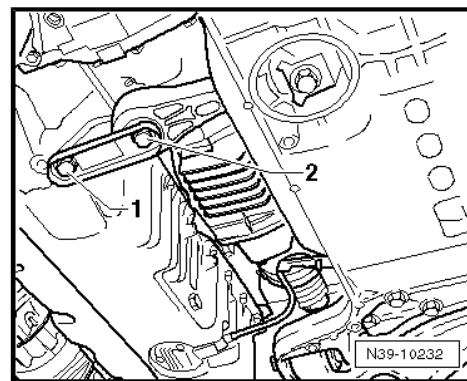


Removing

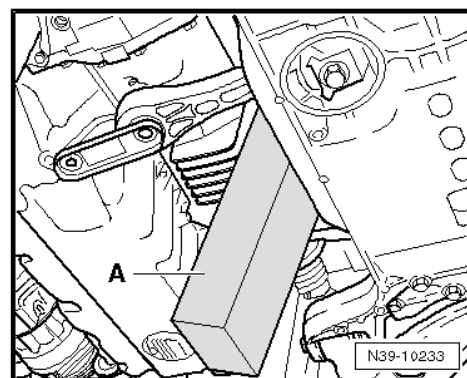
- Remove noise insulation ⇒ General body repairs, exterior;
Rep. gr. 50 ; Noise insulation .



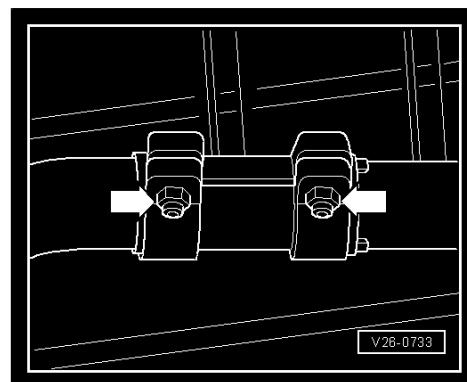
- Unscrew bolts -1- and -2- of pendulum support.



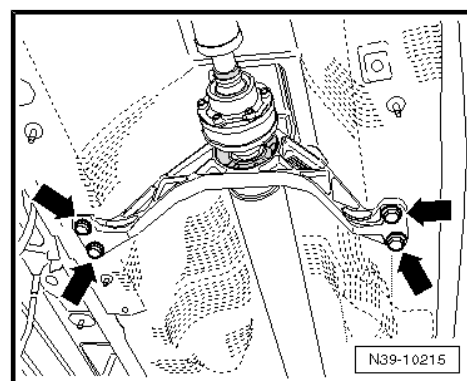
- Press »engine and gearbox« forwards and secure in position with an appropriate piece of wood -A-.
- Support front section of exhaust system with engine and gearbox jack - V.A.G 1383 A- .



- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Remove tunnel cross piece.

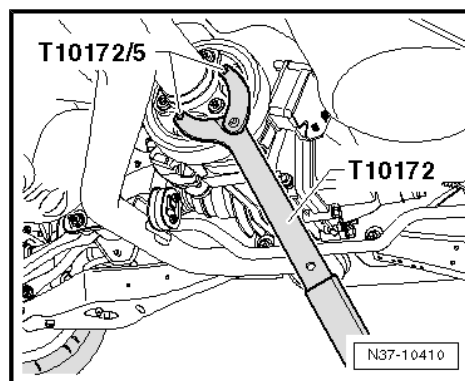


- Unscrew centre bearing bolts -arrows- 2 turns.
- Loosen, but do not remove, front and rear propshaft bolts.

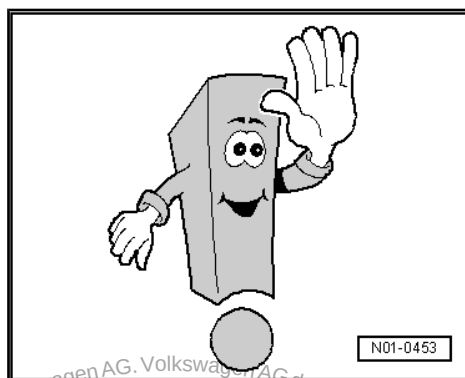




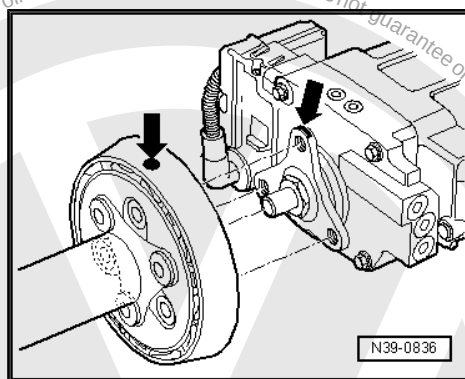
- Counterhold at rear final drive when loosening or tightening propshaft.



To prevent later noise due to imbalance:



- If there are no markings -arrows-, mark position of propshaft relative to final drive flange.
- Also mark position of propshaft relative to bevel box flange.
- Unbolt propshaft from rear final drive and rest it on engine and gearbox jack - V.A.G 1383 A- .





- When pulling off or pushing on propshaft, always ensure that sleeve -arrow- is not damaged.



Note

A second mechanic is required for the further removal of the propshaft.

- Unbolt propshaft from bevel box.



WARNING

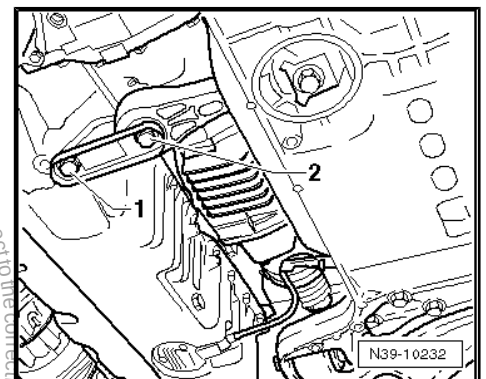
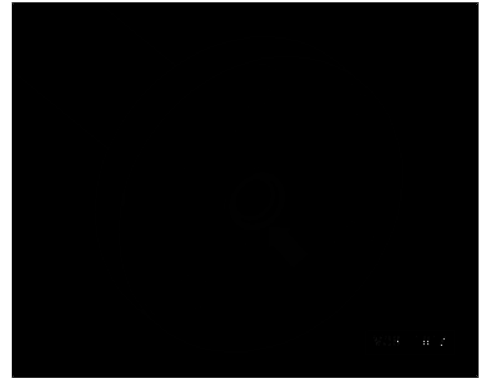
To avoid damaging the protective boot in the centre bearing, remove, store and install the propshaft with the joint as straight as possible.

- Unbolt centre bearing and remove propshaft to rear, keeping the joint as straight as possible.

Installing

Install in the reverse order of removal, observing the following:

- Install all parts which were marked in relation to each other in their original positions.
- Tighten propshaft bolts. Specified torques ⇒ [page 71](#) .
- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install exhaust system ⇒ Rep. gr. 26 .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .

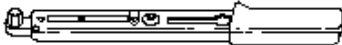
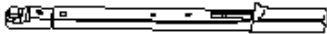
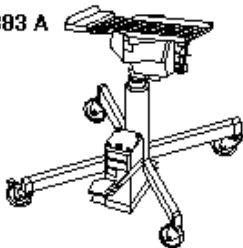


7.3 Removing and installing rear flexible coupling



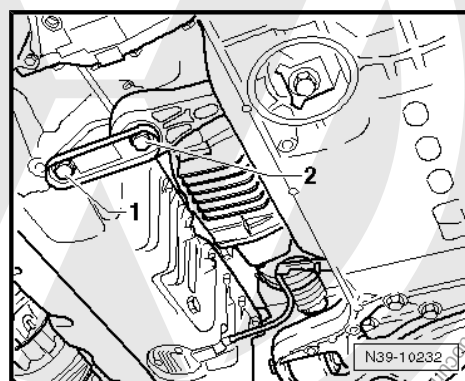
Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2-

V.A.G 1331 	V.A.G 1332 
V.A.G 1383 A 	
	W34-0092

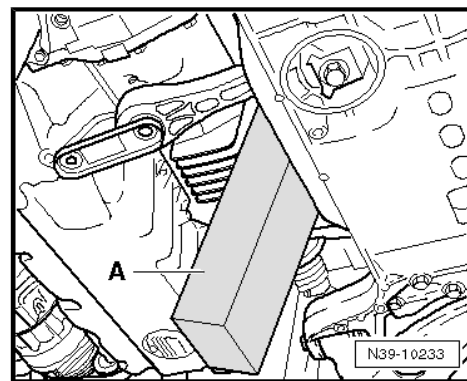
Removing

- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Unscrew bolts -1- and -2- of pendulum support.

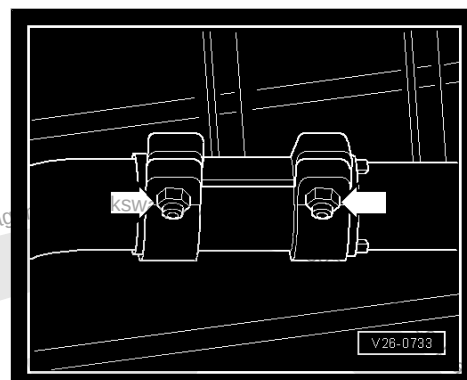




- Press »engine and gearbox« forwards and secure in position with an appropriate piece of wood -A-.
- Support front section of exhaust system with engine and gearbox jack - V.A.G 1383 A- .



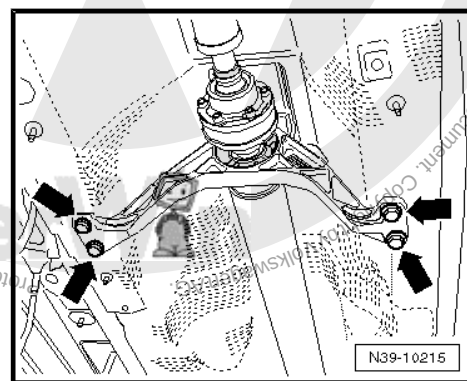
- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Remove tunnel cross piece.
- Unscrew centre bearing bolts -arrows- 2 turns.



- Unbolt rear propshaft with flexible coupling and vibration damper from rear final drive -arrows-.



- Unscrew centre bearing bolts -arrows-.
- Carefully pull rear propshaft tube off centring pin of propshaft flange of final drive.





Note

- ◆ Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.
- ◆ Flexible coupling and vibration damper cannot be separated from one another.

- Support propshaft.
- Mark positions of rear flexible coupling and flange of rear propshaft tube relative to each other.
- Unbolt flexible coupling from propshaft tube -arrows-.

Installing

Install in the reverse order of removal, observing the following:

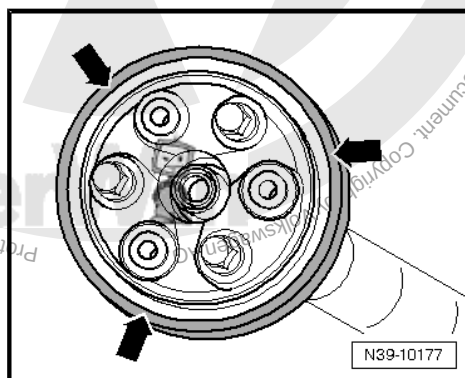
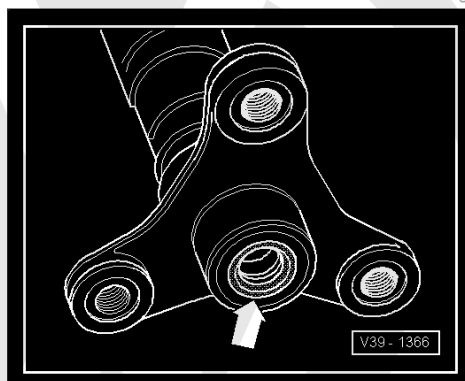
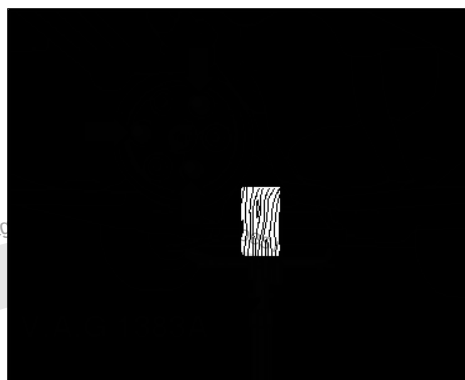
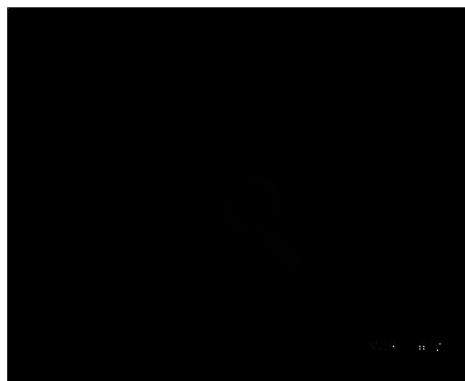


Note

- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation.
- ◆ Renew propshaft if damaged.
- ◆ Do not cant rear propshaft tube; push horizontally onto centring pin.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.
- ◆ Specified torques ⇒ [page 56](#) .

Installation position, flexible coupling with vibration damper:

- ◆ Collar on outer circumference -arrows- faces away from propshaft tube.
- ◆ Three projecting sleeves each propshaft flange of rear final and propshaft flange engage in flexible coupling mounting holes.

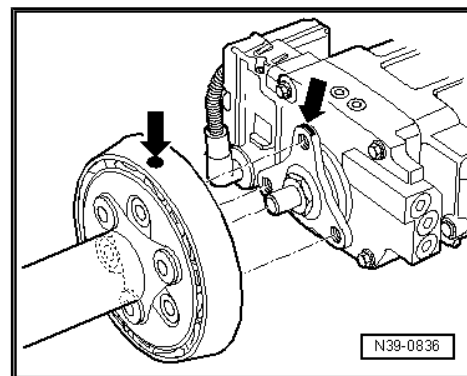




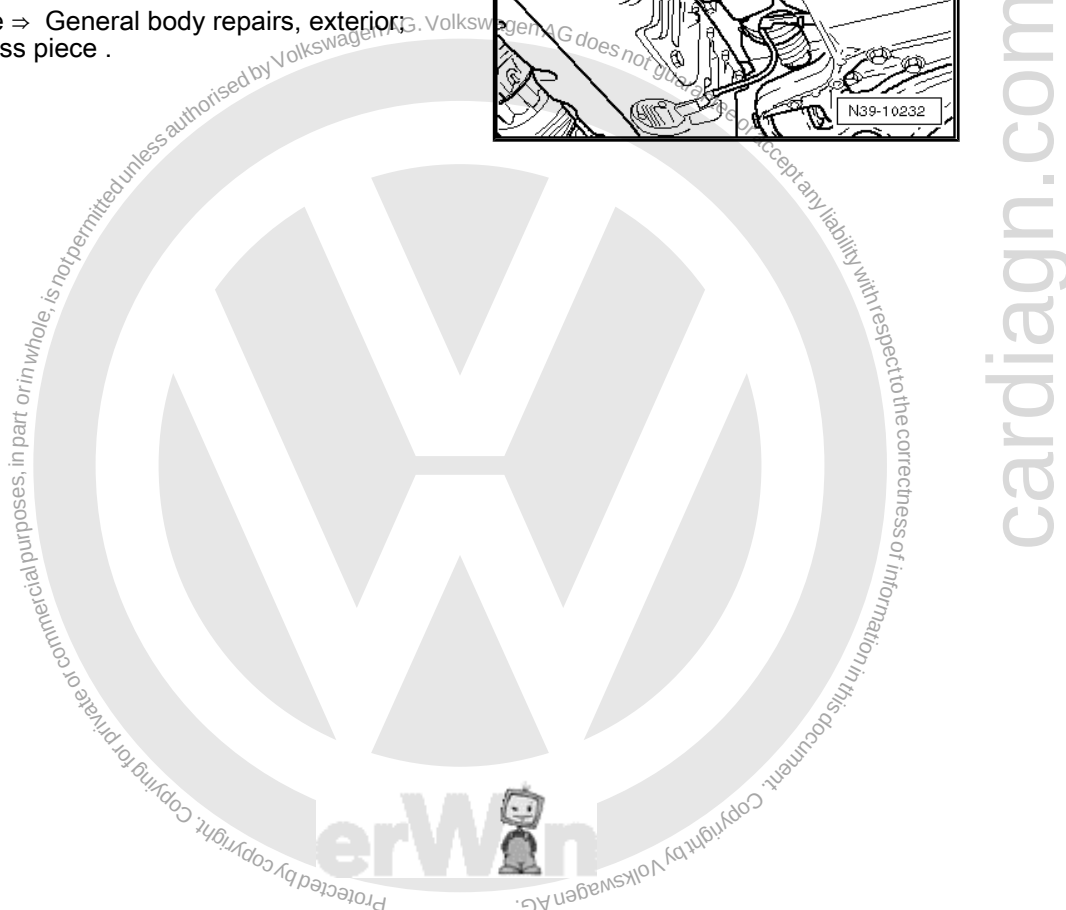
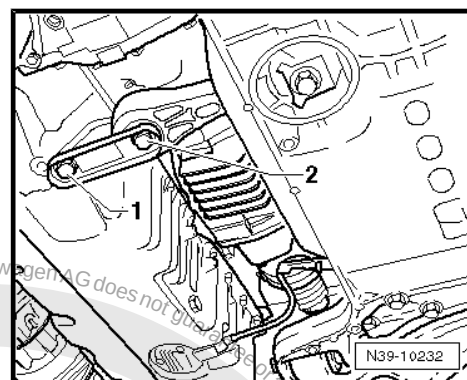
- Attach propshaft to propshaft flange of rear final drive so that marks -arrows- align.

Installing centre bearing free of tension

- Align centre bearing in its elongated holes so that neither propshaft nor centre bearing is under tension.
- Do not tighten centre bearing until propshaft has been tightened.
- ♦ Specified torques ⇒ [page 71](#) .



- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install exhaust system and align free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .





8 Propshaft - Sharan 2011 ►

8.1 Assembly overview - propshaft



Note

No repairs can be made to the propshaft.

1 - Rear final drive

2 - Flexible coupling with vibration damper

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"

3 - 12-point flange bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to rear final drive
- ☐ 60 Nm

4 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to propshaft
- ☐ Always renew
- ☐ 50 Nm and then turn 90° further

5 - Propshaft

- ☐ Can not be separated at joints
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing and installing
⇒ [page 72](#)

6 - Front centre bearing

- ☐ Align free of tension

7 - Bolt

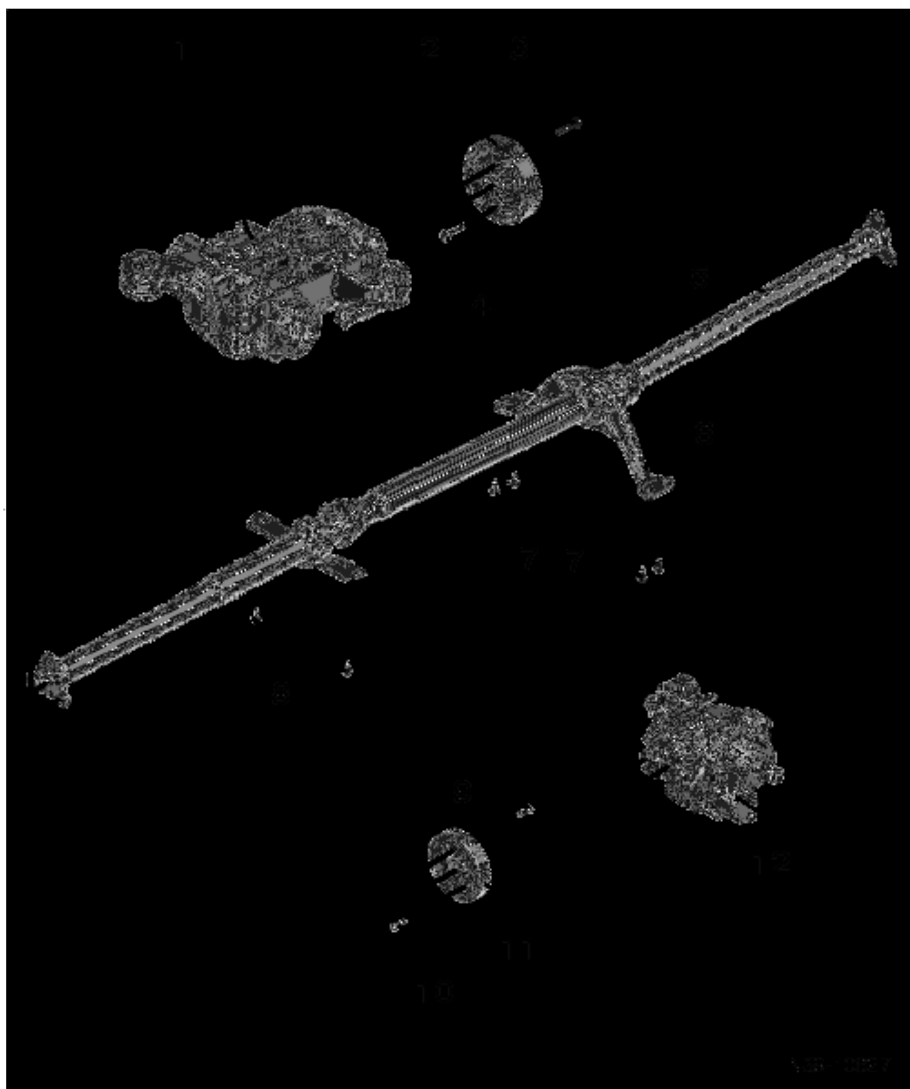
- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ 25 Nm

8 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ 25 Nm

9 - Bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "(ETKA)"
- ☐ For flexible coupling to propshaft
- ☐ Always renew





- ☐ 50 Nm and then turn 90° further

10 - 12-point flange bolt

- ☐ Allocation ⇒ Electronic Parts Catalogue "ETKA"
- ☐ For flexible coupling to bevel box
- ☐ 60 Nm

11 - Front flexible coupling

12 - Bevel box

8.2 Removing and installing propshaft

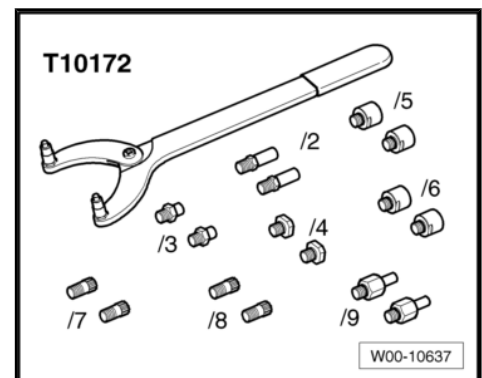


Note

- ◆ *If possible, use a twin pillar lifting platform when working on the propshaft.*
- ◆ *Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.*
- ◆ *Keep propshaft straight; store and transport fully extended only.*
- ◆ *Do not let propshaft »hang« during removal; always support it.*
- ◆ *Always pull propshaft from or push it onto drive flange horizontally .*

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A-
- ◆ Counterhold - T10172-

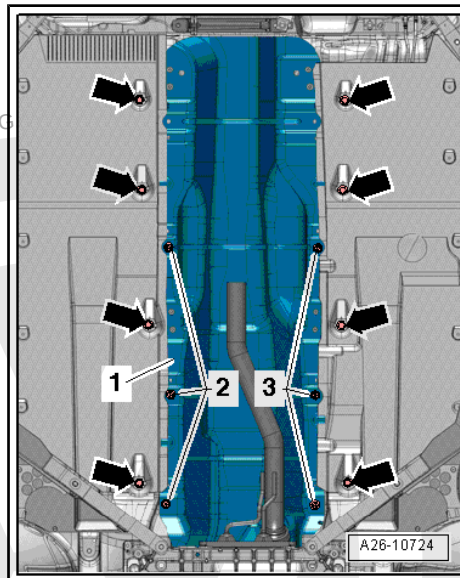


Removing

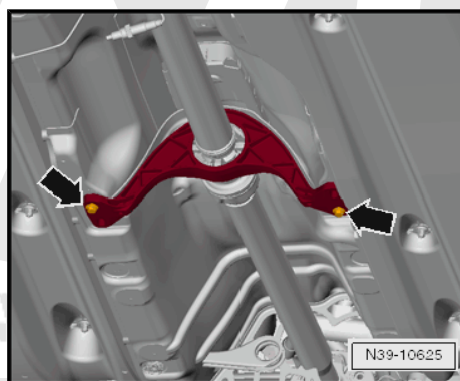
- Remove noise insulation ⇒ General body repairs, exterior;
Rep. gr. 50 ; Noise insulation .
- Remove fuel tank ⇒ Fuel supply, accelerator mechanism;
Rep. gr. 20 ; Parts of exhaust system



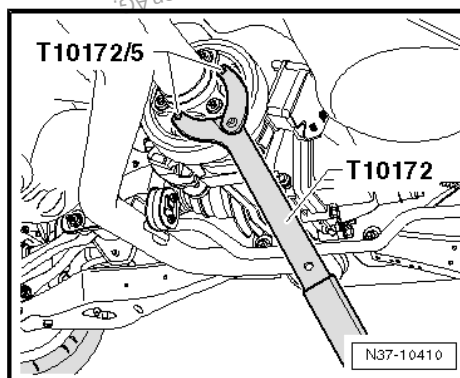
- Unscrew lock washers -2- and -3-.
- Unbolt underbody cover on the inside -arrows- and lower it until the heat shield -1- can be removed. ⇒ Front body; Rep. gr. 50 ; Underbody panelling .



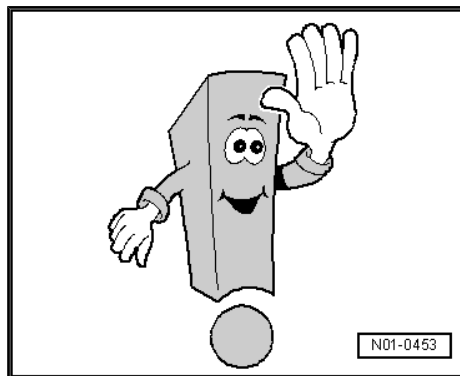
- Loosen all bolts for the front centre bearing. Remove 2 bolts. The 2 remaining bolts -arrows- hold the propshaft in place until it is finally removed.
- Loosen, but do not remove, front and rear propshaft bolts.



- Counterhold at rear final drive when loosening or tightening propshaft.

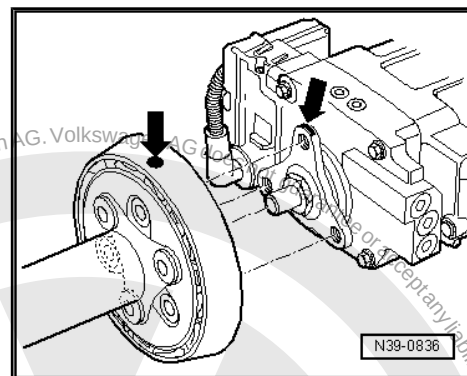


To prevent later noise due to imbalance:

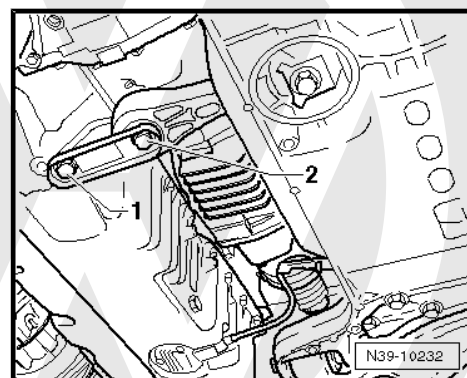




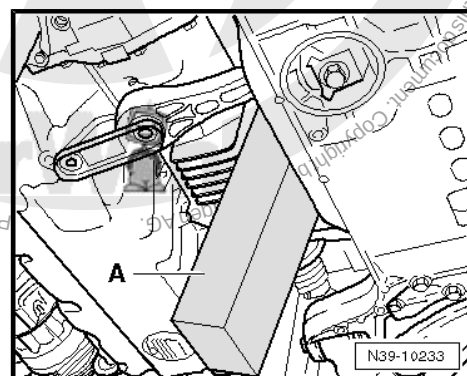
- If there are no markings -arrows-, mark position of propshaft relative to final drive flange.
- Also mark position of propshaft relative to bevel box flange.
- Unbolt propshaft from bevel box.



- Unscrew bolts -1- and -2- of pendulum support.



- Press »engine and gearbox« forwards and secure in position with an appropriate piece of wood -A-.
- Unbolt propshaft from rear final drive and rest it on engine and gearbox jack - V.A.G 1383 A- .



- When pulling off or pushing on propshaft, always ensure that sleeve -arrow- is not damaged.



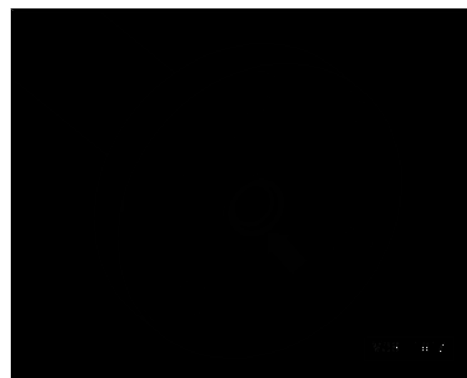
Note

A second mechanic is required for the further removal of the propshaft.



WARNING

To prevent damage to the protective boots in the centre bearings, remove, store and install the propshaft with the joint as straight as possible.



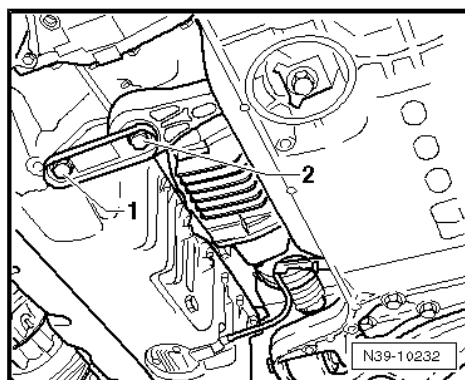
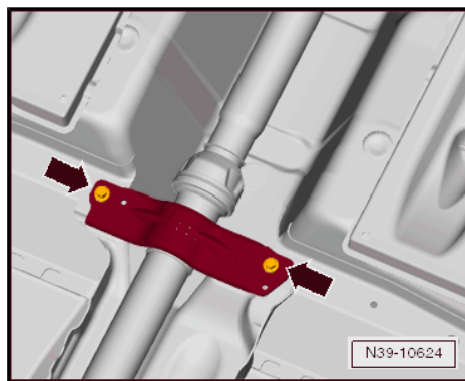


- Unbolt rear centre bearing -arrows- and the two bolts of the front centre bearing and then take out the propshaft, keeping it as straight as possible.

Installing

Install in the reverse order of removal, observing the following:

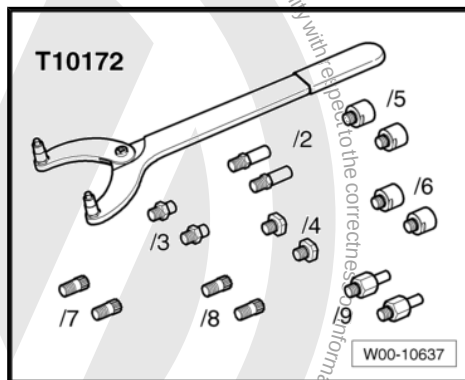
- Install all parts which were marked in relation to each other in their original positions.
- Tighten propshaft bolts. Specified torques ⇒ [page 80](#)
- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .



8.3 Removing and installing rear flexible coupling

Special tools and workshop equipment required

- ♦ Torque wrench - V.A.G 1332-
- ♦ Engine and gearbox jack - V.A.G 1383 A-
- ♦ Counterhold - T10172-



Removing

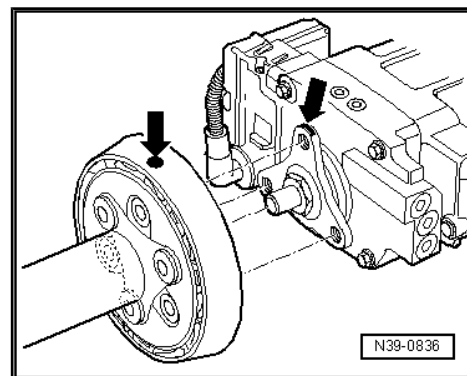


Note

- ♦ A twin pillar lifting platform should be used when working on the propshaft.
- ♦ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ♦ Keep propshaft straight; store and transport fully extended only.



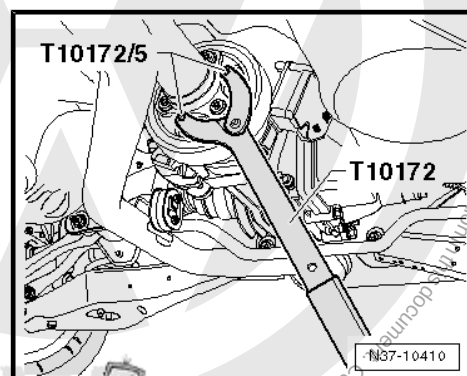
- Before removal, check if there are coloured marks on flexible coupling and on flange of rear final drive -arrows-. If not, mark positions of flexible coupling and propshaft flange of rear final drive relative to each other -arrows-.



- Unbolt flexible coupling and vibration damper from rear final drive -arrows-.



- Counterhold on rear final drive when loosening or tightening propshaft bolts.

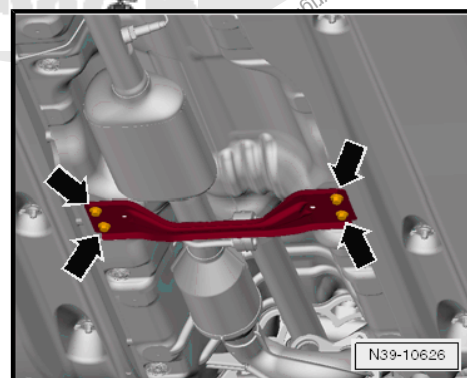


- Loosen bolts of cross piece -arrows-.



Note

The front centre bearing is also detached when the cross-piece bolts are removed.





- Unbolt rear centre bearing -arrows-.
- Pull off rear propshaft tube from propshaft flange on final drive.



Note

- ◆ Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.
- ◆ Flexible coupling and vibration damper cannot be separated from one another.

Unbolt rear flexible coupling and vibration damper from propshaft -arrows- and take out downwards.

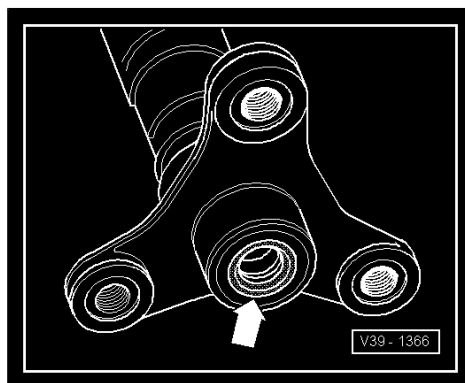
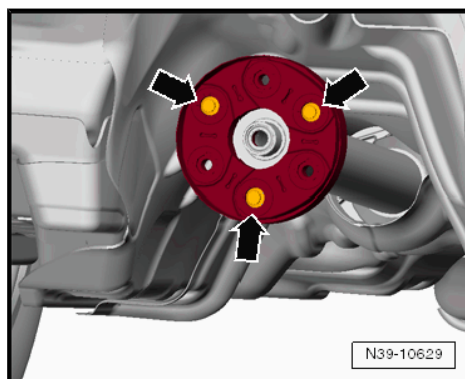
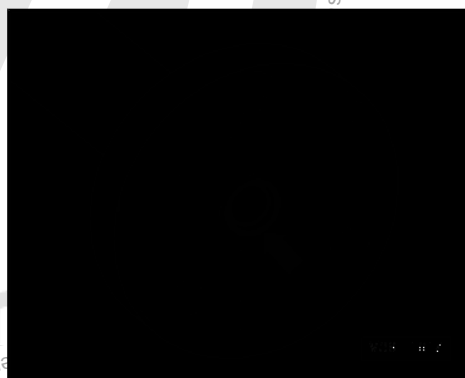
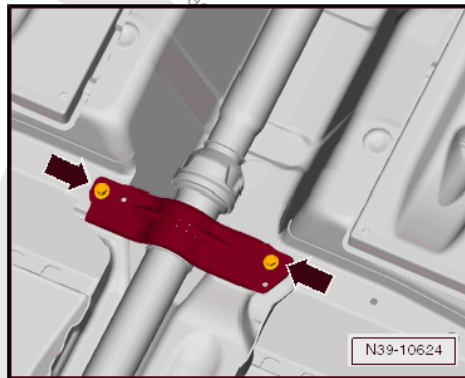
Installing

Install in the reverse order of removal, observing the following:



Note

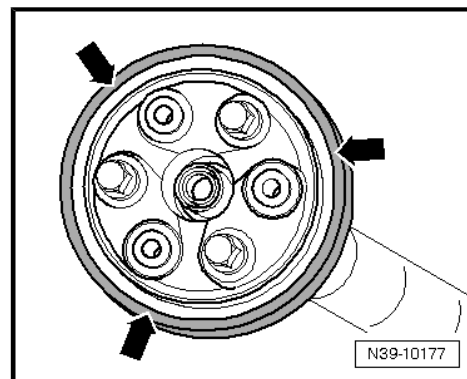
- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation.
- ◆ Renew propshaft if damaged.
- ◆ Do not cant rear propshaft tube; push horizontally onto centring pin.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.
- ◆ Specified torques ⇒ [page 56](#) .





Installation position, flexible coupling with vibration damper:

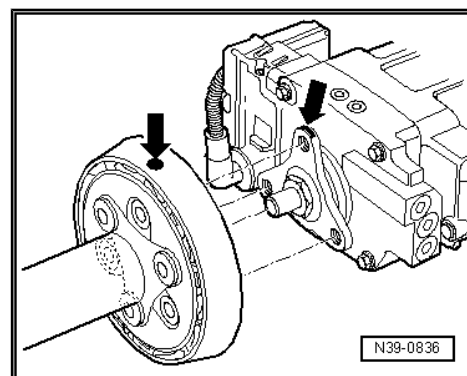
- ◆ Collar on outer circumference -arrows- faces away from propshaft tube.
- ◆ Three projecting sleeves each propshaft flange of rear final and propshaft flange engage in flexible coupling mounting holes.



- Attach propshaft to propshaft flange of rear final drive so that marks -arrows- align.

Installing centre bearing free of tension.

- Align centre bearing in its elongated holes so that neither propshaft nor centre bearing is under tension.
- Do not tighten centre bearings until propshaft has been fitted.
- Tighten propshaft bolts. Specified torques ⇒ [page 80](#)

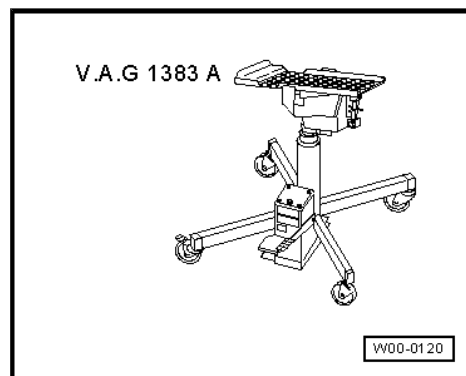




9 Removing and installing rear final drive, Golf 2004 ►

Special tools and workshop equipment required

- ♦ Engine and gearbox jack - V.A.G 1383 A- with universal gear-box support - V.A.G 1359/2-



9.1 Removing rear final drive

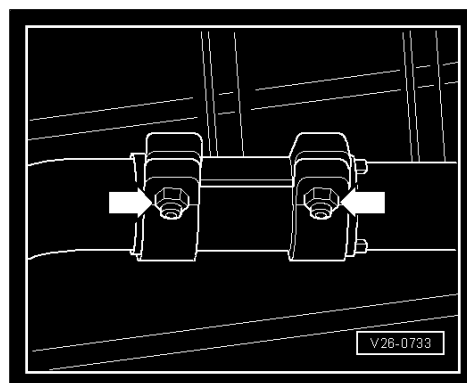
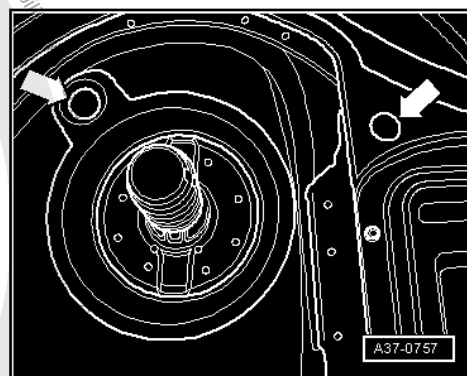
- Remove spare wheel as well as entire spare wheel well.
- Remove the 2 rubber plugs -arrows- in luggage compartment floor.

These holes provide »access« to the final drive/subframe securing bolts located below.



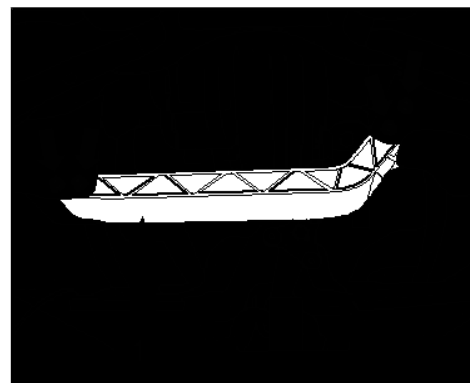
Note

- ♦ *If there are no holes but only markings, then 26 mm holes must be drilled through the floor of the luggage compartment. Vacuum up as much of the swarf as possible while drilling.*
- ♦ *Deburr holes and carefully remove swarf.*
- ♦ *Repair corrosion protection using materials specified by manufacturer ⇒ Paint workshop manual .*
- Remove both rear final drive bolts from above through holes -arrows-
- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Remove rear flexible coupling ⇒ [page 30](#) .
- Remove both drive shafts ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - drive shaft; Removing and installing drive shaft .

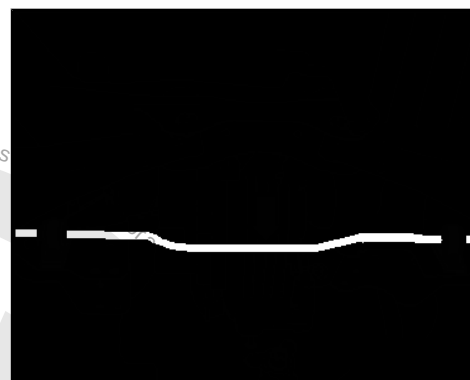




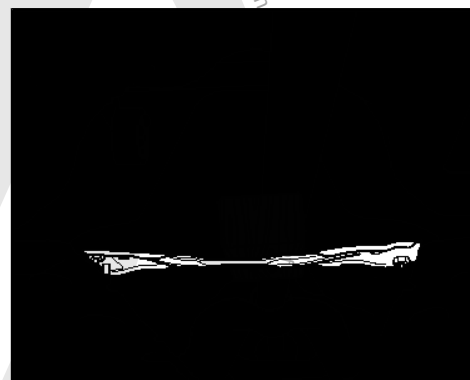
- Remove cross member -1-. Unbolt both front bolts from sub-frame so that all cross member bolts -arrows- can be removed
⇒ Rep. gr. 42 .



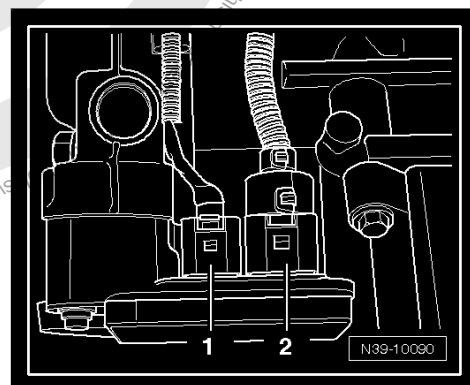
- Remove anti-roll bar ⇒ Rep. gr. 42 .



- Support propshaft with block of wood on tunnel cross piece.

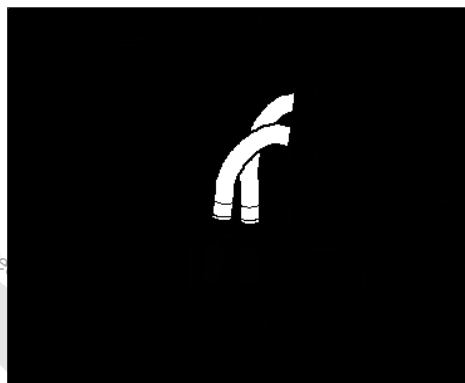


- Remove connector -2- from control unit on top.

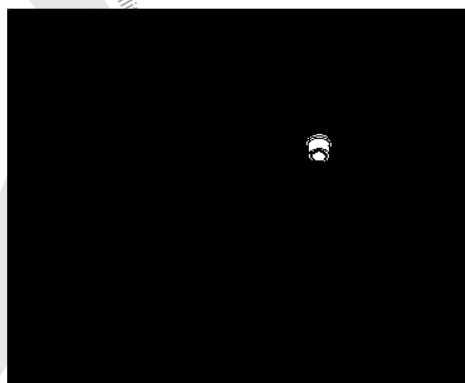




- Unclip both gearbox breather hoses -arrows- from subframe.
- Position engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2- only under final drive and secure final drive.



- Remove securing bolt -arrow- from front bonded rubber mounting for final drive.
- Lower final drive slightly using engine and gearbox jack - V.A.G 1383 A- and carefully pull to rear out of subframe.



9.2 Installing rear final drive

Install in the reverse order of removal, observing the following.

- Tighten the 3 bolts securing final drive to subframe to specified torque ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive .
- Insert rubber plugs
- Install trim and floor covering -A- ⇒ Rep. gr. 70 ; Trim, luggage compartment .
- Install cross member ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive .
- Bolt on rear subframe and install anti-roll bar ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive .
- Install both drive shafts ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - drive shaft; Removing and installing drive shaft .
- Install rear flexible coupling ⇒ [page 30](#) .
- Install exhaust system and align exhaust system free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .



Note

When exchanging rear final drive, check oil level in final drive and all-wheel drive coupling and top up if necessary ⇒ [page 222](#) and ⇒ [page 226](#) .



10 Removing and installing rear final drive, Passat 2006 ►

Removing rear final drive 02D or 0AV ⇒ [page 91](#)

Installing rear final drive 02D or 0AV ⇒ [page 95](#)

Removing rear final drive 01Z ⇒ [page 97](#) .

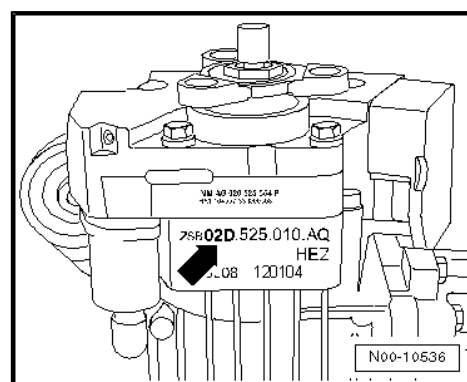
Installing rear final drive 01Z ⇒ [page 100](#)



Note

The marking -arrow- on the »bottom« of the final drive provides information about which final drive is installed.

Example of identification on an "02D" final drive



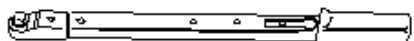
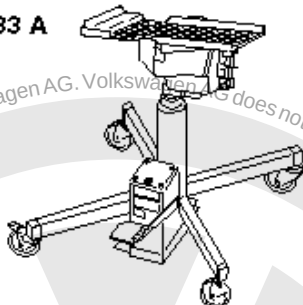
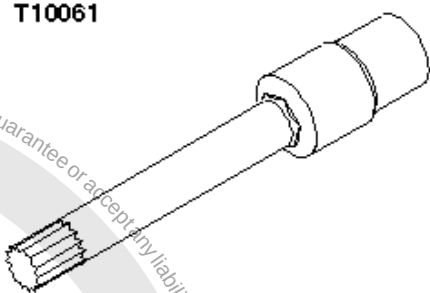
10.1 Removing rear final drive 02D or 0AV





Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2-
- ◆ Socket - T10061-

V.A.G 1331 	V.A.G 1332 
V.A.G 1383 A 	T10061 
	W39-10054

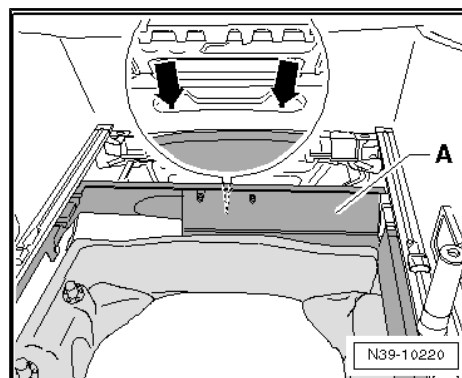


Note

To remove rear final drive without removing entire rear axle, one must first drill 2 holes of 26 mm in diameter in the floor of the boot.

- Raise floor covering in luggage compartment.
- Remove trim -A- ⇒ Rep. gr. 70 ; Trim, luggage compartment .

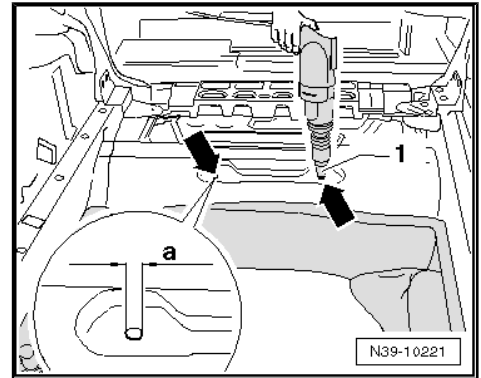
Now the markings -arrows- on floor of luggage compartment are »accessible«.





- Drill 2 holes at the marks -arrows- with the size -a- = 26 mm in diameter. Vacuum up as much of the swarf as possible while drilling.
- Deburr holes and carefully remove swarf.

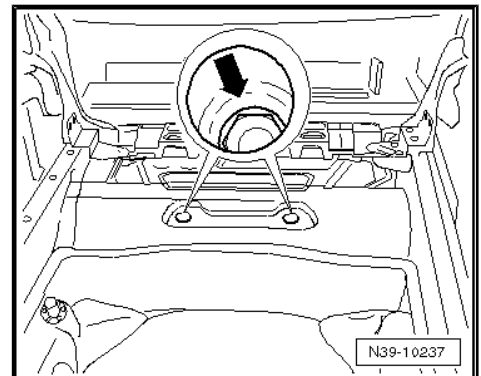
Repair corrosion protection using materials specified by manufacturer ⇒ Paint workshop manual .



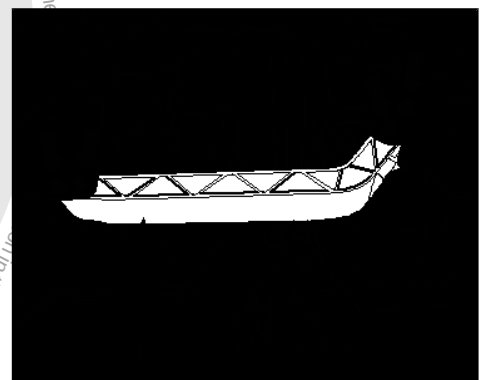
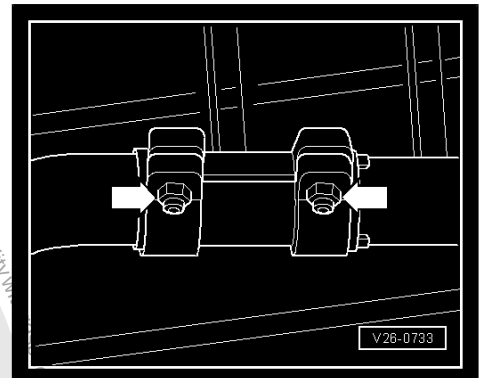
- Loosen both bolts -arrows- and pull out.

These bolts must later be renewed.

- Raise vehicle.
- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .

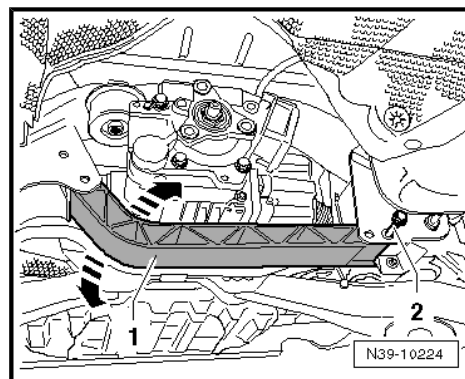


- Remove tunnel cross piece and separate exhaust system at clamp -arrows- ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Unhook rear silencer from rubber mountings and remove rear section of exhaust system.
- Remove front exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system.
- Remove heat shield beneath propshaft.
Remove propshaft ⇒ [page 39](#) .
- Disconnect left and right drive shafts from flange shafts of the rear final drive.
- Unbolt cross member from subframe.

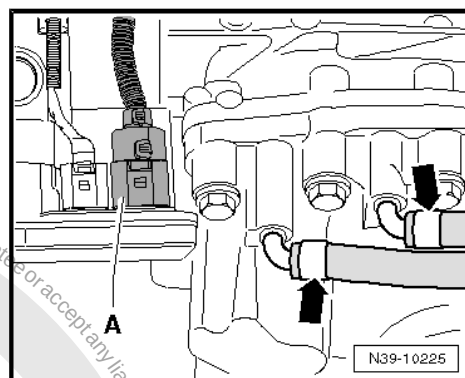




- Remove cross member securing bolts -1- with exhaust system bracket.



- Separate connector -A- from four-wheel drive control unit - J492- .
- Pull breather lines -arrows- off final drive.



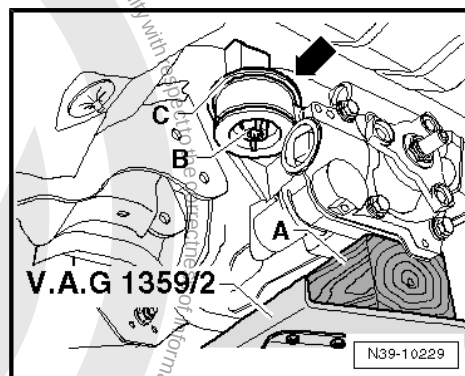
- Set an appropriate piece of wood on universal support and support final drive using engine and gearbox jack - V.A.G 1383 A- .
- Unbolt final drive from »below« -B-.

This bolt must later be renewed.



