Maintenance
León 2013 ➤
León ST 2013 ➤

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Maintenance

Heading

1. Technical data of the engines
2. Longlife service and time or mileage dependent service
3. Service tables
4. Description of work
5. Glossary

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

1 Technical data of the engines

(EIGG000421; Edition 07.2018)

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1.1 Petrol engines

Code	CHZD	CJZA	CJZB	CYVA	CYVB	CMBA
Exhaust emissions fulfil norm	EU6 Plus	EU5	EU5	EU6 Plus	EU6 Plus	EU5
No. of cylinders / valves per cylinder	3 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Displacement l	1.0	1.2	1.2	1.2	1.2	1.4
Engine output kW / rpm	85/5000-5500	77/5000	63/4800	63/4300-5300	81/4600-5600	90/5000-6000
Torque Nm at rpm	200/2000-3500	175/1400-3500	160/1400-3200	160/1400-3500	175/1400-4000	200/1400-4000
Bore ∅ mm	74.5	71.0	71.0	71.0	71.0	74.5
Stroke mm	76.4	75.6	75.6	75.6	75.6	80
Compression ratio	10.5	10.5	10.5	10.5	10.5	10.0
RON (minimum)	95 unleaded	95 unleaded	95 unleaded	95 unleaded	95 unleaded	95 unleaded 1)
Fuel injection / ignition	Motronic Bosch ME 17 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI
Camshaft drive	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt
Forced induction	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger

1) Unleaded RON 91 can also be used, but will result in a slight loss of power.

Code	CHPA	CXSA	CZEA	CZCA	CPWA	CZDA
Exhaust emissions fulfil norm	EU5	EU5	EU6	EU6	EU5	EU5
No. of cylinders / valves per cylinder	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Displacement l	1.4	1.4	1.4	1.4	1.4	1.4
Engine output kW / rpm	103/4500-6000	90/5000-6000	110/4500-6000	92/5000-6000	81/5000	110/5000-6000
Torque Nm at rpm	250/1500-3500	200/1400-4000	250/1500-3500	200/1400-4000	200/1500-4000	250/1500-3500
Bore ∅ mm	74.5	74.5	74.5	74.5	74.5	74.5
Stroke mm	80	80	80	80	80	80
Compression ratio	10.5	10.0	10.5	10.5	10.5	10.0

Code	CHPA	CXSA	CZEA	CZCA	CPWA	CZDA
RON (minimum)	95 unleaded[2)]	95 unleaded[2)]	95 unleaded[2)]	95 unleaded[2)]	Natural gas and 95[2)]	95 unleaded[2)]
Fuel injection / ignition	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TGI	Motronic MED 17.5.21 TSI
Camshaft drive	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt
Forced induction	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger

2) Unleaded RON 91 can also be used, but will result in a slight loss of power.

Code	CWVA	CJSA	CJSB	CJXA	CJXE	CJXH
Exhaust emissions fulfil norm	EU5	EU5	EU6 Plus	EU6	EU6	EU6
No. of cylinders / valves per cylinder	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Displacement l	1.6	1.8	1.8	2.0	2.0	2.0
Engine output kW / rpm	81/5800	132/5100-6200	132/4500-6200	206/5700-6200	195/5350-6600	213/5900-6400
Torque Nm at rpm	155/3800	250/1250-5000	280/1350-4500	380/1750-5600	350/1700-5300	350/1700-5800
Bore ∅ mm	76.5	82.5	82.5	82.5	82.5	82.5
Stroke mm	86.9	84.1	84.1	92.8	92.8	92.8
Compression ratio	10.5	9.6	9.6	9.3	9.3	9.3
RON (minimum)	95 unleaded[3)]	95 unleaded	95 unleaded[3)]	98 unleaded[4)]	98 unleaded[4)]	98 unleaded[4)]
Fuel injection / ignition	Bosch ME 17	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI
Camshaft drive	Toothed belt	Chain	Chain	Chain	Chain	Chain
Forced induction	-	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger

3) Unleaded RON 91 can also be used, but will result in a slight loss of power.

4) Unleaded RON 95 can also be used, but will result in a slight loss of power.

Code	CJXC	CJXG
Exhaust emissions fulfil norm	EU6	EU6
No. of cylinders / valves per cylinder	4 / 4	4 / 4
Displacement l	2.0	2.0
Engine output kW / rpm	221/5500-6200	228/5800-6500
Torque Nm at rpm	380/1800-5500	380/1850-5700
Bore ∅ mm	82.5	82.5

Code	CJXC	CJXG
Stroke mm	92.8	92.8
Compression ratio	9.3	9.3
RON (minimum)	98 unleaded[5)]	98 unleaded[5)]
Fuel injection / ignition	Motronic MED 17.5.21 TSI	Motronic MED 17.5.21 TSI
Camshaft drive	Chain	Chain
Forced induction	Turbocharger	Turbocharger

5) Unleaded RON 95 can also be used, but will result in a slight loss of power.

1.2 Diesel engines

Code	CLHA	CLHB	CKFB	CKFC	CRBC	CRKB
Exhaust emissions fulfil norm	EU5 plus	EU5 plus	EU5 plus	EU5 plus	EU5 plus	EU6 plus
No. of cylinders / valves per cylinder	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Displacement l	1.6	1.6	2.0	2.0	2.0	1.6
Engine output kW / rpm	77/3000-4000	66/2750-4800	105/3500-4000	110/3500-4000	105/3500-4000	81/3000-4000
Torque Nm at rpm	250/1500-2750	230/1400-2750	320/1750-3000	320/1750-3000	320/1750-3000	250/1500-2750
Bore ∅ mm	79.5	79.5	81.0	81.0	81.0	79.5
Stroke mm	80.5	80.5	95.5	95.5	95.5	80.5
Compression ratio	16.2	16.2	16.2	16.2	16.2	16.2
Cetane (minimum) rating	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)
Fuel injection / ignition	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail
Forced induction	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger
Camshaft drive	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt
Particulate filter	yes	yes	yes	yes	yes	yes
SCR catalytic converter	No	No	No	No	No	No

Code	CRMB	CRLB	CRVA	CRVC	CUPA	CUNA
Exhaust emissions fulfil norm	EU6 plus	EU6 plus	EU4	EU4	EU5 plus	EU6 plus
No. of cylinders / valves per cylinder	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Displacement l	2.0	2.0	2.0	2.0	2.0	2.0