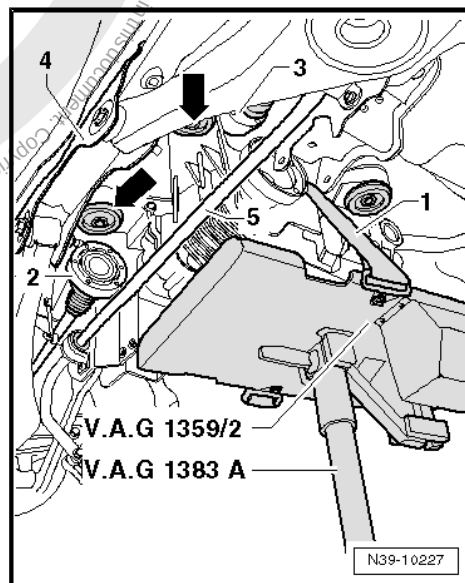
Note

Installation position of plate -C-: chamfer -arrow- faces upwards.



The final drive is now loose.

- Secure final drive against falling using strap from gearbox support.
- Then remove one drive shaft -2- after the other -3- from the flange shafts by pushing final drive left or right.
- Secure drive shafts to subframe -4- with wire, taking care not to damage surface protection.
- Then lower final drive slightly, pulling forward at the same time.
- The rear mountings (bonded rubber mountings) -arrows- must be guided over the subframe and anti-roll bar -5-.
- Lower final drive.

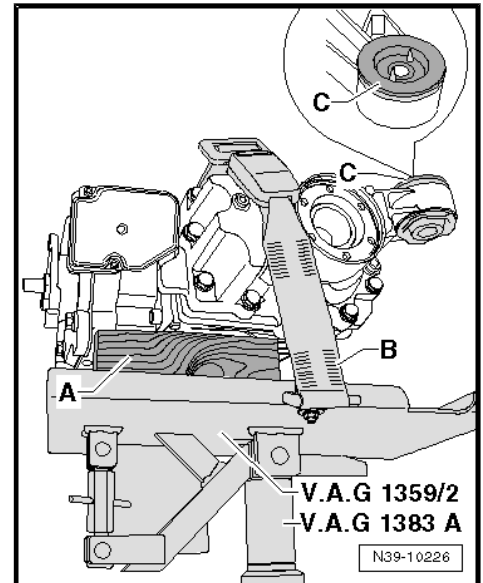




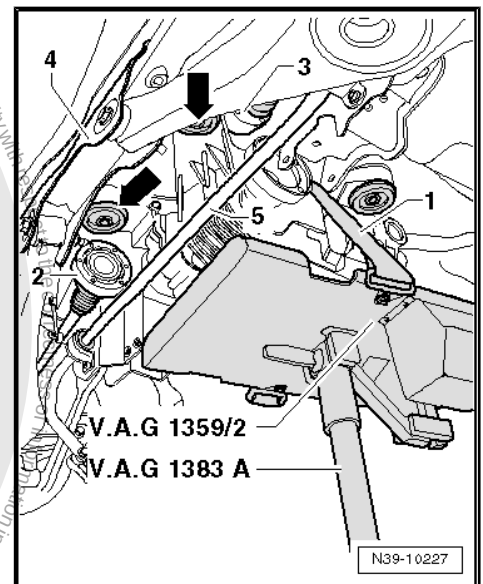
10.2 Installing rear final drive 02D or 0AV

Install in the reverse order of removal, observing the following:

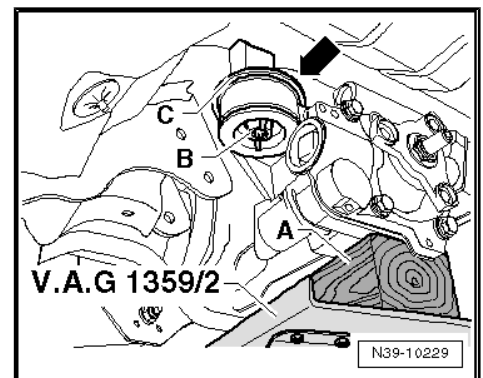
- Set rear final drive on engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2- .
- Secure final drive against falling using strap from gearbox support.
- Before installing final drive, check that the plates -C- are placed on the 2 rear bonded rubber mountings.



- Raise final drive, guiding with rear mountings (bonded rubber mountings) -arrows- over anti-roll bar -5-.
- Set drive shafts »against« final drive, pushing final drive to »left and right«.
- Finally set final drive with bearing supports on subframe -4-.

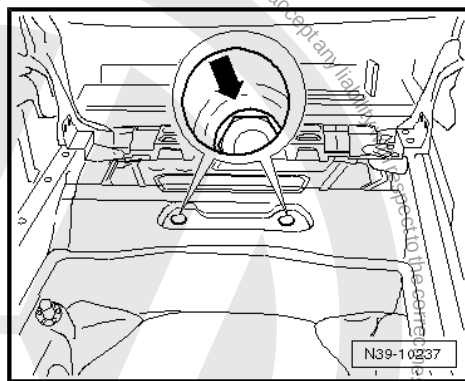


- Lay plate -C- with chamfer -arrow- facing upwards between bonded rubber mounting and subframe.
- Screw in bolt -B- hand-tight.
- Remove engine and gearbox jack - V.A.G 1383 A- with universal gearbox mounting - V.A.G 1359/2- from rear final drive.

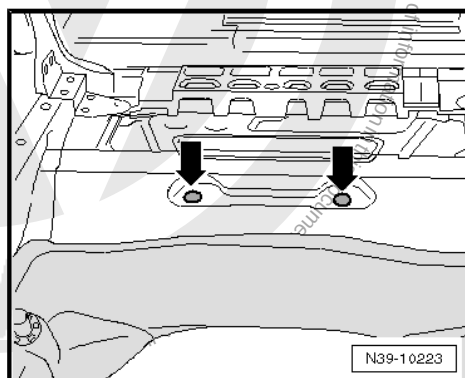




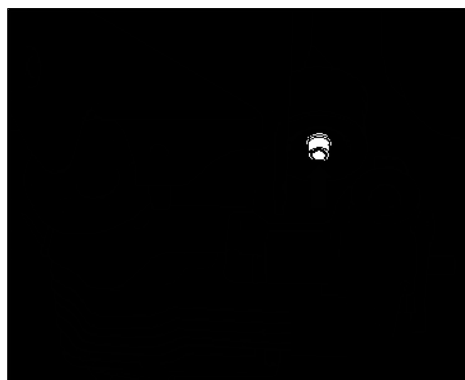
- Insert two »new« bolts -arrow- through the holes in the luggage compartment floor and tighten. Specified torque ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .



- Seal holes with appropriate plugs, N 908 572 01 or N 908 572 02 ⇒ Electronic Parts Catalogue "ETKA" .
- Install trims in luggage compartment ⇒ Rep. gr. 70 ; Trim, luggage compartment .

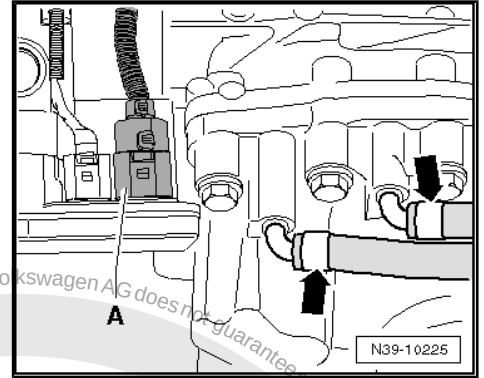


- Tighten front bolts -arrow- securing final drive to subframe to specified torque ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .





- Join connector -A- to all-wheel drive control unit - J492- .
- Push breather lines -arrows- onto breather pipes of final drive.
- Install cross member ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .
- Attach left and right drive shafts ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - drive shaft .
- Install propshaft ⇒ [page 39](#) .
- Install heat shield beneath propshaft.
- Install exhaust system and align exhaust system free of tension ⇒ Rep. gr. 26 ; Removing and installing parts of exhaust system .



Note

When exchanging rear final drive, check oil level in final drive and all-wheel drive coupling and top up if necessary ⇒ [page 222](#) and ⇒ [page 226](#) .

10.3 Removing rear final drive 01Z

Brief description

- Before removing, print diagnosis log. Return removed final drive together with log in the customary manner.

Two holes must be drilled in luggage compartment before the vehicle is raised. The positions for the holes were marked »in the factory«. These holes provide »access« to the final drive/subframe securing bolts located below. The drive shafts must be unbolted from the final drive. The electrical connections and breather lines are separated at the final drive.

The »rear part« of the exhaust system and the rear flexible coupling must be removed. The propshaft is not to be removed.

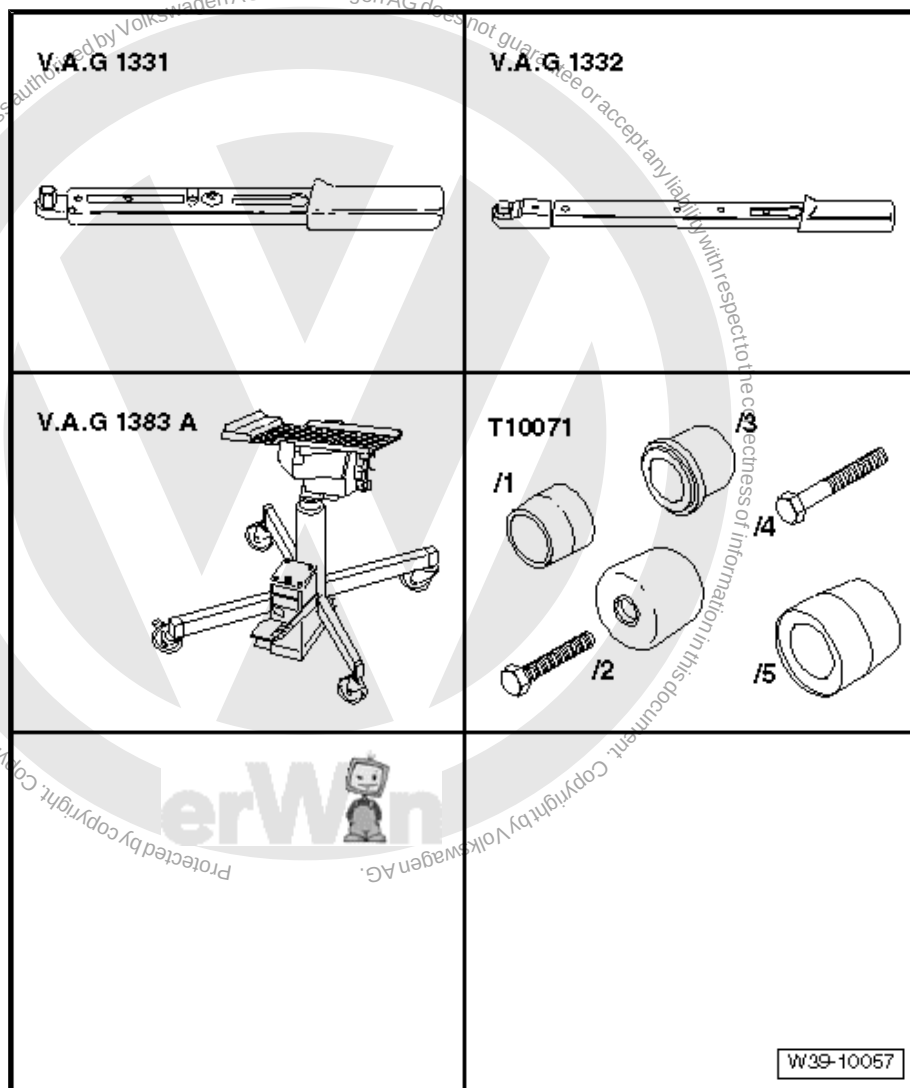
The final drive is to be lowered with the gearbox jack diagonally »downwards« in direction of travel.





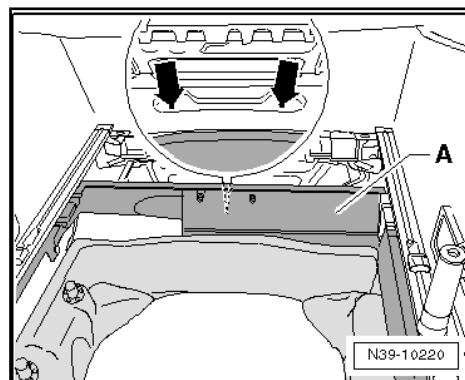
Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2-
- ◆ Thrust sleeve - T10071/3- from assembly tool - T10071-
- ◆ »Hand drill«
- ◆ »Stepped drill bit« or »centre bit«
- ◆ Safety goggles



- Raise floor covering in luggage compartment.
- Remove trim -A- ⇒ Rep. gr. 70 ; Trim, luggage compartment .

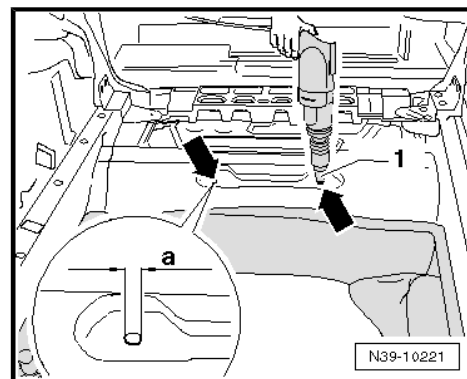
Now the markings -arrows- on floor of luggage compartment are »accessible«.



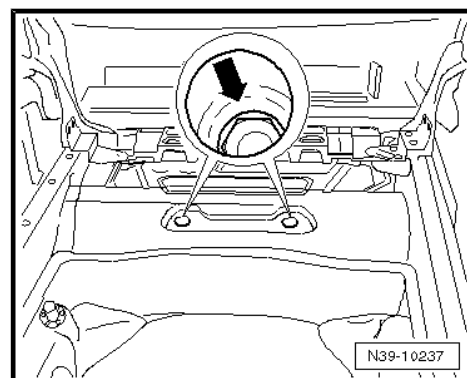


- Drill 2 holes at the marks -arrows- with the size -a- = 26 mm in diameter. Vacuum up as much of the swarf as possible while drilling.
- Deburr holes and carefully remove swarf.

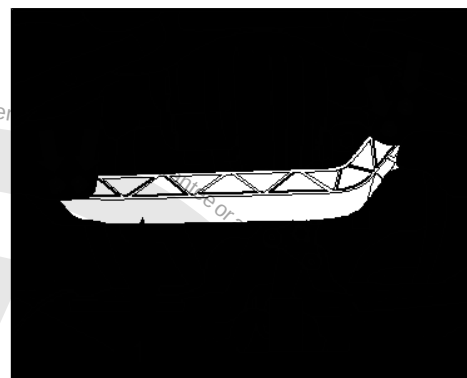
Repair corrosion protection using materials specified by manufacturer ⇒ Paint workshop manual .



- Loosen both bolts -arrows- and pull out.
These bolts must later be renewed.
- Raise vehicle.
- Remove rear flexible coupling.
- Unbolt drive shafts from final drive.



- Unbolt cross member from subframe.

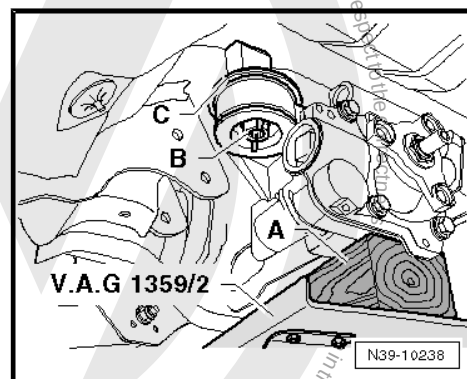


- Set an appropriate piece of wood on universal support and support final drive using engine and gearbox jack - V.A.G 1383 A- .

- Unbolt final drive from »below« -B-.

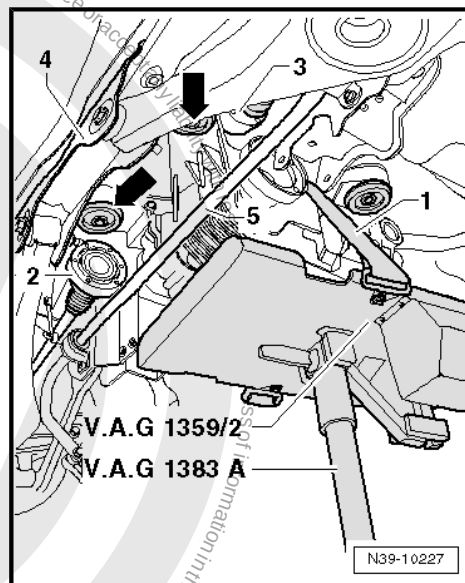
This bolt must later be renewed.

The final drive is now loose.

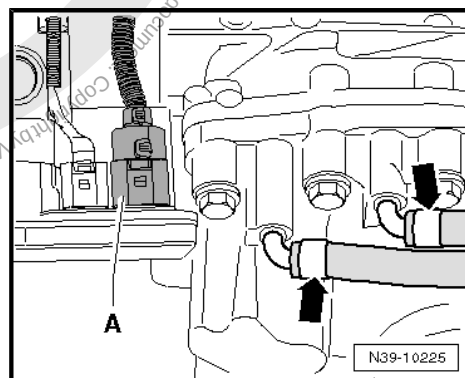




- Secure final drive against falling using strap from gearbox support.
- Unbolt drive shafts and »tie up« on vehicle, pushing final drive to »left and right«.
- Lower final drive slightly and pull »forwards«.



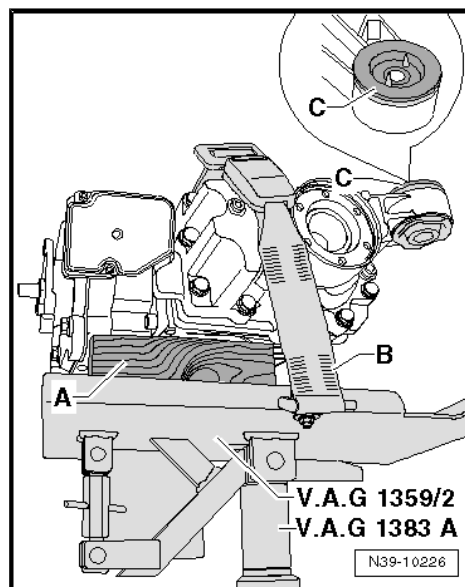
- To release connector -A-, first press against four-wheel drive control unit - J492- and then pull off.
- Pull breather lines -arrows- off final drive.
- To remove final drive, lower further and then pull »forwards«, ensuring that there is sufficient »clearance« to other components.



10.4 Installing rear final drive 01Z

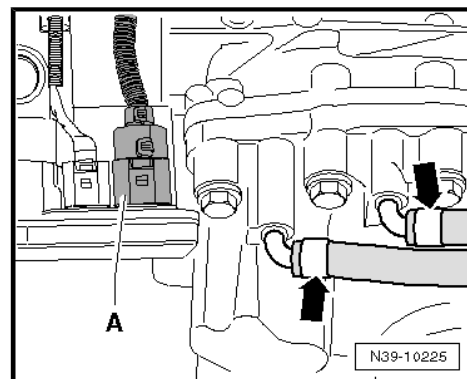
Install in the reverse order of removal, observing the following:

- Secure final drive against falling using strap from gearbox support.
- Bring gearbox into position, ensuring sufficient »clearance« to other components.

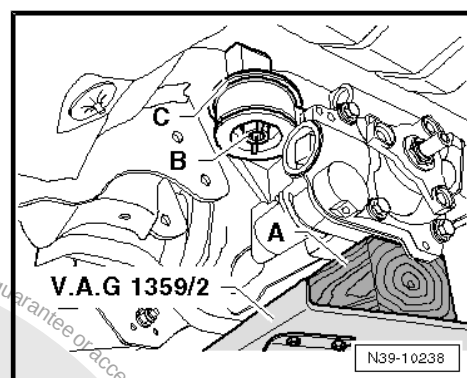




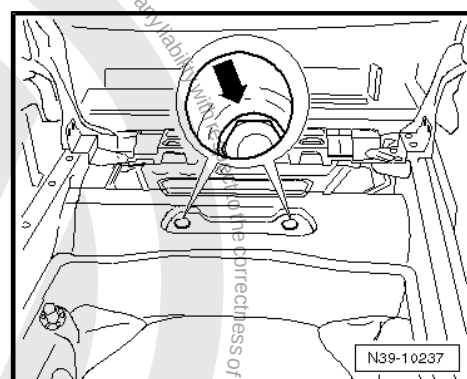
- Join connector -A- and push breather lines onto breather pipes.
- Raise final drive to installation position.



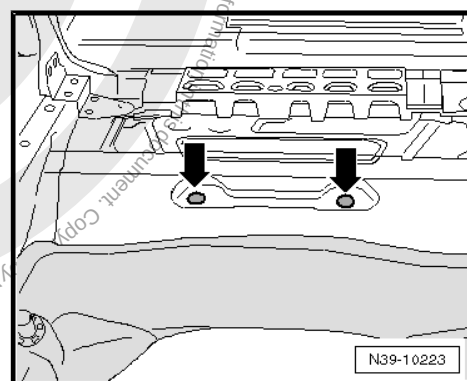
- Set drive shafts »against« final drive, pushing final drive to »left and right«.
- Bolt on final drive from »below« -B- but do not tighten bolt yet.



- Insert two »new« bolts -arrow- through the holes in the luggage compartment floor and tighten. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .

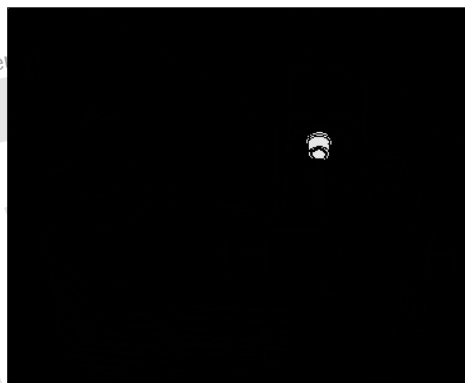


- Seal holes with appropriate plugs, N 908 572 01 or N 908 572 02 ⇒ Electronic Parts Catalogue "ETKA" .
- Install trim and floor covering -A- ⇒ Rep. gr. 70 ; Trim, luggage compartment .
- Raise vehicle.





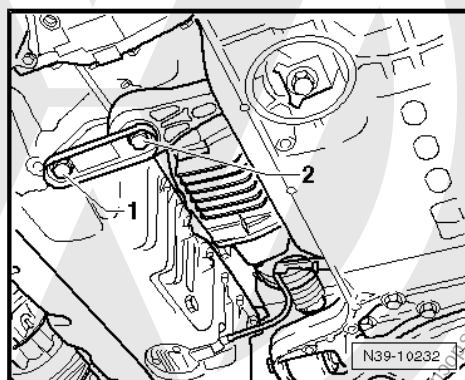
- Tighten bolts for final drive from »below« -arrow-. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Install cross member. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Tighten drive shafts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Install rear flexible coupling ⇒ [page 46](#) .



- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install exhaust system ⇒ Rep. gr. 26 .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .

If the final drive has been renewed:

- Check oil level in all-wheel drive coupling and top up ⇒ [page 226](#) .
- Check oil level in final drive and top up ⇒ [page 222](#) .





11 Removing and installing rear final drive, Tiguan 2008 ►

11.1 Removing

Brief description

- Before removing, print diagnosis log. Return removed final drive together with log in the customary manner.

Two holes must be drilled in luggage compartment before the vehicle is raised. The positions for the holes were marked »in the factory«. These holes provide »access« to the final drive/sub-frame securing bolts located below.

The pendulum support is unbolted from the front of the gearbox. The anti-roll bar is removed and the drive shafts are unbolted from the final drive. The electrical connections and breather lines are separated at the final drive.

The »rear section« of the exhaust system is removed. The propshaft is unbolted from the final drive, raised and secured.

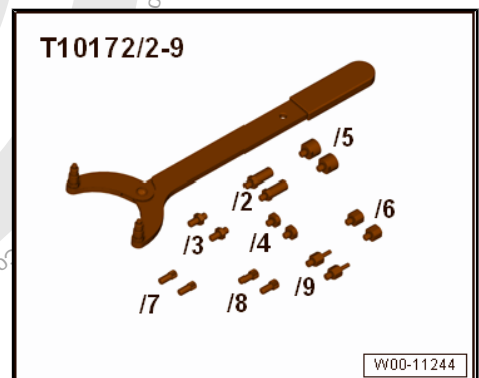
The final drive is to be lowered with the gearbox jack diagonally »downwards« in direction of travel.

Special tools and workshop equipment required

- ◆ Engine and gearbox jack - VAS 6931- or -V.A.G 1383 A-



- ◆ Counterhold tool - T10172-



- ◆ Not illustrated:
- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ »Hand drill«
- ◆ »Stepped drill bit« or »centre bit«
- ◆ Safety goggles



Removing

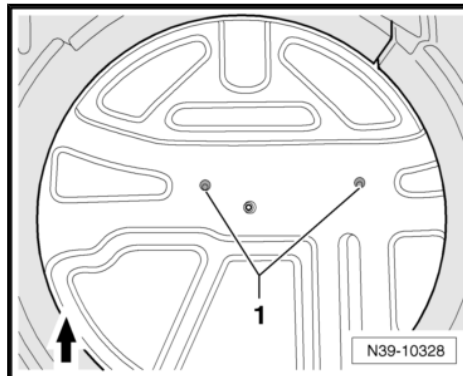
- Remove floor covering in luggage compartment.

If present:

- Remove spare tyre.

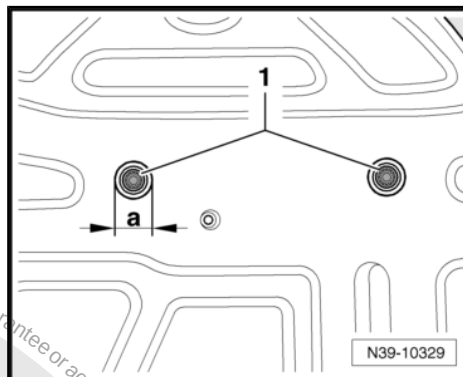
Now the markings -1- on floor of luggage compartment are »accessible«.

-Arrow- points in direction of travel.



- Drill 2 holes at the marks -1- with the size -a- = 26 mm in diameter. Vacuum up as much of the swarf as possible while drilling.
- Deburr holes and carefully remove swarf.

Repair corrosion protection using materials specified by manufacturer ⇒ Paint workshop manual .



- Working through the holes, unscrew and take out bolts -arrow-.

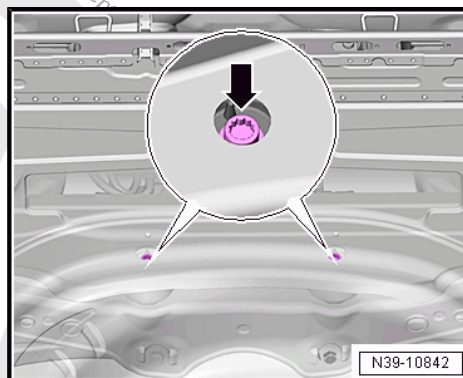
These bolts must later be renewed.

- Raise vehicle.

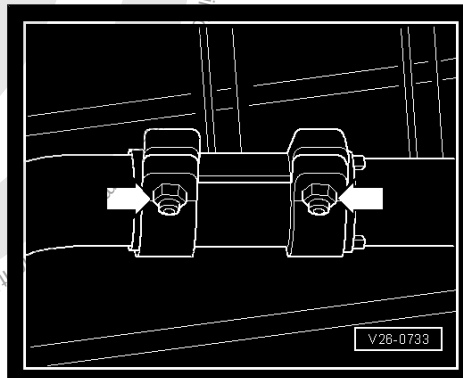


Note

Do not bend the flexible joint of the exhaust system more than 10° – danger of damage.

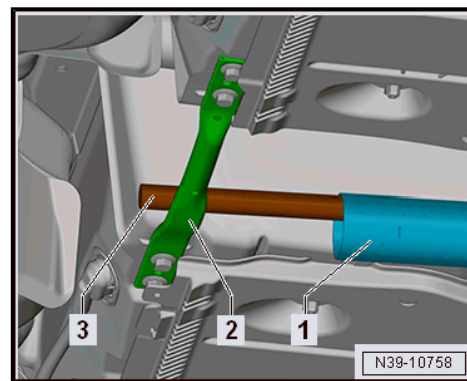


- Separate exhaust system at clamp -arrows- and remove rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Assembly overview - silencer .



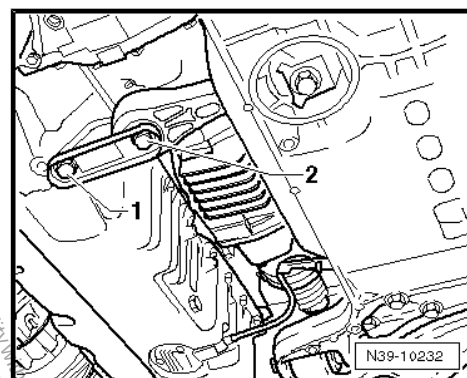


- Insert a pipe or tyre lever -3- into front exhaust pipe -1- and rest on tunnel cross member -2-.
- Remove rear anti-roll bar ⇒ Running gear, axles, steering; Rep. gr. 42 ; Anti-roll bar; Removing and installing anti-roll bar .
- Remove noise insulation below engine and gearbox. ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .

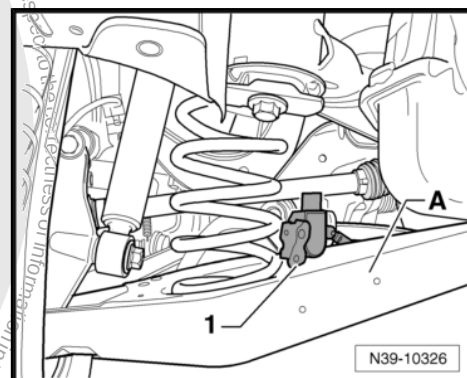


- Remove bolts -1- and -2- for pendulum support.

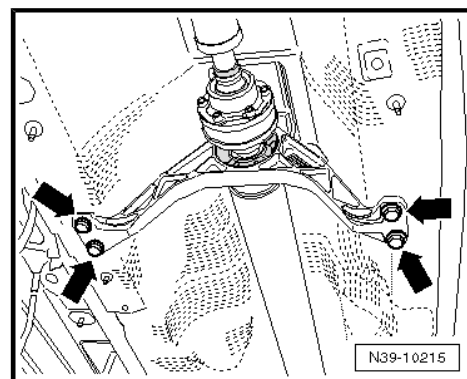
To prevent damage to the rear left vehicle level sender - G76- :



- Separate connector, unbolt sender and set on suspension link -A-.

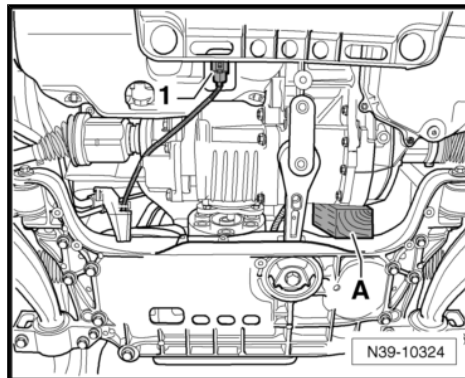


- Loosen propshaft centre bearing bolts -arrows- but do not remove.

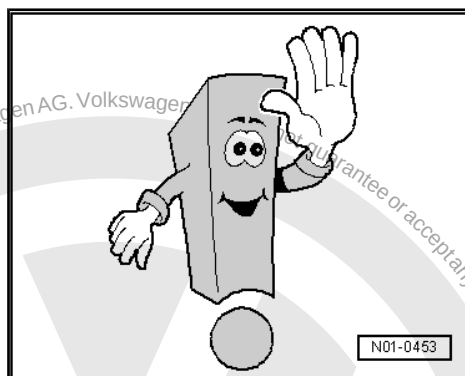




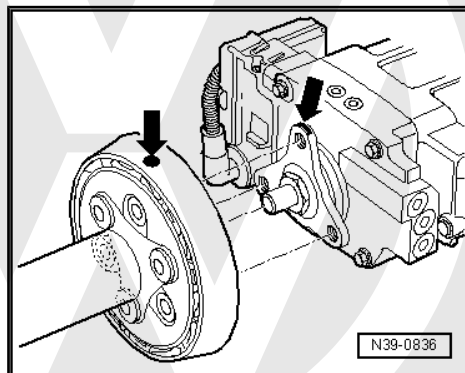
- Press engine and gearbox forwards by hand and fix in this position with an appropriate piece of wood -A-.



To prevent later noise due to imbalance:



- Check if there are coloured marks on flexible coupling and on propshaft flange of rear final drive -arrows-. If not, mark positions of flexible coupling and propshaft flange of rear final drive relative to each other -arrows-.



- Unbolt propshaft from rear final drive -arrows-.





- Pull propshaft from final drive and raise to under centre of fuel tank -2-. Support in this position on tunnel cross piece with an appropriate piece of wood -1-.

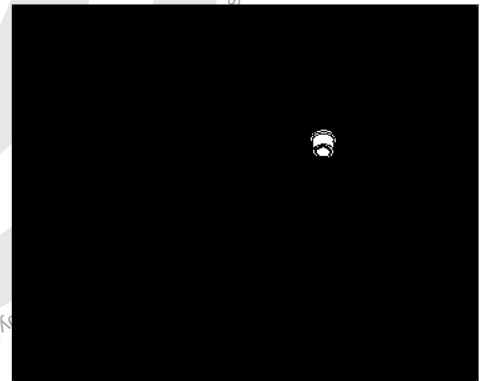
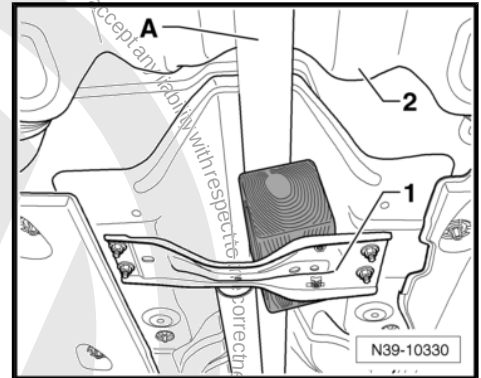


Caution

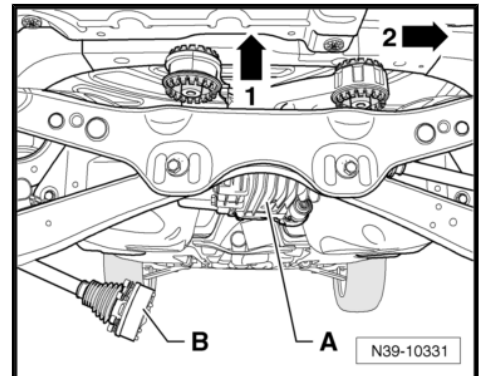
Do not dent the fuel tank -2- in the process.

The rear section of the final drive must be free to move in order to remove or install the drive shafts.

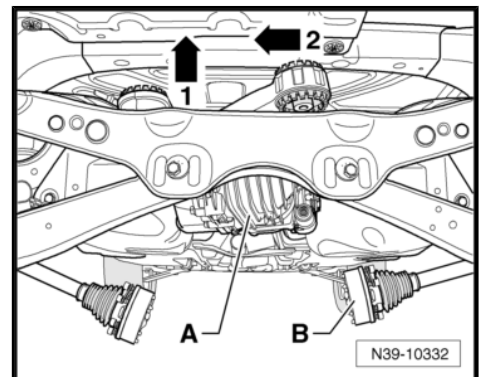
- Therefore, loosen bolt -arrow- on front bonded rubber mounting no more than 5 turns.
- Unbolt left drive shaft from final drive.



- Raise rear section of final drive -A- -arrow 1- and push as far to right as possible -arrow 2-.
- Remove left drive shaft -B- from flange and carefully lower.
- Return final drive to installation position.
- Unbolt right drive shaft from final drive.



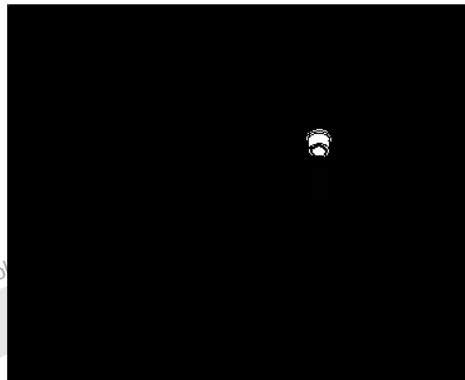
- Raise rear section of final drive -A- -arrow 1- and push as far to left as possible -arrow 2-.
- Remove right drive shaft -B- from flange and carefully lower.
- Return final drive to installation position.
- Support final drive with engine and gearbox jack - V.A.G 1383 A- and secure with belt to universal support against falling.



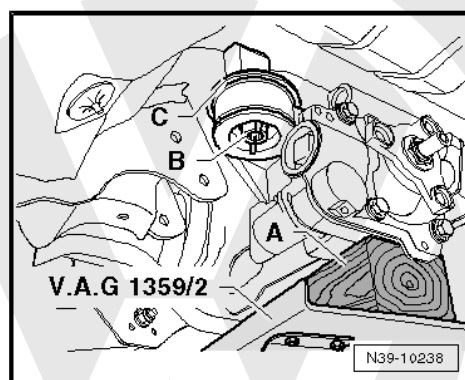


- Remove bolt -arrow- from front bonded rubber mounting.

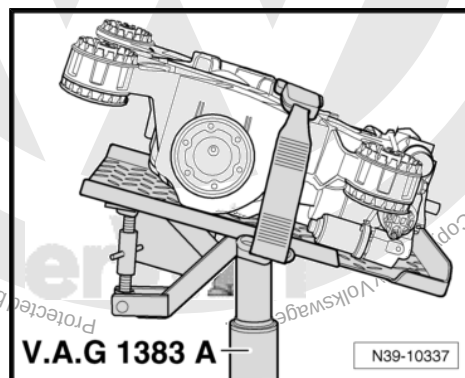
This bolt must later be renewed.



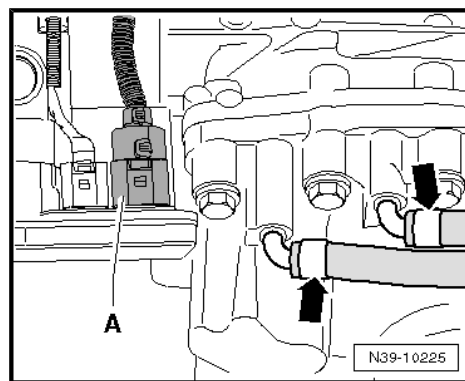
- Remove plate -C- from top of bonded rubber mounting.



- Tilt final drive in vehicle as shown in illustration and simultaneously lower it slightly.



- Separate connector -A- from four-wheel drive control unit - J492- .
- Pull breather lines -arrows- off final drive.
- To remove final drive, lower further and then pull »forwards«, ensuring that there is sufficient »clearance« to other components.

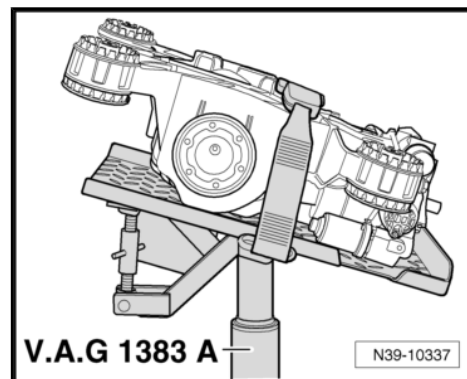


11.2 Installing

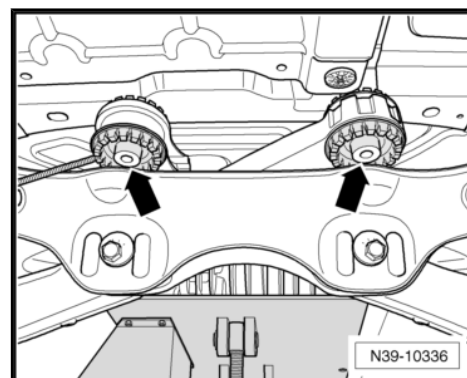
- Secure final drive against falling using strap from gearbox support.



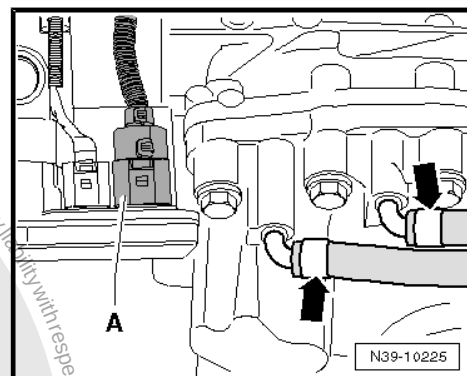
- Bring final drive into position shown.



- Raise final drive and guide rear mountings -arrows- over sub-frame, observing clearance to other components.

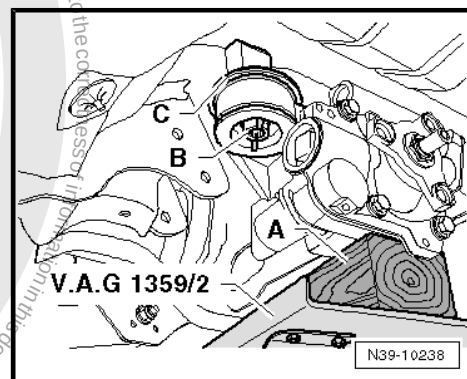


- Join connector -A- to all-wheel drive control unit - J492- .
- Push breather lines -arrows- onto breather pipes of final drive.
- Using gearbox jack, raise final drive to installation position.



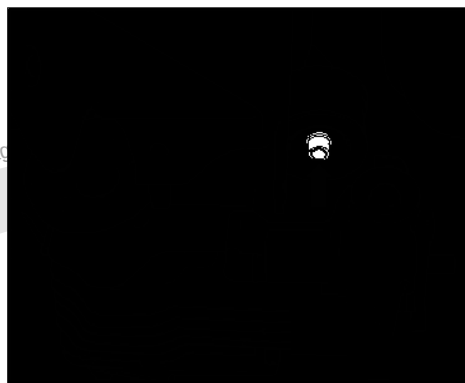
Set plate -C- on front bonded rubber mounting.

The rear section of the final drive must be free to move in order to remove or install the drive shafts.

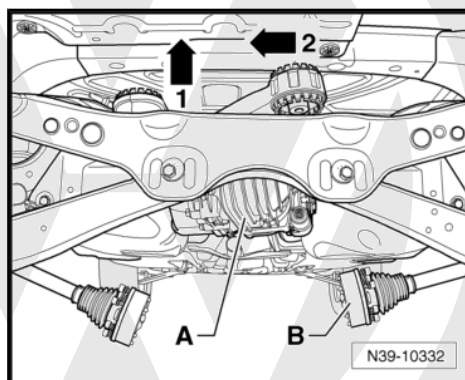




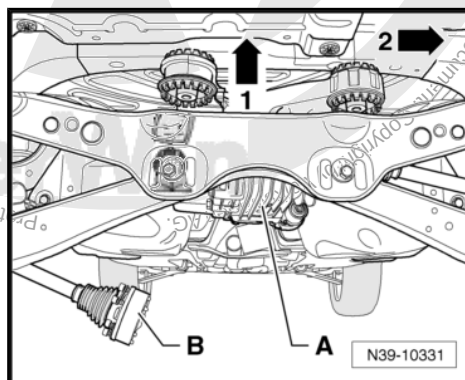
- Completely screw in front mounting bolt by hand and then loosen not more than 5 turns.
- Remove gearbox jack from beneath vehicle.



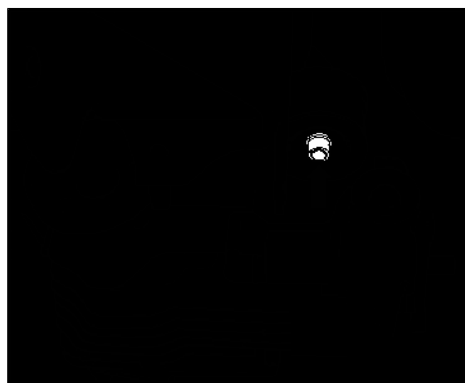
- Raise rear section of final drive -A- -arrow 1- and push as far to left as possible -arrow 2-.
- Carefully guide right drive shaft -B- upwards into flange.
- Return final drive to installation position.
- Bolt right drive shaft to final drive.



- Raise rear section of final drive -A- -arrow 1- and push as far to right as possible -arrow 2-.
- Carefully guide left drive shaft -B- upwards into flange.
- Return final drive to installation position.
- Bolt left drive shaft to final drive.
- Bolt propshaft to final drive. Torque setting: ⇒ [page 62](#) .

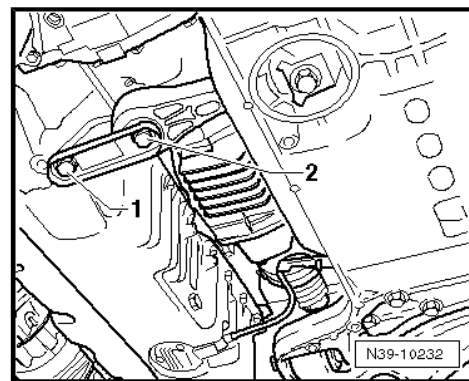


- Tighten bolts for final drive from »below« -arrow-. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Tighten drive shafts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .





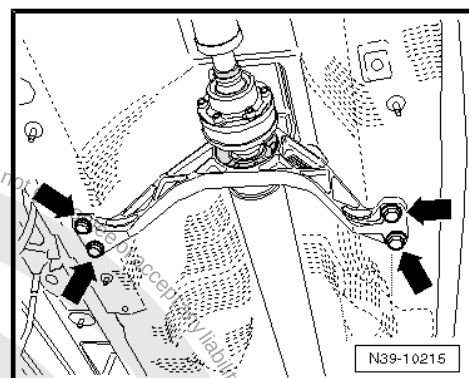
- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .



- Align centre bearing free of tension and tighten. Specified torques ⇒ [page 57](#) .
- Install rear left vehicle level sender - G76- ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .

Perform basic setting of headlights with ⇒ Vehicle diagnostic tester.

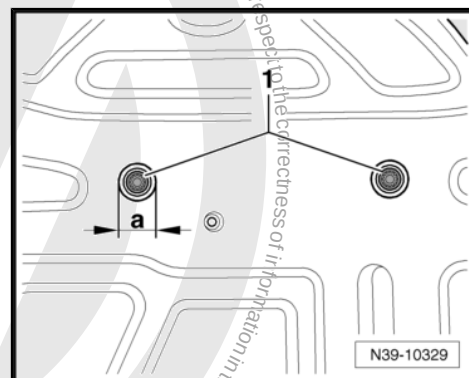
- Install exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Install anti-roll bar ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .



- Insert two »new« bolts -arrow- through the holes in the luggage compartment floor and tighten. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Seal holes with appropriate plugs, N 908 572 01 or N 908 572 02 ⇒ Electronic Parts Catalogue "ETKA" .

If the final drive has been renewed:

- Check oil level in all-wheel drive coupling and top up ⇒ [page 232](#) .
- Check oil level in final drive and top up ⇒ [page 224](#) .





12 Removing and installing rear final drive, Passat CC, CC 2010 ►

12.1 Removing

Brief description

- Before removing, print diagnosis log. Return removed final drive together with log in the customary manner.

Two holes must be drilled in luggage compartment before the vehicle is raised. The positions for the holes were marked »in the factory«. These holes provide »access« to the final drive/sub-frame securing bolts located below.

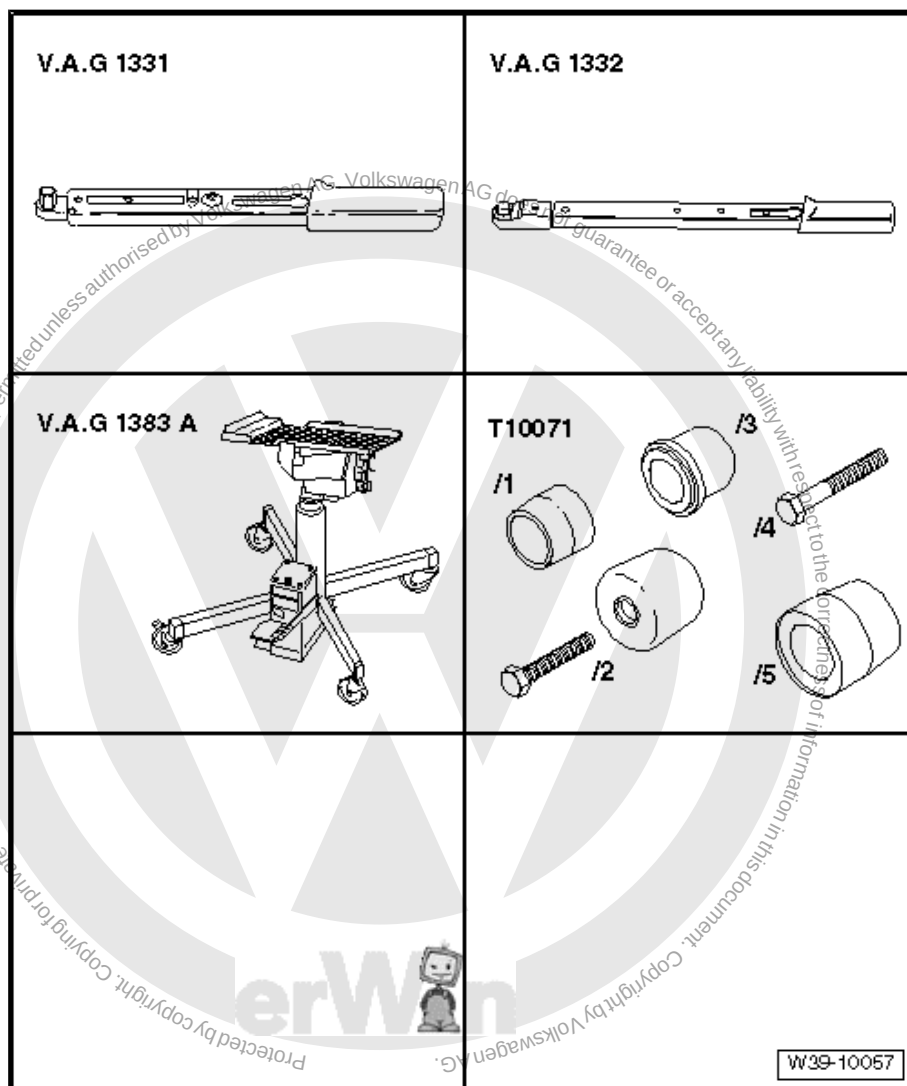
The pendulum support is unbolted from the front of the gearbox. The anti-roll bar is removed and the drive shafts are unbolted from the final drive. The electrical connections and breather lines are separated at the final drive.

The »rear section« of the exhaust system is removed. The propshaft is unbolted from the final drive, raised and secured.

The final drive is to be lowered with the gearbox jack diagonally »downwards« in direction of travel.

Special tools and workshop equipment required

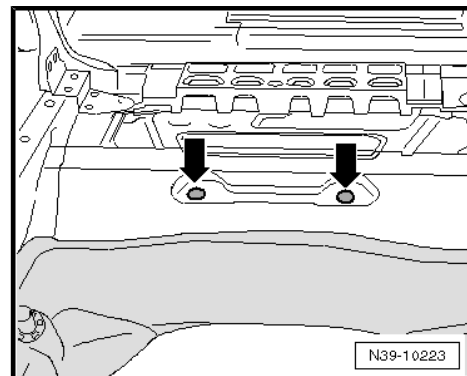
- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-
- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2-
- ◆ Tensioning strap - T10038-
- ◆ »Hand drill«
- ◆ »Stepped drill bit« or »centre bit«
- ◆ Safety goggles





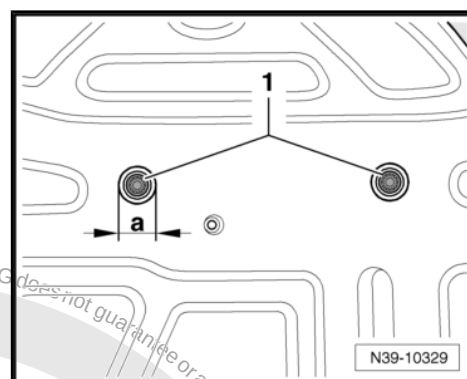
- Raise floor covering in luggage compartment.
- Remove spare tyre.

Now the markings -arrows- on floor of luggage compartment are »accessible«.



- Drill 2 holes at the marks -1- with the size -a- = 26 mm in diameter. Vacuum up as much of the swarf as possible while drilling.
- Deburr holes and carefully remove swarf.

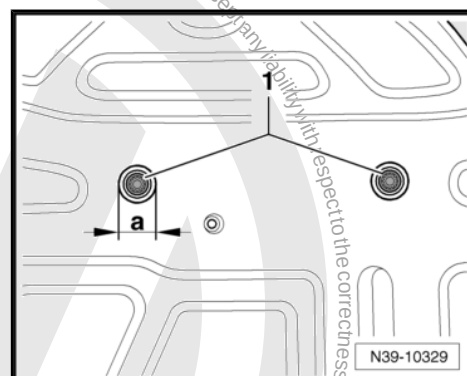
Repair corrosion protection using materials specified by manufacturer ⇒ Paint workshop manual .



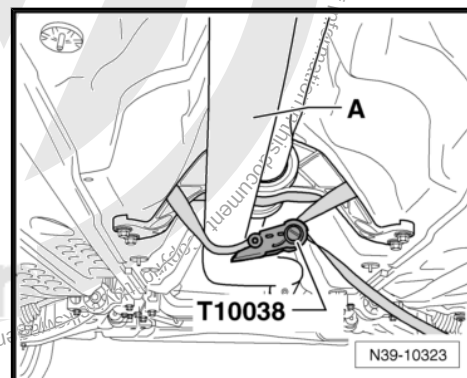
- Loosen both bolts -arrows- and pull out.

These bolts must later be renewed.

- Raise vehicle.
- Remove anti-roll bar & Running gear, axles, steering; Rep. gr. 42 .

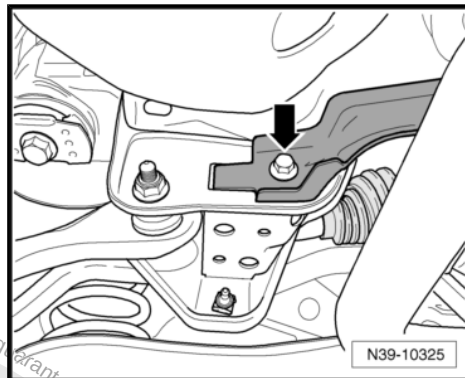


- Support front exhaust pipe -A- with tensioning strap - T10038- from centre bearing of propshaft.

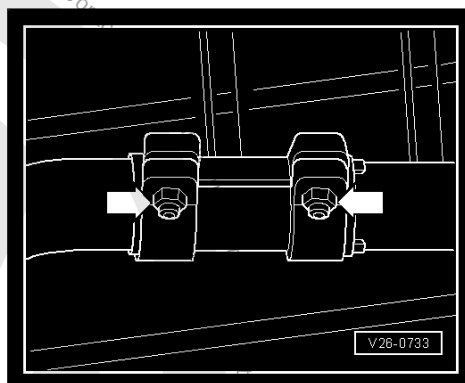




- Unbolt exhaust pipe bracket from subframe.