Code	CRMB	CRLB	CRVA	CRVC	CUPA	CUNA
Engine output kW / rpm	110/4000	110/4000	81/3500-4000	105/4000	135/3500-4000	135/3500-4000
Torque Nm at rpm	340/1750-3000	340/1750-3000	250/1250-2500	320/1750-3000	380/1750-3000	380/1750-3000
Bore ∅ mm	81.0	81.0	81.0	81.0	81.0	81.0
Stroke mm	95.5	95.5	95.5	95.5	95.5	95.5
Compression ratio	16.2	16.2	16.2	16.2	15.8	15.8
Cetane (minimum) rating	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)
Fuel injection / ignition	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail
Forced induction	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger
Camshaft drive	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt
Particulate filter	yes	yes	Depending on variant	Depending on variant	yes	yes
SCR catalytic converter	No	No	No	No	No	No

Code	CXXA	CXXB	CRGA	DBKA	DDYA	DDYB
Exhaust emissions fulfil norm	EU6 plus	EU6 plus	EU4	EU6 plus	EU6 plus	EU6 plus
No. of cylinders / valves per cylinder	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Displacement l	1.6	1.6	2.0	1.6	1.6	1.6
Engine output kW / rpm	66/2750-4800	81/3000-4000	130/3500-4000	81/3250-4000	85/3250-4000	66/3000-4000
Torque Nm at rpm	230/1500-2750	250/1500-3000	350/1250-2500	250/1500-3000	250/1500-3250	230/1500-3000
Bore ∅ mm	79.5	79.5	81.0	79.5	79.5	79.5
Stroke mm	80.5	80.5	95.5	80.5	80.5	80.5
Compression ratio	16.2	16.2	16.2	16.2	16.2	16.2
Cetane (minimum) rating	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)	Diesel (EN 590)
Fuel injection / ignition	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail	TDI / common rail
Forced induction	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger	Turbocharger
Camshaft drive	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt	Toothed belt
Particulate filter	yes	yes	Depending on variant	yes	yes	yes

Code	CXXA	CXXB	CRGA	DBKA	DDYA	DDYB
SCR catalytic converter	No	No	No	No	No	No

Code	DCYA
Exhaust emissions fulfil norm	EU6 plus
No. of cylinders / valves per cylinder	4 / 4
Displacement l	2.0
Engine output kW / rpm	110/3500-4000
Torque Nm at rpm	340/1750-3000
Bore ∅ mm	81.0
Stroke mm	95.5
Compression ratio	16.2
Cetane rating (minimum)	Diesel (EN 590)
Fuel injection / ignition	TDI / common rail
Forced induction	Turbocharger
Camshaft drive	Toothed belt
Particulate filter	yes
SCR catalytic converter	No

2 Longlife service and time or mileage dependent service

2.1 Service identification

Service identification for all vehicles using the PR number:

– The service intervals depend on the following PR numbers:

“QI6” means Longlife Service (flexible service interval).

“QI1”, “QI2”, “QI3”, “QI4” or “QI7” indicates time or distance dependent service (fixed service interval).

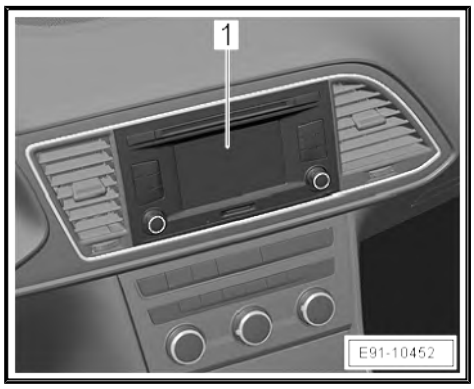
– Check the vehicle PR no. on the vehicle data sticker ⇒ page 32 .

NOTICE

Vehicles with PR number “QI6” are equipped with activated Longlife Service (flexible service intervals) ex-factory, it is however possible, to modify the programming to time or distance dependent service (fixed service interval).

Vehicles with PR numbers “QI1”, “QI2”, “QI3”, “QI4” or “QI7” are equipped with time or distance dependent intervals (fixed service intervals) ex-factory. It is not possible to modify the programming with these vehicles.

Note the service instructions on the multifunction touchscreen:



– Switch ignition on

– Switch on the multi-functional touchscreen -1-.

– Press the “CAR” button.

– Press “SETTINGS” on the touchscreen.

– Scroll down the menu until “Service” appears.

– Press “Service” on the touchscreen.

The Service reference appears on the multifunction touchscreen.

2.2 LongLife Service

The Longlife Service enables longer service intervals according to the respective personal driving style and the operating conditions of the vehicle.

NOTICE

For the LongLife service a special LongLife engine oil is required ⇒ page 105 .

Vehicles with PR number “QI6” have the Longlife Service activated ex-factory. This means that the vehicles are provided with a flexible service interval indicator and are equipped with the following components:

- Flexible service interval display in dash panel insert
- Engine oil level sender

- Brake pad wear indicator (if fitted)

For vehicles with Longlife Service, the service interval is calculated by the control unit and reported to the driver on the service interval indicator.

Calculating the maintenance intervals:

- To calculate the service intervals for vehicles with Longlife service, input values such as distance driven, fuel consumption, oil temperature and load of diesel particulate filter are evaluated.
- These can be derived from the degree of usage of the engine oil depending on the thermal loading.
- The engine oil wear determines the travelling distance that can be performed up until the next customer service interval elapses.

2.3 Time or mileage dependent service

Vehicles with PR numbers “QI1”, “QI2”, “QI3”, “QI4” or “QI7” have fixed service intervals. The specified distance or time has been calculated and determined in advance by SEAT.

- PR no. QI1: Service interval every 5,000 km or once a year (fixed)
- PR no. QI2: Service interval every 7,500 km or once a year (fixed)
- PR no. QI3: Service interval every 10,000 km or once a year (fixed)
- PR no. QI4: Service interval every 15,000 km or once a year (fixed)
- PR no. QI7: Service interval every 10,000 miles or once a year (fixed)

These service intervals are also valid from a technical point of view, even in event of adverse driving conditions.

Vehicles with PR number “QI6” are equipped with activated Longlife Service (flexible service intervals) ex-factory, it is however possible, to modify the programming to time or distance dependent service (fixed service interval), for example, when no Longlife engine oil is used.

3 Service tables

3.1 Service tables

NOTICE

For combined kilometre and time display applies: whichever occurs first.

Depending on conditions under which the vehicle is used ⇒ page 17 and vehicle equipment, extra service work must be performed in addition to the inspection or inspection with extended scope.

It is also possible, to carry out additional work outside the service intervals with regard to the entries in the service schedule.