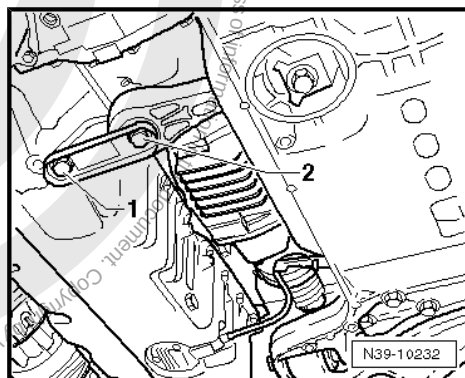


- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ➔ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .

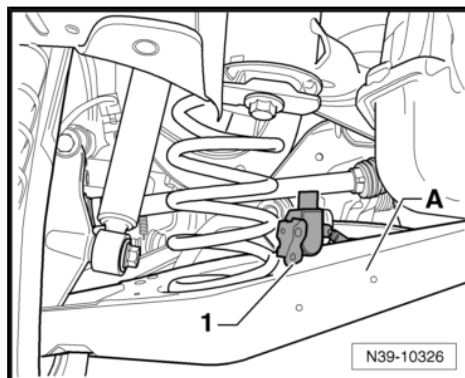


- Remove bolts -1- and -2- for pendulum support.

To prevent damage to the rear left vehicle level sender - G76- :

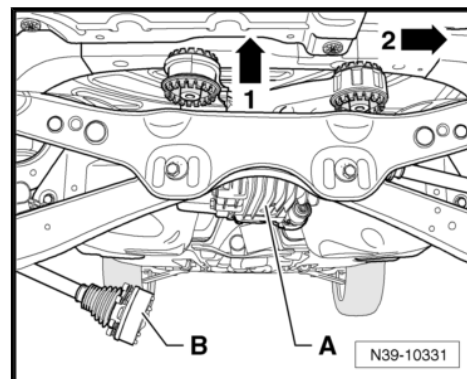


- Separate connector, unbolt sender and set on suspension link -A-.
- Unbolt left drive shaft from final drive.

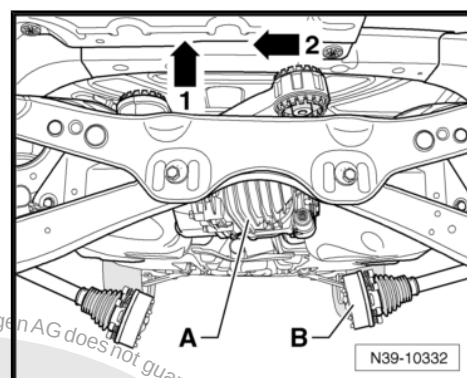




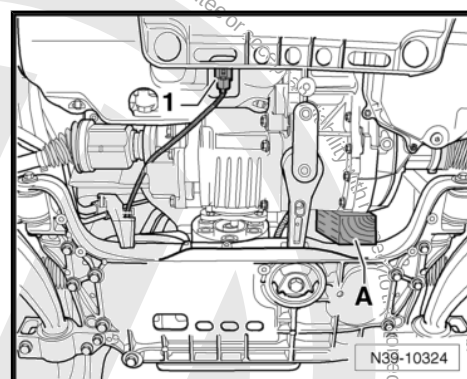
- Remove left drive shaft -B- from flange and carefully lower.
- Unbolt right drive shaft from final drive.



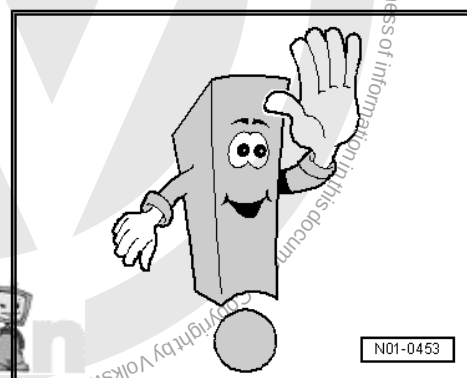
- Remove right drive shaft -B- from flange and carefully lower.



- Press engine and gearbox forwards by hand and fix in this position with an appropriate piece of wood -A-.

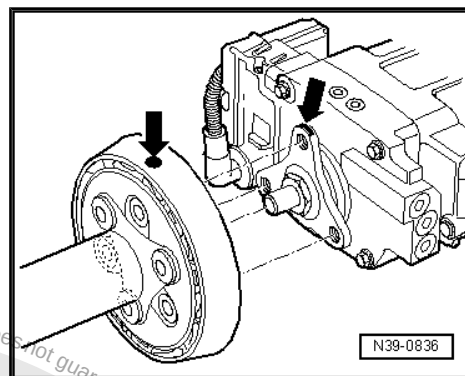


To prevent later noise due to imbalance:





- Check if there are coloured marks on flexible coupling and on propshaft flange of rear final drive -arrows-. If not, mark positions of flexible coupling and propshaft flange of rear final drive relative to each other -arrows-.



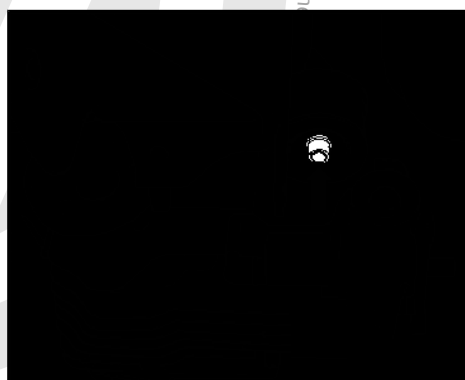
- Unbolt propshaft from rear final drive -arrows-.



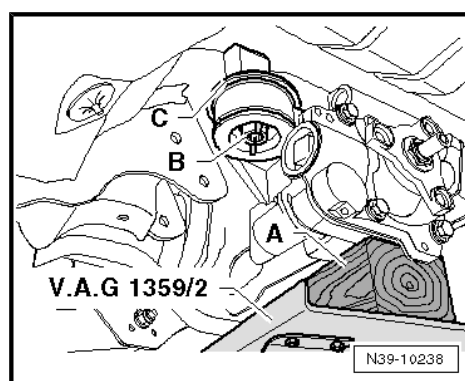
- Remove bolt -arrow- from front bonded rubber mounting.

This bolt must later be renewed.

- Push final drive as far back as possible.
- Pull propshaft off final drive and rest on tunnel cross piece, first laying a cloth on the tunnel cross piece to protect the shaft.

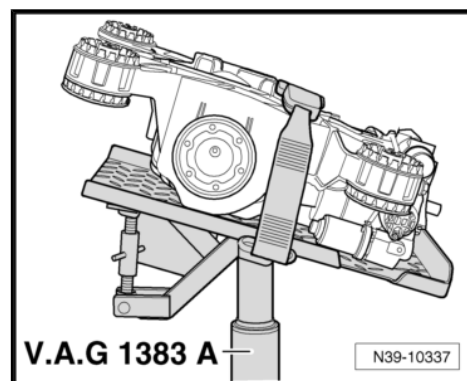


- Remove plate -C- from top of bonded rubber mounting.

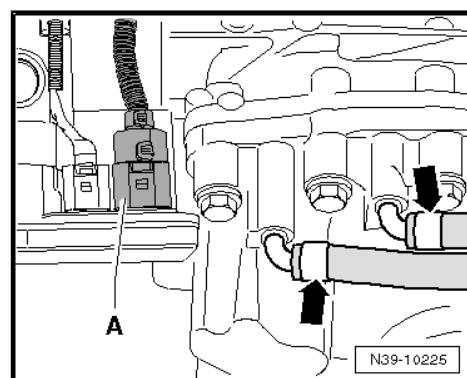




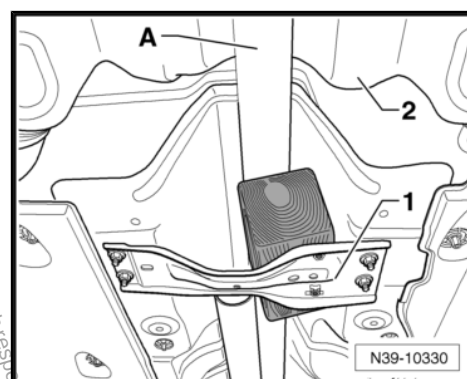
- Tilt final drive in vehicle as shown in illustration and simultaneously lower it slightly.



- Separate connector -A- from four-wheel drive control unit - J492- .
- Pull breather lines -arrows- off final drive.

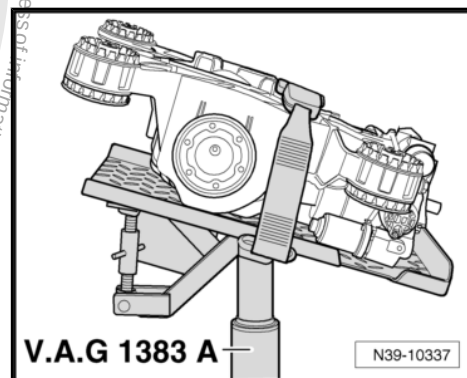


- Raise propshaft and support it in this position on tunnel cross piece with an appropriate piece of wood -1-.
- Secure final drive against falling using strap from gearbox support.
- To remove final drive, lower further and then pull »forwards«, ensuring that there is sufficient »clearance« to other components.



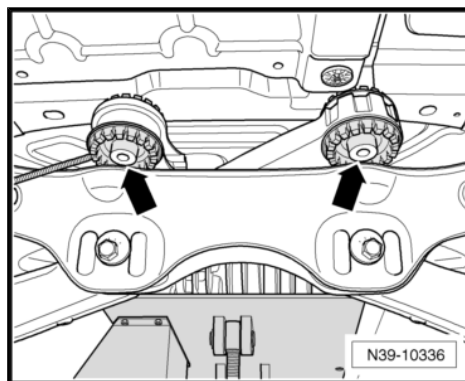
12.2 Installing

- Secure final drive against falling using strap from gearbox support.
- Bring final drive into position shown.





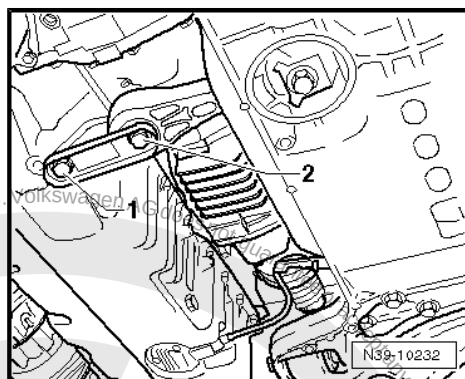
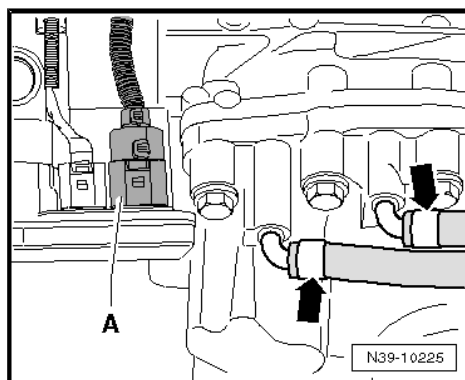
- Raise final drive and guide rear mountings -arrows- over sub-frame, observing clearance to other components.



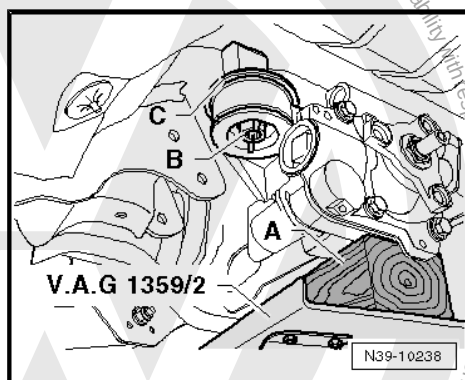
- Join connector -A- to all-wheel drive control unit - J492- .
- Push breather lines -arrows- onto breather pipes of final drive.
- Using gearbox jack, raise final drive to installation position.

To avoid damage to the propshaft:

- Rest propshaft on tunnel cross piece, first laying a cloth on the support to protect the shaft.
- Attach both drive shafts.
- Tighten drive shafts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Attach propshaft to final drive and tighten bolts. Torque setting: ⇒ [page 71](#) .
- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .

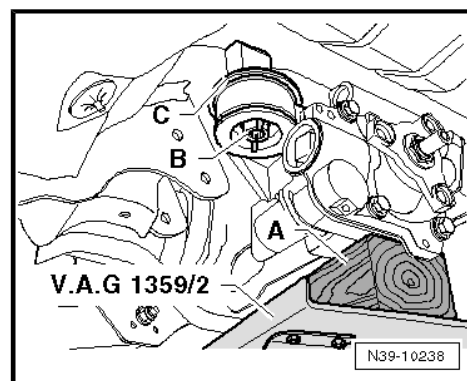


- Set plate -C- on front bonded rubber mounting.

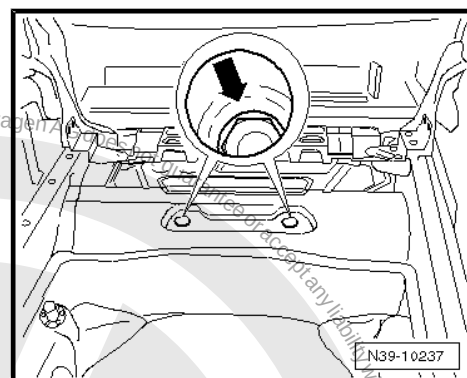




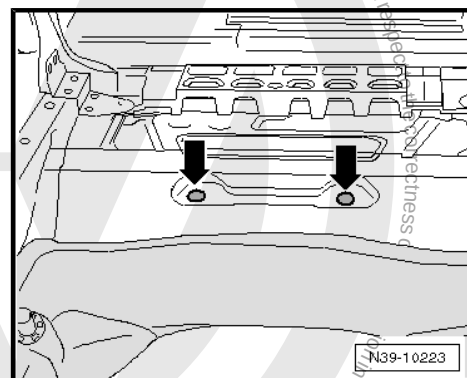
- Bolt on final drive from »below« -B- but do not tighten bolt yet.
- Remove gearbox jack from beneath vehicle.



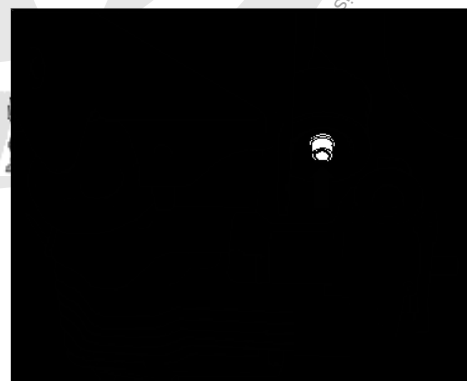
- Insert two »new« bolts -arrow- through the holes in the luggage compartment floor and tighten. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .



- Seal holes with appropriate plugs, N 908 572 01 or N 908 572 02 ⇒ Electronic Parts Catalogue "ETKA" .
- Install trim and floor covering -A- ⇒ Rep. gr. 70 ; Trim, luggage compartment .
- Raise vehicle.



- Tighten bolts for final drive from »below« -arrow-. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install rear left vehicle level sender - G76- ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .
- Install exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Install anti-roll bar ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .



If the final drive has been renewed:

- Check oil level in all-wheel drive coupling and top up ⇒ [page 232](#) .
- Check oil level in final drive and top up ⇒ [page 224](#) .

Perform basic setting of headlights with ⇒ Vehicle diagnostic tester.



13 Removing and installing rear final drive, Golf 2009 ►

Brief description

- Before removing, print diagnosis log. Return removed final drive together with log in the customary manner.

Two protective caps in luggage compartment must be removed before vehicle is raised. Securing bolts for final drive/subframe located below these must be unscrewed and removed upwards.

The pendulum support is unbolted from the front of the gearbox. The anti-roll bar is removed and the drive shafts are unbolted from the final drive. The electrical connections and breather lines are separated at the final drive.

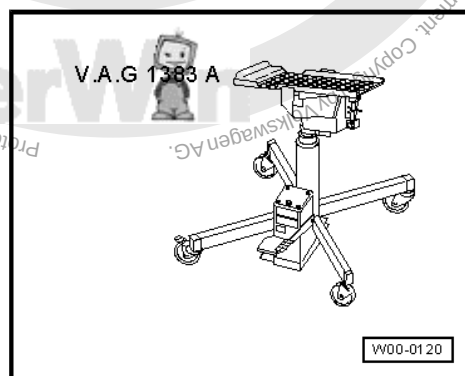
The »rear section« of the exhaust system is removed. Unscrew propshaft from final drive and put down on tunnel support.

With help from a second mechanic, lower final drive diagonally »downwards« in direction of travel.

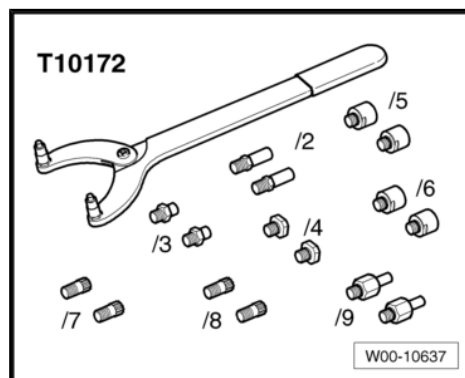
13.1 Removing

Special tools and workshop equipment required

- ♦ Engine and gearbox jack - V.A.G 1383 A- with universal gearbox support - V.A.G 1359/2-



- ♦ Counterhold - T10172-



- Raise floor covering in luggage compartment.

Depending on vehicle equipment:

- Remove emergency wheel or tool box for breakdown set.



- Remove rubber plugs -arrows- from luggage compartment floor.



Note

- ◆ If there are no holes but only markings, then 26 mm holes must be drilled through the floor of the luggage compartment. Vacuum up as much of the swarf as possible while drilling.
- ◆ Deburr holes and carefully remove swarf.
- ◆ Repair corrosion protection using materials specified by manufacturer ⇒ Paint workshop manual.

- Remove both rear final drive bolts from above through holes -arrows-.

These bolts must later be renewed.

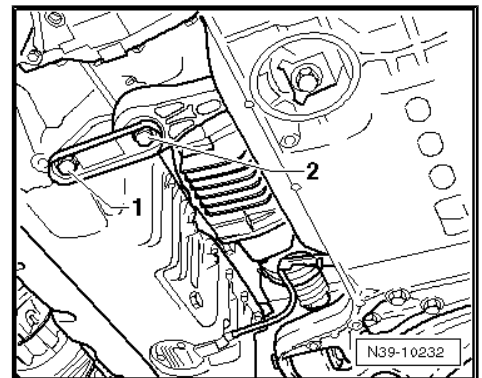
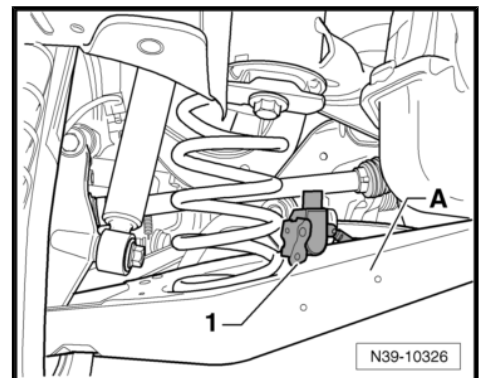
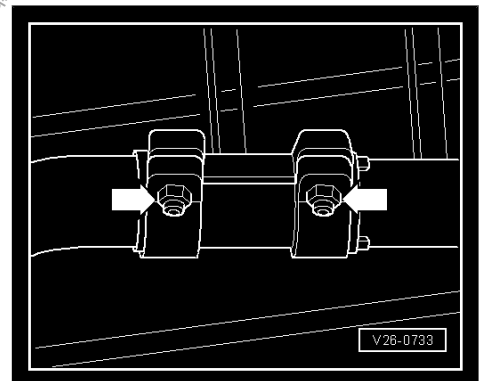
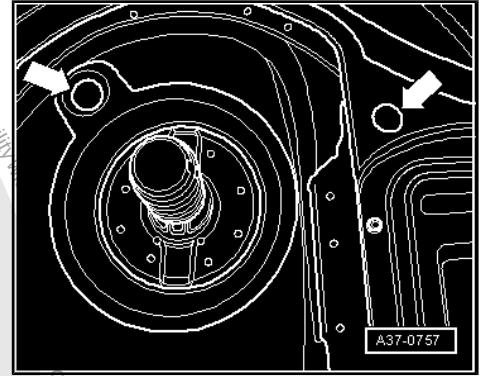
- Raise vehicle.

- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system: Removing and installing parts of exhaust system .
- Place front exhaust pipe on tunnel support.
- Disconnect left and right drive shafts from flange shafts of the rear final drive.
- Remove anti-roll bar ⇒ Running gear, axles, steering; Rep. gr. 42 .

To prevent damage to the rear left vehicle level sender - G76- :

- Separate connector, unbolt sender and set on suspension link -A-.

- Remove bolts -1- and -2- for pendulum support.





- Loosen bolts -1- of propshaft centre bearing about 2 turns.

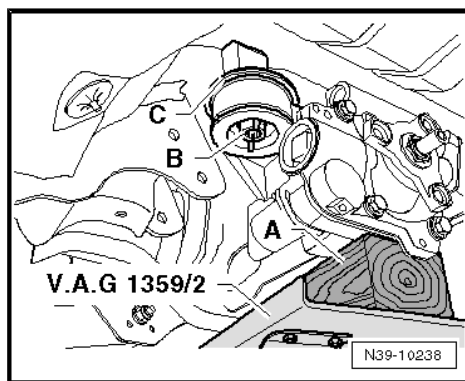
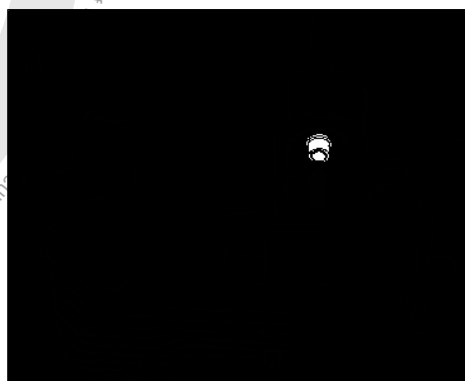
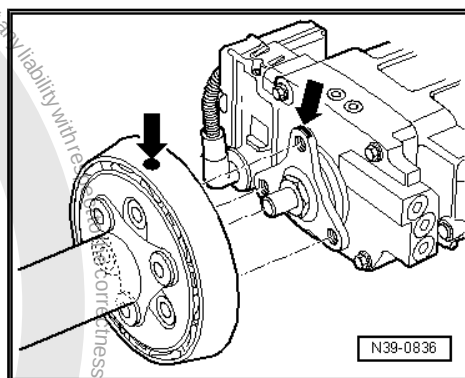
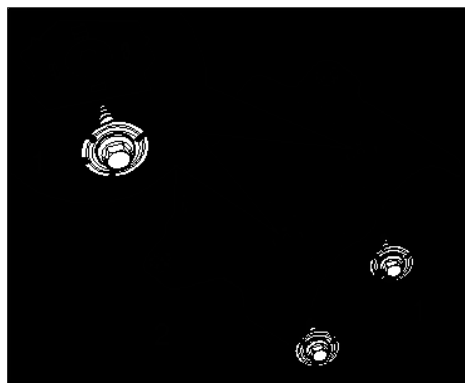
To prevent later noise due to imbalance:

- Check if there are coloured marks on flexible coupling and on propshaft flange of rear final drive -arrows-. If not, mark positions of flexible coupling and propshaft flange of rear final drive relative to each other -arrows-.
- Support final drive with gearbox jack.

- Remove bolt -arrow- from front bonded rubber mounting.

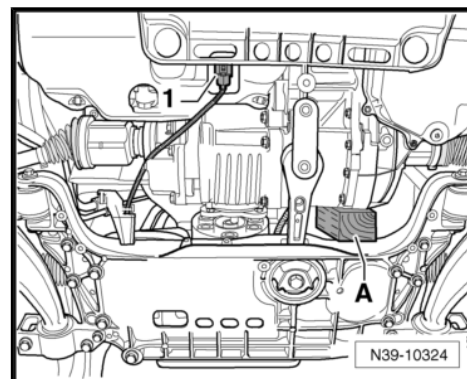
This bolt must later be renewed.

- Remove plate -C- from top of bonded rubber mounting.

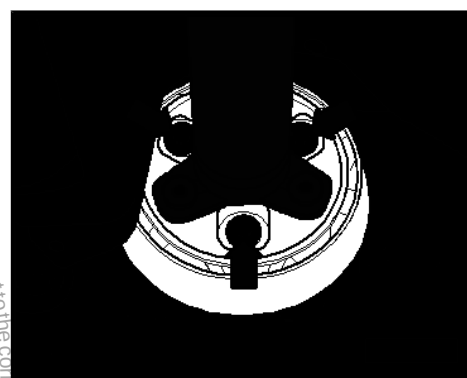




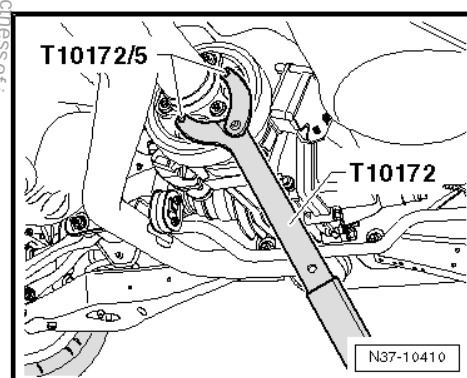
- Press engine and gearbox forwards by hand and fix in this position with an appropriate piece of wood -A-.



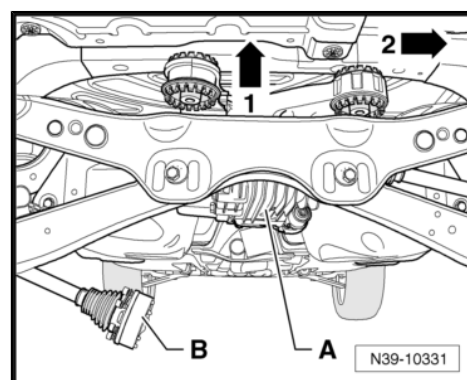
- Unbolt propshaft from rear final drive -arrows-.



- Counterhold at rear final drive when loosening or tightening propshaft.
- Push final drive as far back as possible.
- Pull propshaft off final drive and rest on tunnel cross piece, first laying a cloth on the tunnel cross piece to protect the shaft.

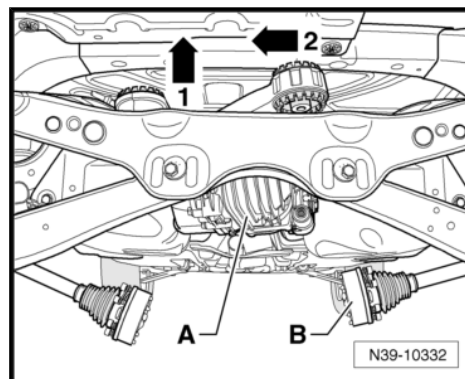


- Remove left drive shaft -B- from flange and carefully lower.





- Remove right drive shaft -B- from flange and carefully lower.



- Separate connector -A- from four-wheel drive control unit - J492- .
- Pull breather lines -arrows- off final drive.

Remove final drive



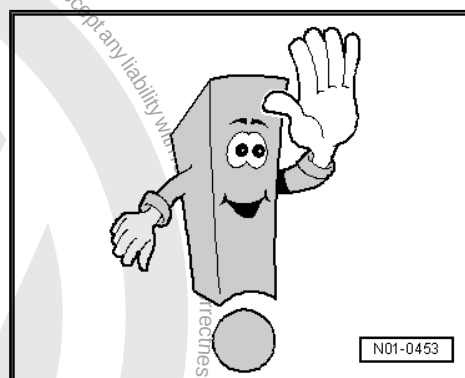
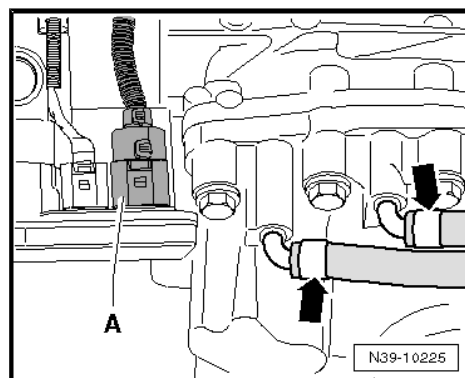
Note

With help from a second mechanic, remove final drive by hand.

»First mechanic« must hold final drive securely (in area of propshaft flange) while »second mechanic« pushes gearbox jack away towards rear completely under vehicle.

Then both mechanics remove final drive.

- Please discuss in advance »who is going to do what«.



13.2 Installing

Install in the reverse order of removal, observing the following:



Note

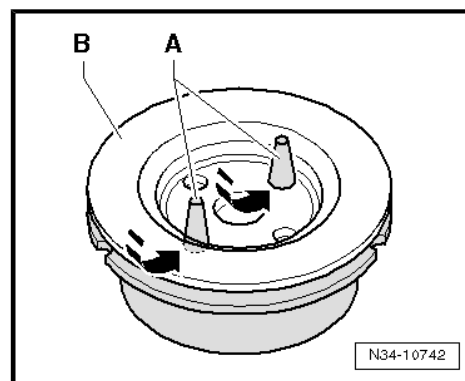
With help from a second mechanic, insert final drive by hand.

Inserting final drive

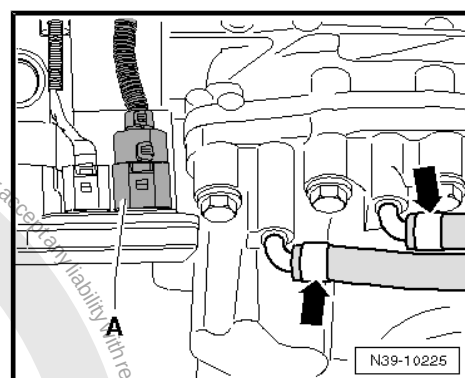
- Gearbox jack is located »within reach« under subframe/luggage compartment floor.



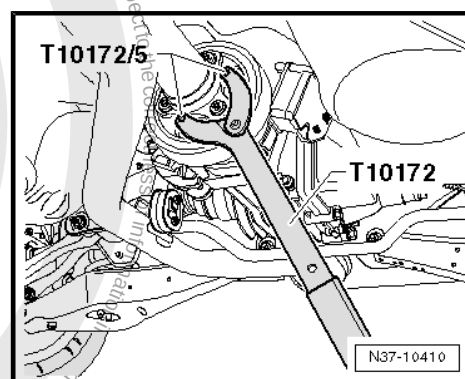
- Insert final drive carefully, making sure that both stop plates -B- on rear bearings do not slip or fall out.
- Support final drive with gearbox jack.



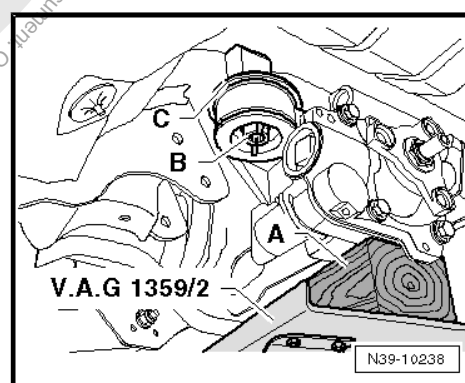
- Join connector -A- to all-wheel drive control unit - J492- .
- Push breather lines -arrows- onto breather pipes of final drive.
- Using gearbox jack, raise final drive to installation position.
- Position both drive shafts in flanges on final drive, but do not bolt on yet!
- Start with right drive shaft.
- Attach propshaft to final drive and tighten bolts. Torque setting: ⇒ page 71 .



- Counterhold at rear final drive when loosening or tightening propshaft.

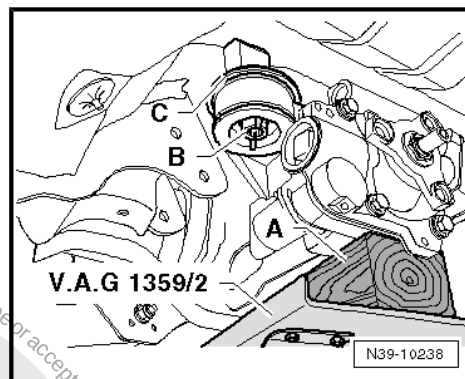


- Set plate -C- on front bonded rubber mounting.

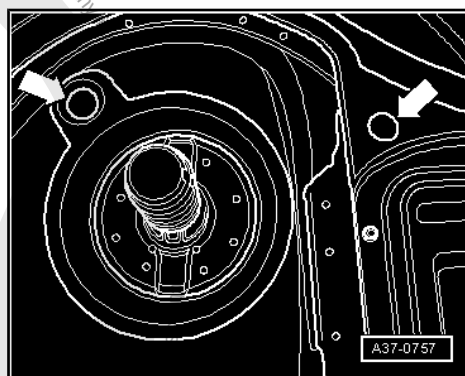




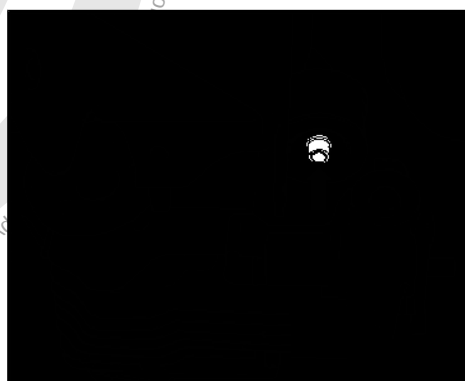
- Bolt on final drive from »below« -B- but do not tighten bolt yet.
- Remove gearbox jack from beneath vehicle.



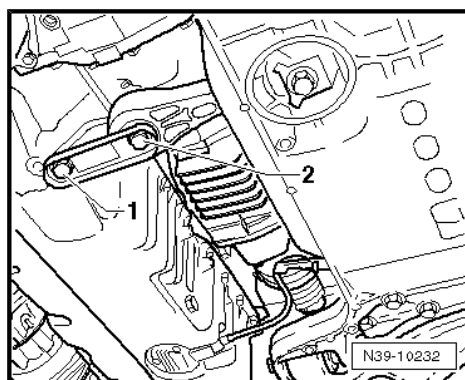
- Insert two »new« bolts -arrow- through the holes in the luggage compartment floor and tighten. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Insert rubber plugs
- Install trim and floor covering -A- ⇒ Rep. gr. 70 ; Trim, luggage compartment .
- Raise vehicle.



- Tighten bolts for final drive from »below« -arrow-. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .



- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Align centre bearing in its elongated holes so that neither propshaft nor centre bearing is under tension.





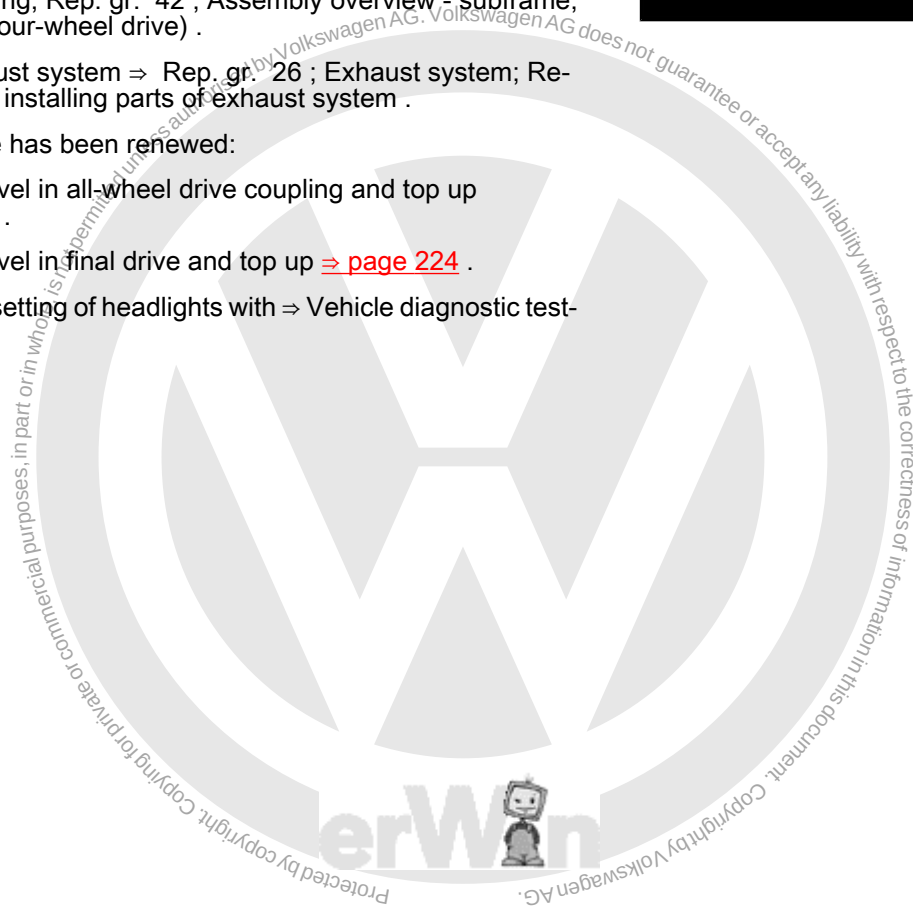
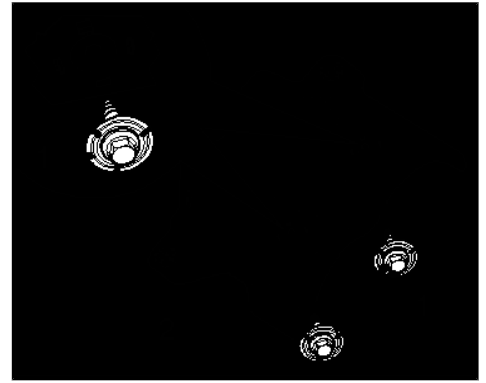
When bolting heat shield -2- to centre bearing, ensure that bolts -1- are located in the four centring tabs.

- Install anti-roll bar ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .
- Tighten drive shafts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 42 .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Install rear left vehicle level sender - G76- ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive (four-wheel drive) .
- Install exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .

If the final drive has been renewed:

- Check oil level in all-wheel drive coupling and top up ⇒ [page 232](#) .
- Check oil level in final drive and top up ⇒ [page 224](#) .

Perform basic setting of headlights with ⇒ Vehicle diagnostic tester.





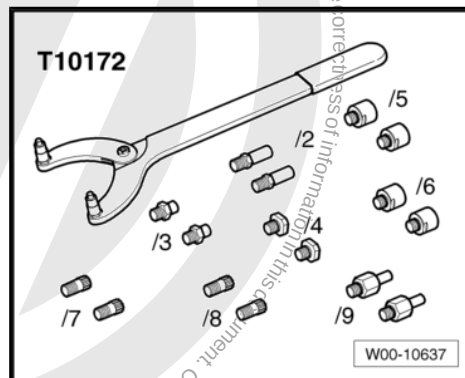
14 Removing and installing rear final drive, Sharan 2011 ►

Brief description

In the case of the Sharan, the rear final drive is removed together with the rear axle and only then is it detached from the rear axle.

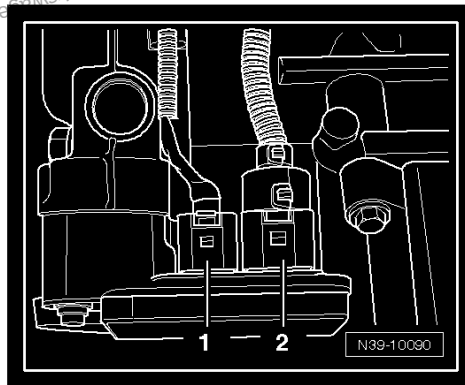
Special tools and workshop equipment required

- ◆ Counterhold - T10172-

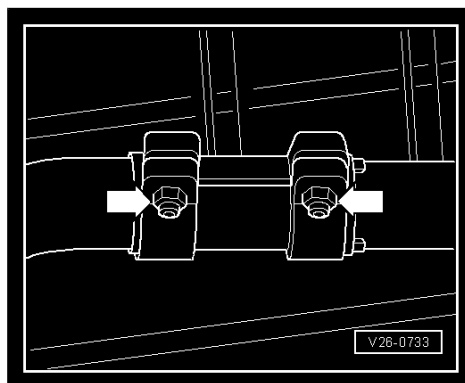


Removing:

- Separate connectors -1- and -2- on control unit for all-wheel drive - J492- .

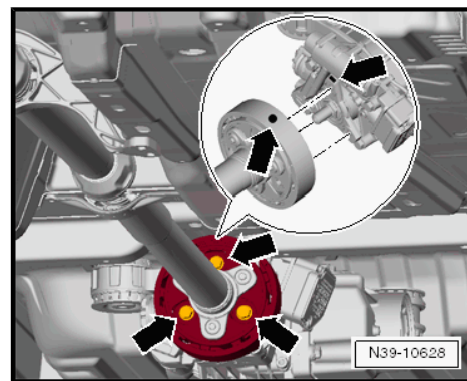


- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .

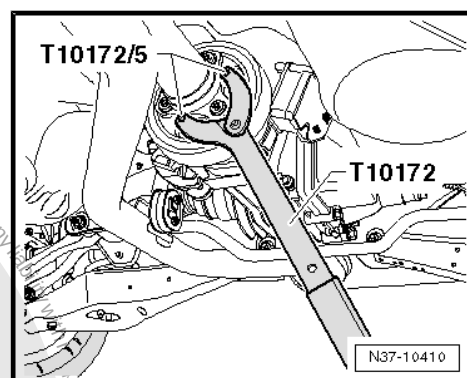




- Unbolt propshaft together with flexible coupling from final drive -arrows-.
- If there are no markings -arrows-, mark position of propshaft relative to final drive flange.



- Counterhold at rear final drive when loosening or tightening propshaft.

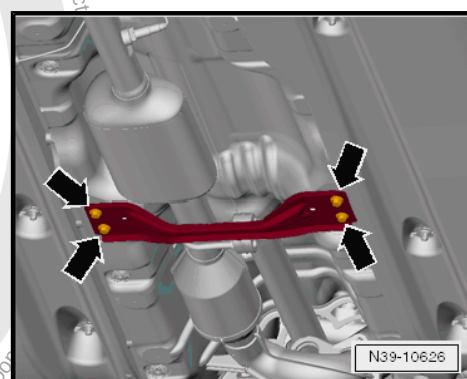


- Unbolt and remove cross piece -arrows-.

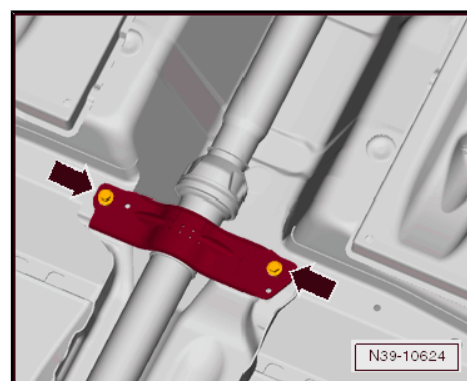


Note

The front centre bearing is also unbolted at the same time as the bolts of the cross piece are removed.



- Unbolt rear centre bearing -arrows-.





Note

Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.

- Pull propshaft with flexible joint off final drive and place on tank.
- Loosen bolt -arrow- in front bonded rubber mounting. This makes it easier to detach final drive from rear axle later.
- Remove rear axle ⇒ Running gear, axles, steering; Rep. gr. 42 ; Removing and installing rear axle .
- Undo bolts attaching drive shafts to rear final drive and then remove shafts ⇒ Running gear, axles, steering; Rep. gr. 42 ; Removing and installing drive shaft .
- Unbolt rear final drive from rear axle and remove rear final drive.

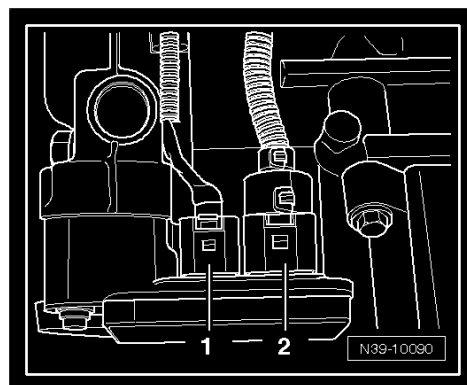
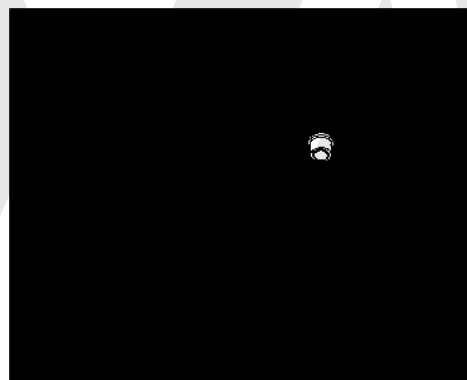
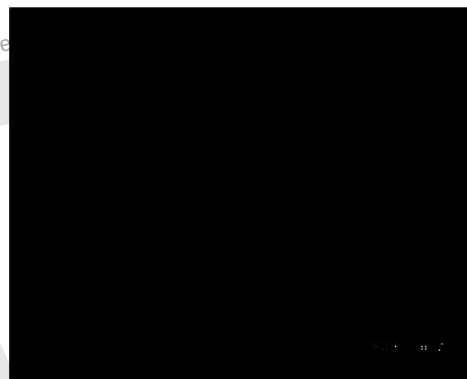
Installing

Install in the reverse order of removal, observing the following:

- Install all parts which were marked in relation to each other in their original positions.

Bolt rear final drive onto rear axle, using new bolts. Specified torque ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive .

- Bolt drive shafts onto rear final drive ⇒ Running gear, axles, steering; Rep. gr. 42 ; Removing and installing drive shaft .
- Install rear axle ⇒ Running gear, axles, steering; Rep. gr. 42 ; Removing and installing rear axle .
- Attach connectors -1- and -2- to control unit for all-wheel drive - J492- .
- Tighten propshaft bolts. Specified torques ⇒ [page 80](#) .





15 Renewing bonded rubber bush on rear final drive

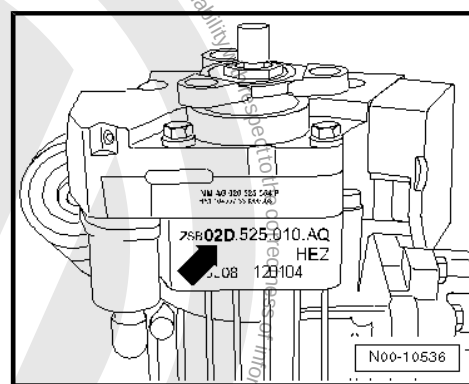
15.1 Renewing bonded rubber bush on rear final drive, Passat with final drive 01Z, Tiguan 2008 ►, Passat CC, CC 2010 ► and Sharan 2011 ►



Note

The marking -arrow- on the »bottom« of the final drive provides information about which final drive is installed.

Example of identification on an "02D" final drive



15.2 Assembly overview - bonded rubber mounting



Note

Renew bonded rubber mountings »in pairs« (upper and lower mountings).



Protected by copyright. Copying for private use only. Copyright by Volkswagen AG.



1 - "Rear upper" bonded rubber mounting

- ☐ With stop plate
- ☐ Allocation ➔ Electronic Parts Catalogue "(ETKA)"
- ☐ To remove or install, remove stop plate
- ☐ Removing ➔ [page 133](#)
- ☐ Installing ➔ [page 135](#)

2 - "Rear lower" bonded rubber mounting

- ☐ Without stop plate
- ☐ Allocation ➔ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing ➔ [page 133](#)
- ☐ Installing ➔ [page 135](#)

3 - "Rear lower" bonded rubber mounting

- ☐ Without stop plate
- ☐ Allocation ➔ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing ➔ [page 133](#)
- ☐ Installing ➔ [page 135](#)

4 - "Front lower" bonded rubber mounting

- ☐ With stop plate
- ☐ Allocation ➔ Electronic Parts Catalogue "(ETKA)"
- ☐ To remove or install, remove stop plate
- ☐ Removing ➔ [page 133](#)
- ☐ Installing ➔ [page 135](#)

5 - Rear final drive

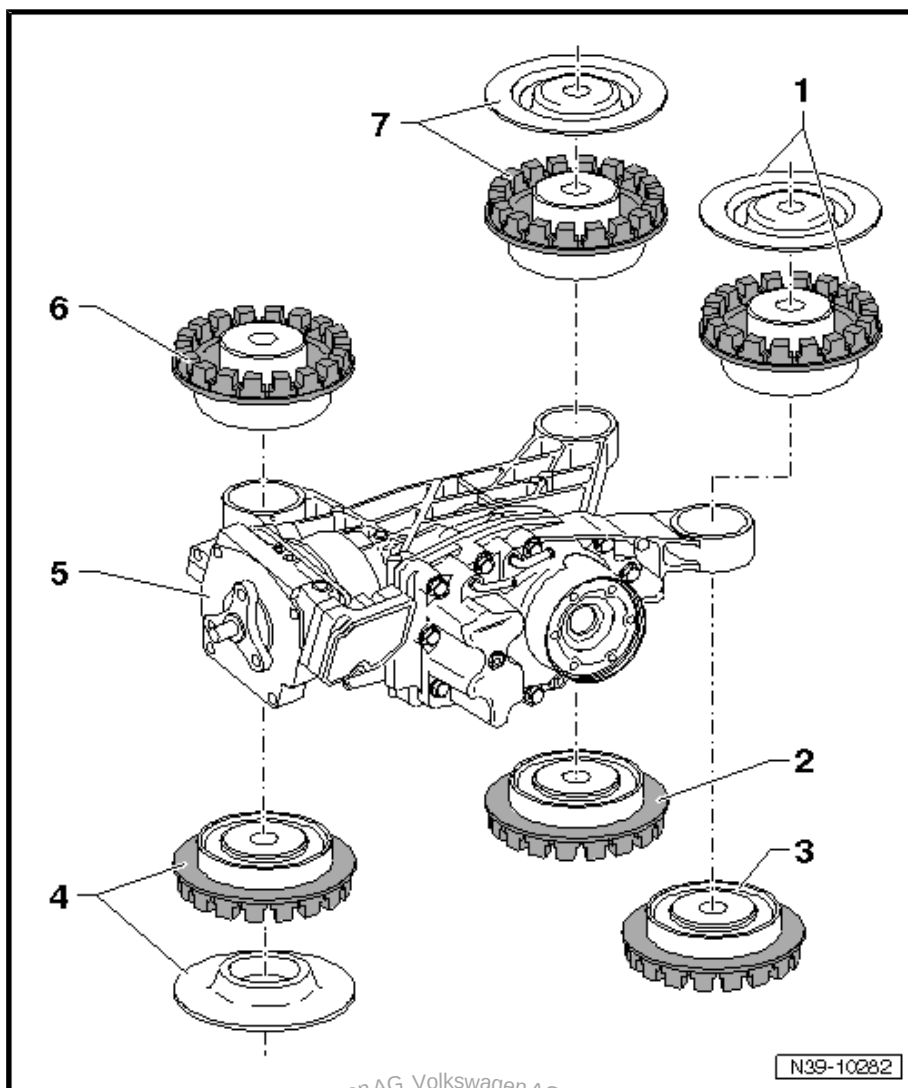
- ☐ Remove to renew bonded rubber mountings ➔ [page 97](#)

6 - "Front upper" bonded rubber mounting

- ☐ Without stop plate
- ☐ Allocation ➔ Electronic Parts Catalogue "(ETKA)"
- ☐ Removing ➔ [page 133](#)
- ☐ Installing ➔ [page 135](#)

7 - "Rear upper" bonded rubber mounting

- ☐ With stop plate
- ☐ Allocation ➔ Electronic Parts Catalogue "(ETKA)"
- ☐ To remove or install, remove stop plate
- ☐ Removing ➔ [page 133](#)
- ☐ Installing ➔ [page 135](#)

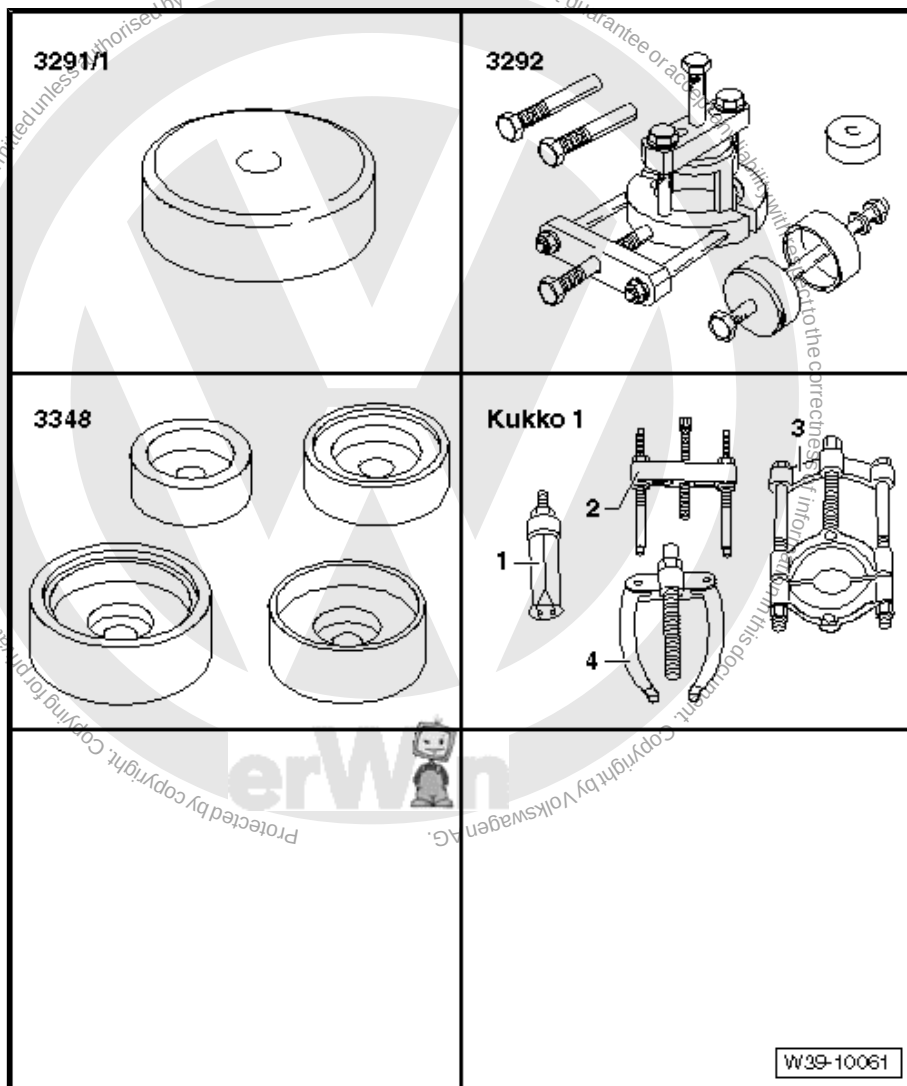




15.3 Removing bonded rubber mounting

Special tools and workshop equipment required

- ◆ Press piece 329/1 from assembly device - 3291-
- ◆ Spindle from assembly tool - 3292-
- ◆ Press pieces 3348 and 3348/1 from assembly device - 3348-
- ◆ Internal puller - Kukko 21/7-1-
- ◆ Counter support - Kukko 22/2-4-



Pull out »upper« mounting



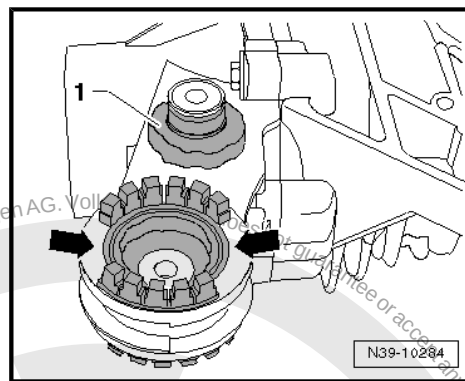
WARNING

Wear protective gloves!