3.1.1 Service intervals

Volume of work	Normal climate and traffic conditions for operation with fuel in accordance with EN 228 or EN 590	For operation with fuel that does »NOT« satisfy the standard EN 228 ⇒ page 13 or EN 590 ⇒ page 15
Oil change service	---	QI1 every 5,000 km or 1 year (fixed) [1)]

Volume of work	Normal climate and traffic conditions for operation with fuel in accordance with EN 228 or EN 590	For operation with fuel that does »NOT« satisfy the standard EN 228 ⇒ page 13 or EN 590 ⇒ page 15
	---	QI2 every 7,500 km or 1 year (fixed) 1)
	---	QI3 every 10,000 km or 1 year (fixed) 1)
	QI4 every 15,000 km or 1 year (fixed) 1) 2)	QI4 every 15,000 km or 1 year (fixed) 1)
	QI6 every 30,000 km or 2 years (flexible) 1)	---
	QI7 every 10,000 mi or 1 year (fixed) 1)	---

1) Whichever occurs first.

2) only vehicles that use alternative fuels.

Volume of work	Normal climate and traffic conditions for operation with fuel in accordance with EN 228 or EN 590	For operation with fuel that does »NOT« satisfy the standard EN 228 ⇒ page 13 or EN 590 ⇒ page 15
Inspection	---	QI1 every 10,000 km or 1 year 1)
	---	QI2 every 15,000 km or 1 year 1)
	---	QI3 every 10,000 km or 1 year 1)
	QI4 30,000 km or 2 years, after that every 30,000 km or 1 year 1)	QI4 every 15,000 km or 1 year 1)
	QI6 30,000 km or 2 years, after that every 30,000 km or 1 year 1)	---
	QI7 every 20,000 mi or 2 years 1)	---

1) Whichever occurs first.

Volume of work	Normal climate and traffic conditions for operation with fuel in accordance with EN 228 or EN 590	For operation with fuel that does »NOT« satisfy the standard EN 228 ⇒ page 13 or EN 590 ⇒ page 15
Additional inspection work • Only fitted in conjunction with inspection	After 60,000 km or 3 years, after that every 60,000 km or 2 years 1)	After 30,000 km or 2 years, or after 20,000 km or every 2 years 1)

1) Whichever occurs first.

3.1.2 Air filter

Volume of work	Normal air conditioning and traffic conditions	Countries with high dust content ⇒ page 13
Air filter: Clean housing and renew filter element • Only applies for 1.0 l TSI engines	Every 60,000 km or 4 years [1)]	Every 30,000 km or 2 years [1)]
Air filter: Clean housing and renew filter element • For all engines, except 1.0 l TSI	Every 90,000 km or 6 years [1)]	Every 30,000 km or 2 years [1)]

[1)] Whichever occurs first.

3.1.3 Dust and pollen filter

Volume of work	Normal air conditioning and traffic conditions	Countries with high dust content ⇒ page 13
Dust and pollen filter (cabin filter): renew.	Every 60,000 km or 2 years [1)]	At the latest after 1 year or 30,000 km [1)]

[1)] Whichever occurs first.

3.1.4 Panorama sliding roof

Volume of work	Normal air conditioning and traffic conditions	Countries with high dust content ⇒ page 13
Panorama sliding roof • In case of colourless special lubricant: in countries without high dust content, only a sound and functional check will be carried out. In countries with a lot of dust, the panorama sliding roof is still cleaned and greased.	---	At the latest after 1 year or 15,000 km [1)]
Panorama sliding roof • With grey solid lubricating paste, the guide rails must be cleaned and greased, and the wind deflector must be cleaned.	After 60,000 km or 3 years, after that every 60,000 km or 2 years [1)]	At the latest after 1 year or 15,000 km [1)]

[1)] Whichever occurs first.

3.1.5 Toothed belt

Volume of work	Normal air conditioning and traffic conditions	Countries with high dust content ⇒ page 13
Camshaft drive and tensioning roller for camshaft drive: renew • Applicable for all diesel engines with toothed belt	Every 210,000 km	Every 120,000 km

Volume of work	Normal air conditioning and traffic conditions	Countries with high dust content ⇒ page 13
Camshaft drive and tensioning roller for camshaft drive: renew • Applicable for all petrol engines with toothed belt	---	Every 120,000 km
Toothed belt drive for coolant pump: renew. • Applicable for all petrol engines with toothed belt for coolant pump	---	Every 120,000 km

1) Whichever occurs first.

3.1.6 Poly V-belt

Volume of work	Normal air conditioning and traffic conditions	Countries with high dust content ⇒ page 13
Poly V-belt: renew.	---	Every 60,000 km

3.1.7 Diesel fuel filter

Volume of work	Diesel conforming to EN 590	Diesel not conforming to EN 590 ⇒ page 15
Diesel fuel filter: Replace	Every 90,000 km	Every 30,000 km

3.1.8 Spark plugs

Volume of work	Petrol conforming to EN 228	E100	Petrol not EN 228 ⇒ page 21
Spark plugs: renewing	Every 60,000 km or 4 years 1)	Every 40,000 km or 4 years 1)	Every 30,000 km / 20,000 km or every 2 years 1) or every 15,000 km / 10,000 km or every 1 year 1)

1) Whichever occurs first.

3.1.9 Brake fluid

Volume of work	Normal air conditioning and traffic conditions	Only for markets outside Europe and fixed oil change intervals
Brake and clutch system: Changing brake fluid	3 years after initial registration, after this every 2 years	Every 2 years

3.1.10 Multi-purpose additive for petrol fuels

- Affected countries ⇒ page 19 .

Volume of work	Interval
Multi-purpose additive for petrol fuels. Add	At every service

3.1.11 Multi-purpose additive for diesel fuel

- Affected countries ⇒ page 17 .

Volume of work	Interval
Fill up multi-purpose additive for diesel fuel	At every service

3.1.12 Natural gas system

Volume of work	Interval
Natural gas system: Visual inspection of the natural gas tank for corrosion and implementation of a leakage test • Only applies to Italy	4 years after initial registration, after this every 2 years
Check condition of sealing cap and natural gas filler connection, clean if necessary and check seal • Only applies to Italy	4 years after initial registration, after this every 2 years

3.1.13 Additional work depending on time of mileage for all countries

Volume of work	Interval
Reducing agent (AdBlue®): replenishing • Only if requested by customer, and as a separate charge	At every service
Automatic gearbox: renewing ATF • Only applies for automatic gearboxes 09G in countries with warm climates ⇒ page 16	Every 60,000 km
Double-clutch gearbox 0D9 -6-speed: replace gearbox oil and filter	Every 60,000 km
7-speed dual clutch gearbox 0GC: changing gear oil	Every 120,000 km
Diesel particulate filter: checking	At 180,000 km/210,000 km, then every 30,000 km
All-wheel drive coupling: Change oil • Only four-wheel drive vehicles	Every 3 years
Front differential lock: change oil • Only applies for Cupra models	Every 3 years
Natural gas system: Visual inspection of the natural gas tank for corrosion and implementation of a leakage test • Applies only for Europe, except Italy	3 years after initial registration, after this every 2 years
Check condition of sealing cap and natural gas filler connection, clean if necessary and check seal • Applies only for Europe, except Italy	3 years after initial registration, after this every 2 years
Replace the reducing agent (AdBlue®) • Only for vehicles driving less than 15,000 km in 4 years	Every 4 years