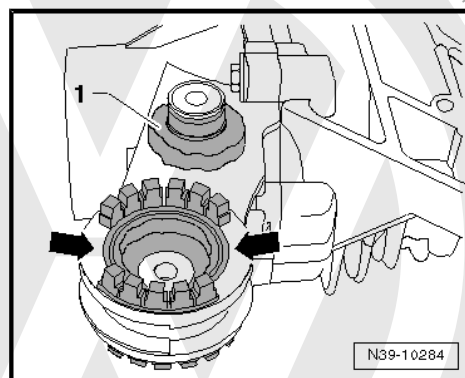
In order to fit the counter support :



- Break two pieces -arrows- out of collar of mounting.



- Separate metal core -1-.

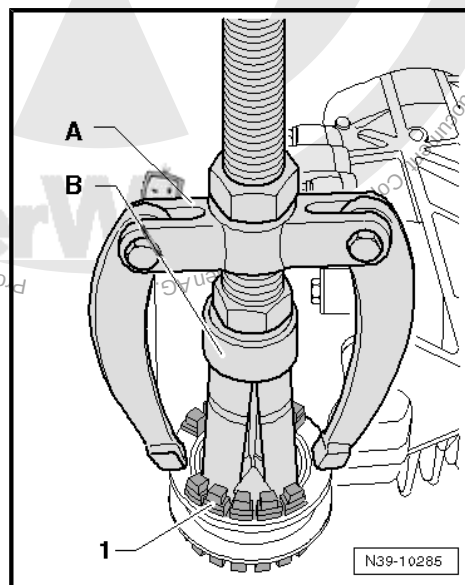


- Pull out bonded rubber mounting -1-.

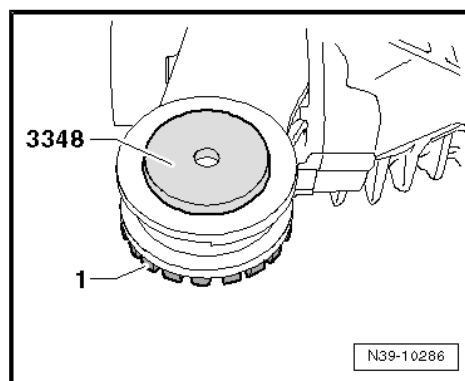
A - Counter support - Kukko 22-2-

B - Internal puller - Kukko 21-7-

Driving out "lower" bonded rubber mounting



- Drive out bonded rubber mounting -1- using thrust piece - 3348- and plastic mallet.





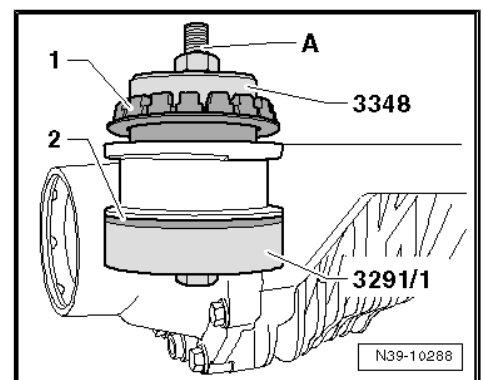
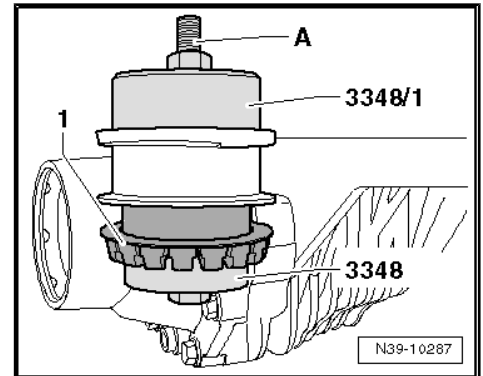
15.4 Installing bonded rubber mounting

Pulling in "lower" bonded rubber mounting

- Pull in mounting until collar contacts final drive along entire circumference.

Pulling in "top" bonded rubber mounting

- Pull in mounting until collar contacts final drive along entire circumference.
- Fit stop plates, location ⇒ [page 131](#) .



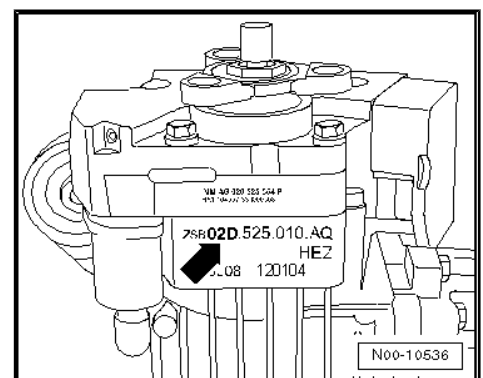
15.5 Renewing bonded rubber mountings on rear final drive, Golf 2004 ► and Passat 2006 ► with final drive 02D/0AV and Golf 2009 ►



Note

The marking -arrow- on the »bottom« of the final drive provides information about which final drive is installed.

Example of identification on an "02D" final drive



15.6 Assembly overview - bonded rubber mounting



1 - Stop plate

- ☐ Pull off before removing bonded rubber mounting
⇒ [Item 2 \(page 136\)](#)
- ☐ Attaching to bonded rubber mounting
⇒ [Item 2 \(page 136\)](#)
⇒ [page 140](#)

2 - "Rear upper" bonded rubber mounting

- ☐ Removing ⇒ [page 138](#)
- ☐ Identifying "rear upper" and "front lower" bonded rubber mountings
⇒ [page 139](#)
- ☐ Installation position
⇒ [page 140](#)
- ☐ Installing ⇒ [page 138](#)

3 - "Rear lower" bonded rubber mounting

- ☐ Removing ⇒ [page 138](#)
- ☐ Installing ⇒ [page 138](#)

4 - Stop plate

- ☐ Pull off before removing bonded rubber mounting
⇒ [Item 5 \(page 136\)](#)
- ☐ Attaching to bonded rubber mounting
⇒ [Item 5 \(page 136\)](#)
⇒ [page 140](#)

5 - "Front lower" bonded rubber mounting

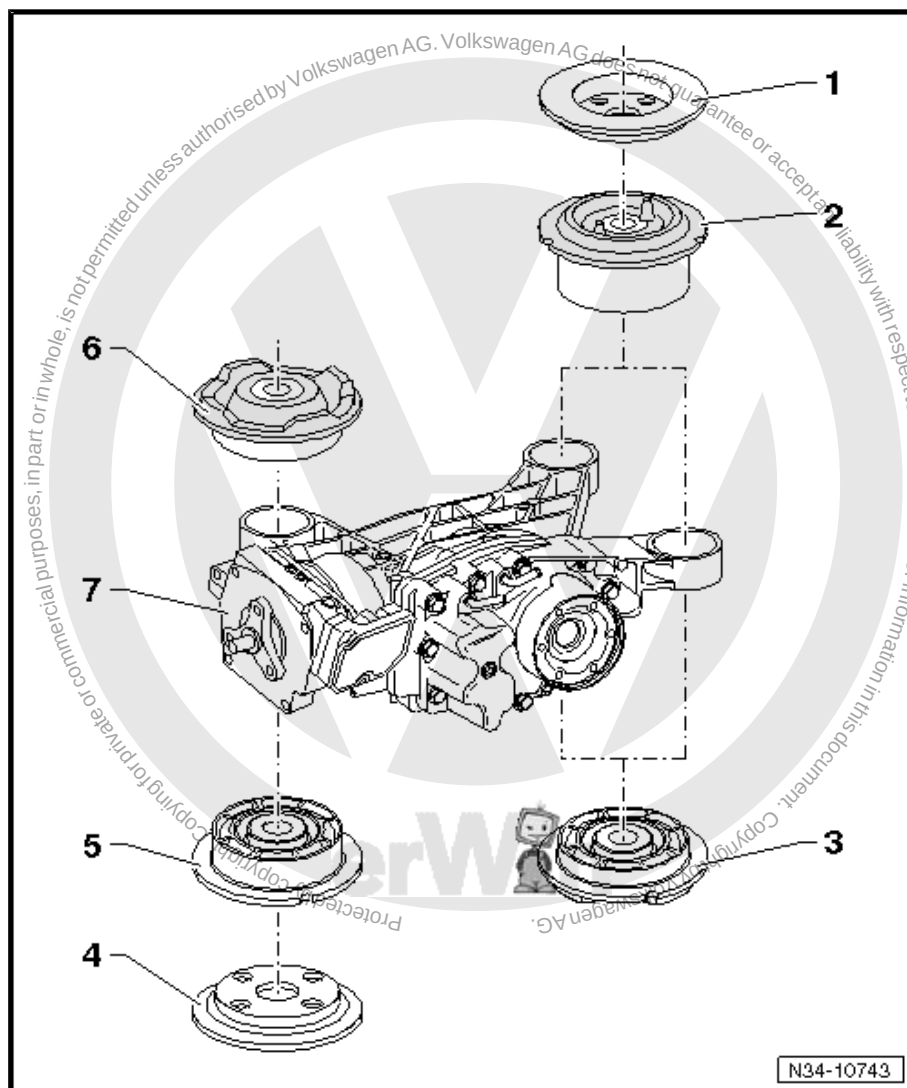
- ☐ Removing ⇒ [page 139](#)
- ☐ Identifying "rear upper" and "front lower" bonded rubber mountings ⇒ [page 139](#)
- ☐ Installation position ⇒ [page 140](#)
- ☐ Installing ⇒ [page 139](#)

6 - "Front upper" bonded rubber mounting

- ☐ Removing ⇒ [page 139](#)
- ☐ Installing ⇒ [page 139](#)

7 - Rear final drive

- ☐ Removing and installing, Golf ⇒ [page 88](#)
- ☐ Removing and installing, Passat ⇒ [page 91](#)

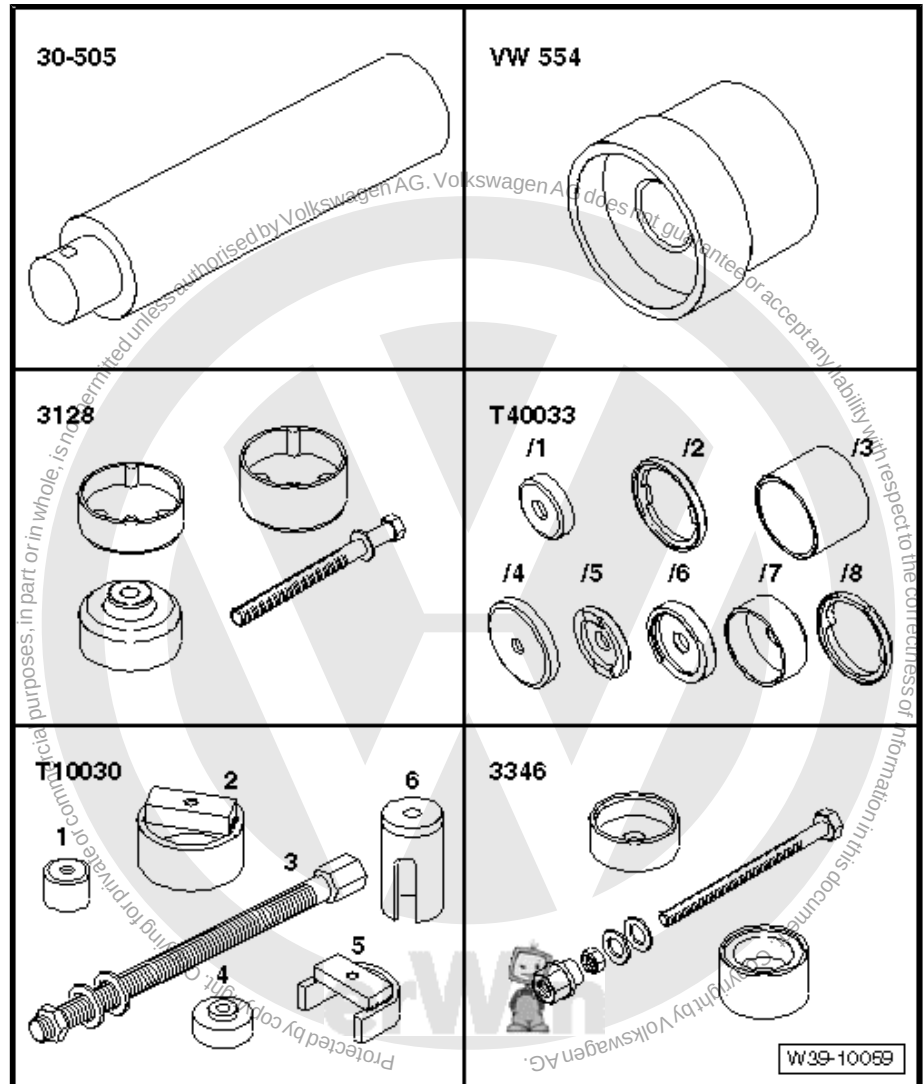




15.7 Removing and installing bonded rubber mounting

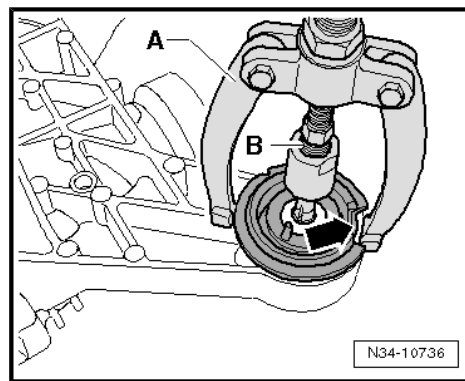
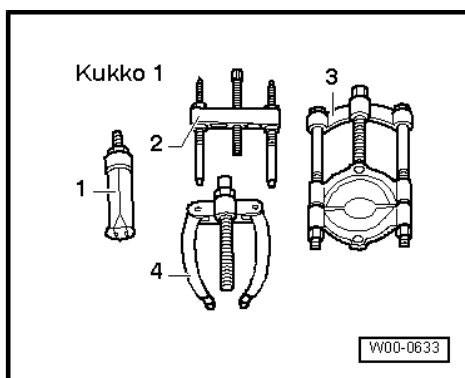
Special tools and workshop equipment required

- ◆ Press tool - 30 - 505-
- ◆ Thrust piece - VW 554-
- ◆ Fitting tool - 3128-
- ◆ Thrust piece - T40033/1-
- ◆ Cross piece - T10030/5-
- ◆ Spindle - 3346/2-
- ◆ Nut - 3346/3-





- ◆ -1- Internal puller -
Kukko 21/1-



- ◆ -4- Counter support -
Kukko 22/1-

Pulling out "rear upper" bonded rubber mounting

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

B - Internal puller, 12 ... 16 mm , e.g. -Kukko 21/1-

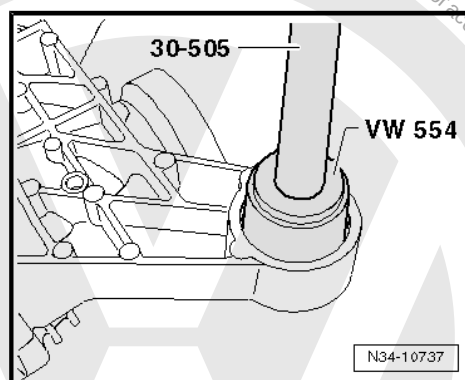
- In order to set counter support in place, break out a piece of collar of bonded rubber mounting -arrow-.
- Set internal puller in parting seam of upper and lower bonded rubber mounting and tighten it.

Driving out "rear lower" bonded rubber mounting



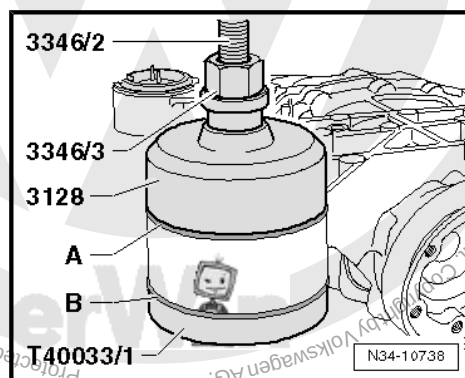
Note

If the bonded rubber mounting is to be renewed separately, it can also be pulled out with counter support , e.g. -Kukko 22/1- and internal puller 12...16 mm , e.g. -Kukko 21/1- => [page 138](#)



Pulling in "rear upper" -A- and "rear lower" -B- bonded rubber mountings

- Place a washer with an »inner diameter of 15 mm« and an »outer diameter of not less than 27 mm« on spindle - 3346/2- before attaching spindle.





Pulling out "front lower" bonded rubber mounting

- To prevent oil escaping from final drive during the following step, seal both breather pipes.

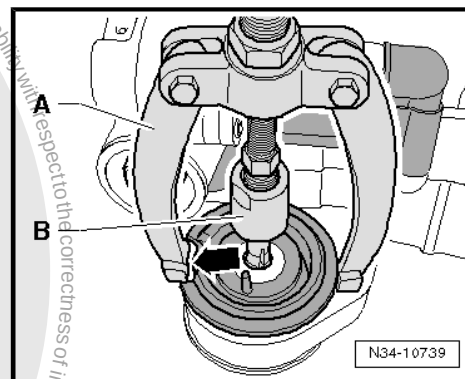
Then lay final drive upside down on workbench and pull out bonded rubber mounting:

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

B - Internal puller, 12 ... 16 mm , e.g. -Kukko 21/1-

- In order to set counter support in place, break out a piece of collar of bonded rubber mounting -arrow-.

Set internal puller in parting seam of upper and lower bonded rubber mounting and tighten it.

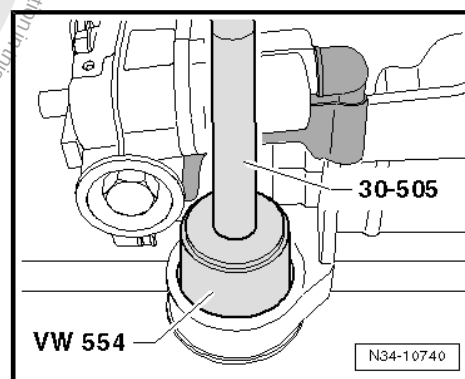


Driving out "front upper" bonded rubber mounting



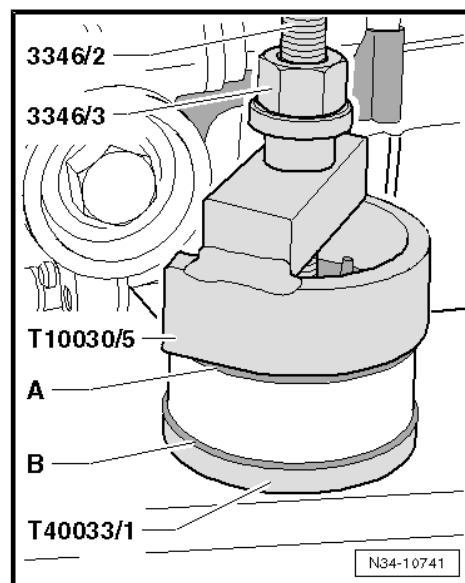
Note

If the bonded rubber mounting is to be renewed separately, it can also be pulled out with counter support , e.g. -Kukko 22/1- and internal puller 12...16 mm , e.g. -Kukko 21/1- . => [page 139](#)



Pulling in "front lower" -A- and "front upper" -B- bonded rubber mountings

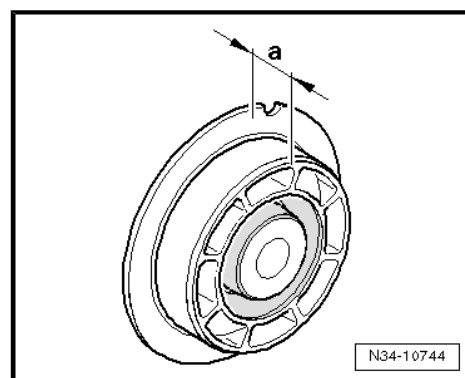
- Place a washer with an »inner diameter of 15 mm« and an »outer diameter of not less than 27 mm« on spindle - 3346/2- before attaching spindle.



Identifying "rear upper" and "front lower" bonded rubber mountings

The "rear upper" and "front lower" bonded rubber mountings differ in height

Dim. "a" mm	Bonded rubber mounting
22	"Rear upper"
17	"Front lower"





Installation position of "rear upper" and "front lower" bonded rubber mountings. Attachment of stop plate -B-

- Final drive in installation position

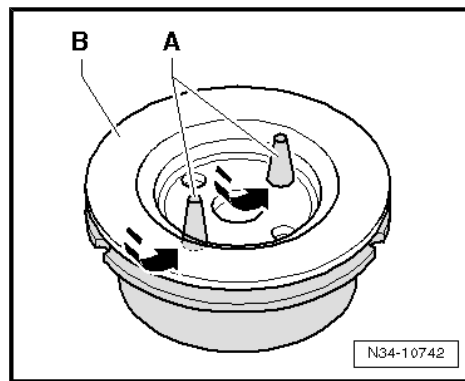
Installation position of "rear upper" and "front lower" bonded rubber mountings:

- ♦ The pins -A- of the "rear upper" bonded rubber mountings
⇒ [Item 2 \(page 136\)](#) face upwards
- ♦ The pin -A- of the "front lower" bonded rubber mounting
⇒ [Item 5 \(page 136\)](#) faces downwards

Attachment of stop plate -B-

- Pull pins -A- into holes of stop plate -arrows-.

The stop plate -B- is then permanently joined to the bonded rubber mounting.

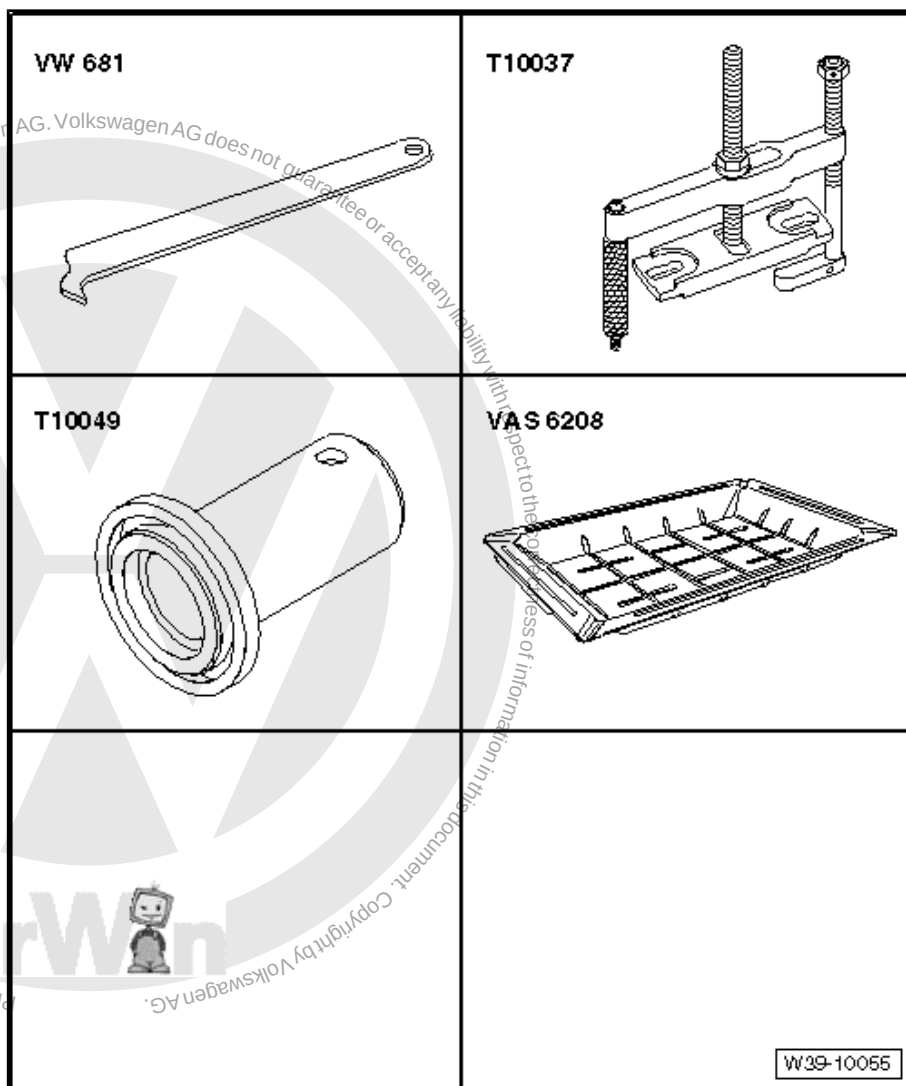




16 Renewing oil seals for flange shafts

Special tools and workshop equipment required

- ◆ extractor lever - VW 681-
- ◆ Plate from extractor - T10037-
- ◆ Thrust piece - T10049-
- ◆ Drip tray for workshop hoist - VAS 6208-
- ◆ Sealing grease - G 052 128 A1-



16.1 Removing flange shaft oil seal

16.1.1 Removing right oil seal

Tiguan:

- Removing rear final drive ⇒ [page 103](#)

All vehicles except for Tiguan:

- Remove right drive shaft ⇒ Running gear, axles, steering;
Rep. gr. 42 ; Assembly overview - drive shaft; Removing and installing drive shaft .

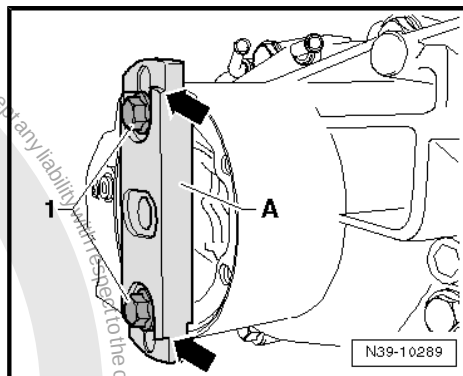


Continued for all vehicles:

Removing flange shaft

- Bolt plate -A- of extractor - T10037- to flange hand-tight using two M8 x 30 bolts -1-

The shoulders -arrows- for greater flange diameters face outwards.

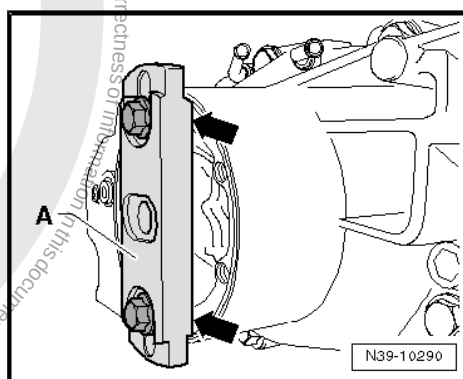


- Tighten bolts alternately one turn each until flange contacts plate -arrows-, but no further!



WARNING

Wear protective gloves and hold flange securely.

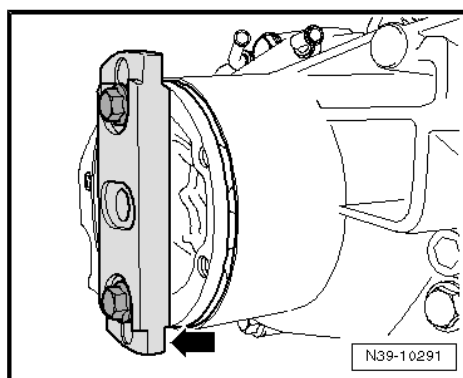


Drive flange out of final drive by striking the plate -arrow- gently.

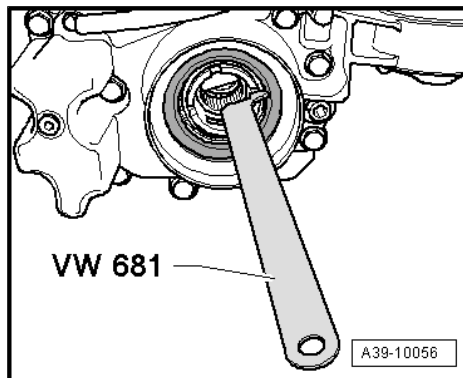


Caution

To avoid damage to the final drive and the tools, use only a plastic-headed mallet.



- Lever out flange shaft oil seal using oil seal extractor - VW 681- .
- Install seal ➔ [page 143](#) .



16.1.2 Removing left oil seal

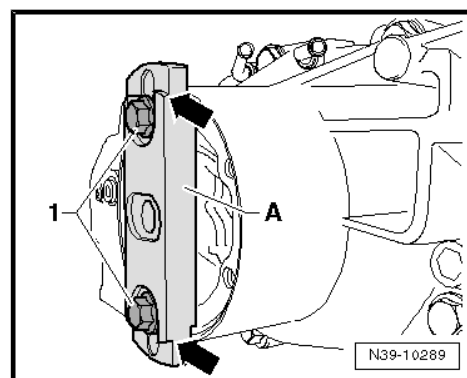
- Remove left drive shaft ➔ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - drive shaft; Removing and installing drive shaft .



Removing flange shaft

- Bolt plate -A- of extractor - T10037- to flange hand-tight using two M8 x 30 bolts -1-

The shoulders -arrows- for greater flange diameters face outwards.

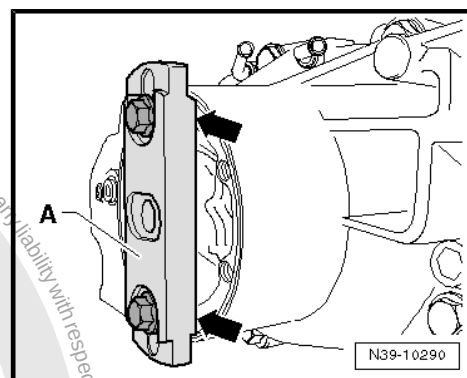


- Tighten bolts alternately one turn each until flange contacts plate -arrows-, but no further!



WARNING

Wear protective gloves and hold flange securely.

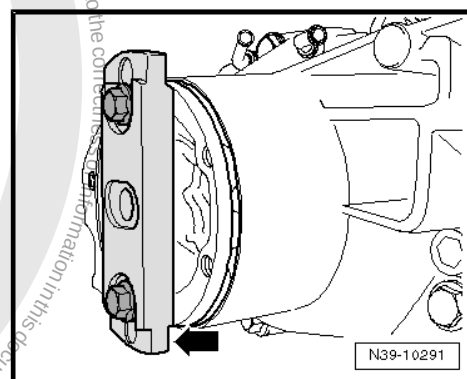


Drive flange out of final drive by striking the plate -arrow- gently.

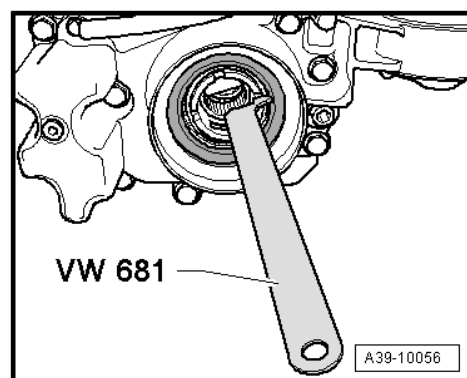


Caution

To avoid damage to the final drive and the tools, use only a plastic-headed mallet.



- Lever out flange shaft oil seal using oil seal extractor - VW 681- .
- Install seal ➔ [page 143](#)



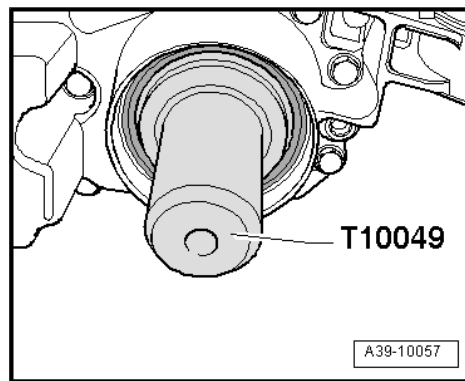
16.2 Installing flange shaft oil seal

The procedure below applies for both the right and the left side.



- Lightly oil new seal around outside circumference and drive in to stop with thrust piece - T10049- , taking care not to cant seal.
- Half-fill space between sealing lip and dust lip with sealing grease - G 052 128 A1- .

Renewing retaining rings



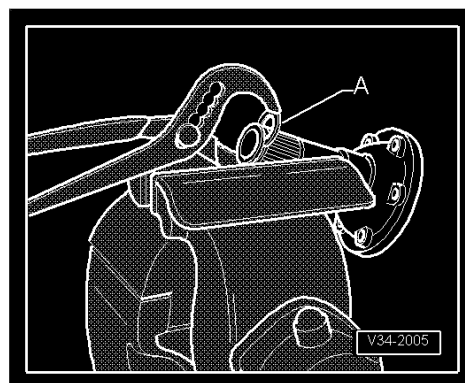
- Clamp flange shaft in vice with protective jaw covers.
- Use new retaining ring -A- to press old retaining ring out of groove in flange shaft.
- Drive in flange shaft using plastic mallet and, if necessary, a drift.

Tiguan:

- If removed beforehand, install rear final drive ➔ [page 108](#) .

Continued for all vehicles:

- Install drive shaft ➔ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - drive shaft; Removing and installing drive shaft .
- Checking gear oil level in rear final drive ➔ [page 222](#) .

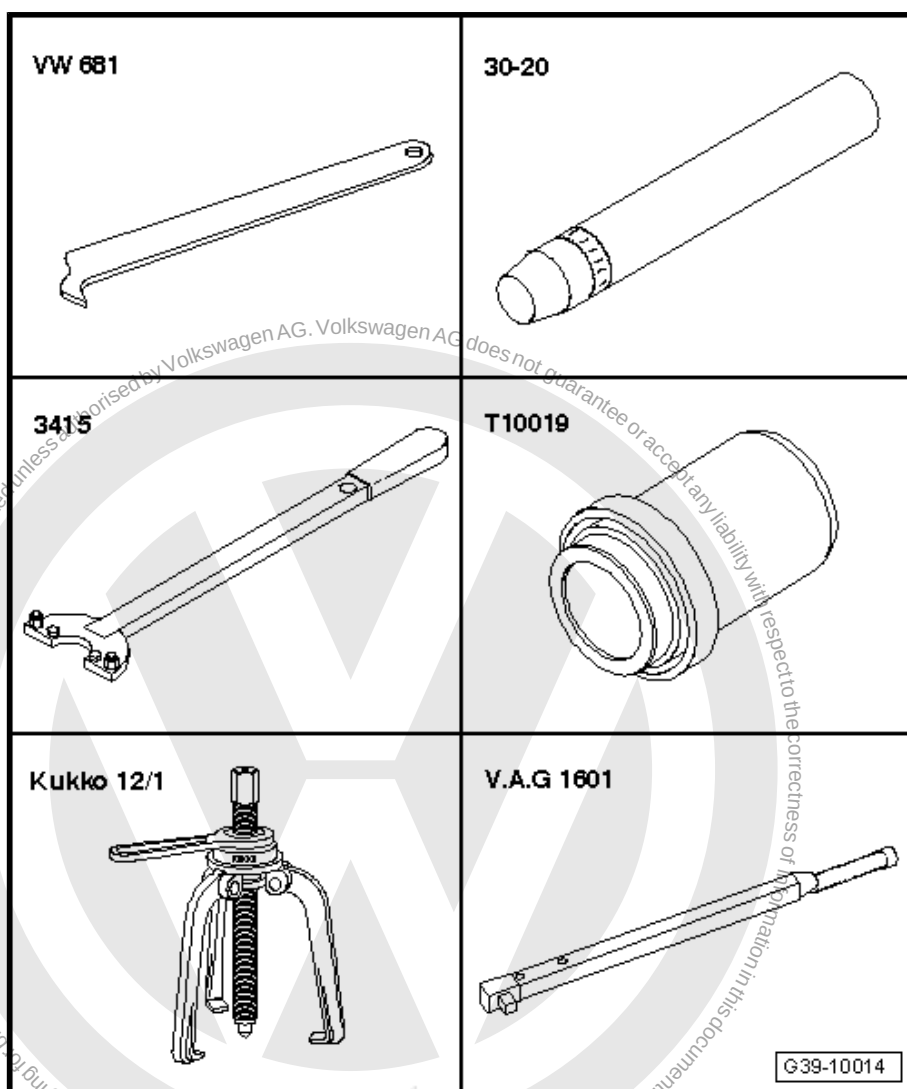




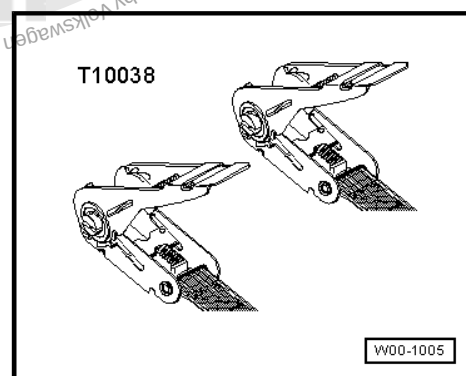
17 Renewing propshaft flange oil seal on rear final drive (final drive installed)

Special tools and workshop equipment required

- ◆ extractor lever - VW 681-
- ◆ Drift sleeve - 30-20-
- ◆ Counterhold - 3415-
- ◆ Thrust piece - T10019-
- ◆ Puller - Kukko 12/1-
- ◆ Torque wrench - V.A.G 1601-

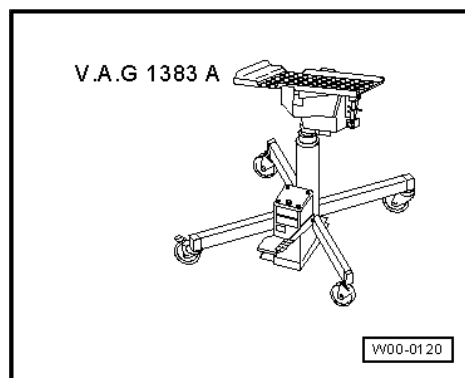


- ◆ Tensioning strap - T10038-





- ♦ Engine and gearbox jack - V.A.G 1383 A- with universal support - V.A.G 1359/2-



- ♦ Locking fluid - D 000 600-
- ♦ Bolt M10 x 25
- ♦ Hexagon socket bolt M8 x 15

17.1 Removing

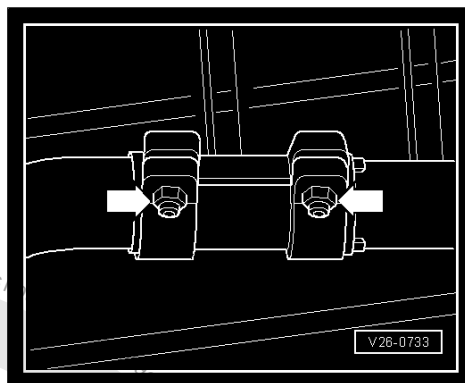
- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .



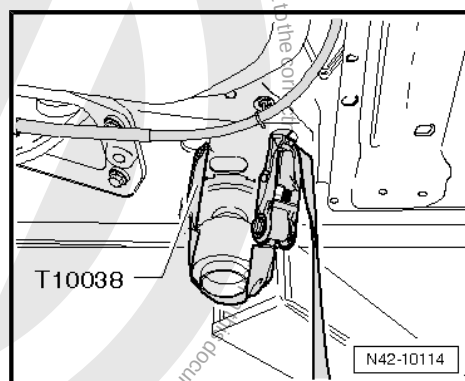
Note

The flexible joint of the exhaust system must not be bent more than 10° - danger of damage.

- Remove rear flexible coupling:
- ♦ Golf ⇒ [page 30](#)
- ♦ Passat ⇒ [page 46](#)
- ♦ Tiguan ⇒ [page 67](#)
- ♦ Sharan ⇒ [page 84](#)
- Secure vehicle with tensioning belts - T10038- to lifting platform.



Example for Golf





Example for Passat

Continuation for all vehicles



WARNING

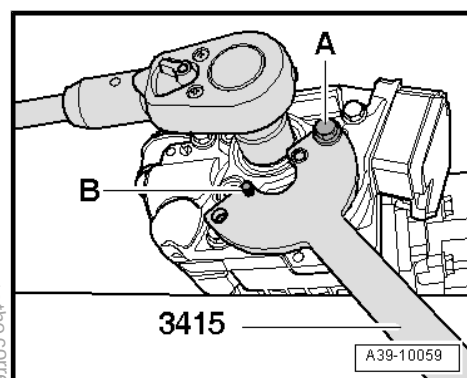
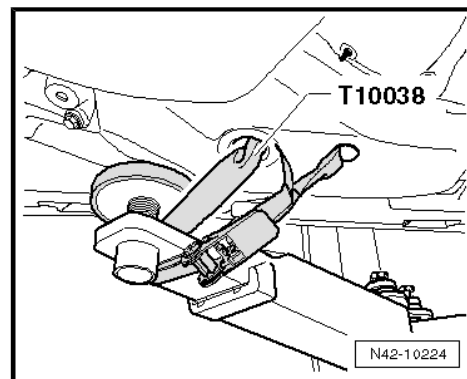
If the vehicle is not strapped down, it may slip off the lifting platform.

- Remove propshaft flange hexagon nut.

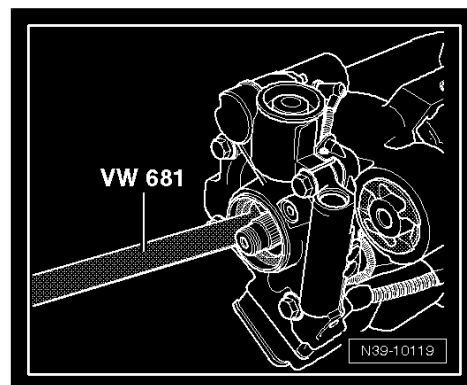
A - Hexagon bolts M10 x 25

B - Hexagon socket bolt M8 x 15 (screwed from back side into counterhold - 3415-).

- Pull off propshaft flange. If it is difficult to move, use puller - Kukko 12/1- .



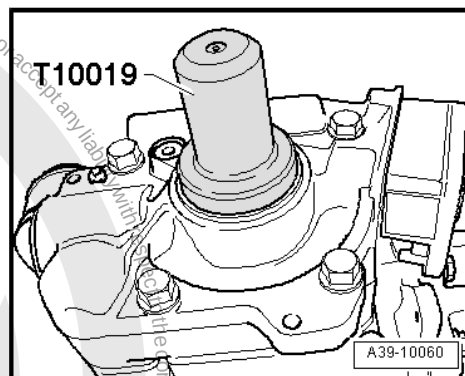
- Pull out seal using oil seal extractor lever - VW 681- .





17.2 Installing

- Lightly oil new seal around outer circumference and between sealing lips with high performance oil for all-wheel drive coupling before installing.
- Drive in new oil seal to stop using thrust piece - T10019- . Do not cant oil seal in the process.
- Drive on propshaft flange using drift sleeve - 30 - 20- .



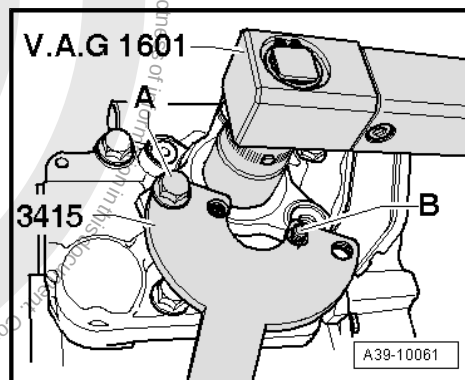
- Insert new hexagon nuts with locking fluid - D 000 600- and tighten to specified torque ⇒ [page 148](#) .

A - Hexagon bolts M10 x 20

B - Hexagon socket bolt M8 x 15 (screwed from back side into counterhold - 3415-).

- Install rear flexible coupling.

- ♦ Golf ⇒ [page 30](#)
- ♦ Passat ⇒ [page 46](#)
- ♦ Tiguan ⇒ [page 67](#)
- ♦ Sharan ⇒ [page 84](#)



- Install exhaust system and align exhaust system free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .

- Check oil level in all-wheel drive coupling ⇒ [page 226](#) .

17.2.1 Torque setting

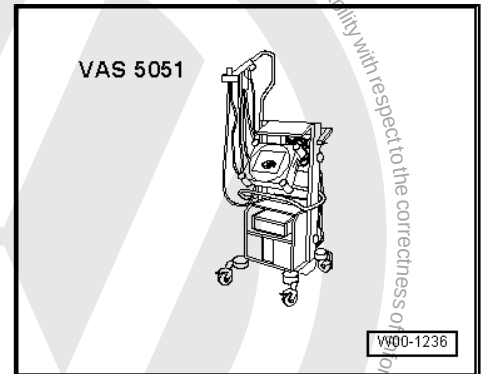
Component	Nm
Propshaft flange to rear final drive	210



18 Checking function of all-wheel drive coupling "generation II"

18.1 Checking function of all-wheel drive coupling - vehicles with manual gearbox

Before performing repairs on the all-wheel drive coupling, determine the cause of the fault as accurately as possible using vehicle diagnosis, testing and information system - VAS 5051- in modes of operation "Guided fault finding", "Vehicle self-diagnosis" and "Test instruments".



18.1.1 Function check for engaged all-wheel drive coupling

Test preconditions

- ◆ Oil level in all-wheel drive coupling OK.
- ◆ Check oil level in all-wheel drive coupling ➤ [page 226](#).
- ◆ Correct engine control unit and ABS control unit installed (check coding and control unit identification numbers):
- Put vehicle on lifting platform.



Caution

For reasons of safety, vehicle must be placed on lifting platform so that wheels have no contact with the ground.

Carry out test with care to avoid damage.

- Depress clutch pedal.
- Start engine.
- Engage 2nd gear.
- Apply handbrake or parking brake and slowly release clutch.

Engine must stall.

- If engine stalls

All-wheel drive coupling is closed and function is OK.

- If engine does not stall

All-wheel drive coupling is disengaged. Possible cause of fault

- ◆ Main pressure regulating valve might be stuck.
- ◆ Mechanical fault in all-wheel drive coupling
- ◆ Four-wheel drive control unit - J492- on rear final drive defective.

18.1.2 Function check for disengaged all-wheel drive coupling

Test preconditions

- ◆ Oil level in all-wheel drive coupling OK.



- ◆ Check oil level in all-wheel drive coupling ⇒ [page 226](#) .
- ◆ Correct engine control unit and ABS control unit installed (check coding and control unit identification numbers).
- Raise vehicle.



Caution

For reasons of safety, vehicle must be placed on lifting platform so that wheels have no contact with the ground.

Carry out test with care to avoid damage.

- Depress clutch pedal.
- Start engine.
- Depress clutch pedal, engage 1st gear and slowly "drive off".

All four wheels must now turn.

- Apply handbrake or parking brake.

Rear wheels must stop and front wheels must continue to turn.

- If rear wheels do not turn

All-wheel drive coupling is open and function is OK.

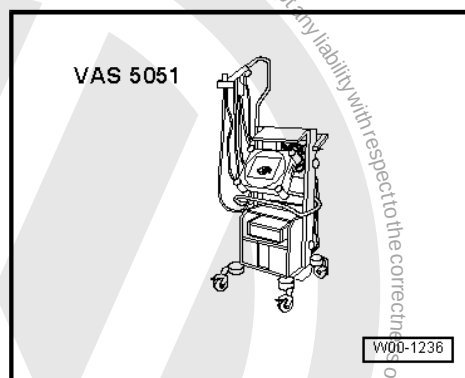
- If rear wheels turn

All-wheel drive coupling is engaged. Possible cause of fault

- ◆ Main pressure regulating valve might be stuck.
- ◆ Mechanical fault in all-wheel drive coupling
- ◆ Four-wheel drive control unit - J492- on rear final drive defective.
- ◆ Handbrake warning switch - F9- defective.
- ◆ Or electromechanical parking brake button - E538- defective.

18.2 Checking function of all-wheel drive coupling - vehicles with dual clutch gearbox

Before performing repairs on the all-wheel drive coupling, determine the cause of the fault as accurately as possible using vehicle diagnosis, testing and information system - VAS 5051- in modes of operation "Guided fault finding", "Vehicle self-diagnosis" and "Test instruments".



18.2.1 Function check for engaged all-wheel drive coupling

Test preconditions

- ◆ Oil level in all-wheel drive coupling OK
- ◆ Check oil level in all-wheel drive coupling ⇒ [page 226](#) .
- ◆ Correct engine control unit and ABS control unit installed (check coding and control unit identification numbers).
- Put vehicle on lifting platform.



Caution

For reasons of safety, vehicle must be placed on lifting platform so that wheels have no contact with the ground.

Carry out test with care to avoid damage.

- Start engine.
- Select driving range D and take foot off brake pedal

All four wheels must now turn.

- Apply handbrake.
- Accelerate slightly.

It must be possible to feel or see the wheels attempt to drive against the handbrake.

- If the wheels attempt to drive against the handbrake:

All-wheel drive coupling is closed and function is OK.

- If no attempt of the wheels to drive against the handbrake is observed:

All-wheel drive coupling is disengaged. Possible cause of fault

- ◆ Main pressure regulating valve might be stuck
- ◆ Mechanical fault in all-wheel drive coupling
- ◆ Four-wheel drive control unit - J492- on rear final drive defective.

18.2.2 Function check for disengaged all-wheel drive coupling

Test preconditions

- ◆ Oil level in all-wheel drive coupling OK
- ◆ Check oil level in all-wheel drive coupling ⇒ [page 226](#) .
- ◆ Correct engine control unit and ABS control unit installed (check coding and control unit identification numbers).
- Put vehicle on lifting platform.



Caution

For reasons of safety, vehicle must be placed on lifting platform so that wheels have no contact with the ground.

Carry out test with care to avoid damage.

- Start engine.
- Select driving range D and accelerate slightly.

All four wheels must now turn.

- Apply handbrake.

Rear wheels must stop and front wheels must continue to turn.

- If rear wheels do not turn

All-wheel drive coupling is open and function is OK

- If rear wheels turn

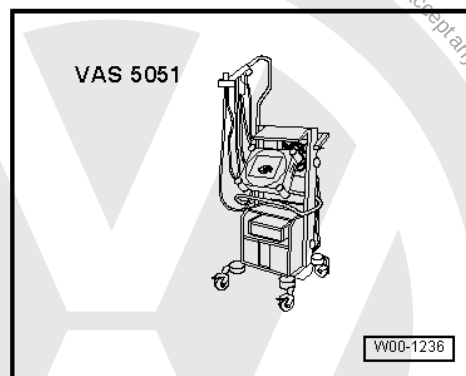


All-wheel drive coupling is engaged. Possible cause of fault

- ◆ Main pressure regulating valve might be stuck
- ◆ Mechanical fault in all-wheel drive coupling
- ◆ Four-wheel drive control unit - J492- on rear final drive defective.
- ◆ Handbrake warning switch - F9- defective.

18.3 Checking function of all-wheel drive coupling - vehicles with automatic gear-box

Before performing repairs on the all-wheel drive coupling, determine the cause of the fault as accurately as possible using vehicle diagnosis, testing and information system - VAS 5051- in modes of operation "Guided fault finding", "Vehicle self-diagnosis" and "Test instruments".

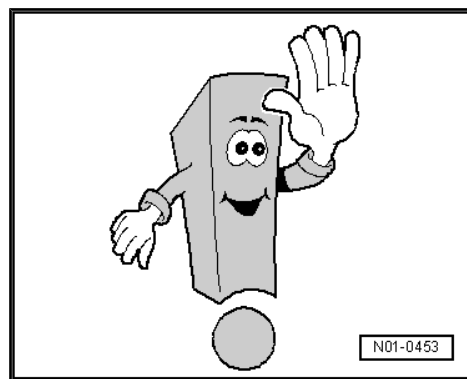


18.3.1 Checking function

- Rolling road available
- Handbrake completely released - handbrake warning light is out
- Switch off rolling road and ensure that rollers turn »freely«.
- Slowly drive front wheels of vehicle onto rolling road.
- Remove foot from brake pedal and slowly »accelerate« slightly.

Even when the engine speed »rises only slightly«, the vehicle must be trying to drive off the rollers. The all-wheel drive coupling is then working properly.

If the engine speed is raised, the vehicle can be pushed out of the rollers. Therefore, take great care.





19 Checking function of all-wheel drive coupling "generation IV"

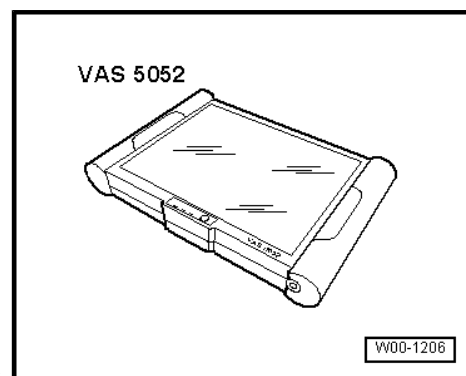


Note

All-wheel drive coupling is checked during a road test using vehicle diagnosis and service information system - VAS 5052- .

Special tools and workshop equipment required

- ◆ Vehicle diagnosis and service information system - VAS 5052-



19.1 Checking function



WARNING

To avoid accident risks, proceed as follows during measuring and test drives:

- ◆ **Vehicle diagnosis, testing and information system - VAS 5051 A- or vehicle diagnosis and service information system - VAS 5052- is used to read measured value blocks. Always secure device on rear seat and have a second person operate it from there.**

- Connect vehicle diagnosis and service information system - VAS 5052-
- In the display, select "Running gear (repair group 01; 40 ... 49)".
- Select "All-wheel drive with all-wheel drive coupling (4th generation)" on display.
- Select "01 - Self-diagnosis-capable system" on display.
- Select "Functions" on display.
- Select "final control diagnosis" on display.
- Follow directions on tester.





20 Electrical and electronic components and their locations

Golf 2004 ► ⇒ [page 154](#)

Passat 2006 ► ⇒ [page 155](#)

Tiguan 2008 ► , Passat CC, CC 2010 ► and Golf 2009 ► , Sharan 2011 ► , Generation IV ⇒ [page 157](#)

Tiguan 2008 ► , Sharan 2011 ► , Generation V ⇒ [page 159](#)

20.1 Electrical and electronic components and their locations, Golf 2004 ►

1 - All-wheel drive control unit - J492-

- ❑ Location ⇒ [page 155](#)
- ❑ Together with coupling opening control valve - N373- , comprises one unit.
- ❑ Pressure sensor is also located in control unit.
- ❑ Removing and installing ⇒ [page 161](#)
- ❑ Control unit for four-wheel drive receives important signals from engine control unit and control unit for ABS with EDL - J104- via data bus.

2 - All-wheel drive coupling pump - V181-

- ❑ Location ⇒ [page 155](#)
- ❑ Can be checked in "guided fault finding" of vehicle diagnosis, testing and information system - VAS 5051- .
- ❑ Removing and installing ⇒ [page 165](#)

3 - Diagnostic connection

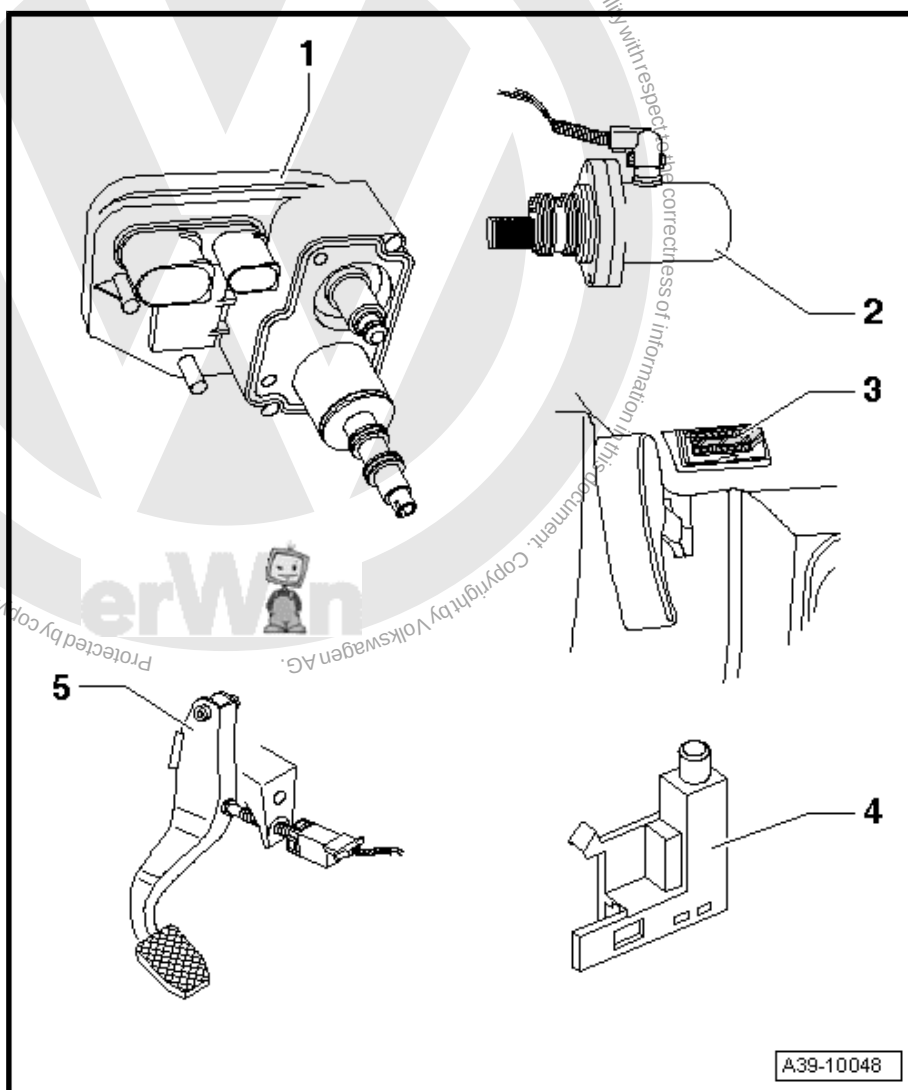
- ❑ Fitting location: front driver side footwell next to bonnet release.

4 - Handbrake warning switch - F9-

- ❑ Location ⇒ [page 155](#)
- ❑ Can be checked in "guided fault finding" of vehicle diagnosis, testing and information system - VAS 5051- .
- ❑ Removing and installing ⇒ Rep. gr. 46

5 - Brake light switch - F-

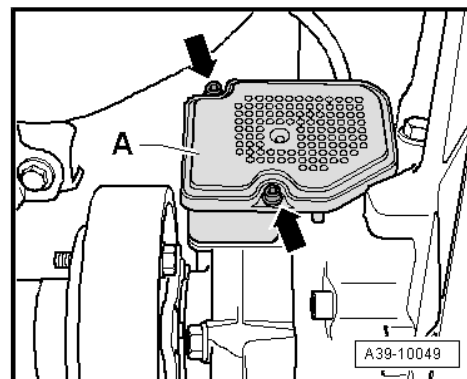
- ❑ Location ⇒ [page 155](#)
- ❑ Can be checked in "guided fault finding" of vehicle diagnosis, testing and information system - VAS 5051- .
- ❑ Removing and installing ⇒ Rep. gr. 46





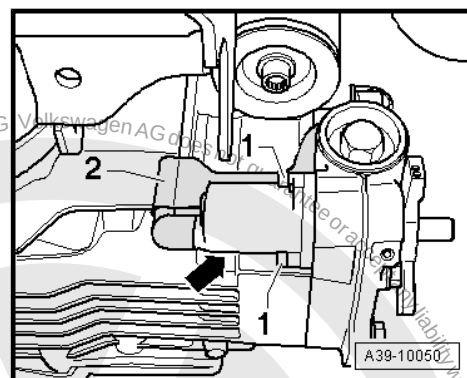
All-wheel drive control unit - J492-

Location: the control unit -A- is located on front left side of the rear final drive.



All-wheel drive coupling pump - V181-

Location: All-wheel drive coupling pump -arrow- is located on front right-hand side of rear final drive.

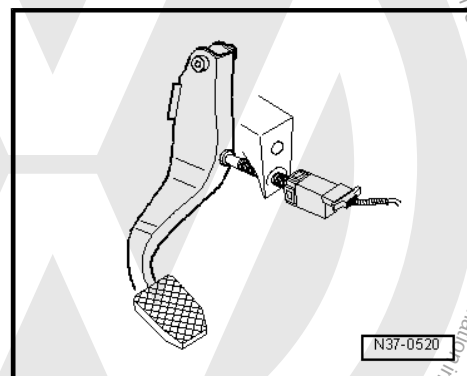


Brake light switch - F-

Fitting location: Brake light switch -F- is located on pedal cluster above brake pedal.

Removing:

⇒ Rep. gr. 46

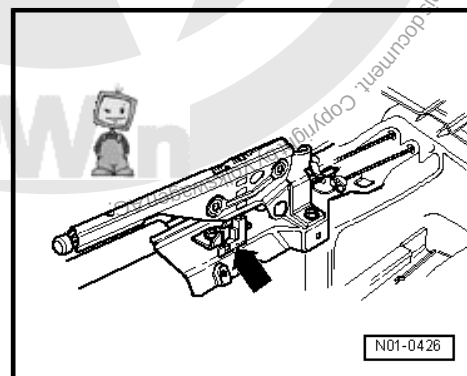


Handbrake warning switch - F9-

Location: switch -arrow- is located on hand brake lever.

Removing:

⇒ Rep. gr. 46



20.2 Electrical and electronic components and their locations, Passat 2006 ►



1 - All-wheel drive control unit - J492-

- ❑ Location ⇒ [page 156](#)
- ❑ Together with coupling opening control valve N373-, comprises one unit.
- ❑ Pressure sensor is also located in control unit.
- ❑ Removing and installing ⇒ [page 161](#)
- ❑ Control unit for four-wheel drive receives important signals from engine control unit and control unit for ABS with EDL - J104- via data bus.

2 - All-wheel drive coupling pump - V181-

- ❑ Location ⇒ [page 157](#)
- ❑ Can be checked in "guided fault finding" of vehicle diagnosis, testing and information system - VAS 5051-.
- ❑ Removing and installing ⇒ [page 165](#)

3 - Diagnostic connection

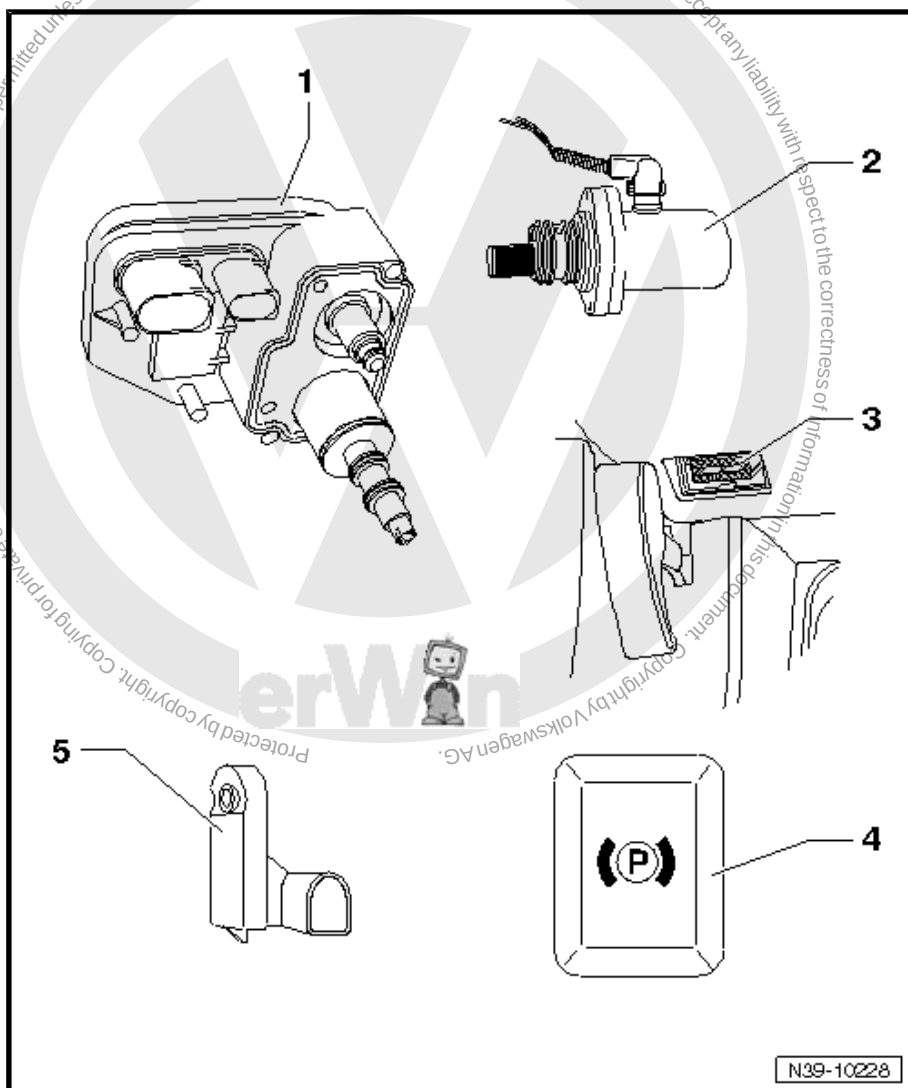
- ❑ Location: in footwell, front left

4 - Electromechanical parking brake button - E538-

- ❑ With electromechanical parking brake warning lamp - K213-
- ❑ Location: in dash panel next to light switch

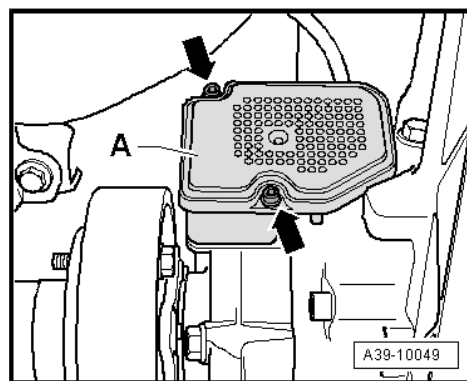
5 - Brake light switch - F-

- ❑ Location ⇒ [page 157](#)
- ❑ Can be checked in "guided fault finding" of vehicle diagnosis, testing and information system - VAS 5051-.
- ❑ Removing and installing ⇒ Rep. gr. 46



All-wheel drive control unit - J492-

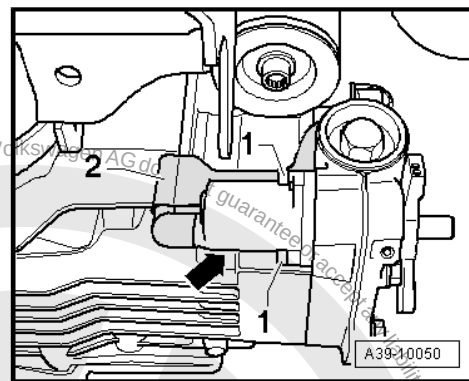
Location: the control unit -A- is located on front left side of the rear final drive.





All-wheel drive coupling pump - V181-

Location: All-wheel drive coupling pump -arrow- is located on front right-hand side of rear final drive.

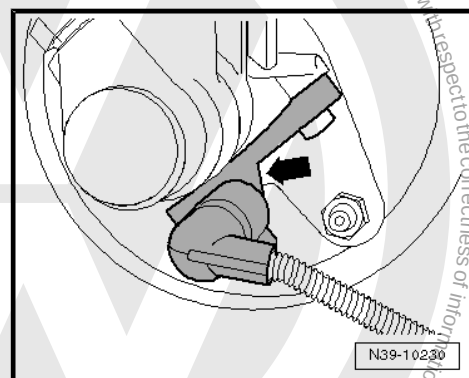


Brake light switch - F-

Location: brake light switch - F- -arrow- is located on brake slave cylinder.

Removing:

⇒ Rep. gr. 46



20.3 Electrical and electronic components and their fitting locations, Tiguan 2008 ►, Passat CC, CC 2010 ►, Sharan 2011 ► und Golf 2009 ►, Generation IV



**1 - All-wheel drive control unit
- J492-**

- ❑ Control unit for four-wheel drive receives important signals from engine control unit and control unit for ABS with EDL - J104- via data bus.

2 - Coupling opening control valve - N373-

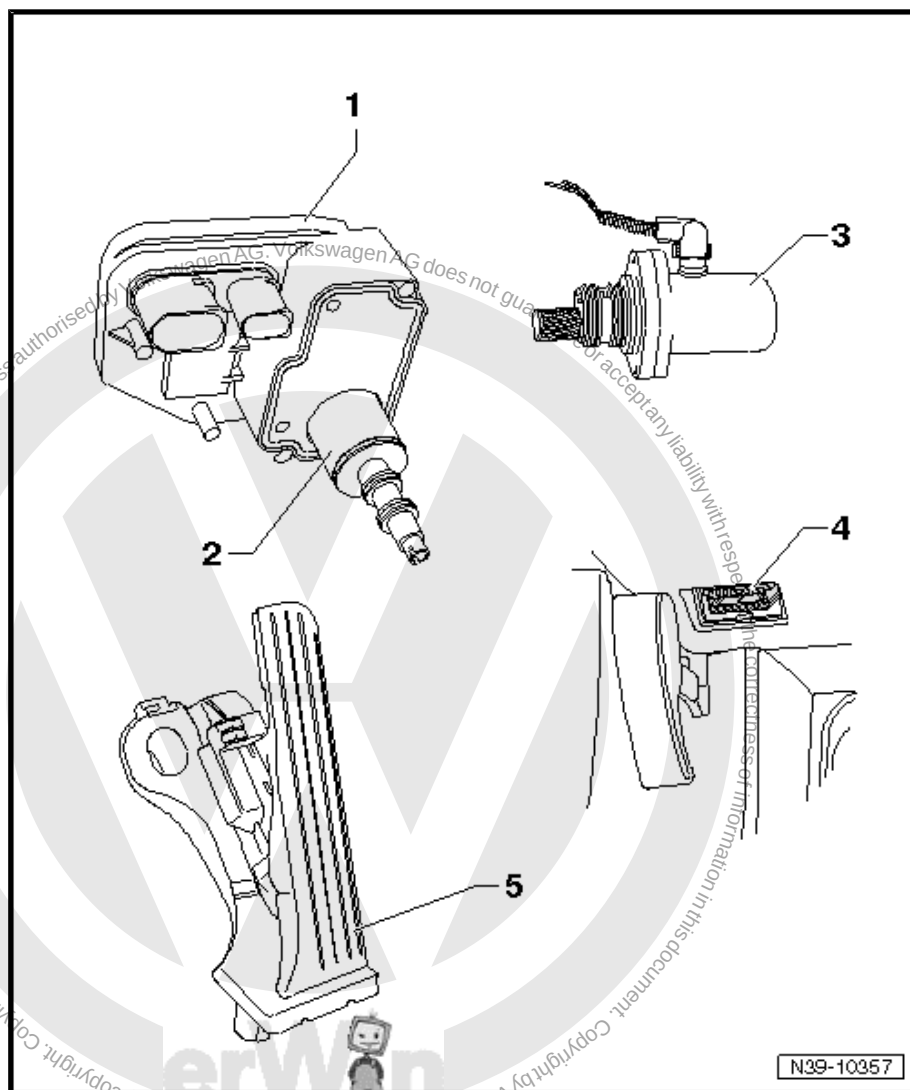
3 - All-wheel drive coupling pump - V181-

- ❑ Can be checked in "guided fault finding" of vehicle diagnosis, testing and information system - VAS 5051- .

4 - Diagnostic connection

- ❑ Location: in footwell, front left

**5 - Accelerator position sender
- G79-**





20.4 Electrical and electronic components and their fitting locations, Tiguan 2008 ➤, Sharan 2011 ➤, Generation V

1 - Four-wheel drive control unit - J492-

- ❑ All-wheel drive control unit receives important signals from engine control unit and control unit for ABS with EDL - J104- via data bus.
- ❑ Removing and installing
⇒ [page 221](#)

2 - All-wheel drive coupling pump - V181-

- ❑ Can be checked using "guided fault finding" of vehicle diagnosis, testing and information system - VAS 5051- .
- ❑ Removing and installing
⇒ [page 203](#)

3 - Diagnostic connection

- ❑ Location: in footwell, front left

4 - Accelerator position sender - G79- and accelerator position sender 2 - G185-

- ❑ Removing and installing
⇒ Rep. gr. 20 ; Accelerator mechanism; Assembly overview - accelerator pedal module



21 Assembly overview - all-wheel drive control unit - J492- , Golf 2004 ► and Passat 2006 ►

1 - All-wheel drive control unit - J492-

- ☐ Calibrated with coupling opening control valve - N373-
⇒ [Item 4 \(page 160\)](#) .
- ☐ Always renew together with valve
⇒ [Item 4 \(page 160\)](#) .
- ☐ Removing ⇒ [page 161](#)

2 - Bolt, 6 Nm

3 - Cover

- ☐ With vulcanised seal
- ☐ Always renew

4 - Coupling opening control valve - N373-

- ☐ Calibrated with all-wheel drive control unit - J492-
- ☐ Always renew together with control unit
⇒ [Item 1 \(page 160\)](#) .

5 - Seal

- ☐ »Modified« version with diagonally located centring lips
- ☐ Renew seal
⇒ [Item 6 \(page 160\)](#)
- ☐ Observe proper seating of centring lips in the groove
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

6 - Seal

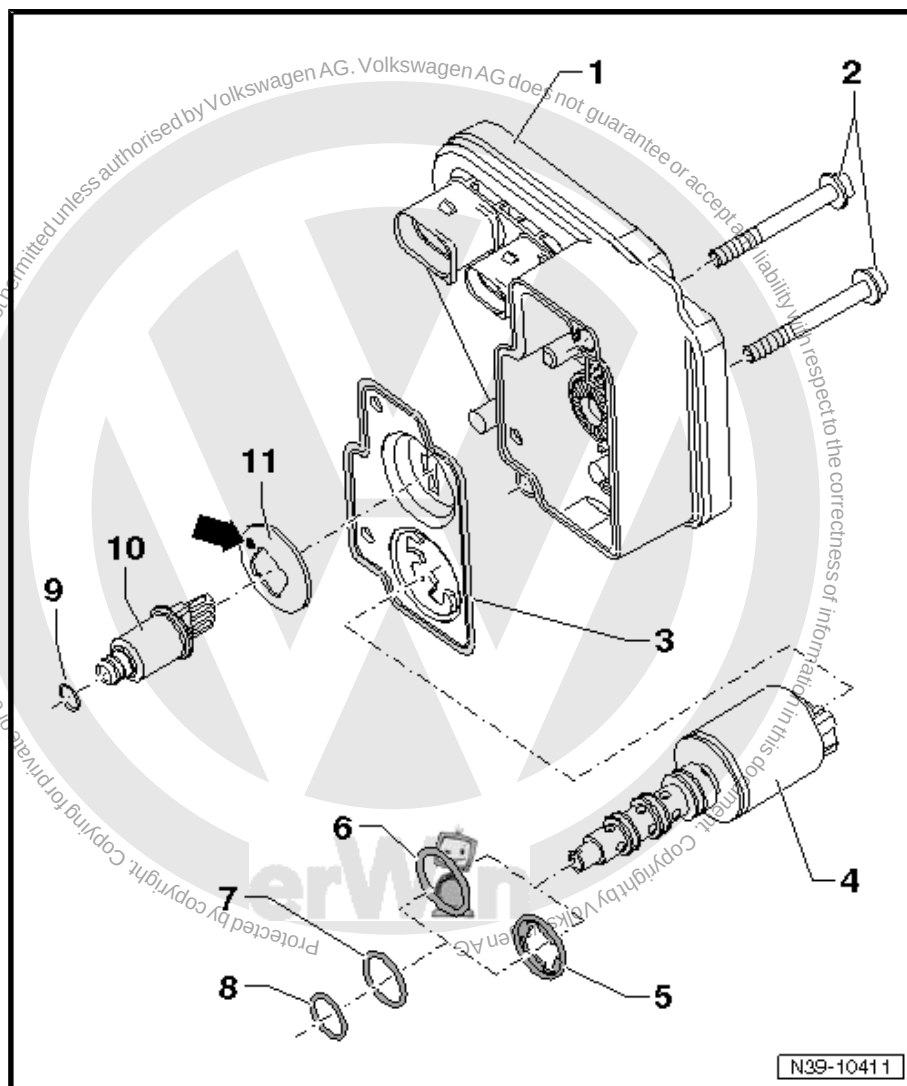
- ☐ »Old« version
- ☐ The »modified« version is included in the seal set ⇒ [Item 5 \(page 160\)](#)

7 - Seal

- ☐ Diameter 12 mm.
- ☐ For coupling opening control valve - N373- .
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

8 - Seal

- ☐ Diameter 11 mm.
- ☐ For coupling opening control valve - N373- .
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew





9 - Seal

- ☐ With oil pressure and oil temperature sender - G437-
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

10 - Oil pressure and oil temperature sender - G437-

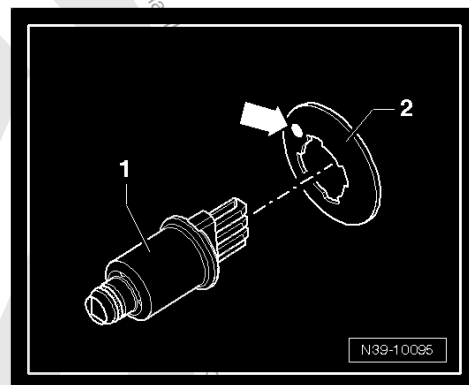
- ☐ Can be reused when control unit is renewed

11 - Dished washer

- ☐ Installation position ⇒ [page 161](#)

Installation position of dished washer

Convex side with marking -arrow- faces pressure sensor -1-.

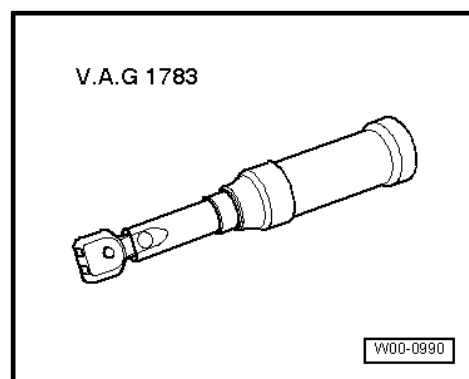


21.1 Removing and installing all-wheel drive control unit - J492-

21.1.1 Removing all-wheel drive control unit - J492-

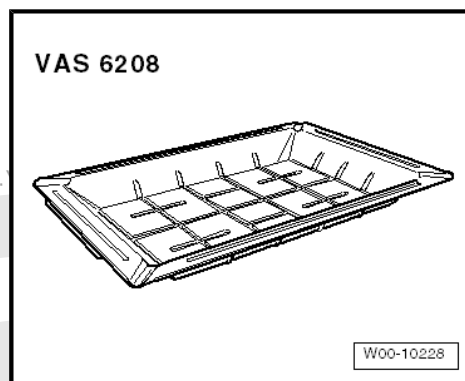
Special tools and workshop equipment required

- ◆ Torque wrench 2...10 Nm - V.A.G 1783-

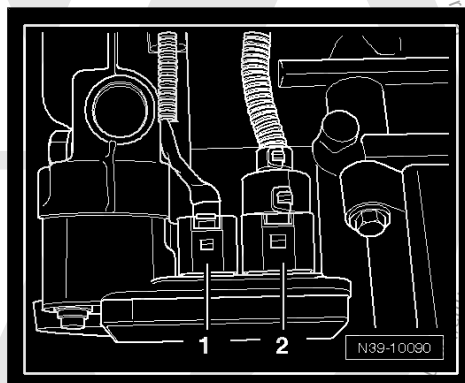




◆ Drip tray for workshop hoist - VAS 6208-



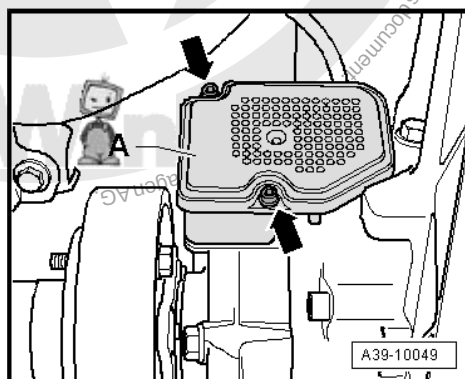
- Switch off ignition.
- Separate connectors -1- and -2- of control unit on top.
- Place drip tray under final drive.



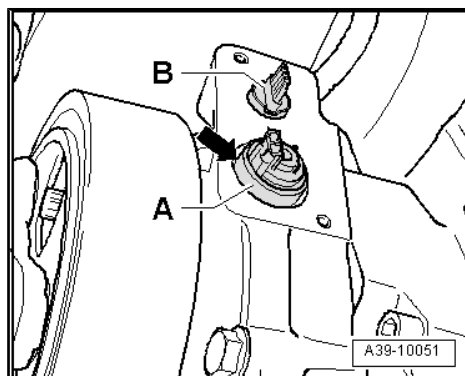
- Remove bolts -arrows-.

Ensure that no parts fall when removing control unit.

- Carefully remove control unit -A-.

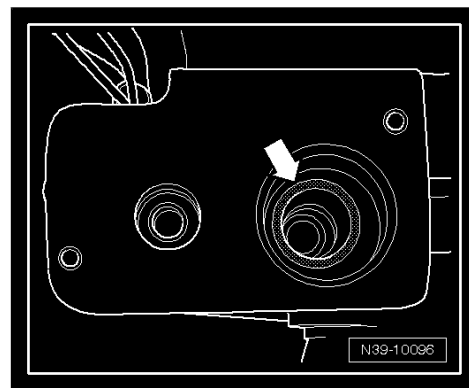


- Carefully grasp coupling opening control valve - N373- -A- on metal housing -arrow- using pliers and pull out.
- Pull out pressure sensor -B-.





- Remove oil seal -arrow- from housing.



21.1.2 Installing

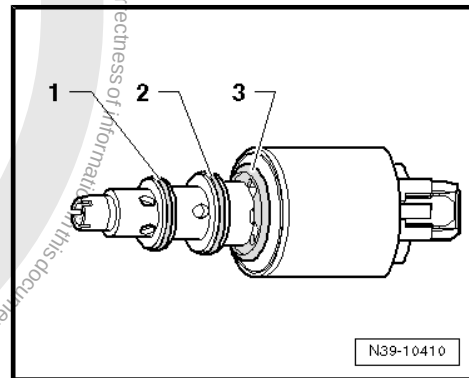
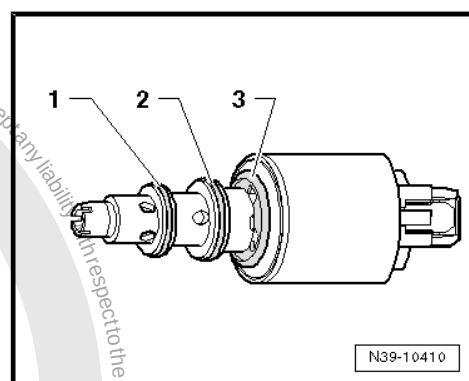
Install in the reverse order of removal, observing the following:



Note

Valve seals have different inner diameters.

- ◆ -1- Inner diameter 11 mm
 - ◆ -2- Inner diameter 12 mm
 - ◆ -3- Seal on valve body
- First moisten seal -1- with all-wheel drive coupling oil and place on coupling opening control valve - N373- .
 - Then seals -2- and -3-.
 - Press centring lips (Qty. 4) of seal -3- into groove.



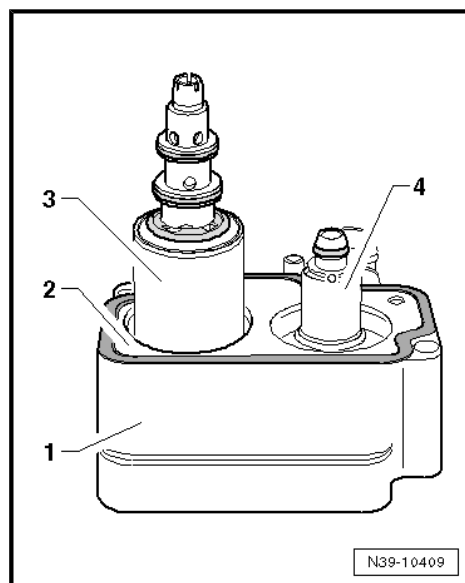


- Set new cover -2- on control unit -1-.



Note

The cover fits in only one position.

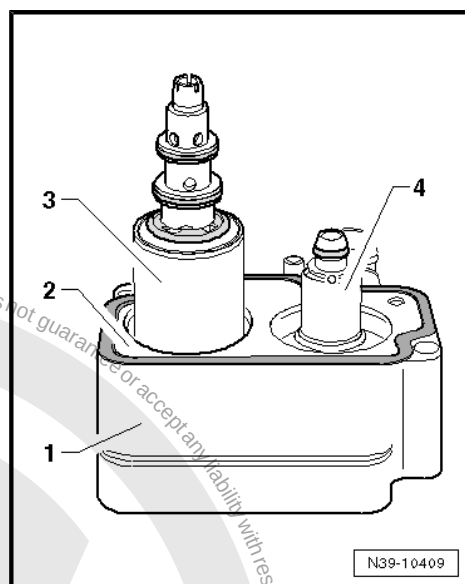


- Insert coupling opening control valve - N373-3- into control unit -1-.



Note

The valve fits only in one position.

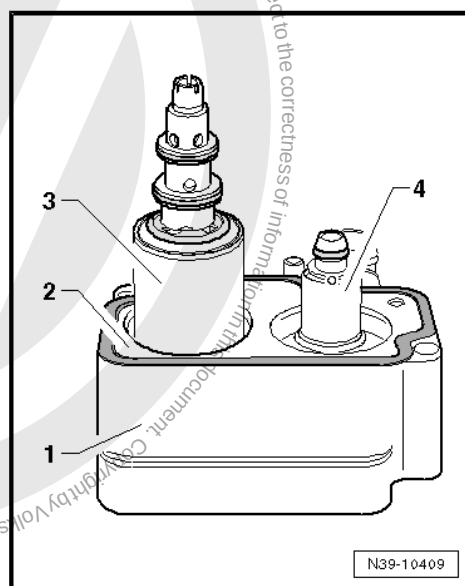


- Insert oil pressure and oil temperature sender - G437-4- into control unit -1-.



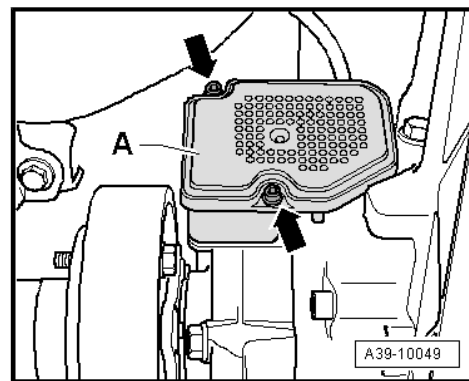
Note

The sender fits in only one position.





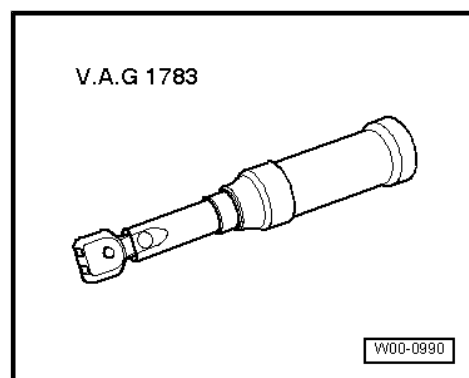
- Carefully set control unit -A- in place and tighten bolts -arrows- to specified torque ⇒ [Item 2 \(page 160\)](#) .
- Check oil level in all-wheel drive coupling ⇒ [page 226](#) .



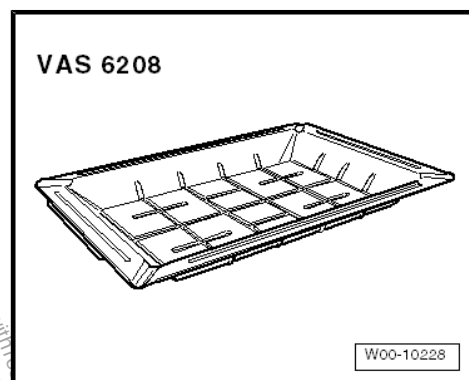
21.2 Removing and installing all-wheel drive coupling pump - V181-

Special tools and workshop equipment required

- ◆ Torque wrench 2...10 Nm - V.A.G 1783-



- ◆ Drip tray for workshop hoist - VAS 6208-

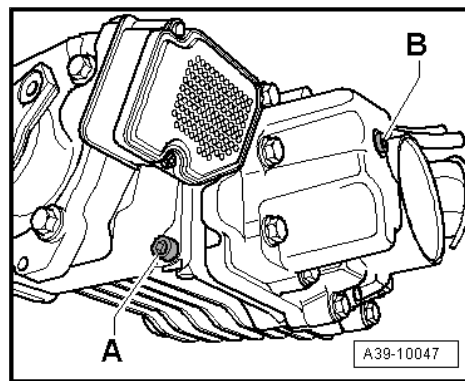


21.2.1 Removing

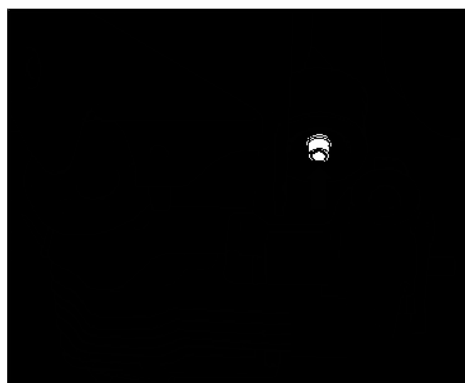
- Switch off ignition.
- Place drip tray underneath.



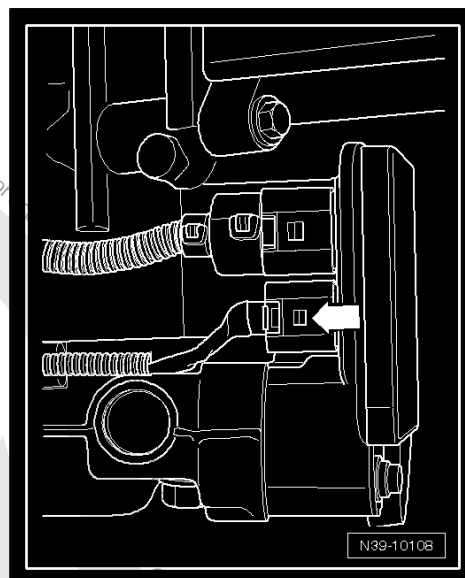
- Unscrew drain plug -A- and drain high performance fluid for all-wheel drive coupling completely.
- Install drain plug -A- with new seal and tighten to 30 Nm.



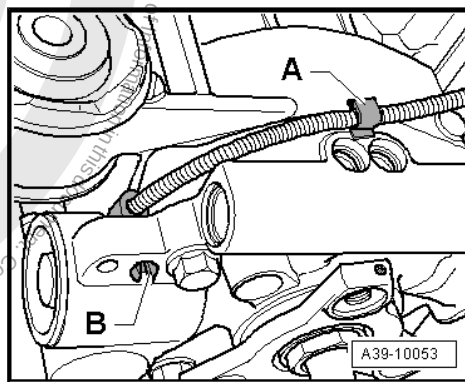
- Lower final drive slightly. This requires loosening securing bolt -arrow- on front mounting bracket for final drive about 7 turns.



- Pull connector -arrow- for pump off control unit.

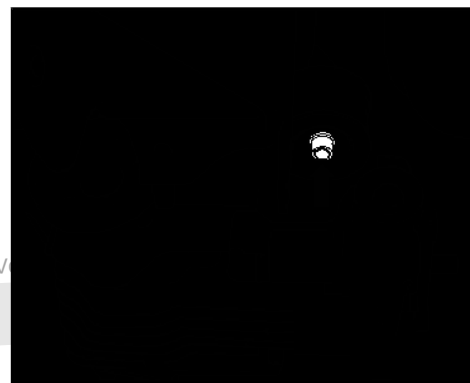


- Pull wiring harness together with retainer -A- off housing and lay away from housing.
- Press locking lugs -B- together and push as far as possible into drilling in housing.

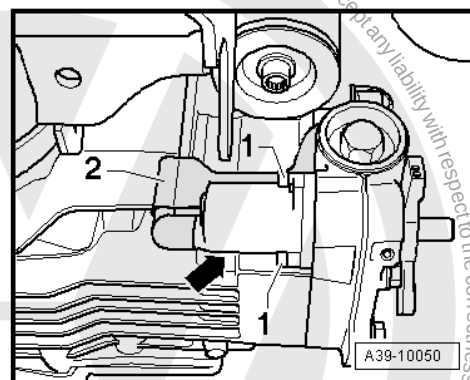




- Retighten securing bolt -arrow-.
- Place drip tray under final drive.



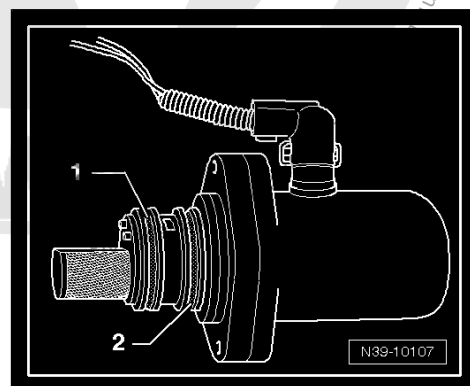
- Remove securing bolts for pump -1-.
- Pull pump -arrow- together with wiring protection -2- out of housing.



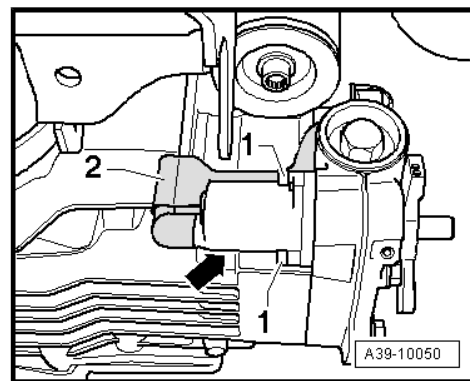
21.2.2 Installing

Install in the reverse order of removal, observing the following:

- Renew O-rings -1- and -2-.
- Lightly coat O-rings -1- and -2- with high performance fluid for all-wheel drive coupling .

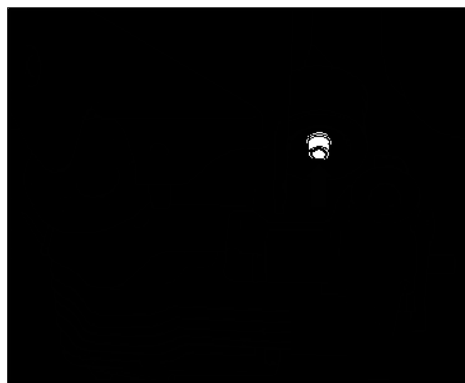


- Push in pump -arrow- to stop. Ensure that wiring protection is properly routed -2-.
- Tighten bolts -1- to specified torque ⇒ [page 168](#) .

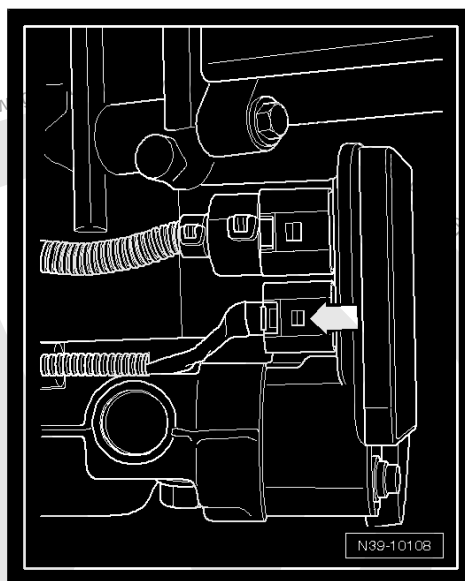




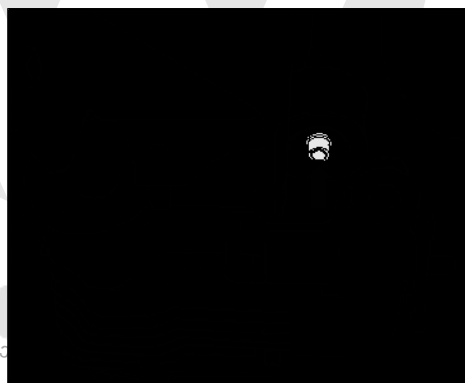
- Remove securing bolt -arrow- from front mounting bracket.



- Clip wiring harness to top of all-wheel drive coupling and join connector -arrow- to control unit.



- Secure rear final drive to subframe with a new bolt -arrow- ⇒ Running gear, axles, steering; Rep. gr. 42 ; Assembly overview - subframe, final drive .
- Replenish all-wheel drive coupling with high performance fluid for all-wheel drive coupling and check fluid level
⇒ [page 226](#) .



21.2.3 Torque setting

Component	Nm
Pump to all-wheel drive coupling	6



22 Assembly overview - all-wheel drive control unit - J492- , Passat CC, CC 2010 ► und Golf 2009 ►

The all-wheel drive coupling is the result of further development. Starting with the Tiguan 2008 ►, a new all-wheel drive coupling (generation "IV") is being used. It is also installed in the Passat CC, CC 2010 ►, Sharan 2011 ► and in the Golf 2009 ►.

Information can be found in:

- ◆ ⇒ Self-study programme No. 414 ; 4Motion with Four-Wheel-Coupling Generation IV

1 - All-wheel drive control unit - J492-

- ☐ Calibrated with coupling opening control valve - N373- .
- ☐ Always renew together with valve
- ☐ Removing and installing ⇒ [page 170](#)

2 - Bolt, 6 Nm

3 - Cover

- ☐ With vulcanised seal.
- ☐ Remains on control unit or housing of all-wheel drive coupling when control unit is removed
- ☐ Always renew

4 - Coupling opening control valve - N373-

- ☐ Calibrated with all-wheel drive control unit J492-
- ☐ Always renew together with control unit
- ☐ Removing and installing ⇒ [page 170](#)

5 - Seal

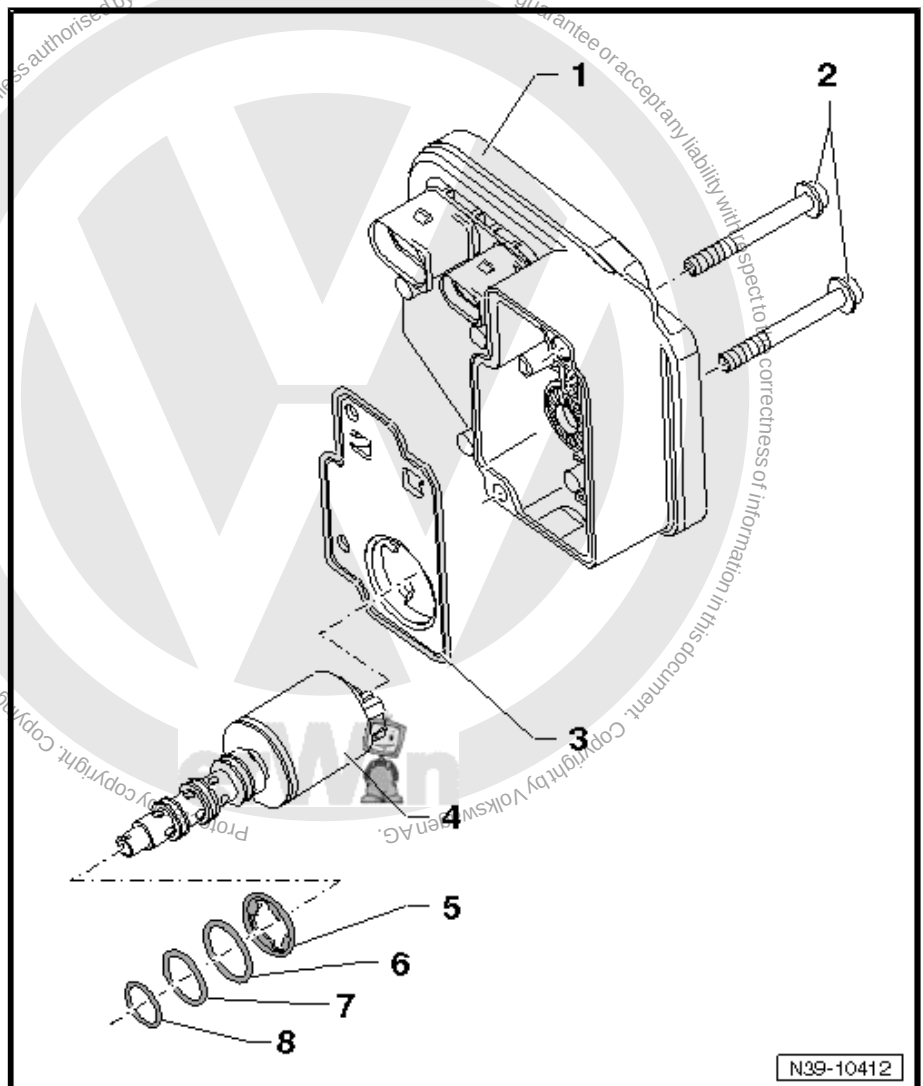
- ☐ Observe proper seating of centring lips in the groove
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

6 - Seal

- ☐ Diameter 12 mm
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

7 - Seal

- ☐ Diameter 11 mm
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.



N39-10412



- ☐ Always renew

8 - Seal

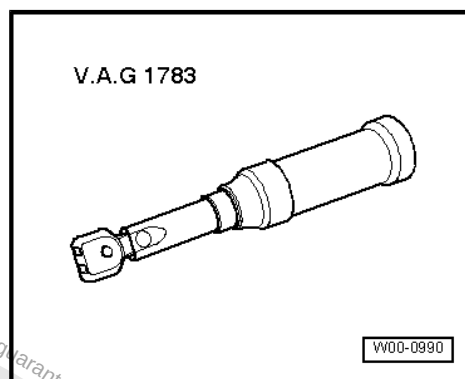
- ☐ Diameter 10 mm
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

22.1 Removing and installing all-wheel drive control unit - J492-

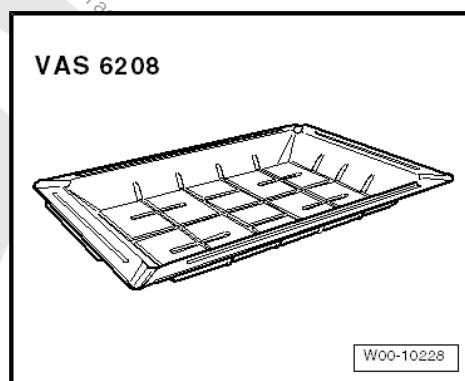
22.1.1 Removing all-wheel drive control unit - J492-

Special tools and workshop equipment required

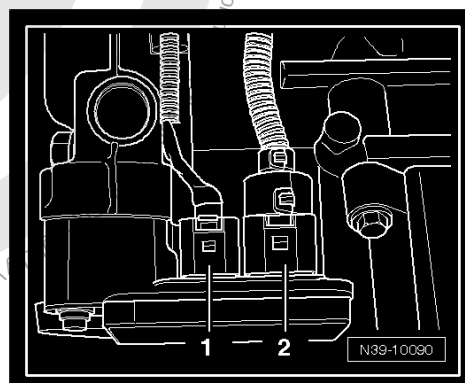
- ◆ Hexagon key 4 mm
- ◆ Torque wrench 2...10 Nm - V.A.G 1783-



- ◆ Drip tray for workshop hoist - VAS 6208-

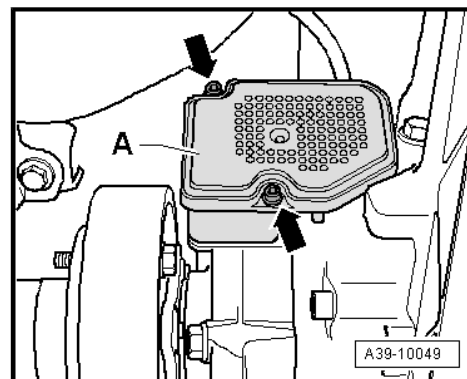


- Switch off ignition.
- Separate connectors -1- and -2- on top of control unit.
- Place drip tray under final drive.

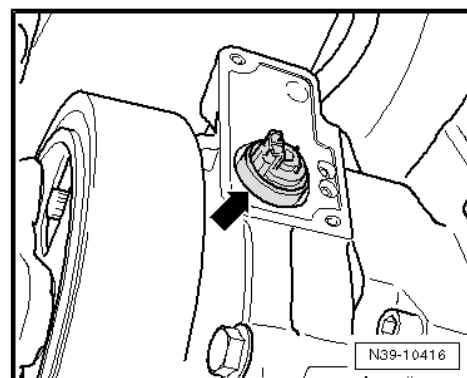




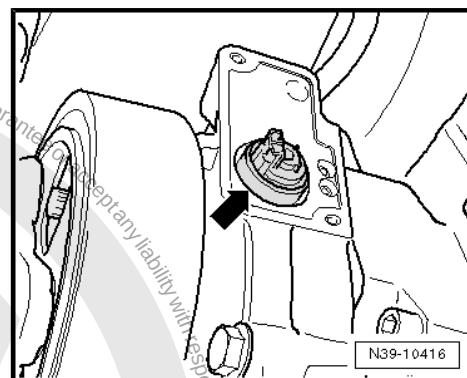
- Remove bolts -arrows-.
- Carefully remove control unit -A-.



- If necessary, remove cover ⇒ [Item 3 \(page 169\)](#) from all-wheel drive coupling housing, holding valve -arrow- securely.



- Cover coupling opening control valve - N373- -arrow- with a cloth, grasp valve body with pliers and pull it out.



22.1.2 Installing

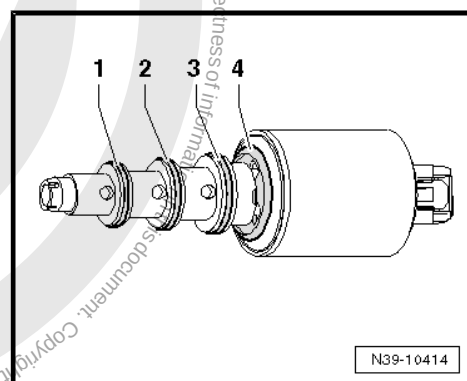
Install in the reverse order of removal, observing the following:



Note

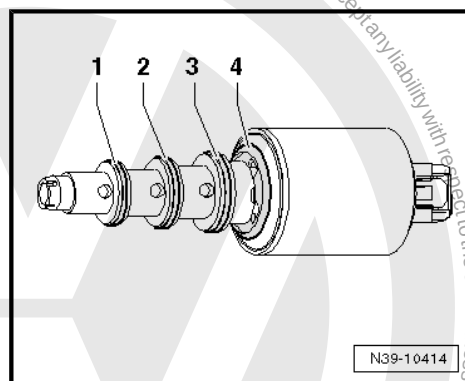
Valve seals have different inner diameters.

- ◆ -1- Inner diameter 10 mm
- ◆ -2- Inner diameter 11 mm
- ◆ -3- Inner diameter 12 mm
- ◆ -4- Seal on valve body





- First moisten seal -1- with all-wheel drive coupling oil and place on coupling opening control valve - N373- .
- Then seals -2-, -3- and -4-.
- Press centring lips (Qty. 4) of seal -4- into groove.

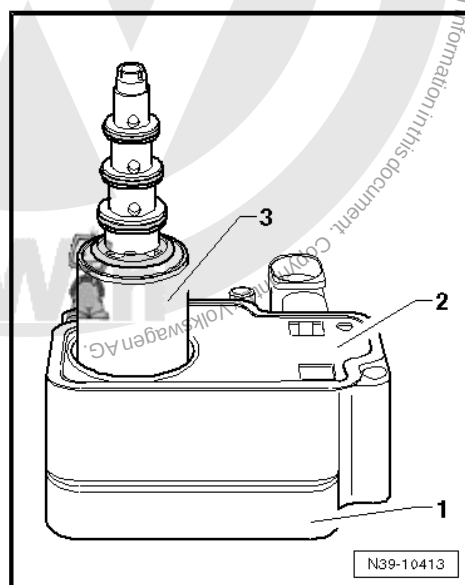


- Set new cover -2- on control unit -1-.