Volume of work	Interval
Natural gas tank: Renew	Every 20 years

3.2 Countries with high dust content

Abu Dhabi	Gabon	Madagascar	South Africa
Afghanistan	Gambia	Malawi	South Sudan
Egypt	Georgia	Maledives	Sudan
Algeria	Ghana	Mali	Suriname
Angola	Guatemala	Morocco	Swaziland
Equatorial Guinea	Guinea	Mauritania	Syria
Argentina	Guinea-Bissau	Mauritius	Tajikistan
Armenia	Guyana	Mexico	Tanzania
Azerbaijan	Honduras	Mongolia	Thailand
Ethiopia	Hong Kong	Mozambique	Togo
Australia	India	Myanmar (Burma)	Chad
Bahrain	Indonesia	Namibia	Tunisia
Bangladesh	Iraq	Nepal (Indian subcontinent)	Turkey
Belize	Iran	Nicaragua	Turkmenistan
Benin (Dahomey)	Israel	Niger	Uganda
Bhutan	Yemen	Nigeria	Uruguay
Bolivia	Jordan	North Korea	Ukraine
Botswana	Cambodia	Oman	Uzbekistan
Brazil	Cameroon	Pakistan	Venezuela
Brunei	Cap Verde	Palestine	United Arab Emirates
Burkina Faso (Upper Volta)	Kazakhstan	Panama	Vietnam
Chile	Qatar	Papua New Guinea	Belarus
China	Kenya	Paraguay	Western Sahara
Costa Rica	Kyrgyz Republic	Peru	Central African Republic
Dem. Rep. Congo	Columbia	Puerto Rico	
Djibouti	Cuba	Ruanda	
Dominican Republic	Kuwait	Russian Federation	
Dubai	Laos	Zambia	
Ecuador	Lesotho	Saudi Arabia	
El Salvador	Lebanon	Senegal	
Ivory Coast	Liberia	Sierra Leone	
Eritrea	Libya	Zimbabwe	
French Guiana	Liberia	Somalia	
Fiji	Macao	Sri Lanka	

3.3 Countries with petrol fuels not compliant with EN 228

Examples in fuel inadequacies that can lead to shortened maintenance / exchange intervals:

- Petrol contaminated with diesel
- High sulphur content
- Poor boiling point / evaporation
- Metallic components / Octane Booster Additive
- Contaminants in petrol

Abu Dhabi	Gabon	Malaysia	South Africa
Afghanistan	Gambia	Mali	South Sudan
Egypt	Georgia	Morocco	Zimbabwe
Algeria	Ghana	Mauritania	Sudan
Angola	Guatemala	Mauritius	Suriname
Equatorial Guinea	Guinea	Mexico	Syria
Argentina	Guinea-Bissau	Mongolia	Swaziland
Armenia	Haiti	Mozambique	Tajikistan
Azerbaijan	Honduras	Myanmar (Burma)	Taiwan
Ethiopia	India	Namibia	Tanzania
Australia	Indonesia	Nepal (Indian subcontinent)	Thailand
Bahamas	Iraq	New Caledonia	Togo
Bahrain	Iran	Nicaragua	Trinidad and Tobago
Bangladesh	Jamaica	Dutch Overseas Territories	Chad
Belize	Yemen	Niger	Tunisia
Benin (Dahomey)	Jordan	Nigeria	Turkey
Bermudas	Cayman Islands	North Korea	Turkmenistan
Bhutan	Cambodia	Oman	Uganda
Bolivia	Cameroon	Pakistan	Ukraine
Botswana	Cap Verde	Panama	Uruguay
Brunei	Caribbean, left-hand traffic	Papua New Guinea	Uzbekistan
Burkina Faso (Upper Volta)	Kazakhstan	Paraguay	Venezuela
Burundi	Qatar	Peru	United Arab Emirates
Chile	Kenya	Philippines	Vietnam
China	Kyrgyz Republic	Republic of Congo	Belarus
Costa Rica	Columbia	Ruanda	Western Sahara
Dem. Rep. Congo	Cuba	Russian Federation	Central African Republic
Djibouti	Kuwait	Zambia	
Dominican Republic	Laos	Saudi Arabia	
Dubai	Lesotho	Senegal	
Ecuador	Lebanon	Seychelles	
El Salvador	Liberia	Sierra Leone	
Ivory Coast	Libya	Singapore	
Eritrea	Madagascar	Somalia	
Fiji	Malawi	Sri Lanka	

3.4 Countries with diesel not compliant with EN 590

Examples in fuel inadequacies that can lead to shortened maintenance / exchange intervals:

- High sulphur content
- Elevated amount of biodiesel
- Contaminants in diesel
- Elevated amount of water in diesel

Abu Dhabi	Gambia	Malawi	Sierra Leone
Afghanistan	Georgia	Malaysia	Zimbabwe
Egypt	Ghana	Mali	Singapore
Algeria	Guatemala	Morocco	Zimbabwe
Angola	Guinea	Mauritania	Somalia
Equatorial Guinea	Guinea-Bissau	Mauritius	Sri Lanka and the Maldives
Argentina	Guyana		South Africa
Armenia	Haiti	Mexico	Sudan
Azerbaijan	Honduras	Moldova	South Sudan
Ethiopia	India	Mongolia	Suriname
Bahamas	Indonesia	Mozambique	Swaziland
Bahrain	Iraq	Myanmar (Burma)	Syria
Bangladesh	Iran	Namibia	Tajikistan
Belize	Jamaica	Nepal	Tanzania
Benin	Yemen	New Caledonia	Thailand
Bermudas	Jordan	Nicaragua	Togo
Bhutan	Cambodia	Dutch Overseas Territories	Trinidad and Tobago
Bolivia	Cameroon	Niger	Chad
Botswana	Canada	Nigeria	Tunisia
Brazil	Cap Verde	North Korea	Turkey
Brunei	Caribbean, left-hand traffic	Oman	Turkmenistan
Burkina Faso	Kazakhstan	Pakistan	Uganda
Burundi	Qatar	Panama	Ukraine
Cayman Islands	Kenya	Papua New Guinea	Uruguay
China	Kyrgyz Republic	Paraguay	USA
Costa Rica	Columbia	Peru	Uzbekistan
Dem. Rep. Congo	Cuba	Philippines	Venezuela
Djibouti	Kuwait	Puerto Rico	United Arab Emirates
Dominican Republic	Laos	Republic of Congo	Vietnam
Dubai	Lesotho	Ruanda	Western Sahara
Ecuador	Lebanon	Russia	Central African Republic
El Salvador	Liberia	Zambia	
Eritrea	Libya	Saudi Arabia	
Fiji	Macao	Senegal	
Gabon	Madagascar	Seychelles	

3.5 Hot countries

- The hot countries and very hot countries have very high peak temperatures compared to the European average (25°C) (50° C).
- The high exterior temperatures impinge on the lifespan of the engine, the gearbox and the coolant circuit, like for instance journeys with high speed, in the mountains or in heavy stop-and-go traffic.

Australia	Qatar	Thailand
Abu Dhabi	Lebanon	Tunisia
Algeria	Libya	Togo
Egypt	Lesotho	Tanzania
Afghanistan	Liberia	Chad
Angola	Mexico	Uganda
Equatorial Guinea	Malaysia	USA
Ethiopia	Mauritius	United Arab Emirates
Bahrain	Morocco	Western Sahara
Brunei	Madagascar	Zimbabwe
Benin	Mali	Central African Republic
Burkina Faso	Mozambique	
Botswana	Malawi	
Burundi	Mauritania	
China	Nigeria	
Dubai	Namibia	
Dem. Rep. Congo	Niger	
Djibouti	Oman	
Ivory Coast	Puerto Rico	
Eritrea	Palestine	
Gabon	Pakistan	
Gambia	Qatar	
Ghana	Republic of Congo	
Guinea	Ruanda	
Guinea-Bissau	South Africa	
Iran	Saudi Arabia	
India	Singapore	
Indonesia	Senegal	
Iraq	Sudan	
Israel	Zambia	
Yemen	South Sudan	
Jordan	Sierra Leone	
Kuwait	Somalia	
Cameroon	Swaziland	
Kenya	Syria	

3.6 Difficult operating conditions

If the vehicle is used under severe operating conditions some jobs will have to be performed before the next service due or at shorter service intervals.

Difficult operating conditions

- Regular short trips or stop and go operation in urban traffic
- high cold starting proportion
- vehicle operation in areas with extremely low temperatures over longer periods
- frequent longer operation when idling (e.g. Taxi)
- frequent driving under full load with high payload or by towing operation
- operating with diesel fuel with a high sulphur content
- Frequent operation in regions with high dust content ⇒ page 13
- Countries with generally poor road conditions, for instance with a lot of pot holes, cambers, speed bumps/deep grooves.
- High portion of roads without solid subsurface and poor surface quality, like for instance deep potholes, cambers, protruding rocks, speed bumps.
- Subtropical climate zones (combination of high exterior temperatures and high air humidity)

3.7 Fill up multi-purpose additive for diesel fuel

3.7.1 Specification for using multi-purpose additive for diesel fuel

NOTICE

In the three markets mentioned below there is a particularly high risk of deposits forming on the injectors and inlet valves owing to the quality of the fuel.

To counteract the formation of deposits, a multi-purpose additive for diesel fuel must be added.

Only additives compliant with VW 505 26 (multi-purpose additive G 001 790 M3) may be used.

After adding the additive, it is extremely important to fully refuel the vehicle to achieve optimal effectiveness of the additive.

– During each change oil service, fill entire bottle of multi-purpose additive for diesel fuel into regular fuel tank.

Country		
China	India	Russia

3.7.2 Recommendation for using multi-purpose additive for diesel fuel

NOTICE

In the following markets with a high risk of coke and deposit formation, the addition of a multi-purpose additive is recommended owing to the lower concentration of additives in the diesel fuel.

Only additives compliant with VW 505 26 (multi-purpose additive G 001 790 M3) may be used.

After adding the additive, it is extremely important to fully refuel the vehicle to achieve optimal effectiveness of the additive.

The multi-purpose additive can also be used in all other markets that are not listed in the table.

– During each change oil service, fill entire bottle of multi-purpose additive for diesel fuel into regular fuel tank.

Country	
Afghanistan	Mali
Egypt	Morocco
Albania	Mauritania
Equatorial Guinea	
Argentina	Moldova
Azerbaijan	Myanmar (Burma)
Belize	Dutch Overseas Territories
Benin	Nigeria
Bhutan	Pakistan
Brazil	Panama
Brunei	Paraguay
Burkina Faso	Saudi Arabia
Cayman Islands	Senegal
Dem. Rep. Congo	Sierra Leone
Dominican Republic	Zimbabwe
El Salvador	Sri Lanka and the Maldives
Ivory Coast	South Africa
Fiji	Sudan
Gambia	South Sudan
Georgia	Suriname
Ghana	Syria
Guatemala	Thailand
Guinea	Togo
Guinea-Bissau	Trinidad and Tobago
Guyana	Chad
Haiti	Turkmenistan
Honduras	Ukraine
Indonesia	USA
Iraq	Central African Republic
Jamaica	Venezuela
Jordan	Zimbabwe

Country	
Cambodia	
Cameroon	
Canada	
Cap Verde	
Caribbean, left-hand traffic	
Columbia	
Laos	
Lebanon	
Liberia	

3.8 Multi-purpose additive for petrol fuels. Add

3.8.1 Specification for using multi-purpose additive for petrol fuel

NOTICE

In the three markets mentioned below there is a particularly high risk of deposits forming on the injectors and inlet valves owing to the quality of the fuel.

To counteract the formation of deposits, a multi-purpose additive for petrol fuel must be added.

Only additives compliant with VW 507 53 B (multi-purpose additive G 001 780 M3) may be used.

Observe the dosing instructions on the additive container.

After adding the additive, it is extremely important to fully refuel the vehicle to achieve optimal effectiveness of the additive.

– Fill multi-purpose additive for petrol fuels into regular fuel tank during each oil change service.

Country		
China	India	Russia

3.8.2 Recommendation for using multi-purpose additive for petrol fuel

NOTICE

In the following markets with a high risk of coke and deposit formation, the addition of a multi-purpose additive is recommended owing to the elevated olefin content and aromatics in the petrol.

Only additives compliant with VW 507 53 B (multi-purpose additive G 001 780 M3) may be used.

Observe the dosing instructions on the additive container.

After adding the additive, it is extremely important to fully refuel the vehicle to achieve optimal effectiveness of the additive.

The multi-purpose additive can also be used in all other markets that are not listed in the table.

– Fill multi-purpose additive for petrol fuels into regular fuel tank during each oil change service.