Note

The cover fits in only one position.

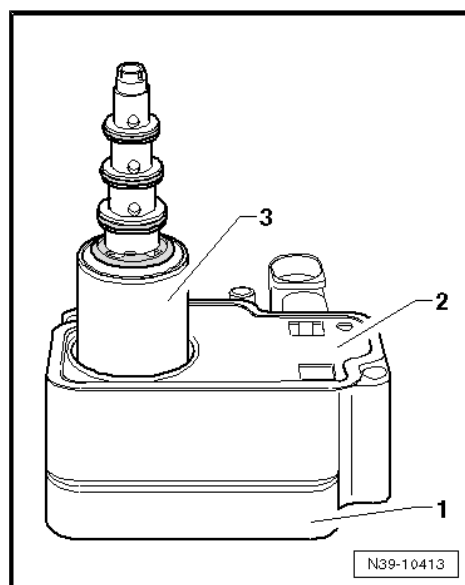


- Insert coupling opening control valve - N373- -3- into control unit -1-.



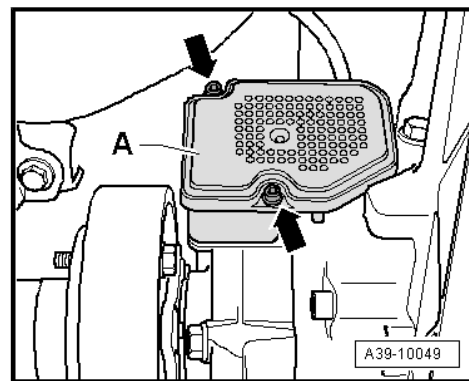
Note

The valve fits only in one position.





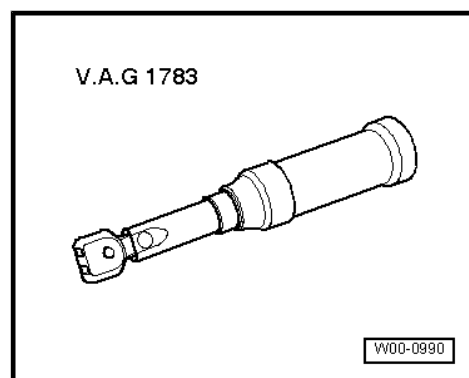
- Carefully set control unit -A- in place and tighten bolts -arrows- to specified torque ⇒ [Item 2 \(page 169\)](#) .
- Check oil level in all-wheel drive coupling ⇒ [page 232](#) .



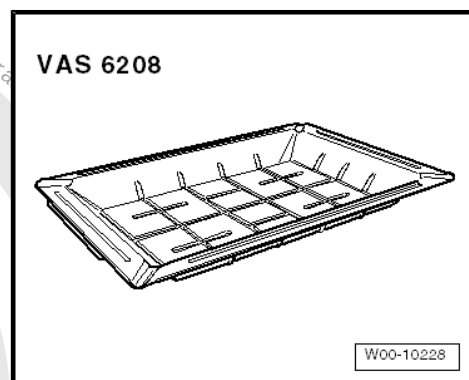
22.2 Removing and installing all-wheel drive coupling pump - V181-

Special tools and workshop equipment required

- ◆ Torque wrench 2...10 Nm - V.A.G 1783-



- ◆ Drip tray for workshop hoist - VAS 6208-

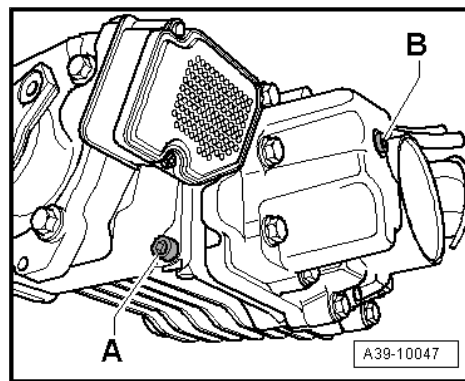


22.2.1 Removing

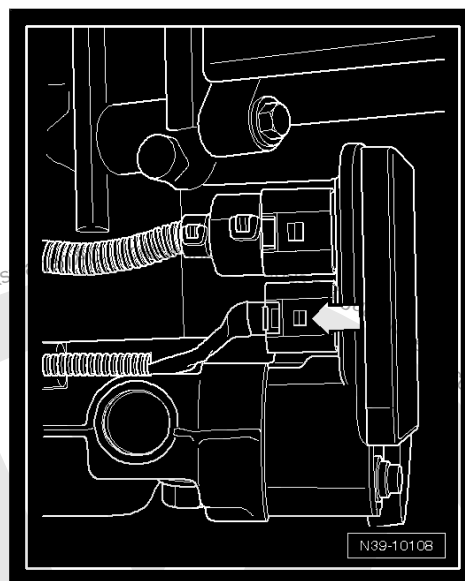
- Switch off ignition.
- Place drip tray underneath.



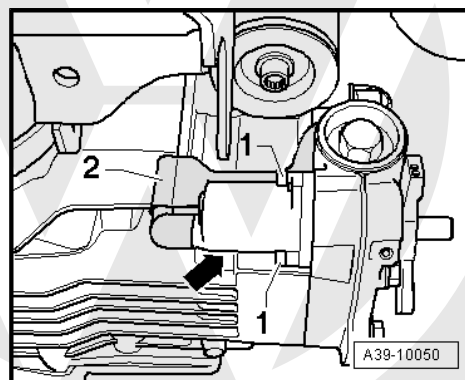
- Unscrew drain plug -A- and drain high performance fluid for all-wheel drive coupling completely.
- Install drain plug -A- with new seal and tighten to 30 Nm.



- Pull connector -arrow- for pump off control unit.
- Pull wiring harness off housing.
- Place drip tray under final drive.



- Remove securing bolts -1- for pump.
- Pull out pump -arrow- from all-wheel drive coupling housing.

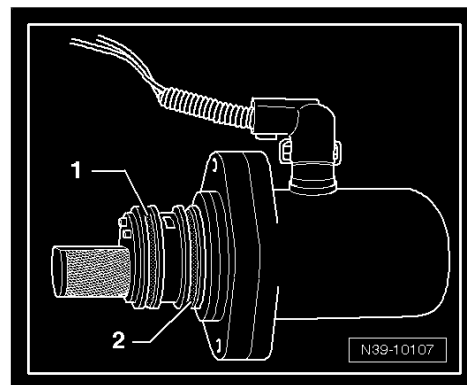


22.2.2 Installing

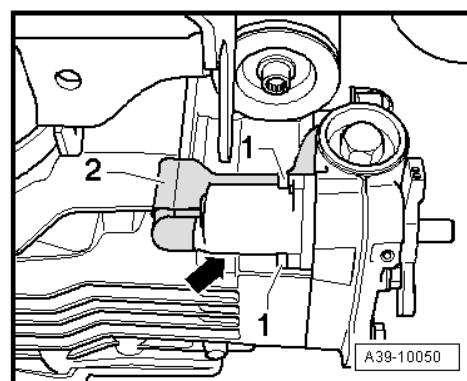
Install in the reverse order of removal, observing the following:



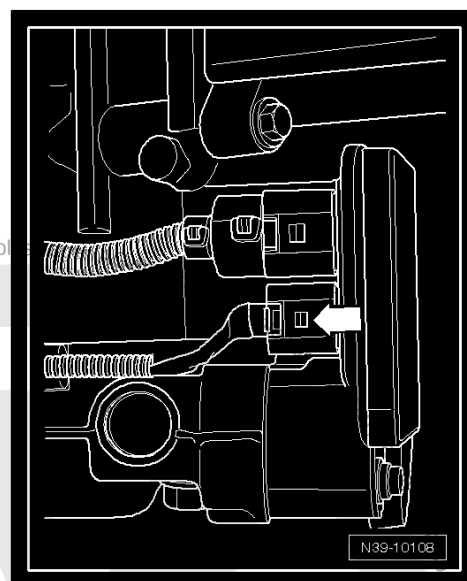
- Renew O-rings -1- and -2-.
- Lightly coat O-rings -1- and -2- with high performance fluid for all-wheel drive coupling .



- Press pump -arrow- into all-wheel drive coupling housing onto stop.
- Tighten bolts -1- to specified torque ⇒ [page 175](#) .



- Clip wiring harness to top of all-wheel drive coupling and join connector -arrow- to control unit.
- Replenish all-wheel drive coupling with high performance fluid for all-wheel drive coupling and check fluid level
⇒ [page 232](#) .



22.2.3 Torque setting

Component	Nm
Pump to all-wheel drive coupling	6



23 Assembly overview - all-wheel drive coupling, Golf 2004 ► and Passat 2006 ►, Passat CC, CC 2010 ► and Golf 2009 ►

All-wheel drive coupling is removed and installed with final drive in situ.

1 - Hexagon bolt, 50 Nm

- ☐ Qty. 4

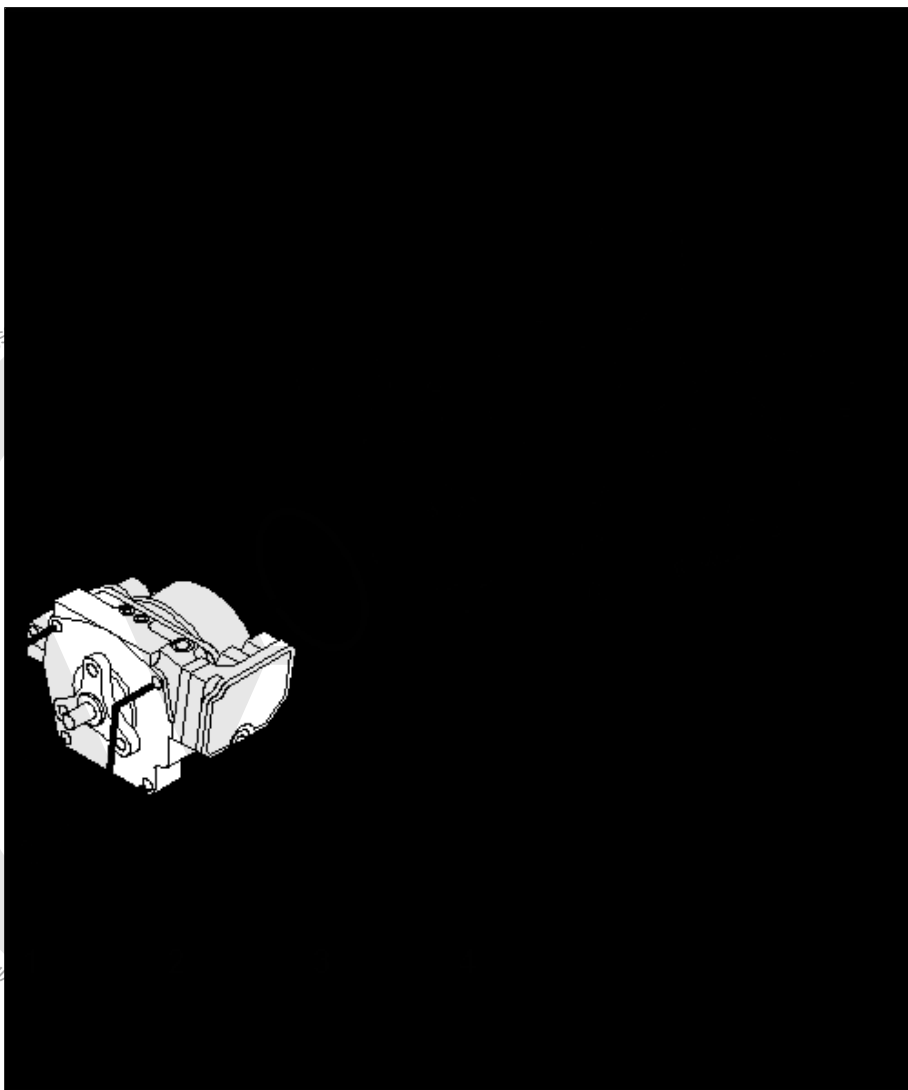
2 - All-wheel drive coupling

- ☐ With control unit.
- ☐ Removing and installing, Golf 2004 ► and Passat 2006 ►
⇒ [page 177](#)
- ☐ Removing and installing, Tiguan, Passat CC, CC and Golf 2009 ►
⇒ [page 180](#)

3 - O-ring

- ☐ Always renew
- ☐ Insert with high-performance oil for all-wheel drive coupling

4 - Final drive



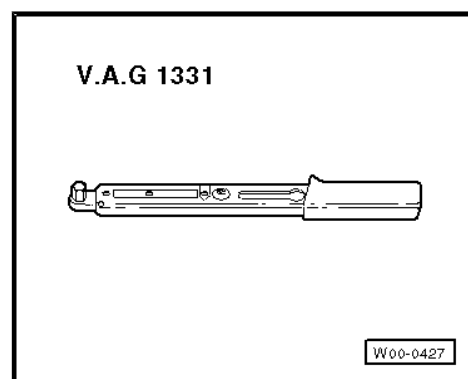


24 Removing and installing all-wheel drive coupling, Golf 2004 ► and Passat 2006 ►

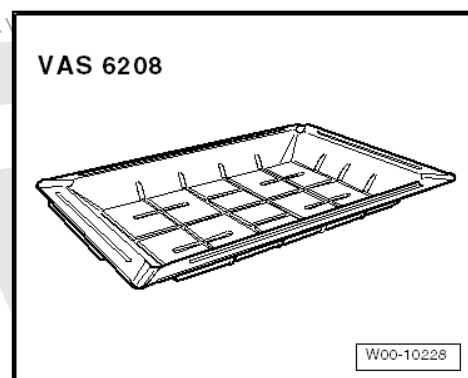
24.1 Removing all-wheel drive coupling

Special tools and workshop equipment required

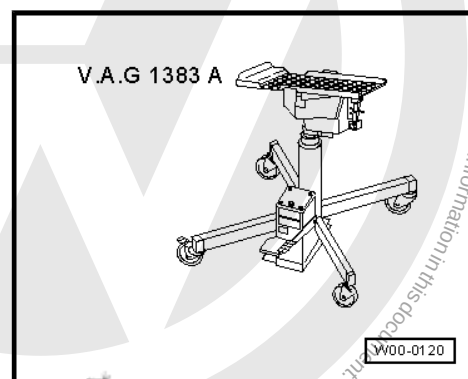
- ◆ Torque wrench - V.A.G 1331-



- ◆ Drip tray for workshop hoist - VAS 6208-



- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal support -V.A.G 1359/2-





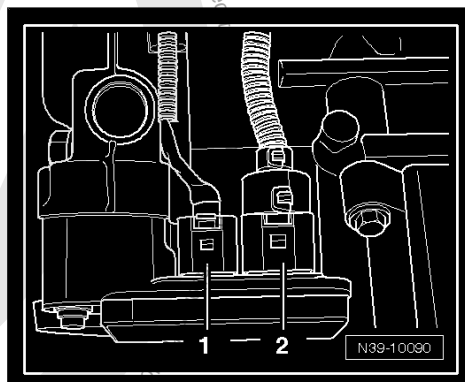
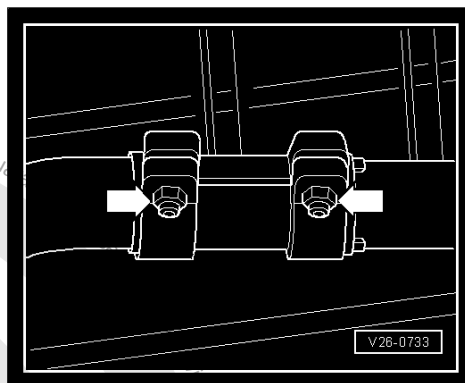
- Disconnect exhaust system at clamp -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .



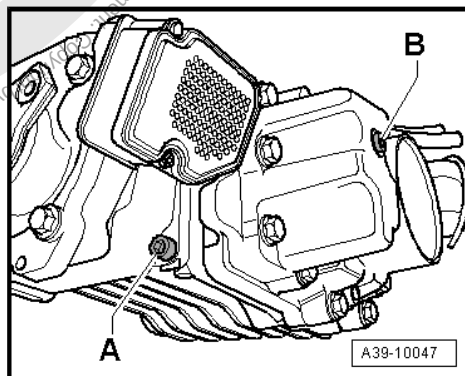
Note

The flexible joint of the exhaust system must not be bent more than 10° - danger of damage.

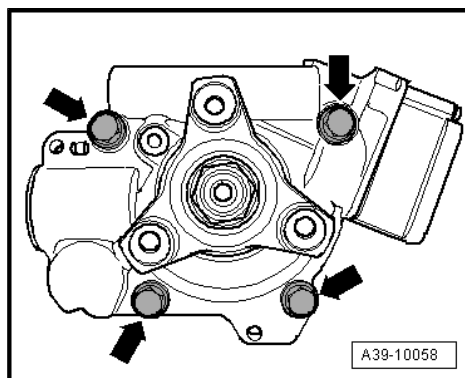
- Remove rear flexible coupling:
 - ♦ Golf ⇒ [page 30](#)
 - ♦ Passat ⇒ [page 46](#)
- Separate connector -2- from all-wheel drive control unit - J492- .



- Place drip tray for workshop hoist - VAS 6208- under rear final drive.
- Unscrew drain plug -A- and drain high performance fluid for all-wheel drive coupling completely.
- Install drain plug -A- with new seal and tighten to 30 Nm.



- Unscrew securing bolts -arrows- and pull out all-wheel drive coupling from rear final drive.

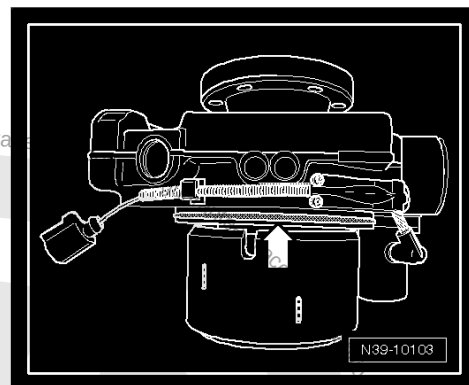


24.2 Installing all-wheel drive coupling

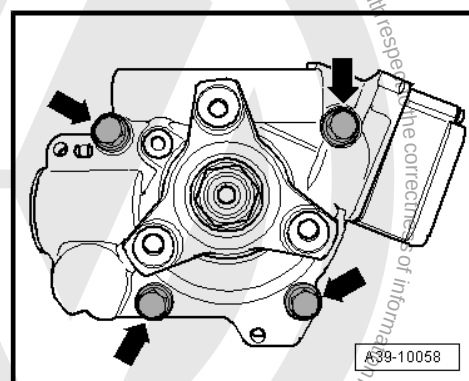
Install in the reverse order of removal, observing the following:



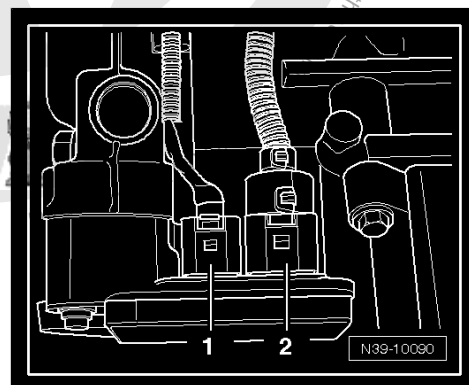
- Insert new O-ring -arrow- and lightly oil with high-performance oil for all-wheel drive coupling .



- Insert all-wheel drive coupling in rear final drive.
- Tighten bolts -arrows- to specified torque
⇒ [Item 1 \(page 176\)](#) .



- Join connector -2- to all-wheel drive control unit - J492- .
- Install rear flexible coupling.
- ◆ Golf ⇒ [page 30](#)
- ◆ Passat ⇒ [page 46](#)
- Install exhaust system and align exhaust system free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Fill with fresh high performance oil for all-wheel drive coupling and check oil level in all-wheel drive coupling ⇒ [page 226](#) .



Specified torque:

Component	Nm
All-wheel drive coupling to rear final drive	50

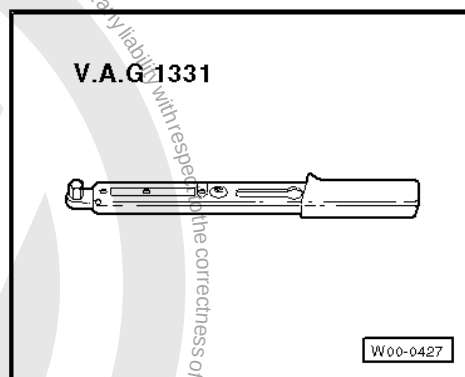


25 Removing and installing all-wheel drive coupling, Passat CC, CC 2010 ► and Golf 2009 ►

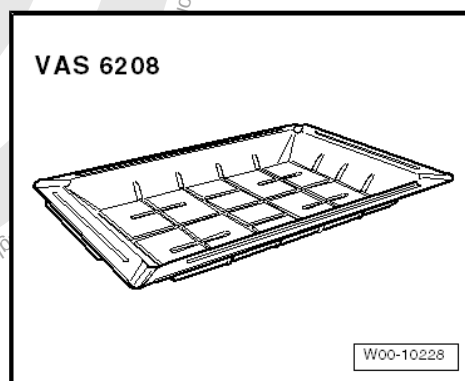
25.1 Removing all-wheel drive coupling

Special tools and workshop equipment required

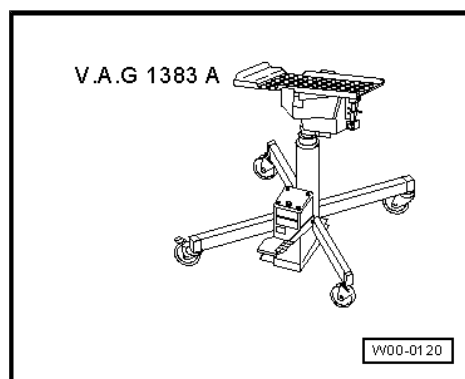
- ◆ Torque wrench - V.A.G 1331-



- ◆ Drip tray for workshop hoist - VAS 6208-

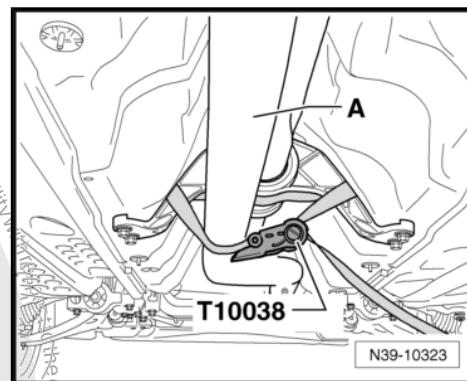


- ◆ Engine and gearbox jack - V.A.G 1383 A- with universal support -V.A.G 1359/2-

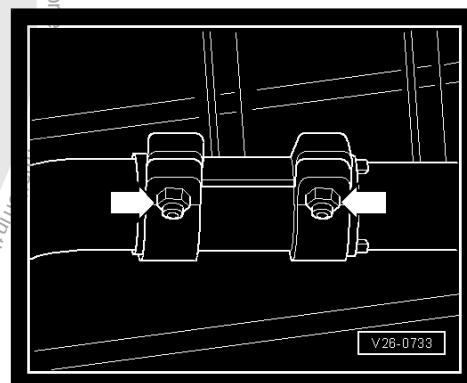




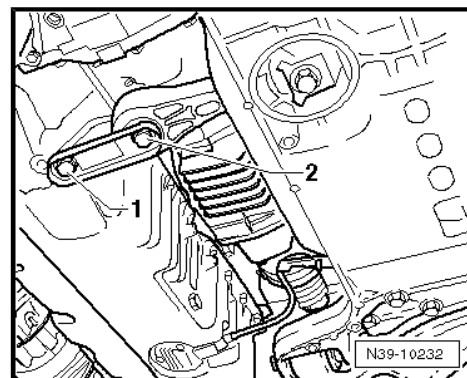
- Support front exhaust pipe -A- with tensioning strap - T10038-



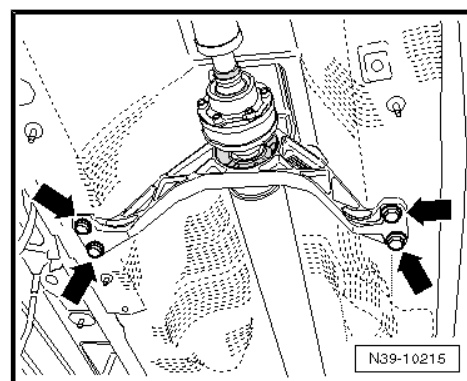
- Separate exhaust system at clamping sleeve -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Remove noise insulation below engine and gearbox. ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .



- Unscrew bolts -1- and -2- of pendulum support

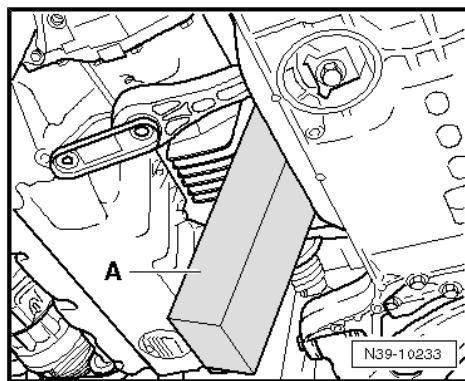


- Unscrew centre bearing bolts -arrows- 2 turns.

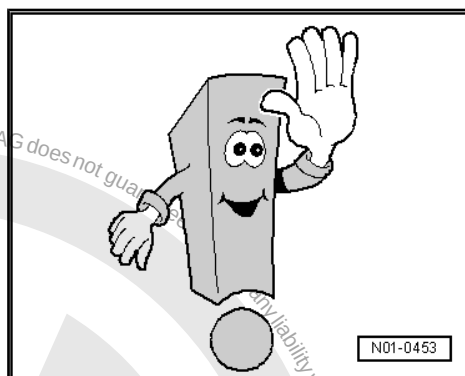




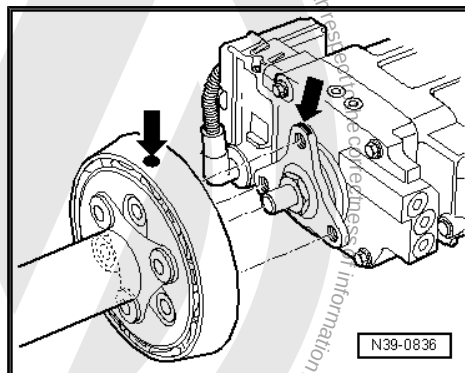
- Press engine and gearbox forwards and secure in this position with an appropriate piece of wood -A-.



To prevent later noise due to imbalance:



- If there are no markings -arrows-, mark position of propshaft relative to final drive flange.



- Unbolt propshaft with flexible coupling from final drive.
- Lay a cloth on the tunnel cross piece.
- Pull propshaft with flexible joint off final drive and set on tunnel cross piece.



Note

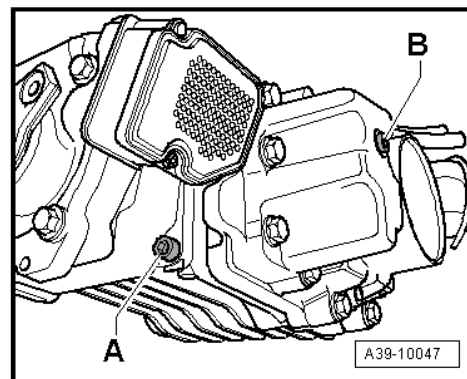
Sufficient clearance at the flexible joint is required to remove the all-wheel drive coupling.

- Therefore, loosen but do not unbolt tunnel cross piece.
- Place drip tray for workshop hoist - VAS 6208- under rear final drive.

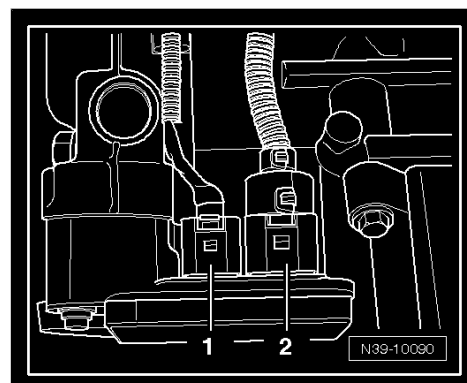




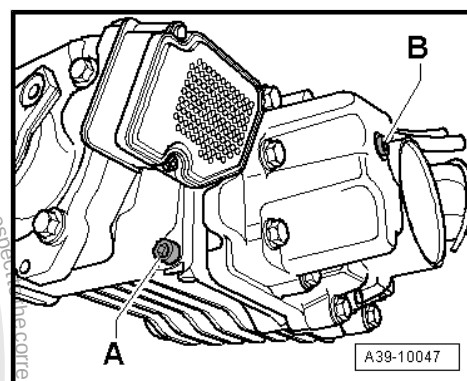
- Unscrew drain plug -A- and drain high performance fluid for all-wheel drive coupling completely.



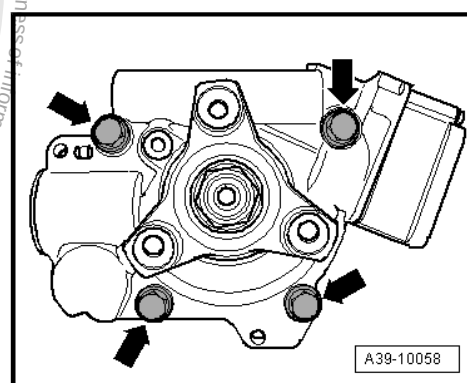
- Separate connector -2- on all-wheel drive control unit - J492- .



- Place drip tray for workshop hoist - VAS 6208- under rear final drive.
- Install drain plug -A- with new seal and tighten to 30 Nm.



- Unscrew securing bolts -arrows- and pull out all-wheel drive coupling from rear final drive.



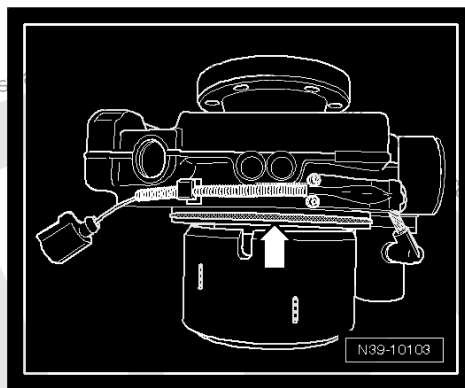
25.2 Installing all-wheel drive coupling

Install in the reverse order of removal, observing the following:

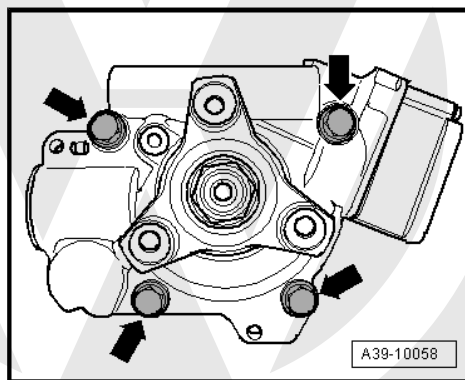
- Install all parts which were marked in relation to each other in their original positions.



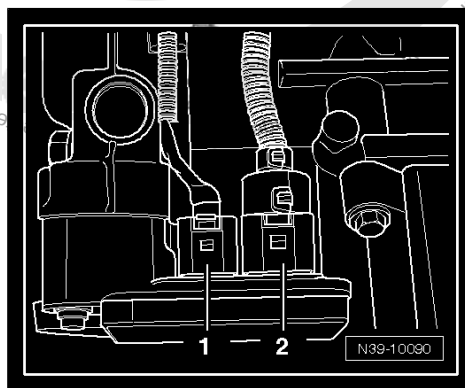
- Insert new O-ring -arrow- and lightly oil with high-performance oil for all-wheel drive coupling .



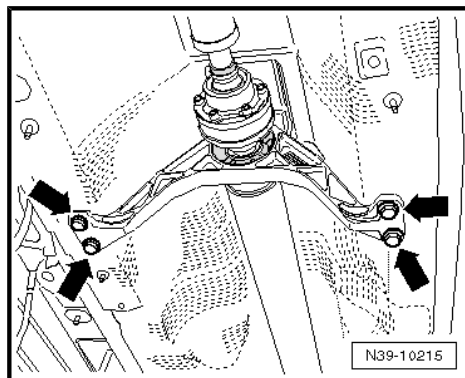
- Insert all-wheel drive coupling in rear final drive.
- Tighten bolts -arrows- to specified torque ⇒ [Item 1 \(page 176\)](#) .



- Join connector -2- to all-wheel drive control unit - J492- .
- Tighten propshaft bolts. Specified torques ⇒ [page 57](#) .



- Align centre bearing free of tension and tighten. Specified torques ⇒ [page 57](#) .
- Tighten bolts for tunnel cross piece ⇒ General body repairs, exterior; Rep. gr. 50 ; Tunnel cross piece .

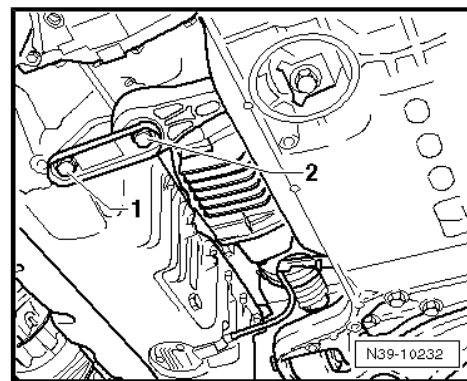




- Bolt on pendulum support using »new« bolts. Specified torques ⇒ Running gear, axles, steering; Rep. gr. 40 .
- Install exhaust system and align exhaust system free of tension ⇒ Rep. gr. 26 ; Exhaust system; Removing and installing parts of exhaust system .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 50 ; Noise insulation .
- Fill with fresh high performance oil for all-wheel drive coupling and check oil level in all-wheel drive coupling ⇒ [page 226](#) .

Specified torque:

Component	Nm
All-wheel drive coupling to rear final drive	50



26 Assembly overview - dismantling and assembling all-wheel drive coupling (generation II), Golf 2004 ► and Passat 2006 ►

1 - Multiplate clutch

- ☐ Overview
⇒ Fig. "Multiplate clutch assembly", page 187
- ☐ Removing and installing
⇒ page 188

2 - Bolts

- ☐ 6 Nm

3 - All-wheel drive coupling pump - V181-

- ☐ Removing and installing
⇒ page 165

4 - O-ring

- ☐ Diameter 32 mm.
- ☐ For all-wheel drive coupling pump - V181-
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

5 - O-ring

- ☐ Diameter 30 mm.
- ☐ For all-wheel drive coupling pump - V181-
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

6 - Cover plate

- ☐ 35 Nm

7 - O-ring

- ☐ For sealing cover
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

8 - Oil filter bracket

9 - O-ring

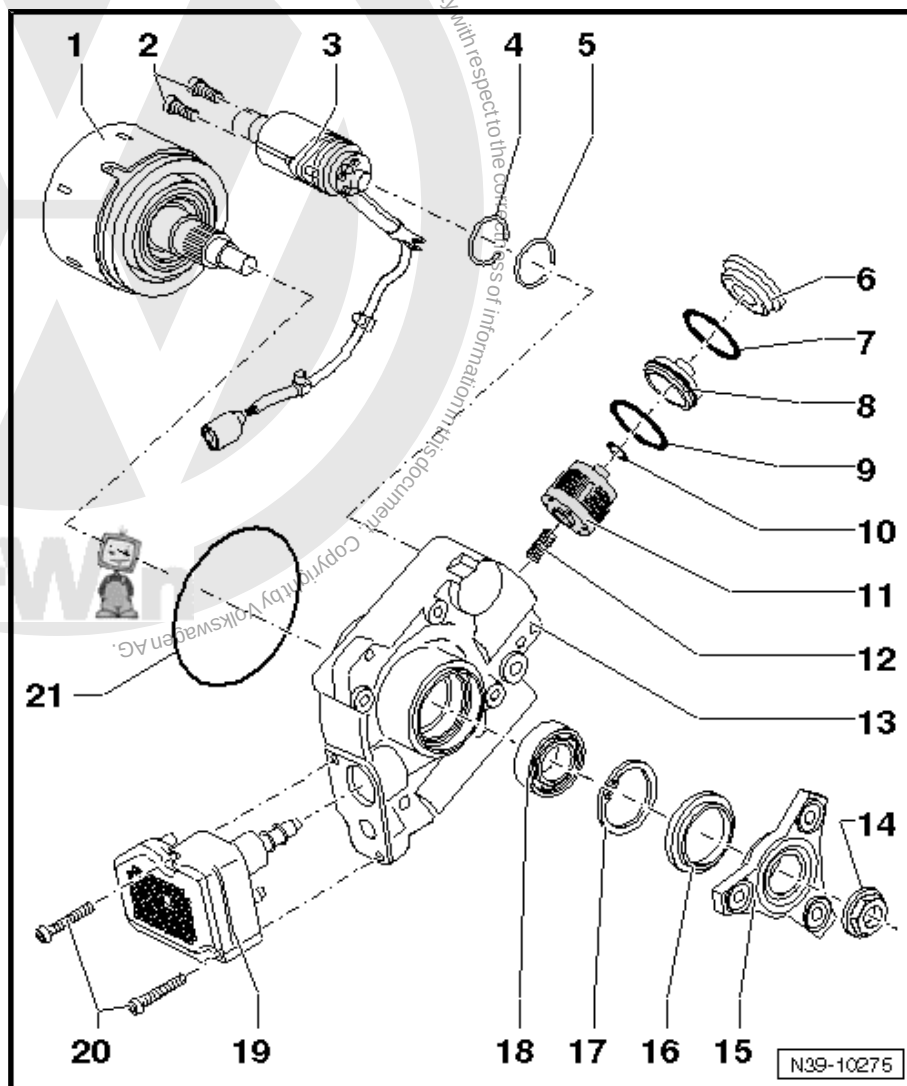
- ☐ For oil filter bracket
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

10 - O-ring

- ☐ For oil filter
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

11 - Oil filter

- ☐ For all-wheel drive coupling





- ☐ Removing and installing ⇒ [page 195](#)

12 - Spring

13 - All-wheel drive coupling housing

- ☐ Removing and installing complete all-wheel drive coupling ⇒ [page 176](#)
- ☐ Remove from multiplate clutch ⇒ [page 188](#)

14 - Nut

- ☐ 210 Nm
- ☐ Secure with locking fluid - D 000 600-

15 - Propshaft flange

- ☐ Removing and installing ⇒ [page 145](#)

16 - Seal for propshaft flange

Renewing ⇒ [page 145](#)

17 - Retaining ring

18 - Ball bearing

- ☐ Removing and installing ⇒ [page 188](#)

19 - All-wheel drive control unit - J492-

- ☐ For coupling opening control valve - N373- .
- ☐ With oil pressure and oil temperature sender - G437-
- ☐ Removing and installing

20 - Bolts

- ☐ 6 Nm

21 - O-ring

- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

Multiplate clutch assembly

- 1 - Multiplate clutch

Plates cannot be removed

- 2 - Outer rollers

Qty. 3

- 3 - Wheel rollers

Qty. 3

Fitting position: rollers face outwards

- 4 - Wheel rollers

Qty. 3

Fitting position: rollers face inwards

- 5 - Needle thrust bearing

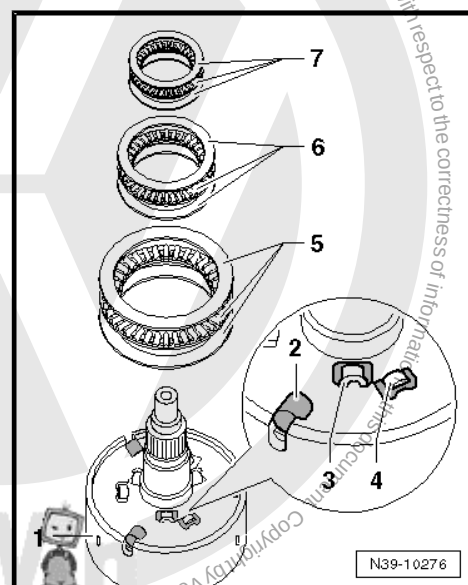
Thick washer faces multiplate clutch -1-

- 6 - Needle thrust bearing

Thick washer faces multiplate clutch -1-

- 7 - Needle thrust bearing

Thick washer faces multiplate clutch -1-

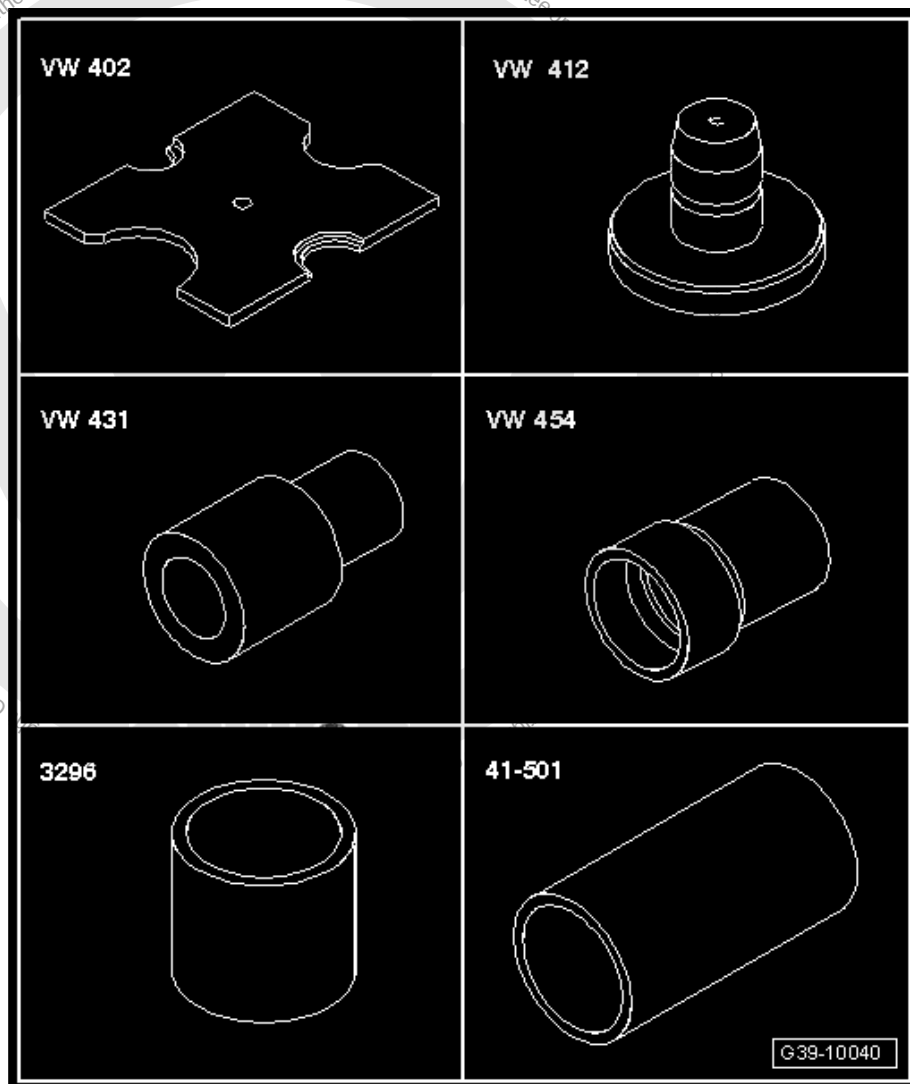




26.1 Renewing grooved ball bearing for all-wheel drive coupling

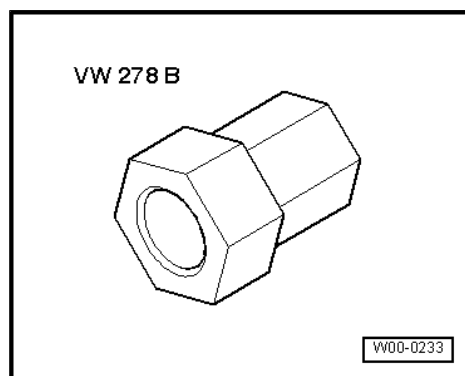
Special tools and workshop equipment required

- ◆ Pressure plate - VW 402-
- ◆ Press tool - VW 412-
- ◆ Thrust piece - VW 431-
- ◆ Thrust piece - VW 454-
- ◆ Tube - 3296-
- ◆ Drift sleeve - 41 - 501-



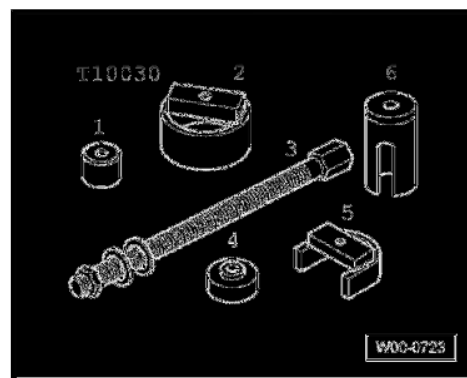
Special tools and workshop equipment required

- ◆ Adjustment key - VW 278 B-

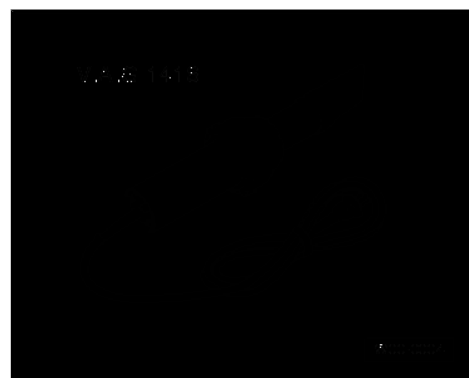




- ◆ Assembly tool - T10030/6-



- ◆ Hot air blower - V.A.G 1416-



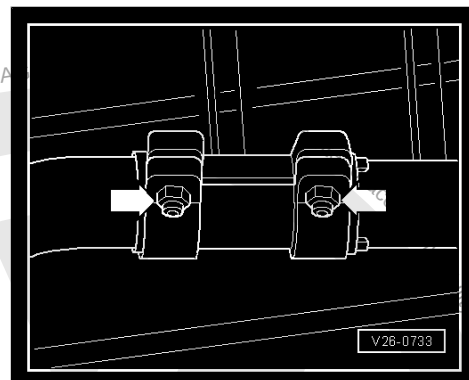
- Disconnect exhaust system at clamping sleeve -arrows- and remove rear part of exhaust system ⇒ Rep. gr. 26 .



Note

The flexible joint of the exhaust system must not be bent more than 10° - danger of damage.

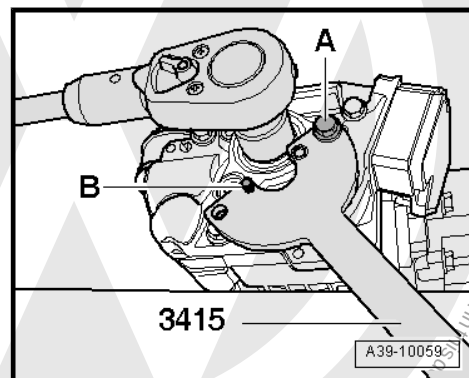
- Remove rear flexible coupling ⇒ [page 30](#) .



- Remove propshaft flange hexagon nut.

A - Hexagon bolts M 10 x 25

B - Hexagon socket bolt M8 x 15 (screwed from back side into counterhold -3415-).

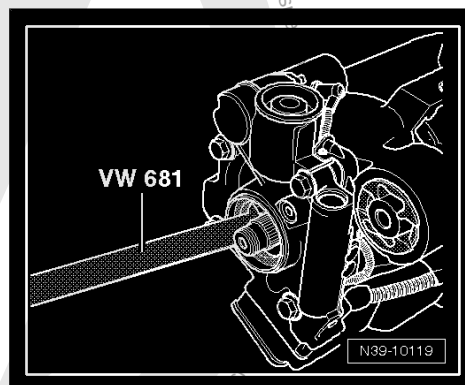




- Pull off propshaft flange. If flange is difficult to move, use a 3-arm puller (e.g. Kukko 12-1).

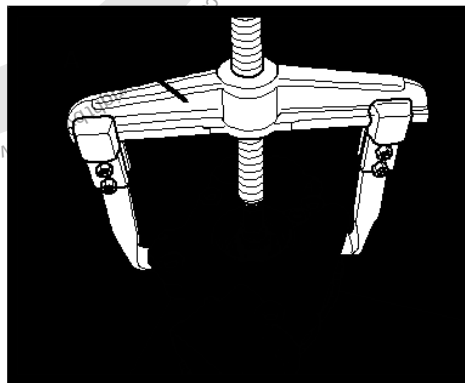


- Pull out seal using oil seal extractor lever - VW 681- .

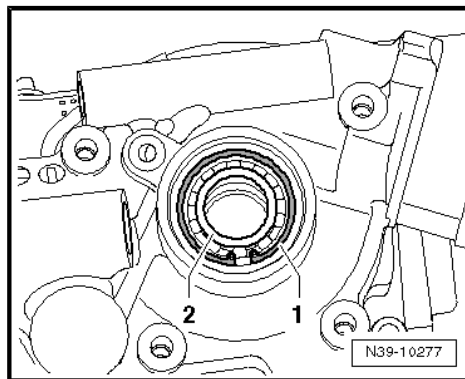


- Remove all-wheel drive coupling ⇒ [page 177](#) .
- Place all-wheel drive coupling on a clean workbench.
- Pull off all-wheel drive coupling housing.

A- Two arm puller - Kukko 20-20-

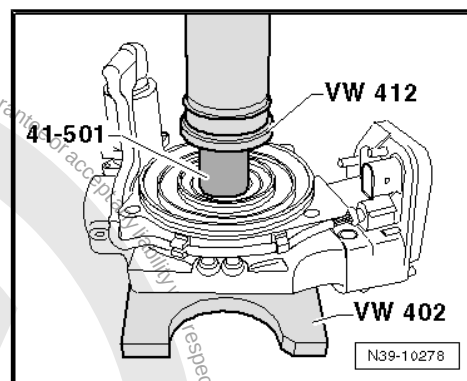


- Remove retaining ring -1-.

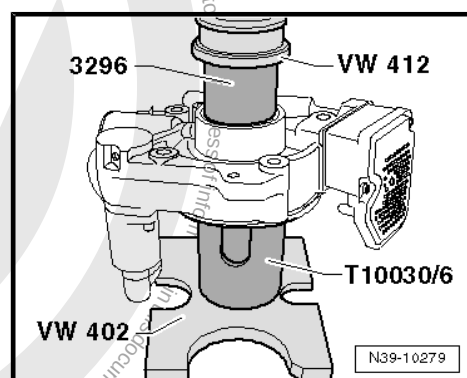




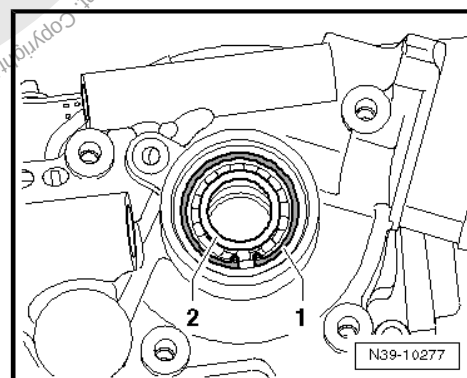
- Press out deep groove ball bearing.



- Press in new deep groove ball bearing to stop.



- Install retaining ring -1-.
- Heat deep groove ball bearing -2- to about 80° C using hot air blower - V.A.G 1416- .

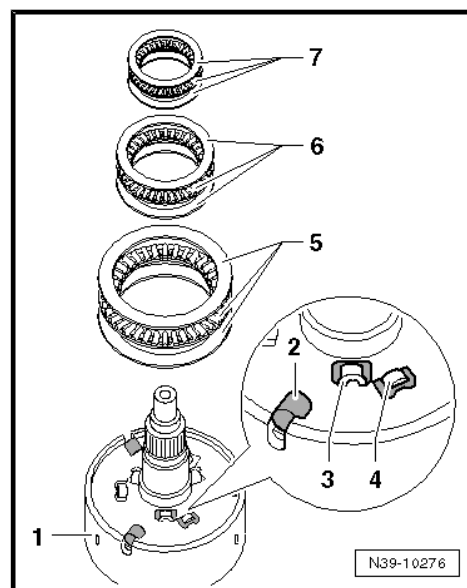


- Centre needle thrust bearings -5...7- on multiplate clutch -1-
⇒ Fig. "Multiplate clutch assembly", page 187 .
- Set housing for all-wheel drive coupling by hand onto multiplate clutch -1-.



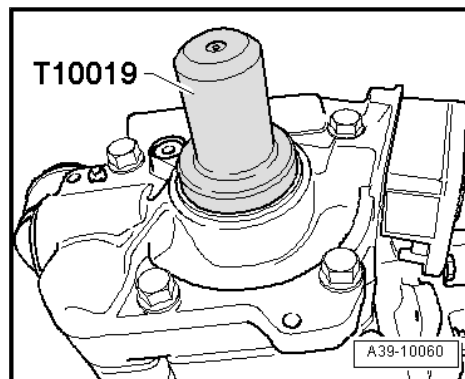
Note

It must be ensured that the axial needle bearings -5 ... 7- do not change their centred position when the housing is mounted.

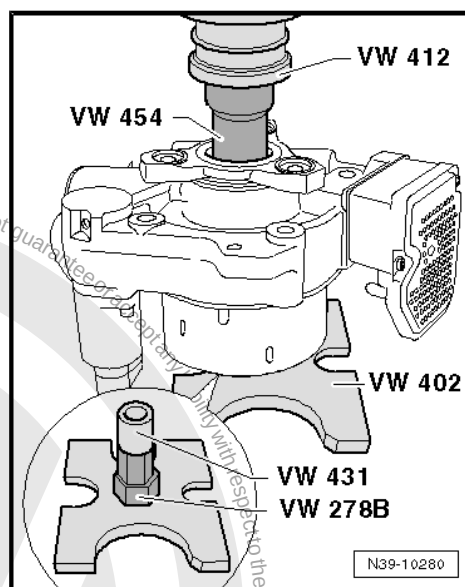




- Lightly oil new seal around outer circumference and between sealing lips with high performance oil for all-wheel drive coupling before installing.
- Drive in new oil seal to stop using thrust piece - T10019- . Do not cant oil seal in the process.



- Press on propshaft flange.

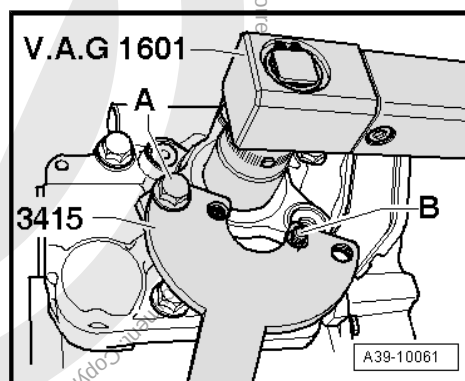


- Insert new hexagon nuts with locking fluid - D 000 600- and tighten. Torque setting: ⇒ [Item 14 \(page 187\)](#) .