Country
Algeria
Bahrain
Bolivia
Brazil
Ghana
Indonesia
Iraq
Iran
Japan
Yemen
Jordan
Cambodia
Qatar
Columbia
Kuwait
Lebanon
Malaysia
Mauritius
Niger
Nigeria
Oman
Pakistan
Peru
Philippines
Saudi Arabia
Senegal
Singapore
Suriname
Syria
Chad

Country
Uzbekistan
United Arab Emirates
Vietnam

3.9 Shorter intervals for changing spark plugs

If fuels are used which to not satisfy the standard DIN EN 228, shorter intervals for changing the spark plugs are required.

Examples in fuel inadequacies that can lead to shortened maintenance / exchange intervals:

- Petrol contaminated with diesel
- High sulphur content
- Poor boiling point / evaporation
- Metallic components / Octane Booster Additive
- Contaminants in petrol

Country				
	30,000 km/2 years	20,000 km/2 years	15,000 km/1 year	10,000 km/1 year
Abu Dhabi	X			
Afghanistan	X			
Egypt	X			
Algeria				X
Angola				X
Equatorial Guinea				X
Argentina	X			
Armenia	X			
Azerbaijan	X			
Ethiopia				X
Australia	X			
Bahamas	X			
Bahrain	X			
Bangladesh	X			
Belize			X	
Benin (Dahomey)				X
Bermudas	X			
Bhutan	X			
Bolivia	X			
Botswana	X			
Brunei	X			
Burkina Faso (Upper Volta)				X
Burundi				X
Chile	X			
China		X		
Costa Rica	X			
Dem. Rep. Congo				X

Country				
	30,000 km/2 years	20,000 km/2 years	15,000 km/1 year	10,000 km/1 year
Djibouti				X
Dominican Republic	X			
Dubai	X			
Ecuador	X			
El Salvador	X			
Ivory Coast				X
Eritrea				X
Fiji	X			
Gabon				X
Gambia				X
Georgia	X			
Ghana				X
Guatemala	X			
Guinea				X
Guinea-Bissau				X
Haiti	X			
Honduras	X			
India	X			
Indonesia	X			
Iraq	X			
Iran			X	
Jamaica	X			
Yemen	X			
Jordan	X			
Cayman Islands	X			
Cambodia				
Cameroon				X
Cap Verde				X
Caribbean, left-hand traffic	X			
Kazakhstan	X			
Qatar	X			
Kenya				X
Kyrgyz Republic			X	
Columbia	X			
Cuba	X			
Kuwait	X			
Laos	X			
Lesotho	X			
Lebanon	X			
Liberia				X
Libya		X		
Madagascar				X
Malawi				X
Malaysia	X			
Mali				X

Country	30,000 km/2 years	20,000 km/2 years	15,000 km/1 year	10,000 km/1 year
Morocco		X		
Mauritania				X
Mauritius				X
Mexico	X			
Mongolia	X			
Mozambique				X
Myanmar (Burma)	X			
Namibia	X			
Nepal (Indian sub-continent)	X			
New Caledonia	X			
Nicaragua	X			
Netherlands over-seas territories Aru-ba, Curacao, Sint-Maarten (Dutch)	X			
Niger				X
Nigeria				X
North Korea			X	
Oman	X			
Pakistan			X	
Panama	X			
Papua New Guinea	X			
Paraguay	X			
Peru	X			
Philippines	X			
Republic of Congo				X
Ruanda				X
Russian Federation	X			
Zambia				X
Saudi Arabia	X			
Senegal				X
Seychelles				X
Sierra Leone				X
Singapore	X			
Somalia				X
Sri Lanka	X			
South Africa	X			
South Sudan				X
Sudan				X
Suriname				X
Syria			X	
Swaziland	X			
Tajikistan	X			
Taiwan	X			
Tanzania				X
Thailand	X			

Country				
	30,000 km/2 years	20,000 km/2 years	15,000 km/1 year	10,000 km/1 year
Togo				X
Trinidad and Tobago			X	
Chad				X
Tunisia			X	
Turkey	X			
Turkmenistan	X			
Uganda				X
Ukraine	X			
Uruguay	X			
Uzbekistan	X			
Venezuela	X			
United Arab Emirates	X			
Vietnam	X			
Belarus	X			
Western Sahara				X
Central African Republic				X
Zimbabwe				X

4 Description of work

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4.1 Tasks to be completed on the vehicle interior

The vehicle is supplied from factory equipped with a series of protective covers fitted on the inside of the vehicle. These elements serve to protect the components and frames inside the vehicle during the transportation and the storage of the vehicle until the delivery inspection.

4.1.1 Tasks to be carried out

- Carry out the following work:

♦ Remove protective covers from the front seats.

♦ Remove protective covers from footwell carpet.

♦ Remove protective cover from steering wheel.

♦ Remove protective adhesive film from door profiles.

4.1.2 Cleaning tasks

CAUTION

Use a soft cloth moistened with water to clean the radio and / or air conditioning system from outside! (If this should not be sufficient, only use natural soap suds.)

– Check for cleanliness, and if necessary clean:

- Front seats
- Rear seats
- Internal linings
- Floor coverings
- Glazing

4.1.3 Install the floor mats

– Only insert the genuine SEAT carpets.

CAUTION

To prevent any kind of risk that could compromise safety, special care must be taken when securing the floor mats inside the vehicle, and sufficient clearance must be provided for the pedals.

4.2 Tasks to be completed on the vehicle exterior

⇒ “4.2.1 Tasks to be carried out”, page 28 .

⇒ “4.2.2 Cleaning tasks”, page 29 .

⇒ “4.2.3 Assembly of the number plate bracket, Chinese market”, page 29 .

⇒ “4.2.4 Installation of the number plate or number plate bracket”, page 31 .

The vehicle is supplied from factory equipped with a series of protective covers fitted on the outside of the vehicle, designed to protect the vehicle during transportation and storage. Certain parts, such as wheel covers and roof antenna, are installed as part of the delivery inspection.

4.2.1 Tasks to be carried out

– Fit all of the parts placed in the boot:

- Wheel trims
- Roof aerial

– Remove all of the adhesive protection blocks from the following parts:

- Front bumper
- Rear bumper
- Doors

– Remove the protective film from the door profile and from the boot lid handle.

– Remove the rear wiper protection.