A - Hexagon bolts M 10 x 20

B - Hexagon socket bolt M8 x 15 (screwed from back side into counterhold -3415-).

- Install all-wheel drive coupling ⇒ [page 177](#) .
- Install rear flexible coupling ⇒ [page 30](#) .
- Install exhaust system and align system free of tension ⇒ Rep. gr. 26 .
- Replenish all-wheel drive coupling with high performance fluid for all-wheel drive coupling and check fluid level ⇒ [page 226](#) .





27 Dismantling and assembling all-wheel drive coupling, generation IV, assembly overview, Passat CC, CC 2010 ► and Golf 2009 ►

The all-wheel drive coupling is the result of further development. Starting with the Tiguan, a new all-wheel drive coupling (generation "IV") is being used. It is also installed in the Passat CC, CC 2010 ► and in the Golf 2009 ►.

Information can be found in:

- ◆ ⇒ Self-study programme No. 414 ; 4Motion with Four-Wheel-Coupling Generation IV

1 - Seal

- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

2 - All-wheel drive coupling housing

- ☐ Removing and installing all-wheel drive coupling ⇒ [page 180](#)

3 - All-wheel drive control unit - J492-

- ☐ For coupling opening control valve - N373- .
- ☐ Removing and installing ⇒ [page 170](#)

4 - Bolts

- ☐ 6 Nm

5 - Seal for propshaft flange

Renewing ⇒ [page 145](#)

6 - Propshaft flange

- ☐ Removing and installing ⇒ [page 145](#)

7 - Nut

- ☐ 210 Nm
- ☐ Secure with locking fluid - D 000 600-

8 - Bolts

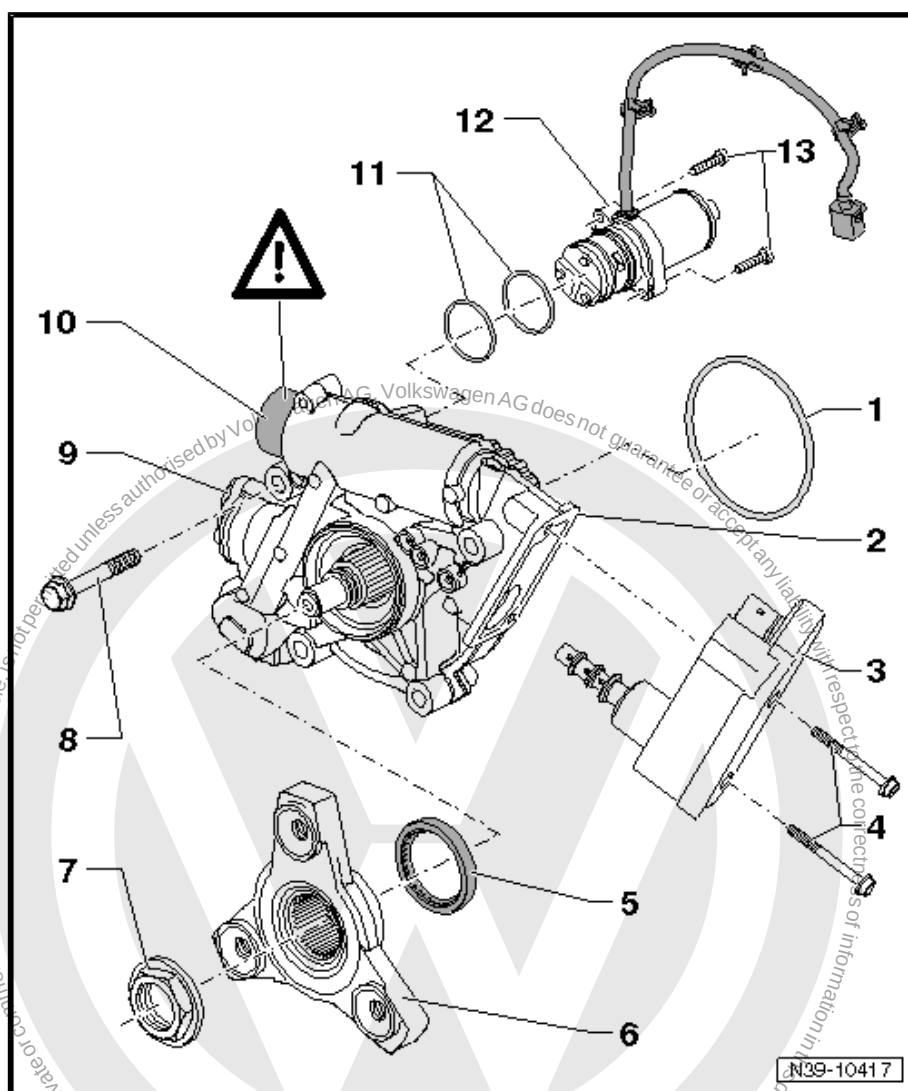
- ☐ Qty. 4
- ☐ Torque setting 50 Nm

9 - Cover plate

- ☐ For oil filter housing
- ☐ It is not necessary to change the filter

10 - Cover plate

- ☐ For pressure accumulator





WARNING

Never open cover. Danger of injury!

11 - Seal

- ☐ Qty. 2
- ☐ Diameter 34 mm.
- ☐ For all-wheel drive coupling pump - V181-
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

12 - All-wheel drive coupling pump - V181-

- ☐ Removing and installing ⇒ [page 173](#)

13 - Bolts

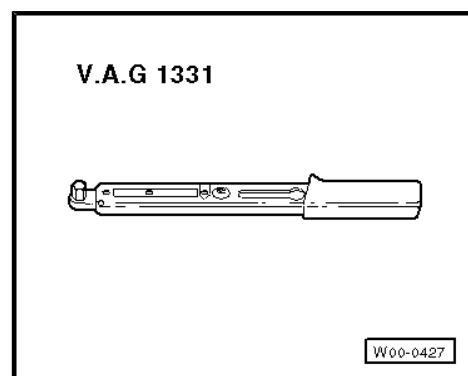
- ☐ 6 Nm



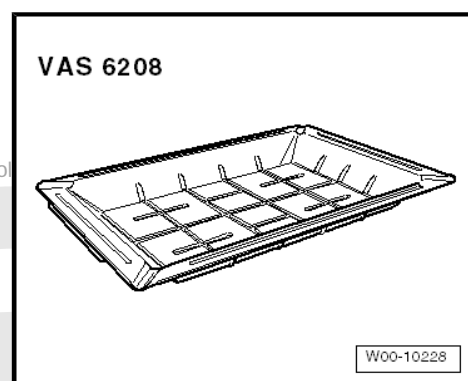
28 Removing and installing oil filter for all-wheel drive coupling, Golf 2004 ► and Passat 2006 ►

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-



- ◆ Drip tray for workshop hoist - VAS 6208-



28.1 Removing

- Place drip tray - VAS 6208- under final drive.
- Remove sealing cover -arrows-.
- Pull out oil filter unit.

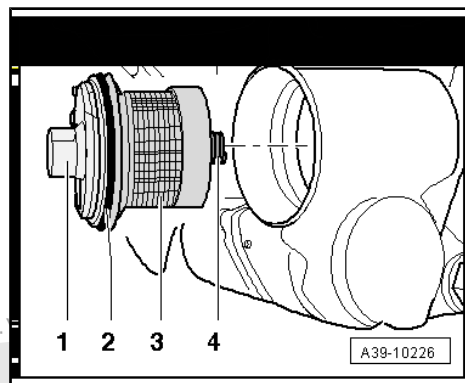


28.2 Installing

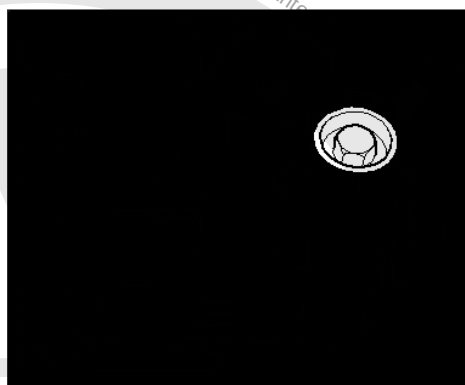
Install in the reverse sequence, noting the following:



- Pull O-ring -2- onto oil filter bracket -1-.
- Insert spring -4- in oil filter -3-.



- Screw in sealing cover -arrow- with new O-ring and tighten.
Torque setting: ➤ [Item 6 \(page 186\)](#) .
- Check oil level in all-wheel drive coupling ➤ [page 226](#) .





29 All-wheel drive coupling, Tiguan 2008 ►, Sharan 2011 ►

⇒ ["29.1 Checking function", page 197](#)

⇒ ["29.2 Assembly overview - all-wheel drive coupling",
page 198](#)

⇒ ["29.3 Removing and installing all-wheel drive coupling pump
V181", page 201](#)

⇒ ["29.4 Removing and installing all-wheel drive coupling",
page 205](#)

⇒ ["29.5 Removing and installing all-wheel drive control unit J492",
page 218](#)

29.1 Checking function



Note

All-wheel drive coupling is checked during a road test using vehicle diagnosis and service information system - VAS 5052-.



WARNING

To avoid accident risks, proceed as follows during measuring and road tests:

- ◆ *Vehicle diagnosis, testing and information system - VAS 5051 A- or vehicle diagnosis and service information system - VAS 5052- is used to read measured value blocks. Always secure device on rear seat and have a second person operate it from there.*

- Checking function ⇒ Vehicle diagnostic tester Guided functions.

Starting "Guided functions":

- Switch on ignition.
- Touch "Guided functions" section/button on screen.
- Select one after the other on the display of vehicle diagnostic tester:
 - ◆ Brand
 - ◆ Model
 - ◆ Model year
 - ◆ Version
 - ◆ Engine code
 - ◆ Confirm data entered.
 - ◆ 22 - All-wheel electronics
 - ◆ 22 - Final control diagnosis
- Start final control diagnosis and proceed by following the instructions on the display of vehicle diagnostic tester.



29.2 Assembly overview - all-wheel drive coupling

⇒ "29.2.1 Assembly overview - all-wheel drive coupling, generation IV, to week 44/13", page 198

⇒ "29.2.2 Assembly overview - all-wheel drive coupling, generation V, from week 45/13", page 200

29.2.1 Assembly overview - all-wheel drive coupling, generation IV, to week 44/13

1 - Seal

- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew.

2 - All-wheel drive coupling housing

- ☐ Removing and installing all-wheel drive coupling
⇒ [page 205](#)

3 - Four-wheel drive control unit - J492-

- ☐ For coupling opening control valve - N373- .
- ☐ Removing and installing
⇒ [page 218](#)

4 - Bolts

- ☐ 6 Nm

5 - Seal for propshaft flange

Renewing ⇒ [page 145](#) .

6 - Propshaft flange

- ☐ Removing and installing
⇒ [page 145](#)

7 - Nut

- ☐ 210 Nm
- ☐ Secure with locking fluid - D 000 600- .

8 - Bolts

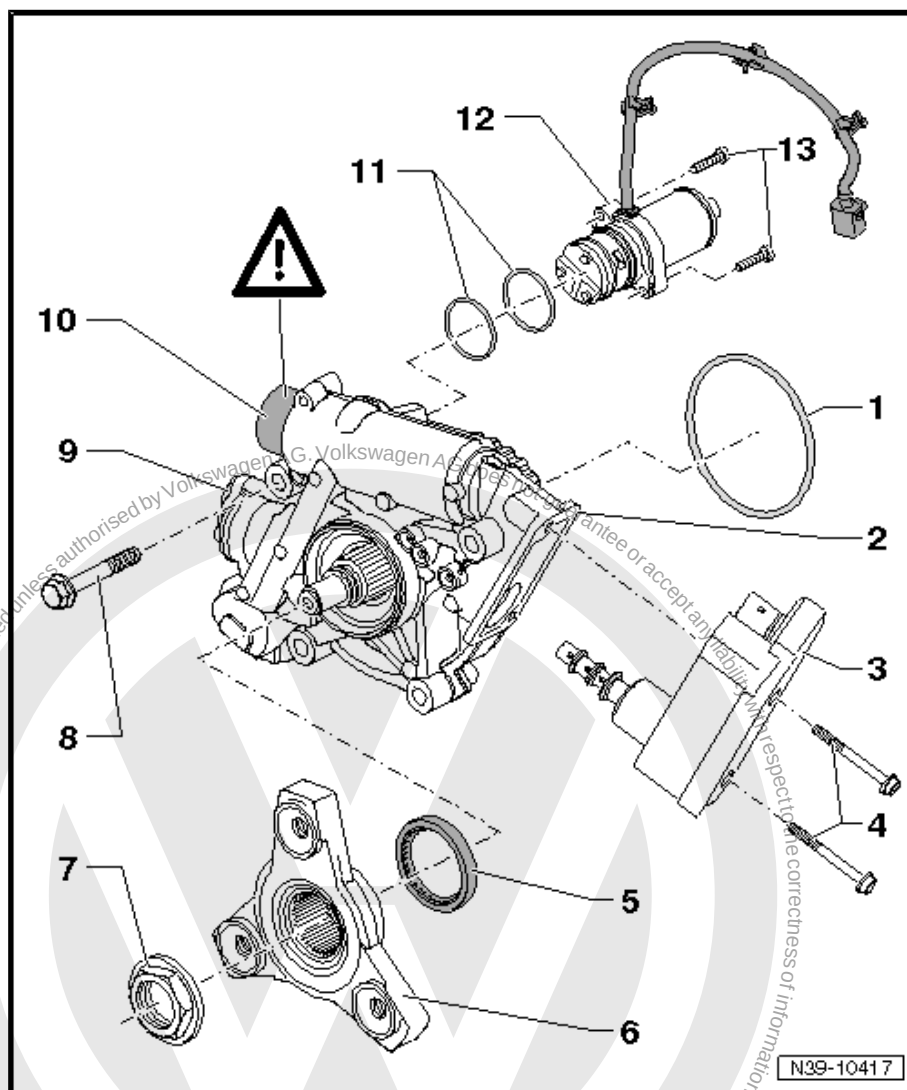
- ☐ Qty. 4
- ☐ Specified torque: 50 Nm

9 - Sealing cover

- ☐ For oil filter housing
- ☐ It is not necessary to change the filter.

10 - Sealing cover

- ☐ For pressure accumulator



WARNING

Never open cover. Danger of injury!



11 - Seal

- ☐ Qty. 2
- ☐ Diameter 34 mm
- ☐ For all-wheel drive coupling pump - V181-
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew.

12 - All-wheel drive coupling pump - V181-

- ☐ Removing and installing ⇒ [page 201](#)

13 - Bolts

- ☐ 6 Nm

Assembly overview - control unit, generation IV

1 - Four-wheel drive control unit - J492-

- ☐ Calibrated with coupling opening control valve - N373- .
- ☐ Always renew together with valve.
- ☐ Removing and installing ⇒ [page 218](#)

2 - Bolt, 6 Nm

3 - Cover

- ☐ With vulcanised seal
- ☐ Remains on control unit or housing of all-wheel drive coupling when control unit is removed.
- ☐ Always renew.

4 - Coupling opening control valve - N373-

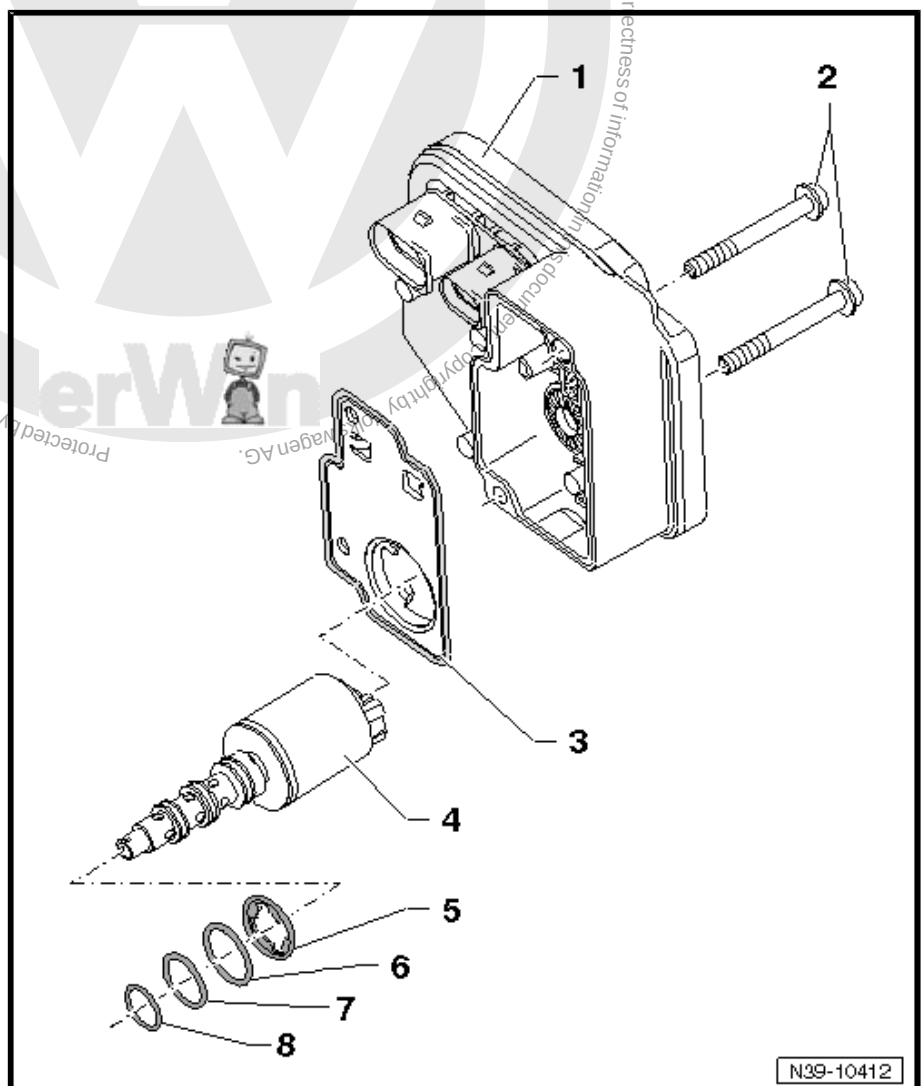
- ☐ Calibrated with all-wheel drive control unit - J492- .
- ☐ Always renew together with control unit.
- ☐ Removing and installing ⇒ [page 218](#)

5 - Seal

- ☐ Observe proper seating of centring lips in the groove.
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew.

6 - Seal

- ☐ Diameter 12 mm
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew.





7 - Seal

- ☐ Diameter 11 mm
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew.

8 - Seal

- ☐ Diameter 10 mm
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew.

29.2.2 Assembly overview - all-wheel drive coupling generation V, from week 45/13

All-wheel drive coupling is removed and installed with final drive in situ.

1 - O-ring

- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ To be renewed each time all-wheel drive coupling is removed

2 - Four-wheel drive control unit - J492-

- ☐ Removing and installing
⇒ [page 170](#)

3 - Bolts

- ☐ Qty. 2
- ☐ 9.5 ± 0.5 Nm

4 - Seal for propshaft flange

Renewing ⇒ [page 145](#)

5 - Propshaft flange

- ☐ Removing and installing, Tiguan
⇒ [page 103](#)
- ☐ Removing and installing, Sharan
⇒ [page 128](#)

6 - Nut

- ☐ Renew after removal
- ☐ Secure with locking fluid - D 000 600-
- ☐ 210 Nm

7 - Bolts

- ☐ Qty. 4
- ☐ 50 Nm

8 - All-wheel drive coupling housing

- ☐ Removing and installing all-wheel drive coupling ⇒ [page 205](#)

9 - O-ring

- ☐ Qty. 2





- ☐ Diameter 43.5 mm
- ☐ For all-wheel drive coupling pump - V181-
- ☐ Coat with high performance oil for all-wheel drive coupling and insert.
- ☐ Always renew

10 - All-wheel drive coupling pump - V181-

- ☐ Removing and installing ⇒ [page 173](#)

11 - Bolt

- ☐ Qty. 2
- ☐ 9.5 ± 0.5 Nm

12 - Rear final drive

- ☐ Removing and installing, Tiguan ⇒ [page 103](#)
- ☐ Removing and installing, Sharan ⇒ [page 128](#)

29.3 Removing and installing all-wheel drive coupling pump - V181-

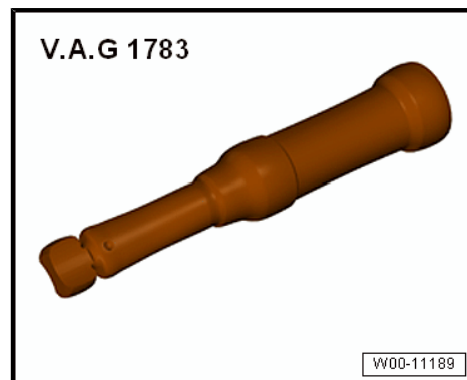
⇒ ["29.3.1 Removing and installing all-wheel drive coupling pump V181, generation IV, to week 44/13", page 201](#)

⇒ ["29.3.2 Removing and installing all-wheel drive coupling pump V181, generation V, from week 45/13", page 203](#)

29.3.1 Removing and installing all-wheel drive coupling pump - V181- , generation IV, to week 44/13

Special tools and workshop equipment required

- ◆ Torque wrench 2...10 Nm - V.A.G 1783-

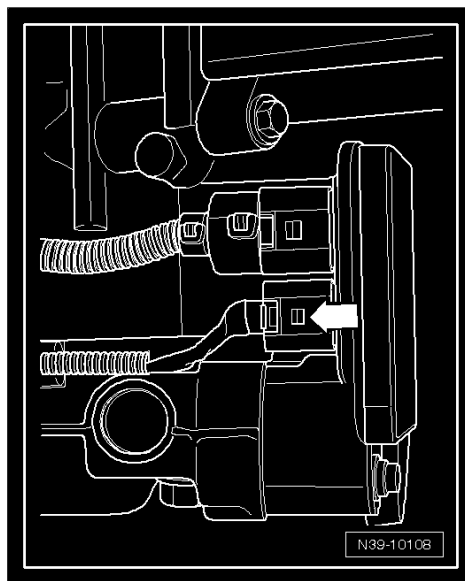


Removing

- Switch off ignition.
- Drain high performance oil for all-wheel drive coupling
⇒ [page 233](#)



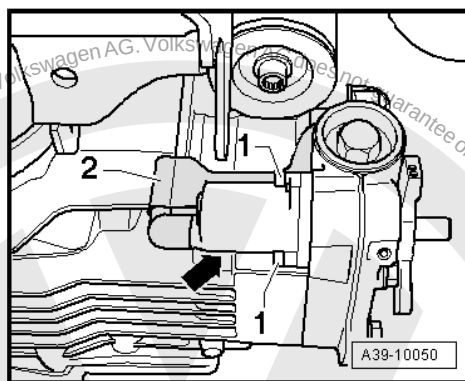
- Pull connector -arrow- for pump off control unit.
- Pull wiring harness off housing.
- Place drip tray under final drive.



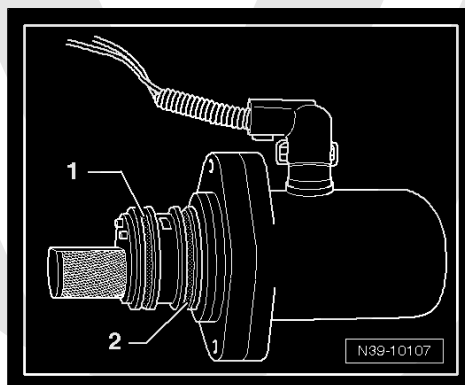
- Remove securing bolts -1- for pump.
- Pull out pump -arrow- from all-wheel drive coupling housing.

Installing

Install in the reverse order of removal, observing the following:

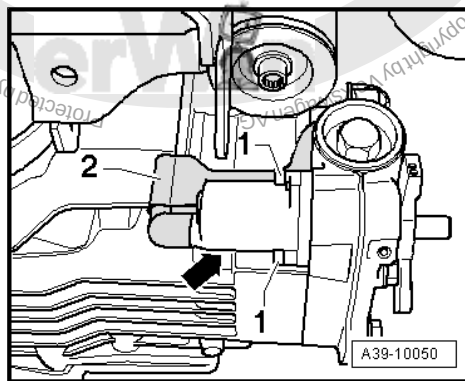


- Renew O-rings -1- and -2-.
- Lightly coat O-ring -1- and -2- with high performance oil for all-wheel drive coupling .



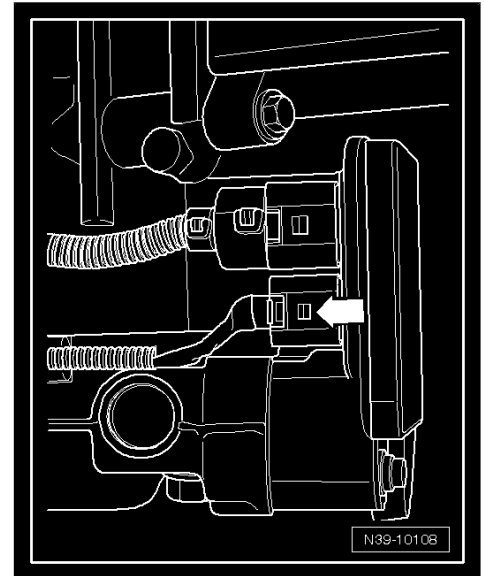
- Press pump -arrow- into all-wheel drive coupling housing onto stop.
- Tighten bolts -1-.

Specified torque: 6 Nm





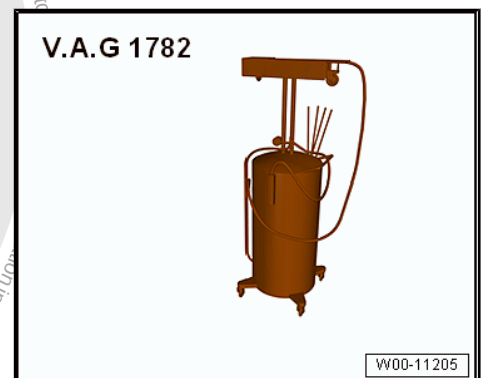
- Clip wiring harness to top of all-wheel drive coupling and join connector -arrow- to control unit.
- Replenish with new high performance oil for all-wheel drive coupling ⇒ [page 233](#) .



29.3.2 Removing and installing all-wheel drive coupling pump - V181- , generation V, from week 45/13

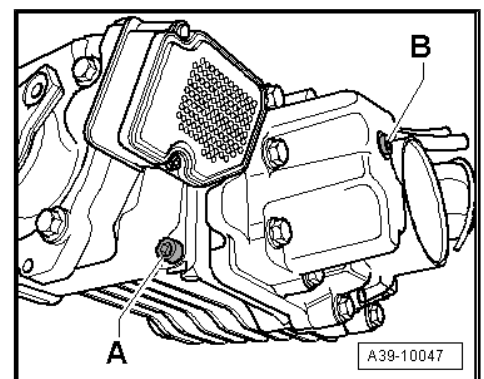
Special tools and workshop equipment required

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



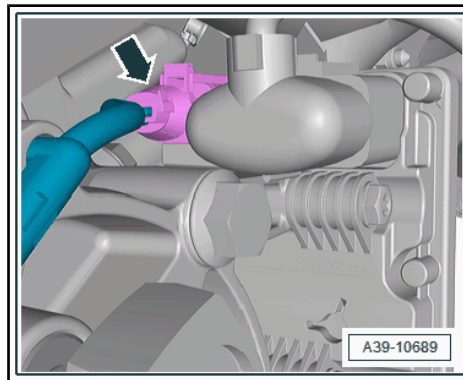
Removing

- Switch off ignition.
- Position used oil collection and extraction unit - V.A.G 1782- under rear final drive.
- Unscrew drain plug -A- and drain high performance fluid for all-wheel drive coupling completely.
- Install drain plug -A- with new seal and tighten to 30 Nm.





- Pull off electrical connector -arrow- for all-wheel drive coupling pump from all-wheel drive control unit .



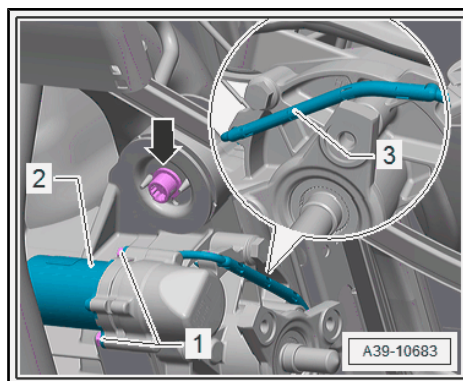
- Unclip wiring harness -3- for all-wheel drive coupling pump from housing and move aside.



Note

Disregard bolt -arrow-.

- Position used oil collection and extraction unit - V.A.G 1782- under rear final drive.
- Unscrew bolts -1- of all-wheel drive coupling pump .
- Pull out all-wheel drive coupling pump -2- from housing of all-wheel drive coupling.



Installing

Install in the reverse order of removal, observing the following:

- When installing removed all-wheel drive coupling pump again, renew O-rings -1- and -2-.
- Lightly coat O-rings -1- and -2- with high performance fluid for all-wheel drive coupling .



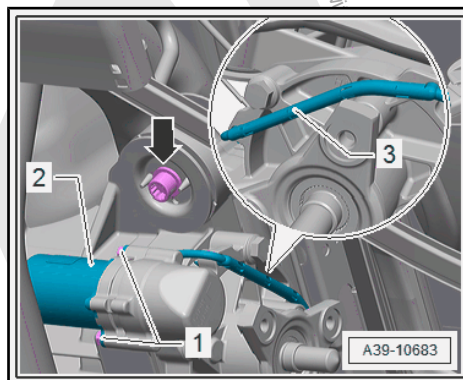
- Push all-wheel drive coupling pump -2- into housing for all-wheel drive coupling onto stop. When doing so, ensure that the wiring harness is properly routed -3-.



Note

Disregard bolt -arrow-.

- Tighten bolts -1-.

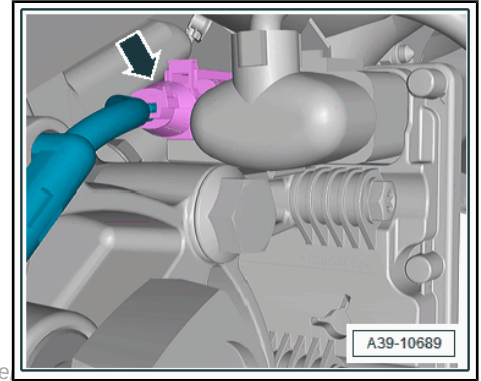




- Fit electrical connector -arrow- for all-wheel drive coupling pump on all-wheel drive control unit .
- Replenish all-wheel drive coupling with high performance fluid for all-wheel drive coupling and check fluid level
⇒ [page 232](#) .

Specified torques

- ◆ All-wheel drive coupling pump to all-wheel drive coupling
⇒ [Item 11 \(page 201\)](#) .
- ◆ Oil drain plug for high-performance oil for all-wheel drive coupling ⇒ [page 232](#)



29.4 Removing and installing all-wheel drive coupling

⇒ [“29.4.1 Removing and installing all-wheel drive coupling, generation IV, to week 44/13”, page 205](#)

⇒ [“29.4.2 Removing and installing all-wheel drive coupling, generation V, from week 45/13”, page 211](#)

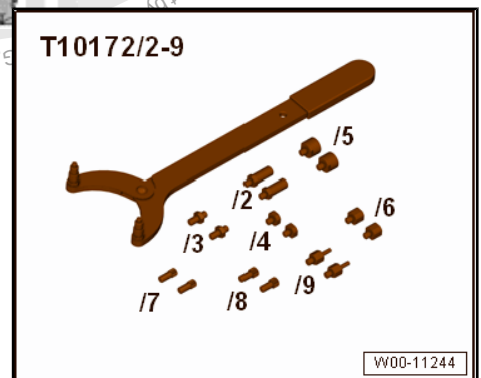
29.4.1 Removing and installing all-wheel drive coupling, generation IV, to week 44/13

Special tools and workshop equipment required

- ◆ Engine and gearbox jack - VAS 6931- or -V.A.G 1383 A-

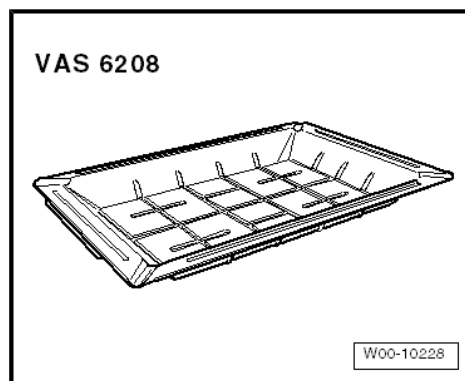


- ◆ Counterhold tool - T10172-





- ◆ Drip tray for workshop hoist - VAS 6208-



- ◆ Not illustrated:
- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-

Removing



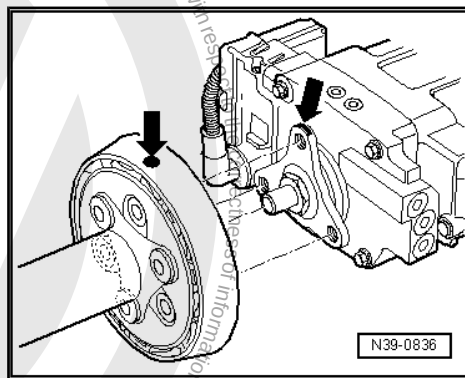
Note

- ◆ A twin pillar lifting platform should be used when working on the propshaft.
- ◆ Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.
- ◆ Keep propshaft straight; store and transport fully extended only.

- Drain high performance oil for all-wheel drive coupling
⇒ [page 233](#)

The procedure described below is only applicable for reinstallation of previously removed parts.

- Before removal, check if there are coloured marks on flexible coupling, on flange of final drive and on propshaft flange -arrows-. If not, mark installation position of flexible coupling -arrows-.





Note

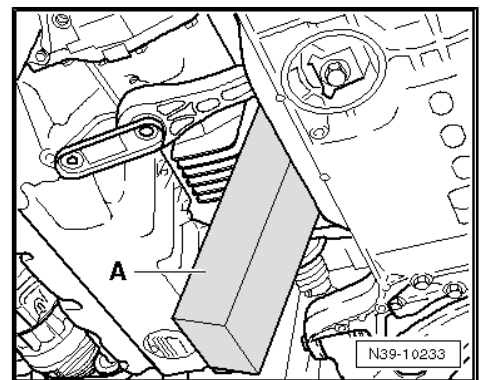
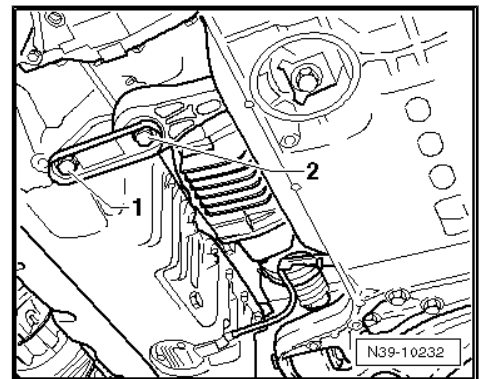
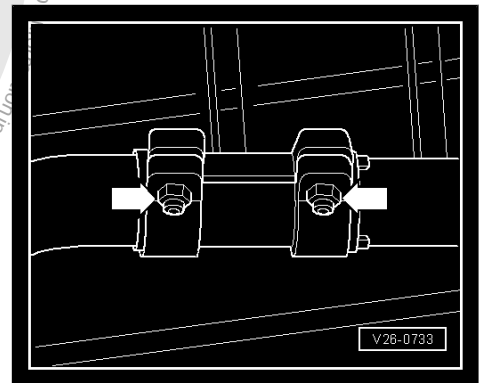
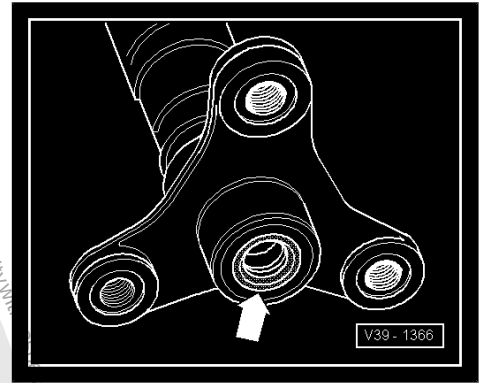
- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation.
- ◆ Renew propshaft if damaged.
- ◆ Do not cant rear propshaft tube; push horizontally onto centring pin.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.
- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Assembly overview - noise insulation .
- Support front section of exhaust system with engine and gearbox jack - V.A.G 1383 A- .
- Separate exhaust system at clamp -arrows- and remove rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/ silencers; Assembly overview - silencer .



Note

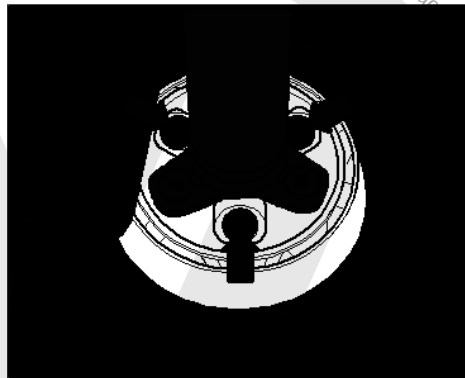
The flexible joint of the exhaust system must not be bent more than 10° - danger of damage.

- Unscrew bolts -1- and -2- of pendulum support.
- Press »engine and gearbox« slightly forwards and secure in position with an appropriate piece of wood -A-.
- Remove heat shield for centre tunnel beneath centre propshaft bearing ⇒ General body repairs, exterior; Rep. gr. 66 ; Underbody cladding; Assembly overview - underbody cover .

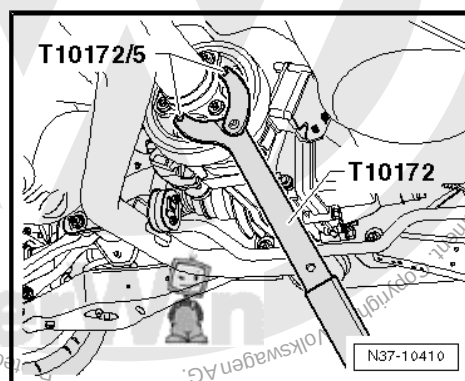




- Unbolt flexible coupling with vibration damper from rear final drive -arrows-.



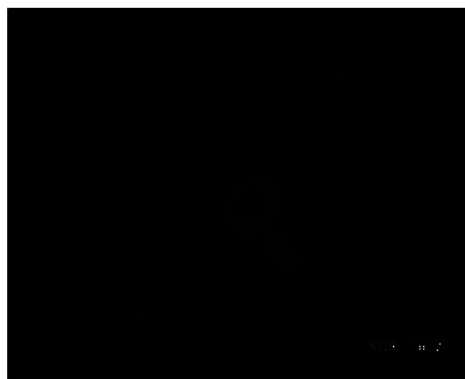
- Counterhold with counterhold tool - T10172- when loosening or tightening bolts.



Note

Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.

Sharan:

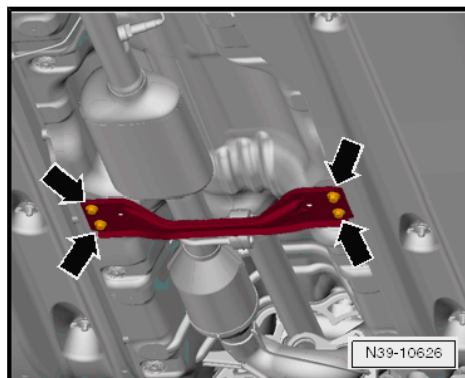


- Loosen bolts of cross piece -arrows-.



Note

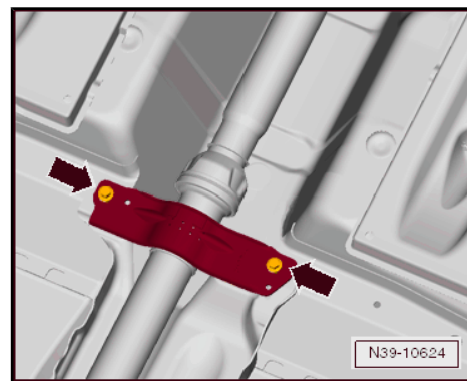
The front centre bearing is also detached when the cross-piece bolts are removed.





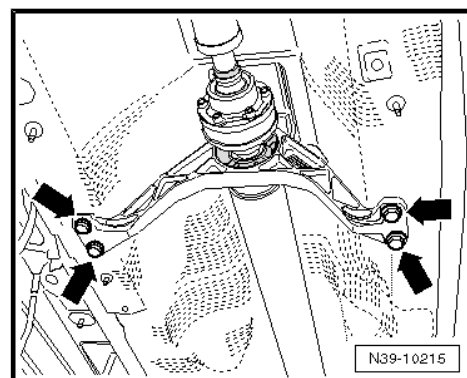
- Unbolt rear centre propshaft bearing -arrows-.
- Pull propshaft with flexible joint off final drive and place on tank.

Tiguan:

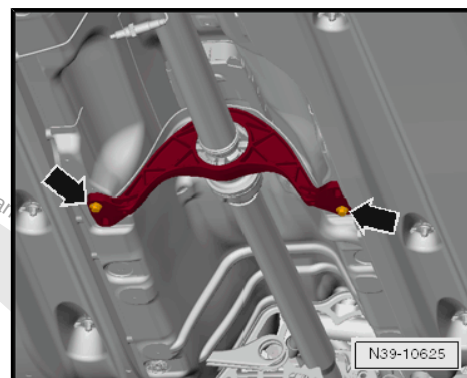


- Unscrew centre propshaft bearing bolts -arrows-.
- Pull propshaft off rear final drive, and place it on tunnel cross member, first laying a cloth on the tunnel cross member to protect the shaft.

Continued for all vehicles:



- After propshaft has been pulled off rear final drive secure centre bearing on body using two bolts -arrows-. This prevents the flexible coupling from being unnecessarily exposed to strain.



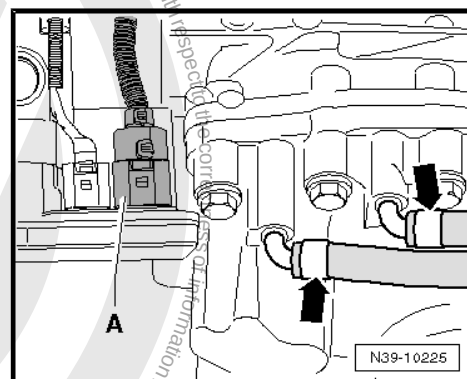
- Separate connector -A- on all-wheel drive control unit - J492- .



Note

Sufficient clearance at the flexible joint is required to remove the all-wheel drive coupling.

- Place drip tray for workshop hoist - VAS 6208- under rear final drive.



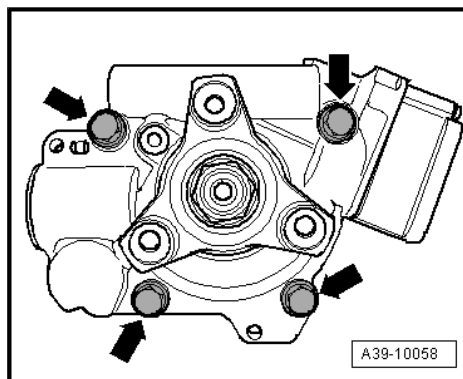


- Unscrew securing bolts -arrows- and pull out all-wheel drive coupling from rear final drive.

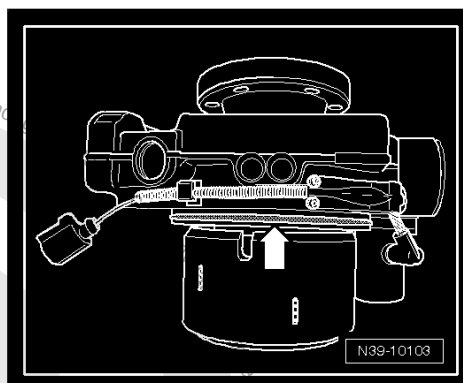
Installing

Install in the reverse order of removal, observing the following:

- Install all parts which were marked in relation to each other in their original positions.

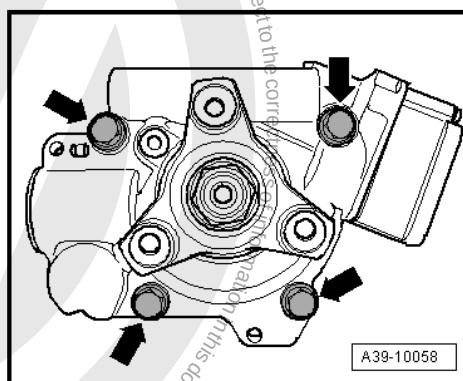


- Insert new O-ring -arrow- and lightly oil with high performance oil for all-wheel drive coupling .



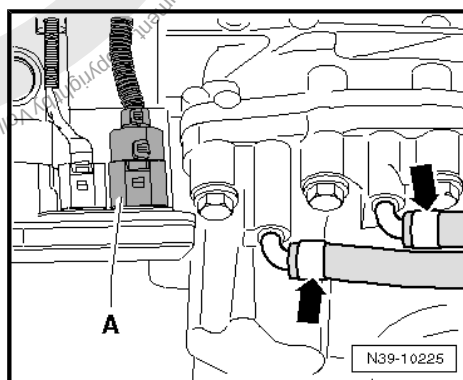
- Insert all-wheel drive coupling in rear final drive.
- Tighten bolts -arrows-.

Specified torque: ➔ [Item 7 \(page 200\)](#)



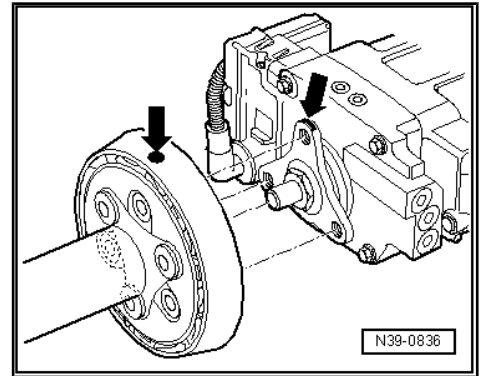
- Join connector -A- to all-wheel drive control unit - J492- .

The procedure described below is only applicable for reinstallation of previously removed parts.





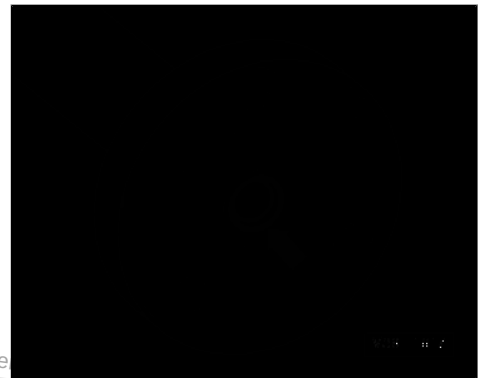
- Attach propshaft to propshaft flange of rear final drive so that marks -arrows- align.



- When pulling off or pushing on propshaft, always ensure that sleeve -arrow- is not damaged.

Installing centre propshaft bearing free of tension.

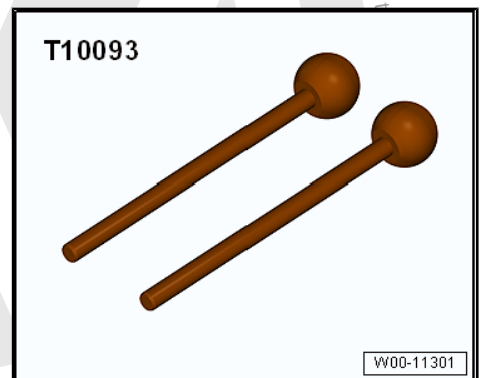
- Align centre propshaft bearing in its elongated holes so that neither propshaft nor centre propshaft bearing is under tension.
- Do not tighten centre propshaft bearing until propshaft has been fitted.
- Tighten propshaft and centre bearing bolts. Specified torque settings:
 - ◆ Tiguan: ➔ [page 62](#)
 - ◆ Sharan: ➔ [page 80](#)
- Continue installation in reverse order of removal.
- Replenish with new high performance oil for all-wheel drive coupling ➔ [page 233](#) .



29.4.2 Removing and installing all-wheel drive coupling, generation V, from week 45/13

Special tools and workshop equipment required

- ◆ Guide pins - T10093-





- ◆ Counterhold tool - T10172-



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



- ◆ Not illustrated:
- ◆ Torque wrench - V.A.G 1331-
- ◆ Torque wrench - V.A.G 1332-

Removing



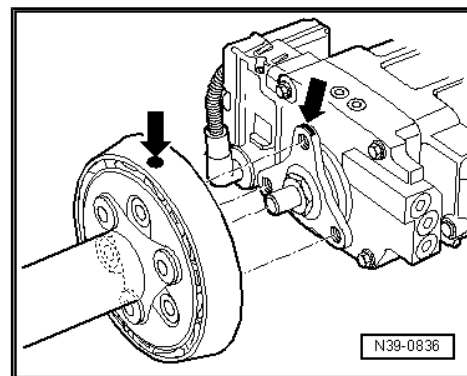
Note

- ◆ *A twin pillar lifting platform should be used when working on the propshaft.*
 - ◆ *Before removing, mark positions of all parts relative to each other. Reinstall in the same position otherwise imbalance will be excessive, the mountings could be damaged causing rumbling noises.*
 - ◆ *Keep propshaft straight; store and transport fully extended only.*
- Drain high performance oil for all-wheel drive coupling
⇒ [page 233](#)

The procedure described below is only applicable for reinstallation of previously removed parts.

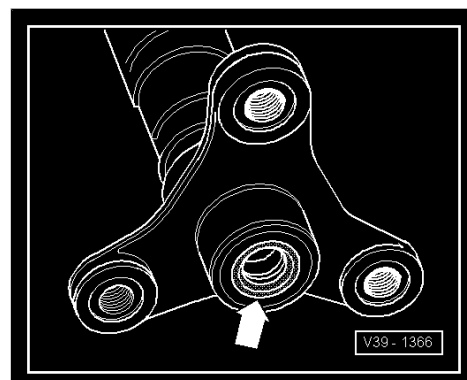


- Before removal, check if there are coloured marks on flexible coupling, on flange of final drive and on propshaft flange -arrows-. If not, mark installation position of flexible coupling -arrows-.



Note

- ◆ Do not damage seals -arrow- in propshaft flanges during removal and installation.
- ◆ Renew propshaft if damaged.
- ◆ Do not cant rear propshaft tube; push horizontally onto centring pin.
- ◆ All parts of propshaft which have been marked relative to each other must be reinstalled in the same positions.

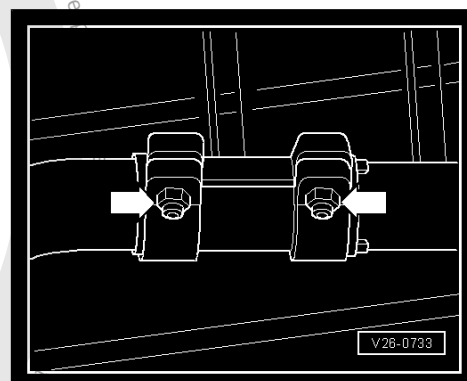


- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Assembly overview - noise insulation .
- Support front section of exhaust system with engine and gear-box jack - V.A.G 1383 A- .
- Separate exhaust system at clamp -arrows- and remove rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/ silencers; Assembly overview - silencer .

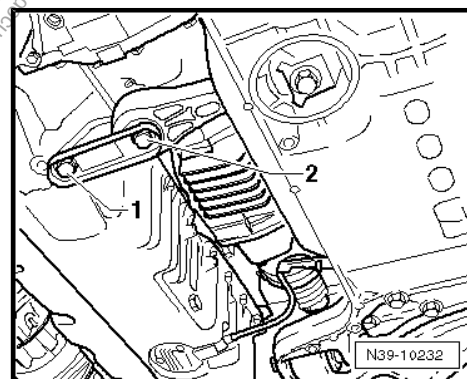


Note

The flexible joint of the exhaust system must not be bent more than 10 ° – danger of damage.

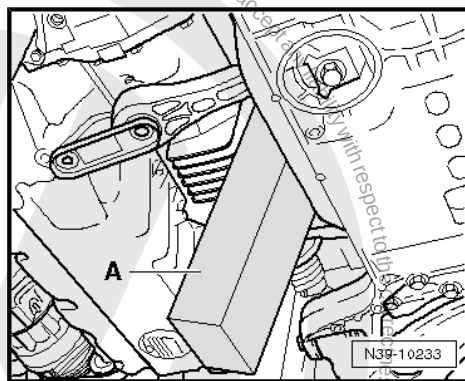


- Unscrew bolts -1- and -2- of pendulum support.





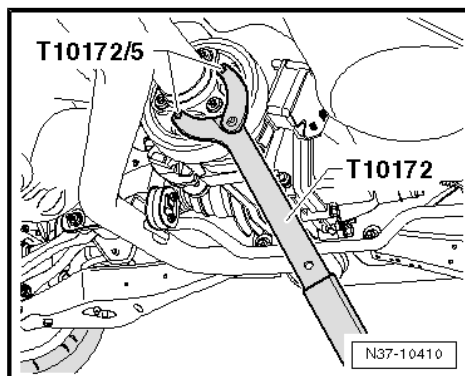
- Press »engine and gearbox« slightly forwards and secure in position with an appropriate piece of wood -A-.
- Remove heat shield for centre tunnel beneath centre propshaft bearing ⇒ General body repairs, exterior; Rep. gr. 66 ; Underbody cladding; Assembly overview - underbody cover .



- Unbolt flexible coupling with vibration damper from rear final drive -arrows-.



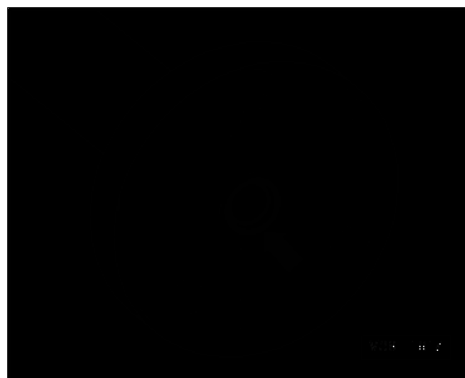
- Counterhold with counterhold tool - T10172- when loosening or tightening bolts.



Note

Do not cant propshaft during removal; pull horizontally off centring pin. Seal in centring sleeve -arrow- must not be damaged.

Sharan:





- Loosen bolts of cross piece -arrows-.



Note

The front centre bearing is also detached when the cross-piece bolts are removed.

Unbolt rear centre propshaft bearing -arrows-.