– Remove the protective film from the bodywork that are stuck at the following points:

♦ On the bonnet

♦ On the roof

4.2.2 Cleaning tasks

– Check for cleanliness, and if necessary clean:

♦ Paintwork

♦ Decorative elements

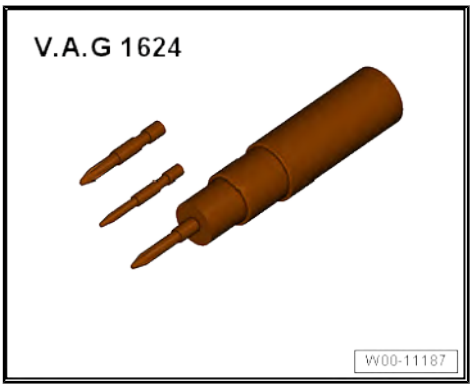
♦ Glazing

♦ Wiper arms

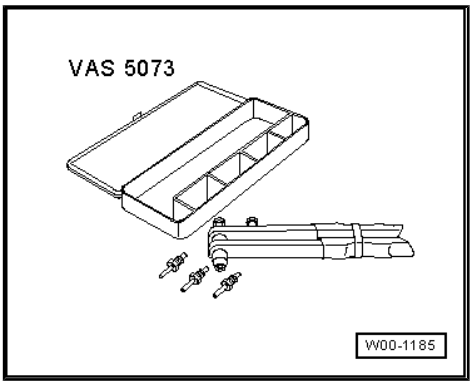
4.2.3 Assembly of the number plate bracket, Chinese market

Special tools and workshop equipment required

♦ Torque screwdriver - VAG 1624-



♦ Riveter - VAS 5073A-



♦ Drill

♦ Drill bit ∅ 11.5 mm

WARNING

The number plate carrier will only be delivered on the Chinese market together with the equipment bag.

Procedure

NOTICE

The mounting templates of the number plate carrier are in the equipment bag. The templates have their own colour for each model.

– Cut the front or rear template along the colour line of the respective model.

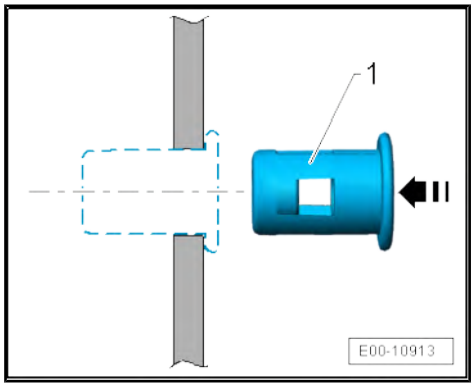
– Position the template on the front or rear bumper. Look for the vertical and horizontal references according to the markings.

– Dill the holes in the bumper using a ∅ 11.5 mm bit through the middle of the circle drawn on the template.

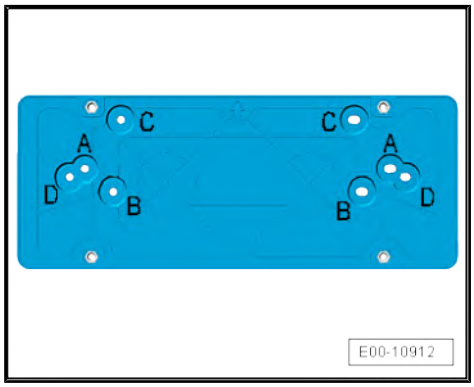
CAUTION

Proceed with great care in order not to damage the bumper when drilling out the hole.

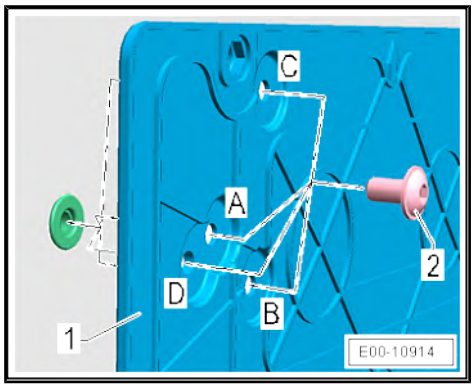
– Insert the rivets -1- into the holes made in the bumper using the pop rivet nut pliers - VAS 5073A- .



Holes -A- must be used for fixing the number plate carrier to the bumper.



– Apply the bumper carrier -1- and tighten the screw -2- to 2 Nm.



4.2.4 Installation of the number plate or number plate bracket

Vehicles with front parking sensors:

NOTICE

Number plates or number plate holders that are bigger than the space provided on the front of the vehicle or a bent or misshapen number plate can:

- **Generate incorrect identifications**
- **Impede the visibility of the sensors**

In order to guarantee the correct functioning of the system, keep the ultrasonic sensors clean and free of snow and ice and do not cover with stickers or other objects.

Vehicles with radar:

NOTICE

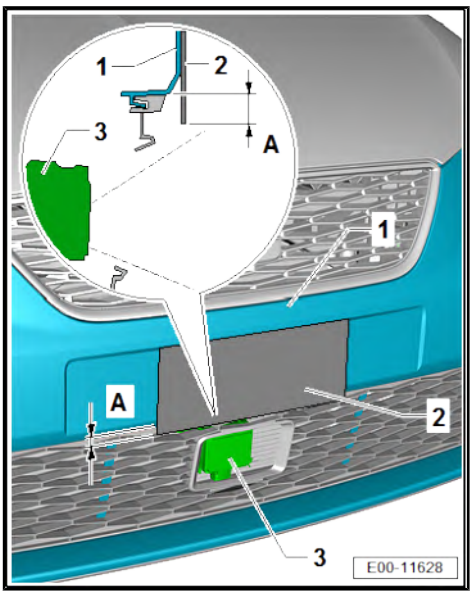
When assembling the number plate or number plate carrier on the front bumper, the area of the radar signals is kept free.

The number plate or number plate carrier -2- must not exceed the maximum dimension -A- measured from the end of the bumper -1- in order to prevent interferences with the area of the radar signals -3-.

- Dimension A: 25 mm

NOTICE

The maximum dimension -A- applies to all the bumper designs.



4.3 Documentation

⇒ “4.3.1 Glue sticker data carrier into maintenance programme”, page 32 .

⇒ “4.3.2 Notes in the maintenance programme”, page 33 .

The following documents are required when delivering a new vehicle:

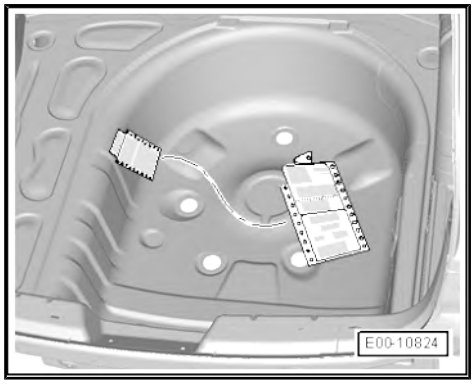
- Maintenance programme: Fill in the corresponding spaces for the work performed ⇒ page 33 .
- The onboard literature including the information about vehicle use.
- The operation instructions for the radio or navigation device.
- Obligatory vehicle documentation according to legislation of the country.
- Certificates from additional SEAT Official Service.

– Attach the decal with vehicle data ⇒ page 32 on the proper page in maintenance program.