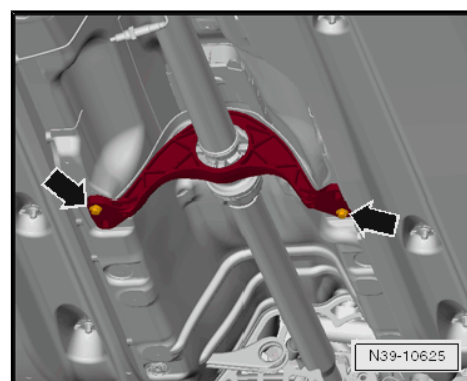
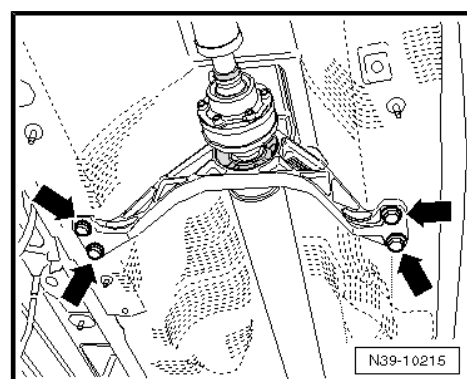
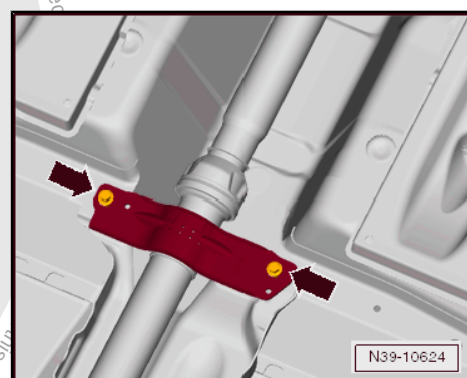
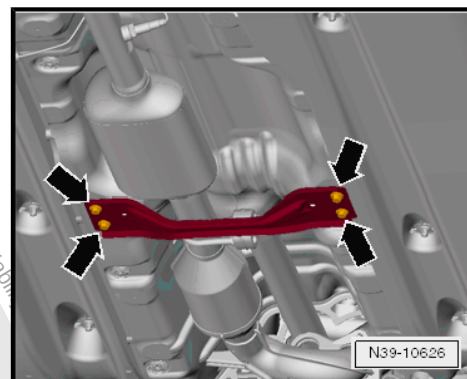
Pull propshaft with flexible joint off final drive and place on tank.

Tiguan:

- Unscrew centre propshaft bearing bolts -arrows-.
- Pull propshaft off rear final drive, and place it on tunnel cross member, first laying a cloth on the tunnel cross member to protect the shaft.

Continued for all vehicles:

- After propshaft has been pulled off rear final drive secure centre bearing on body using two bolts -arrows-. This prevents the flexible coupling from being unnecessarily exposed to strain.





- Separate electrical connector -B- on all-wheel drive control unit - J492- -A-.



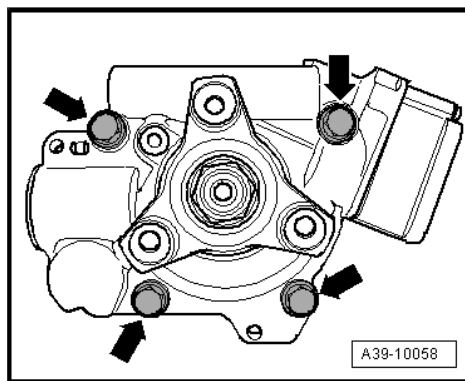
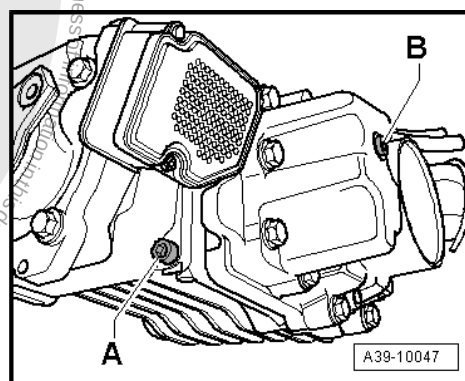
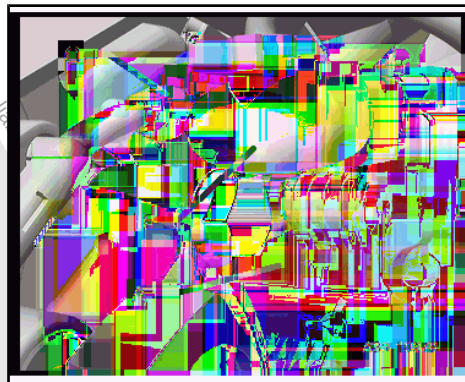
Note

Do not pull off electrical connector -C-.

- Position used oil collection and extraction unit - V.A.G 1782- under rear final drive.

- Unscrew drain plug -A- and drain high performance fluid for all-wheel drive coupling completely.

- Install drain plug -A- with new seal and tighten to 30 Nm.

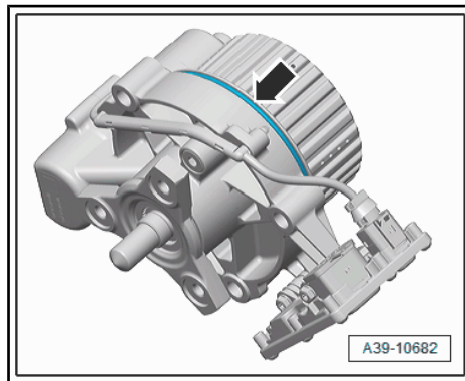


- Unscrew securing bolts -arrows- and pull out all-wheel drive coupling from rear final drive.

Installing

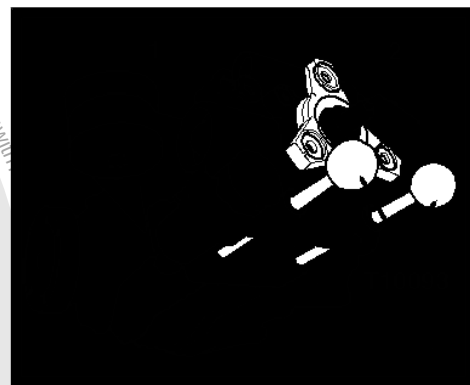
Install in the reverse order of removal, observing the following:

- Remove old O-ring -arrow- from all-wheel drive coupling.
- Insert new O-ring -arrow- and lightly oil with high performance fluid for all-wheel drive coupling .

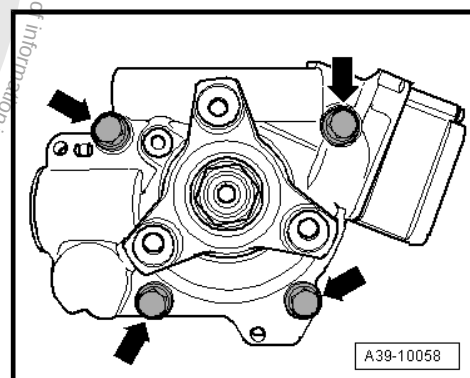




- Insert all-wheel drive coupling -1- in rear final drive. In order to obtain exact guidance, screw in guide pins - T10093- .
- Turn propshaft flange -2- and insert all-wheel drive coupling as far as it will go.



- Tighten bolts -arrows- to specified torque.



- Push electrical connector -B- onto all-wheel drive control unit - J492- -A-.

Electrical connector -C- must also be pushed on.

- Install propshaft to rear final drive.

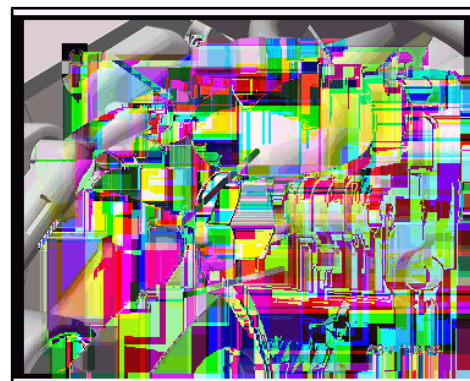
◆ Tiguan: ⇒ [page 62](#)

◆ Sharan: ⇒ [page 80](#)

- Install heat shield for centre tunnel beneath centre propshaft bearing ⇒ General body repairs, exterior; Rep. gr. 66 ; Underbody cladding; Assembly overview - underbody cover .

- Install exhaust system and align it free of stress ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Assembly overview - silencer .

- Replenish all-wheel drive coupling with high performance fluid for all-wheel drive coupling and check fluid level
⇒ [page 232](#) .



Specified torques

- ◆ Drain plug for all-wheel drive coupling
⇒ ["31 Checking oil level or topping up oil in rear final drive, Tiguan 2008 ►, Passat CC, CC 2010 ►, Sharan 2011 ► and Golf 2009 ►", page 224](#)
- ◆ All-wheel drive coupling to final drive ⇒ [Item 7 \(page 200\)](#)



29.5 Removing and installing all-wheel drive control unit - J492-

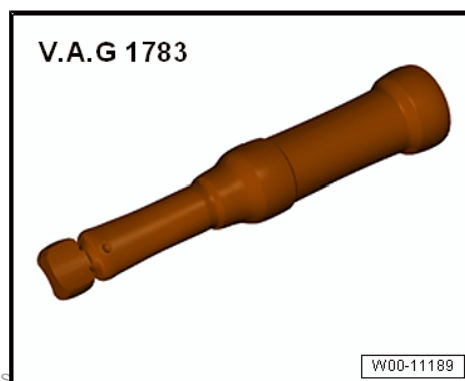
⇒ ["29.5.1 Removing and installing all-wheel drive control unit J492 , generation IV, up to week 44/13", page 218](#)

⇒ ["29.5.2 Removing and installing all-wheel drive control unit J492 , generation V, as of week 45/13", page 221](#)

29.5.1 Removing and installing all-wheel drive control unit - J492- , generation IV, up to week 44/13

Special tools and workshop equipment required

- ◆ Hexagon key 4 mm
- ◆ Torque wrench 2...10 Nm - V.A.G 1783-

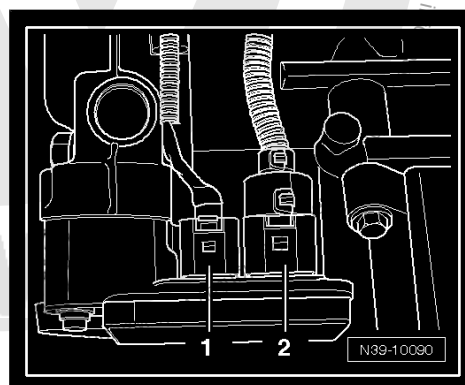


- ◆ Drip tray for workshop hoist - VAS 6208-



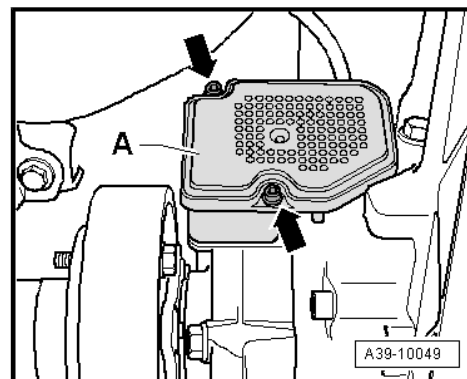
Removing

- Switch off ignition.
- Separate connectors -1- and -2- of control unit on top.
- Place drip tray under final drive.

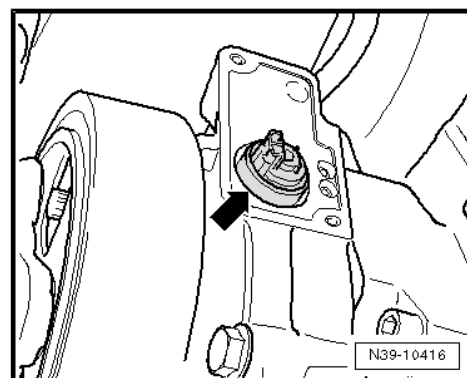




- Remove bolts -arrows-.
- Carefully remove control unit -A-.



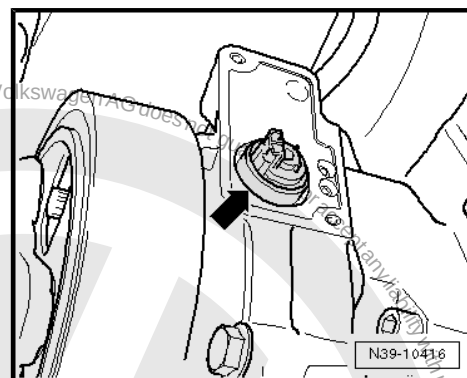
- If necessary, remove cover ⇒ [Item 3 \(page 169\)](#) from all-wheel drive coupling housing, holding valve -arrow- securely.



- Cover coupling opening control valve - N373- -arrow- with a cloth, grasp valve body with pliers and pull it out.

Installing

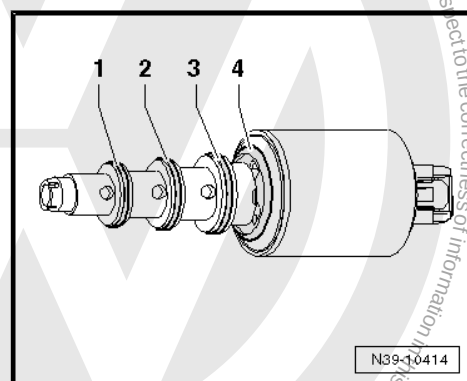
Install in the reverse order of removal, observing the following:



Note

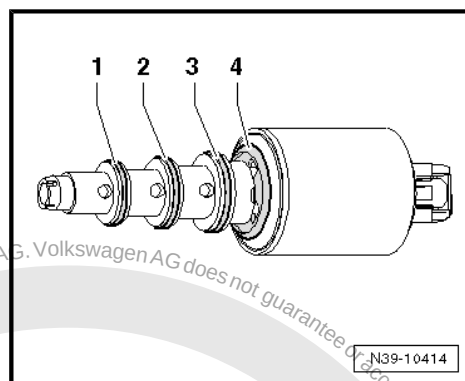
Valve seals have different inner diameters.

- ◆ -1- Inner diameter 10 mm
- ◆ -2- Inner diameter 11 mm
- ◆ -3- Inner diameter 12 mm
- ◆ -4- Seal on valve body





- First moisten seal -1- with all-wheel drive coupling oil and place on coupling opening control valve - N373- .
- Then seals -2-, -3- and -4-.
- Press centring lips (Qty. 4) of seal -4- into groove.

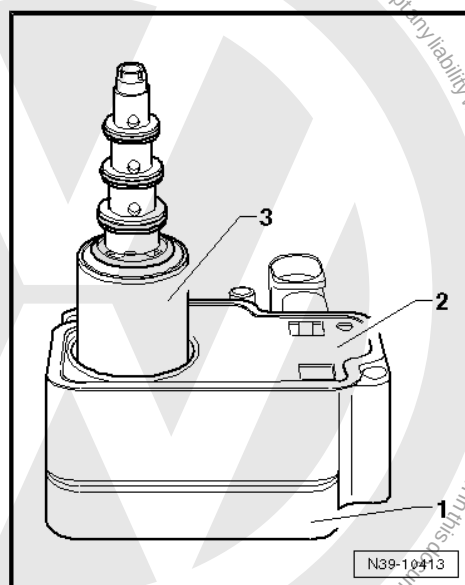


- Set new cover -2- on control unit -1-.



Note

The cover fits in only one position.

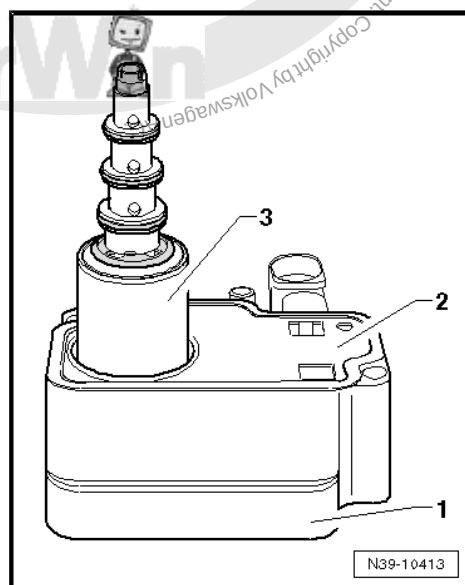


- Insert coupling opening control valve - N373- 3- into control unit -1-.



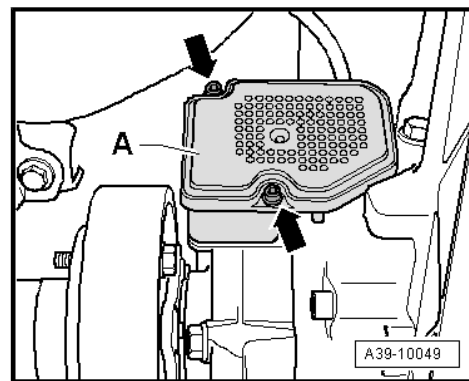
Note

The valve fits only in one position.





- Carefully set control unit -A- in place and tighten bolts -arrows- to specified torque ⇒ [Item 2 \(page 169\)](#) .
- Check oil level in all-wheel drive coupling ⇒ [page 232](#) .



29.5.2 Removing and installing all-wheel drive control unit - J492- , generation V, as of week 45/13

Removing

- Pull electrical connectors -B- and -C- off all-wheel drive control unit -A-.



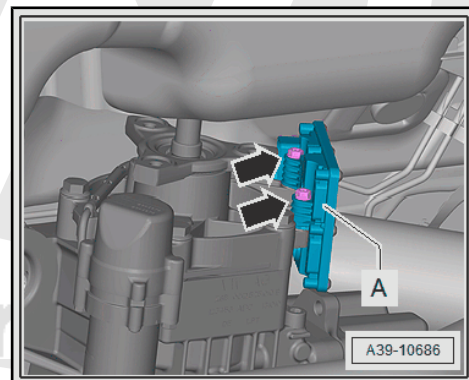
- Unscrew bolts -arrows- for all-wheel drive control unit on all-wheel drive coupling and remove all-wheel drive control unit -A-.

Installing

Install in reverse order of removal.

Specified torques

- ◆ All-wheel drive control unit to all-wheel drive coupling
⇒ [Item 3 \(page 200\)](#)

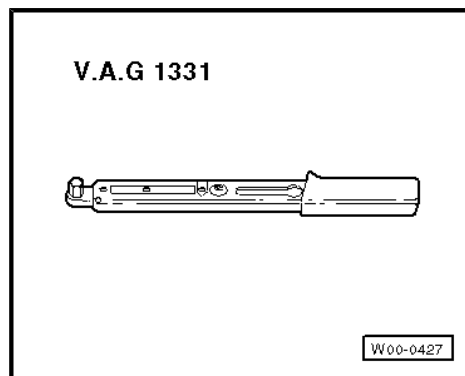




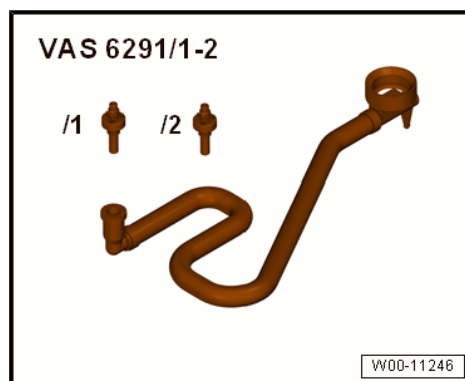
30 Checking oil level or topping up oil in rear final drive, Golf 2004 ► and Passat 2006 ►

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-



- ◆ Filling device for Haldex coupling 2 - VAS 6291-



Test precondition

- Vehicle level, all supports in lifting platform at same height.

Checking oil level:

- Place drip tray - VAS 6208- under final drive.

The oil inspection plug is located on the left side of the rear final drive as seen when looking forwards.



- Remove oil plug -arrow-.

The oil level is correct when the rear final drive is filled to the lower edge of the filler hole.

- Screw in plug -arrow- and tighten. Torque setting:
⇒ [page 223](#) .

Topping up oil:

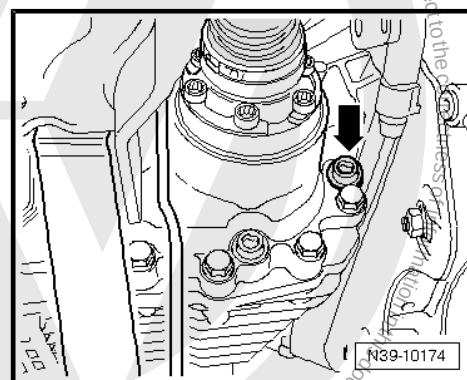
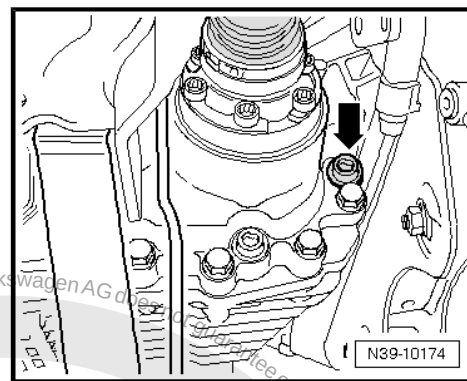
- Screw suitable adapter - VAS 6291- hand-tight into inspection hole.
- Using filling device for Haldex coupling 2 - VAS 6291- , add enough oil so that it runs out between the adapter of the filling device and the final drive housing.

Gear oil for the rear final drive is available as a replacement part
⇒ Electronic Parts Catalogue (ETKA)

- Remove filling device and adapter; excess oil may still run out.

The oil level is correct when the rear final drive is filled to the lower edge of the filler hole.

- Screw in plug -arrow- and tighten. Torque setting:
⇒ [page 223](#) .



30.1 Specified torques

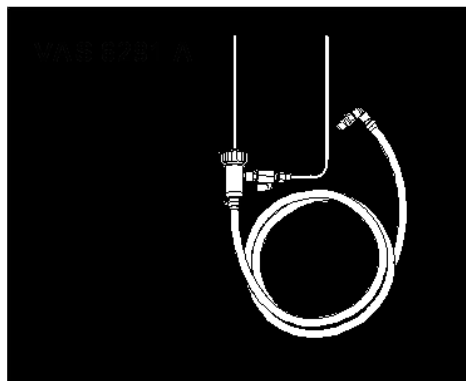
Plug with	Torque setting
M20 x 1 thread	40 Nm
Thread M10 x 1	15 Nm



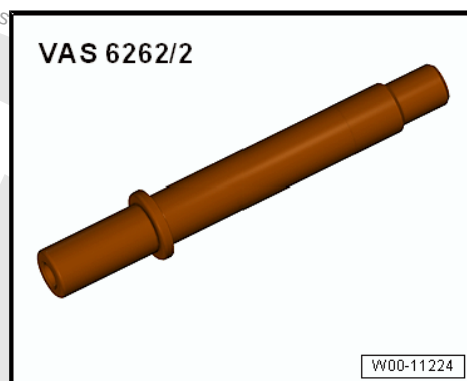
31 Checking oil level or topping up oil in rear final drive, Tiguan 2008 ►, Passat CC, CC 2010 ►, Sharan 2011 ► and Golf 2009 ►

Special tools and workshop equipment required

- ◆ Filling device - VAS 6291 A-



- ◆ Adapter - VAS 6262/2-



- ◆ Not illustrated: Torque wrench - V.A.G 1331-

Test precondition

- Vehicle level, all supports in lifting platform at same height.

Checking oil level:

- Place drip tray - VAS 6208- under final drive.

The oil inspection plug is located on the left side of the rear final drive as seen when looking forwards.



- Remove oil plug -arrow-.

The oil level is correct when the rear final drive is filled to the lower edge of the filler hole.

- Screw in plug -arrow- and tighten. Torque setting 15 Nm.

Topping up oil:

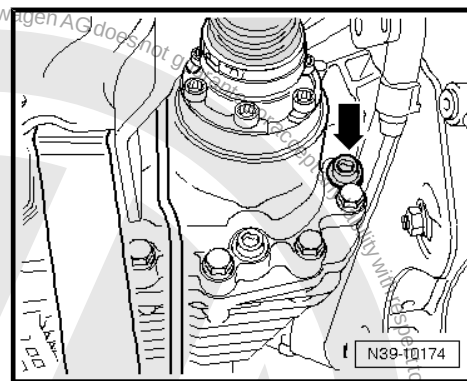
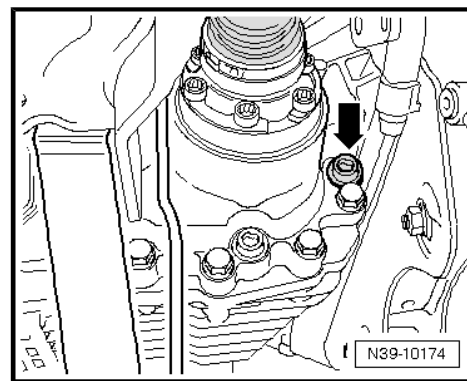
- Screw adapter - VAS 6262/2- hand-tight in inspection hole.
- Using filling device - VAS 6291 A- , add enough oil so that it runs out between the adapter of the filling device and the final drive housing.

Gear oil for the rear final drive is available as a replacement part
⇒ Electronic Parts Catalogue (ETKA) .

- Remove filling device and adapter; excess oil may still run out.

The oil level is correct when the rear final drive is filled to the lower edge of the filler hole.

- Screw in plug -arrow- and tighten. Torque setting 15 Nm.



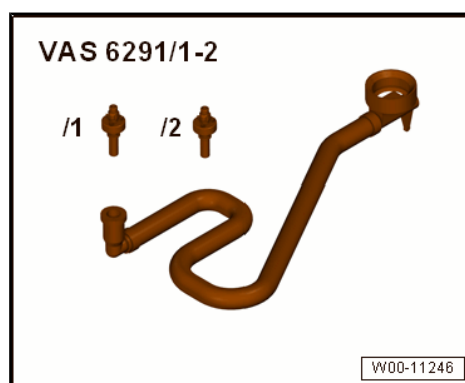
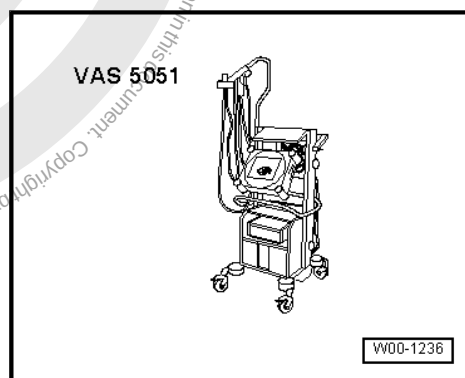
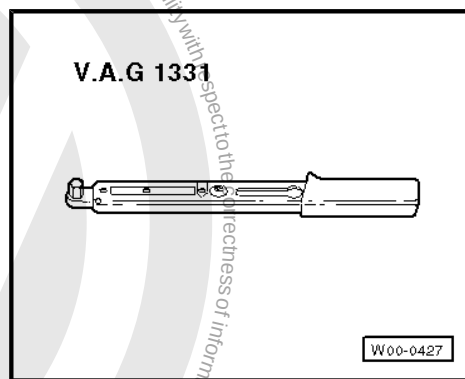


32 Checking oil level or topping up oil in all-wheel drive coupling, generation II, Golf 2004 ► and Passat 2006 ►

High performance oil for all-wheel drive coupling is available as a replacement part ⇒ Electronic parts catalogue "ETKA".

Special tools and workshop equipment required

- ◆ Torque wrench - V.A.G 1331-
- ◆ Vehicle diagnosis, testing and information system - VAS 5051-
- ◆ Diagnosis cable, 3 m with voltage supply - VAS 5051/1- or diagnosis cable, 5 m without voltage supply - VAS 5051/3-
- ◆ Also required for topping up:



- ◆ Filling device for Haldex coupling 2 - VAS 6291-

32.1 Checking oil level in all-wheel drive coupling

Test conditions

- The oil temperature must be between 20 and 40 °C.
- Vehicle level.



- ◆ The oil temperature can be attained by running engine until warm.
- Connect vehicle diagnosis, testing and information system - VAS 5051/- .
- In the display, select "Running gear (repair group 01; 40 ... 49)".
- Select "All-wheel drive with all-wheel drive coupling" on display.
- Select "01 - Self-diagnosis-capable system" on display.
- Select "Four-wheel drive Haldex" on display.
- Select "Electrical components" on display.
- Select "Oil temperature" on display.

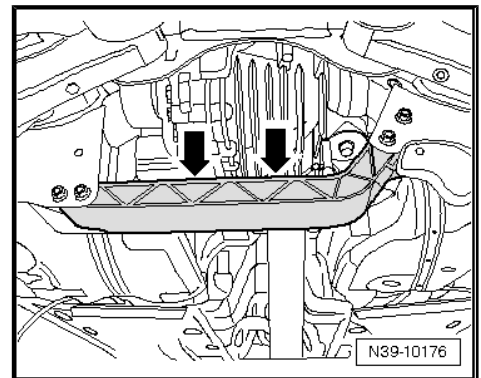
Vehicles with cross member:

- Cover cross member with cloth.

If oil should land on the cross member or in the perforations in the cross member, carefully remove all oil.

Check fluid level

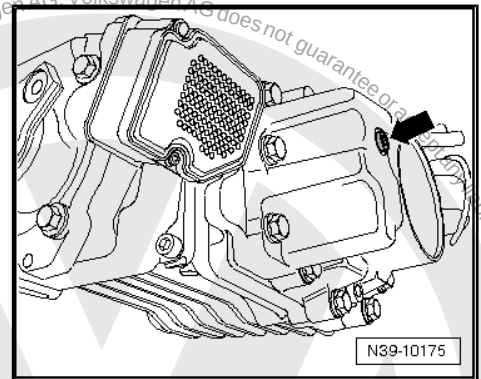
- Place drip tray - VAS 6208- under final drive.



- Remove oil filler plug -arrow-. (For sake of clarity, shown with final drive removed.)

Oil level is correct when all-wheel drive coupling is filled to lower edge, or at least to within about 3 mm of lower edge, of filler hole.

- Screw in plug and tighten. Torque setting ⇒ [page 223](#)



32.2 Replenishing oil in all-wheel drive coupling

Test precondition

- Vehicle level.
- Replenish high performance oil for all-wheel drive coupling .

High performance oil for all-wheel drive coupling is available as a replacement part ⇒ Electronic parts catalogue "ETKA" .

- Raise vehicle.

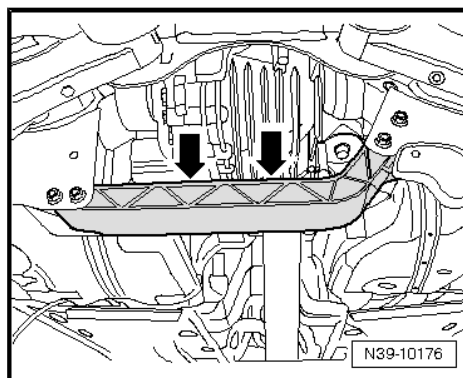


Vehicles with cross member:

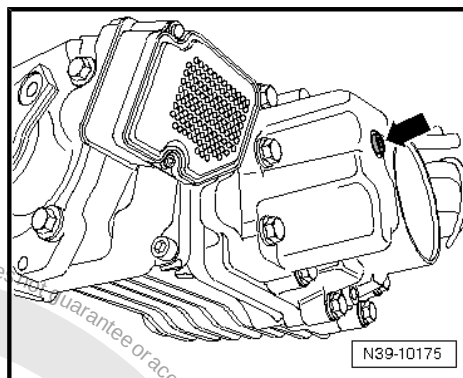
- Cover cross member with cloth.

If oil should land on the cross member or in the perforations in the cross member, carefully remove all oil.

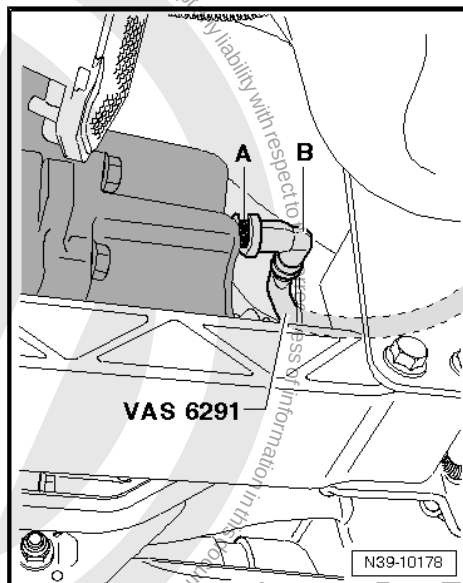
- To top up oil, use Filling device for Haldex coupling 2 - VAS 6291- .
- Place drip tray - VAS 6208- under final drive.



- Remove oil filler plug -arrow-. (For sake of clarity, shown with final drive removed.)



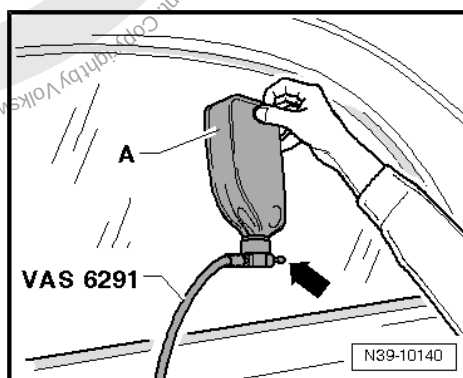
- Screw in adapter -A- to stop.
- Engage elbow -B- in adapter -A-.
- Route hose above drive shaft.
- Hose must not sag. It must exit at rear of vehicle above left rear wheel.
- Lower vehicle.



- Ensure that valve -arrow- is closed.
- Screw oil reservoir -A- onto filling device for all-wheel drive coupling II - VAS 6291- .
- Now open valve -arrow- and hold oil reservoir as shown in figure.

The all-wheel drive coupling will now be filled.

- After a few minutes, raise vehicle.





Note

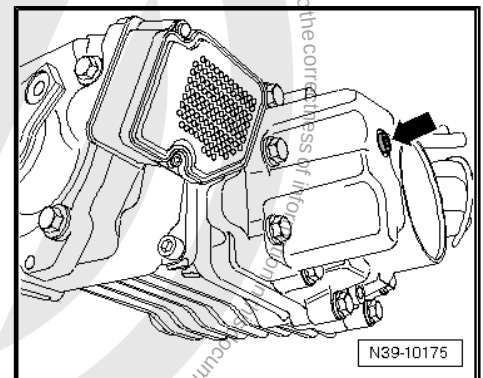
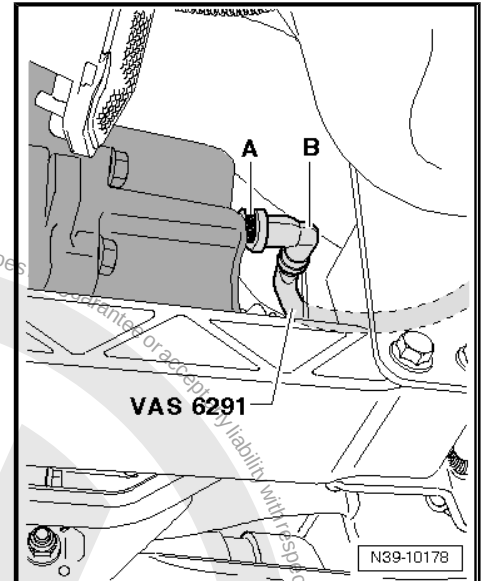
- ◆ If the all-wheel drive coupling is filled properly, oil will run out at the adapter -A-.
- ◆ If no oil has run out, lower vehicle and perform filling procedure again.

- Raise vehicle.
- Once oil starts running out, place oil reservoir below all-wheel drive coupling (e.g. on a tool trolley).

Excess oil will now flow back into oil reservoir.

- When no more oil flows back, remove filler device - VAS 6291- .

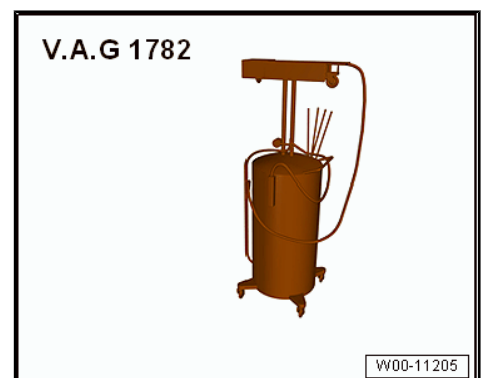
- Screw in plug -arrow- and tighten. Torque setting
⇒ [page 223](#)
- Then check oil level in all-wheel drive coupling ⇒ [page 226](#) .



32.3 Draining and replenishing all-wheel drive coupling fluid

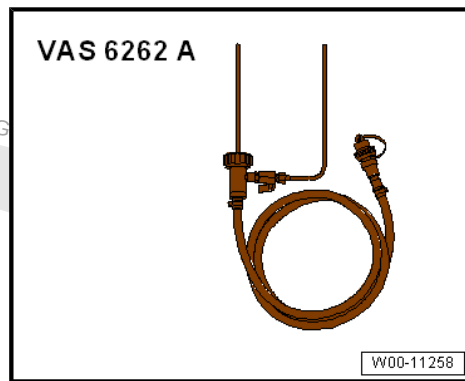
Special tools and workshop equipment required

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

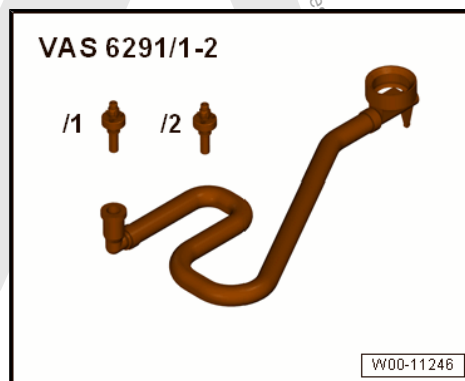




- ♦ Filling device - VAS 6262 A-



- ♦ Adapter - 6291/1-2-



- ♦ Not illustrated: Torque wrench - V.A.G 1331-
- ♦ Acid-resistant gloves

Vehicles with cross member:

- Cover cross member with cloth.

If oil should land on the cross member or in the perforations in the cross member, carefully remove all oil.

Drain oil

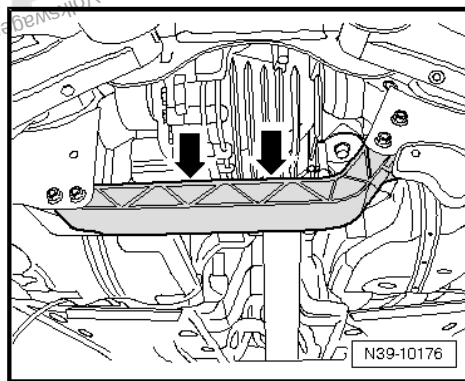
- Observe safety data sheet.
- Vehicle level.



Caution

Risk of injury

- ***Wear acid-resistant gloves***



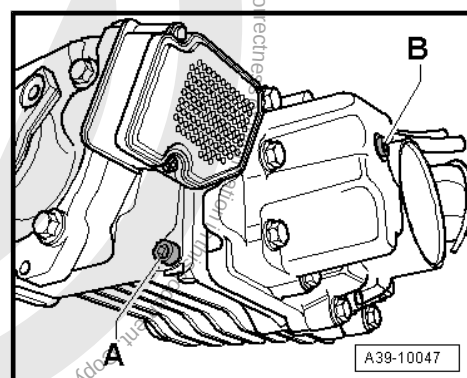
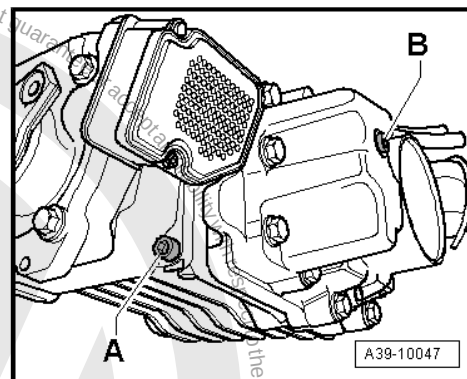
- Position used oil collection and extraction unit - V.A.G 1782-
under final drive.



- Unscrew drain plug -A- and drain high performance oil for all-wheel drive coupling completely.
- Install drain plug -A- with new seal and tighten to 30 Nm.

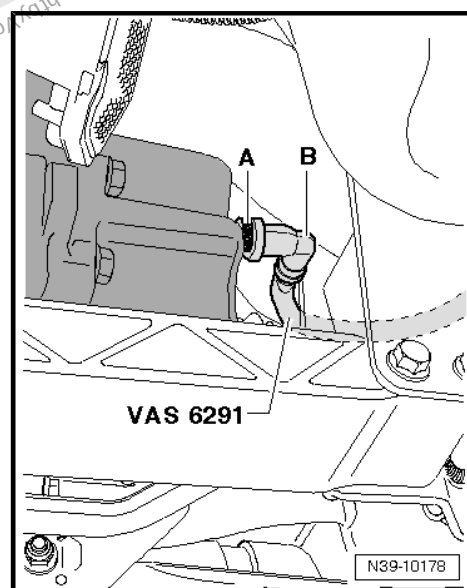
Filling with oil

- Unscrew oil filler plug -B-. (For sake of clarity, shown with final drive removed.)

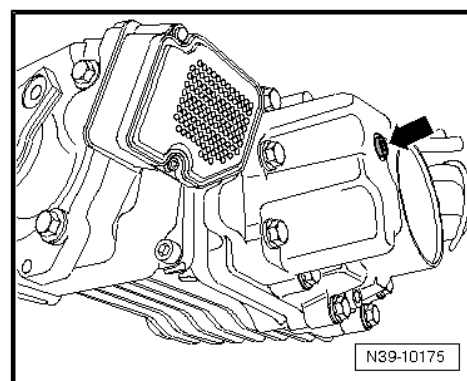


- Screw adapter - 6291/1-2- -A- in to stop.
- Engage elbow -B- in adapter -A-.
- Using filling device - VAS 6262 A- , add enough oil so that it runs out between the adapter of the filling device and the final drive housing.
- Remove filling device and adapter; excess oil may still run out.

Oil level is correct when all-wheel drive coupling is filled to lower edge of filler hole.



- Screw in plug -arrow- and tighten. Tightening torque: 15 Nm.



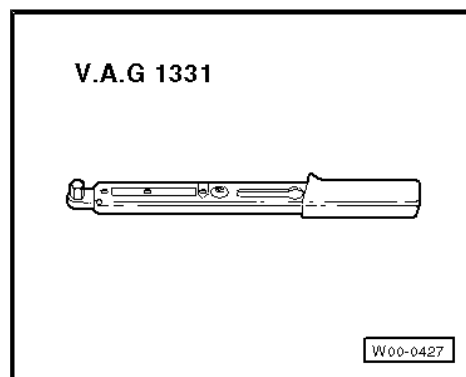


33 Checking oil level or topping up oil in all-wheel drive coupling, generations IV + V, Tiguan 2008 ►, Passat CC, CC 2010 ►, Sharan 2011 ► and Golf 2009 ►

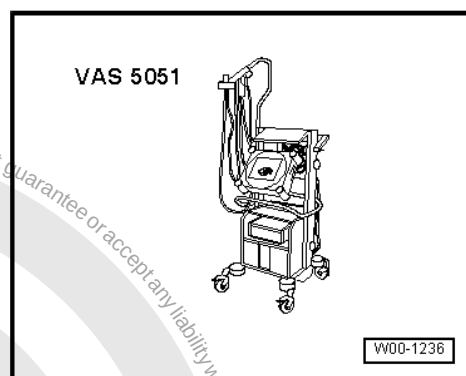
High performance oil for all-wheel drive coupling is available as a replacement part ⇒ Electronic parts catalogue "ETKA".

Special tools and workshop equipment required

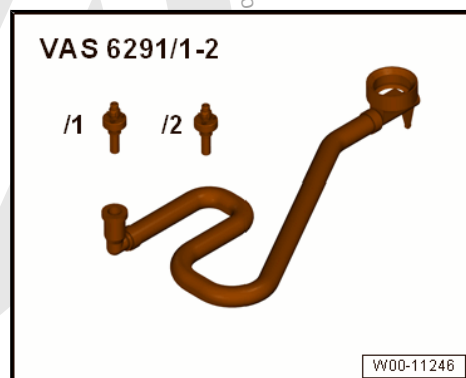
- ◆ Torque wrench - V.A.G 1331-



- ◆ Vehicle diagnosis, testing and information system - VAS 5051-



- ◆ Diagnosis cable, 3 m with voltage supply - VAS 5051/1- or diagnosis cable, 5 m without voltage supply - VAS 5051/3-
- ◆ Also required for topping up:



- ◆ Filling device for Haldex coupling 2 - VAS 6291-





33.1 Checking oil level in all-wheel drive coupling

Test conditions

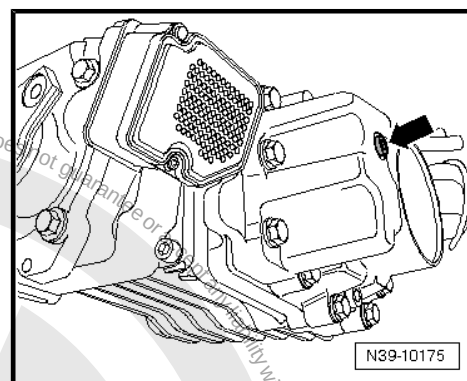
- The oil temperature must be between 20 and 40 °C.
- Vehicle level.
- ◆ The oil temperature can be attained by running engine until warm.
- Connect vehicle diagnosis, testing and information system - VAS 5051/- .
- In the display, select "Running gear (repair group 01; 40 ... 49)".
- Select "All-wheel drive with all-wheel drive coupling" on display.
- Select "01 - Self-diagnosis-capable systems" on display.
- Select "Haldex all-wheel drive" on display.
- Select "Electrical components" on display.
- Select "Oil temperature" on display.

Check fluid level

- Remove oil filler plug -arrow-. (For sake of clarity, shown with final drive removed.)

Oil level is correct when all-wheel drive coupling is filled to lower edge, or at least to within about 3 mm of lower edge, of filler hole.

- Tighten plug -arrow- to 15 Nm.



33.2 Replenishing oil in all-wheel drive coupling

Test precondition

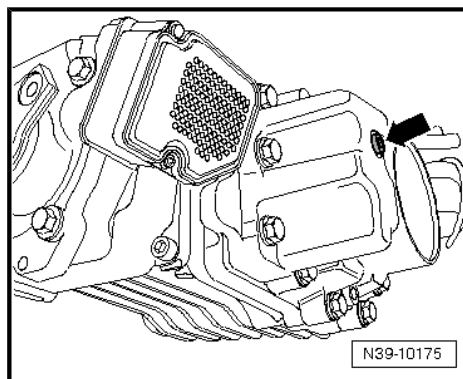
- Vehicle level.

High performance oil for all-wheel drive coupling is available as a replacement part ⇒ Electronic parts catalogue "ETKA".

- Raise vehicle.
- Place drip tray underneath.
- Place drip tray - VAS.6208- under final drive.

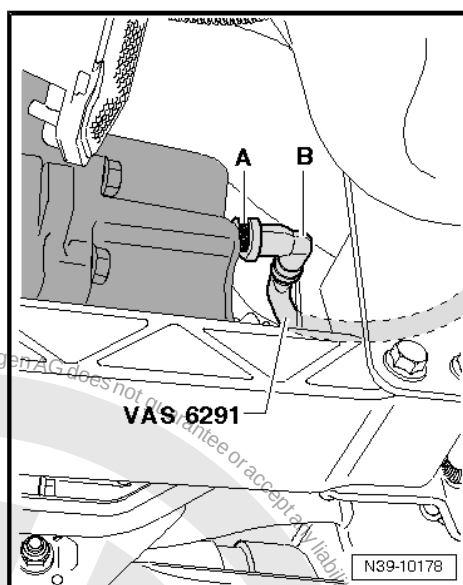


- Remove oil filler plug -arrow-. (For sake of clarity, shown with final drive removed.)

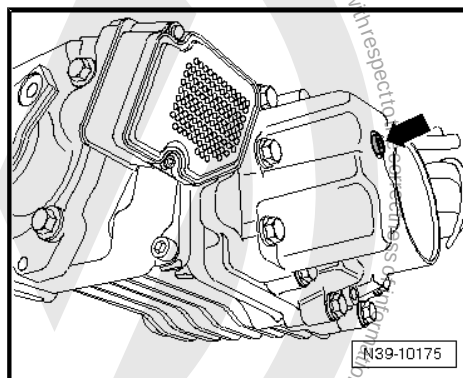


- Screw adapter -A- in to stop.
- Engage elbow -B- in adapter -A-.
- Using filling device for Haldex coupling 2 - VAS 6291- , add enough oil so that it runs out between the adapter of the filling device and the final drive housing.
- Remove filling device and adapter; excess oil may still run out.

Oil level is correct when all-wheel drive coupling is filled to lower edge of filler hole.



- Screw in plug -arrow- and tighten. Torque setting 15 Nm.
- Then check oil level in all-wheel drive coupling ⇒ [page 233](#) .

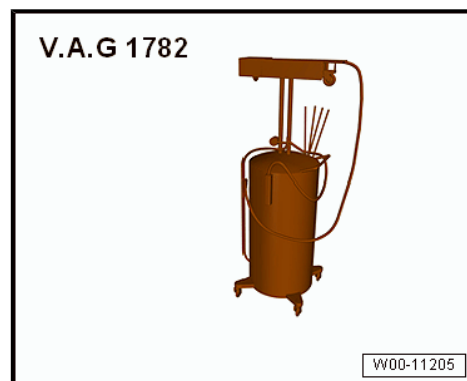


33.3 Draining and replenishing all-wheel drive coupling fluid

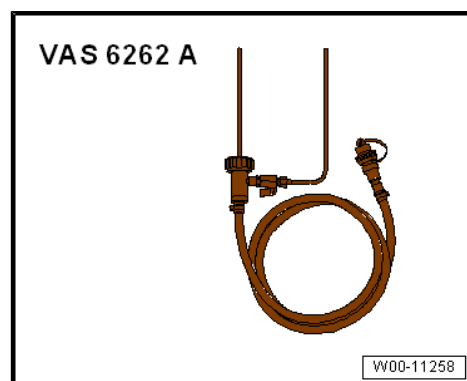
Special tools and workshop equipment required



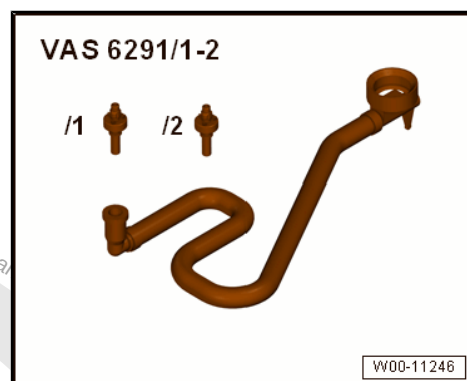
- ◆ Used oil collection and extraction unit - V.A.G 1782-



- ◆ Filling device - VAS 6262 A-



- ◆ Adapter - 6291/1-2-



- ◆ Not illustrated: Torque wrench - V.A.G 1331-
- ◆ Acid-resistant gloves



Vehicles with cross member:

- Cover cross member with cloth.

If oil should land on the cross member or in the perforations in the cross member, carefully remove all oil.

Drain oil

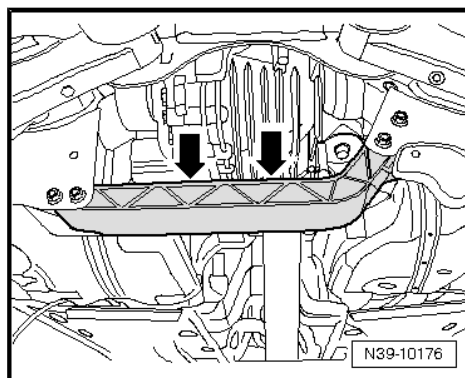
- Observe safety data sheet.
- Vehicle level.



Caution

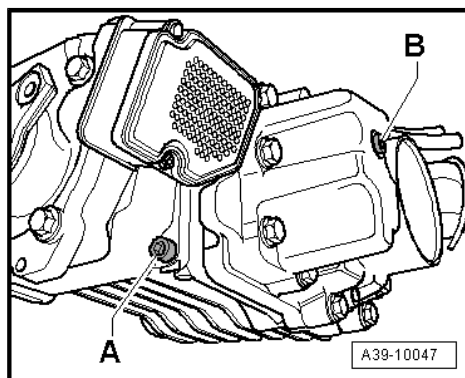
Risk of injury

- *Wear acid-resistant gloves*

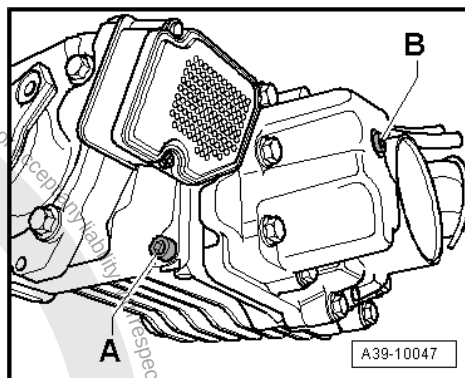


- Position used oil collection and extraction unit - V.A.G 1782- under final drive.
- Unscrew drain plug -A- and drain high performance oil for all-wheel drive coupling completely.
- Install drain plug -A- with new seal and tighten to 30 Nm.

Filling with oil



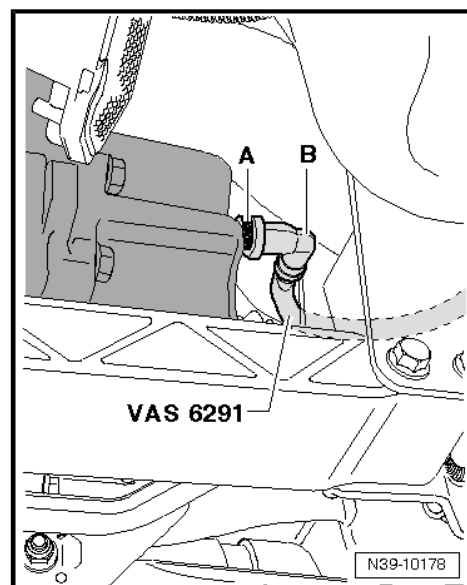
- Unscrew oil filler plug -B-. (For sake of clarity, shown with final drive removed.)





- Screw adapter - 6291/1-2- -A- in to stop.
- Engage elbow -B- in adapter -A-.
- Using filling device - VAS 6262 A- , add enough oil so that it runs out between the adapter of the filling device and the final drive housing.
- Remove filling device and adapter; excess oil may still run out.

Oil level is correct when all-wheel drive coupling is filled to lower edge of filler hole.



- Screw in plug -arrow- and tighten. Tightening torque: 15 Nm.