4.3.1 Glue sticker “data carrier” into maintenance programme

Position of the vehicle “data” label

Located in the boot where the spare wheel is kept.



WARNING

If the PR number QI (QI1 - QI7) is not on the sticker “vehicle data carrier”, this must be determined in ElsaPro via the “vehicle data” and noted in the maintenance program of the customer.

The “data carrier” sticker of the vehicle is made up of two parts: -1- is stuck in the spare wheel cavity, -2- is stuck in the customer’s maintenance programme. This is done during the delivery inspection.

Interpretation of the sections of the vehicle “data” label

A - Vehicle identification number

B - Commercial type

C - Version

D - Version

E - Power in kW

F - Gearbox

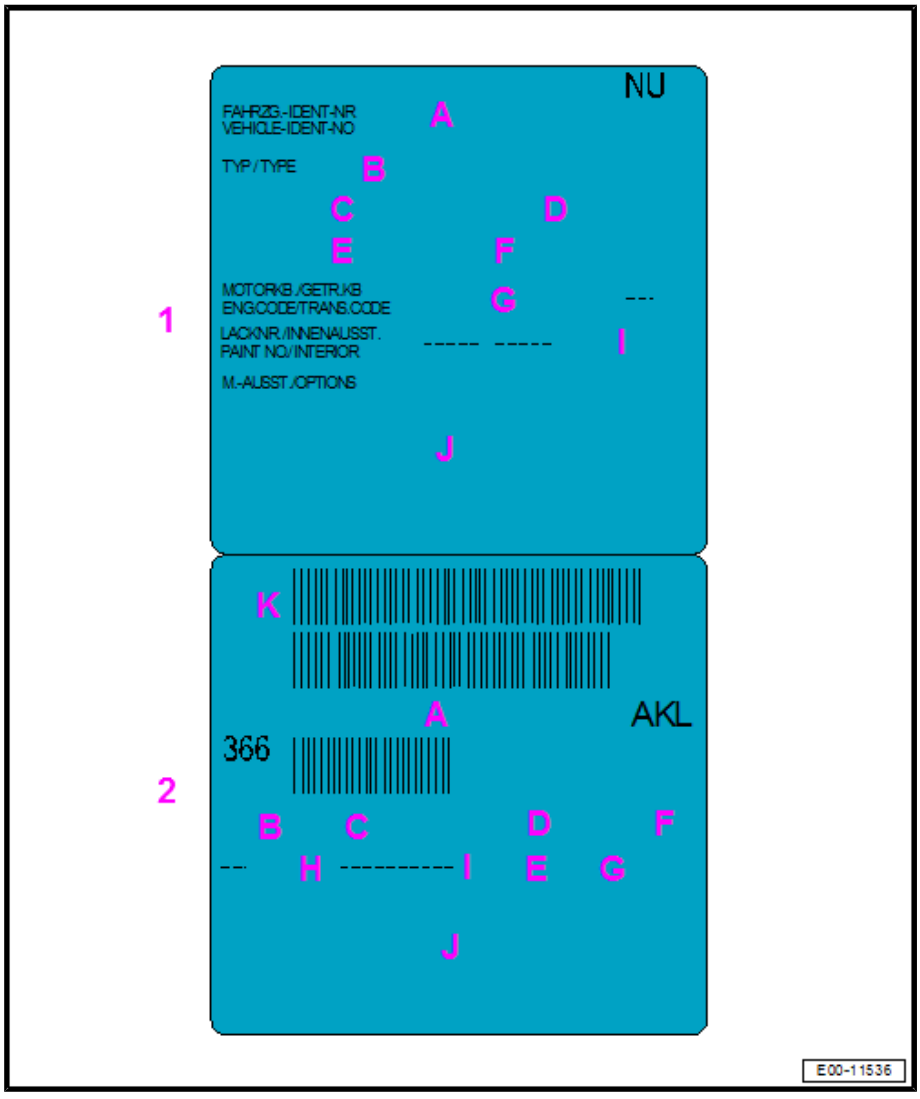
G - Engine code

H - Paintwork code

I - Upholstery type

J - Optional extras incorporated in vehicle

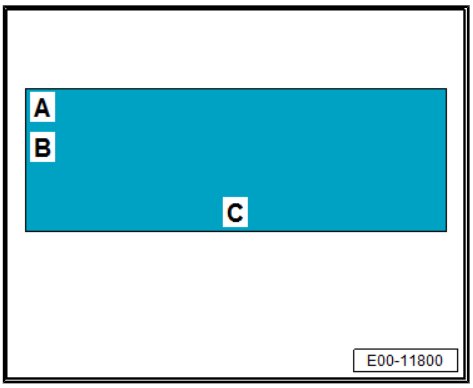
K - Bar code



4.3.2 Notes in the maintenance programme

For delivery inspection:

– Make a note of the date of the delivery inspection ⇒ service plan, information on the service event, first service .



A - Delivery inspection carried out:

B - Date:

C - Stamp of the SEAT service company

For the service results:

If a component having a change interval prescribed by the manufacturer is changed, the new change interval begins at the time the component is changed.

- For this reason it is very important to note the replacement of these components in the maintenance program.
- This also applies to components which were changed before the regular change interval.

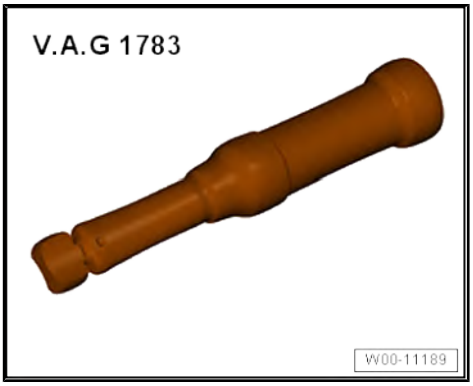
4.4 Lower engine noise insulation: removing and fitting

⇒ “4.4.1 Noise insulation, short”, page 34 .

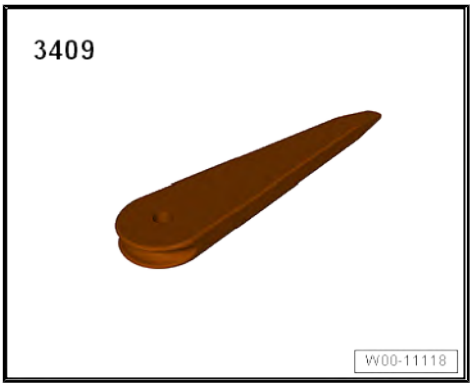
⇒ “4.4.2 Noise insulation, long”, page 35 .

Special tools and workshop equipment required

♦ Torque wrench 2-10 Nm - VAG 1783-



♦ Release lever - 3409-

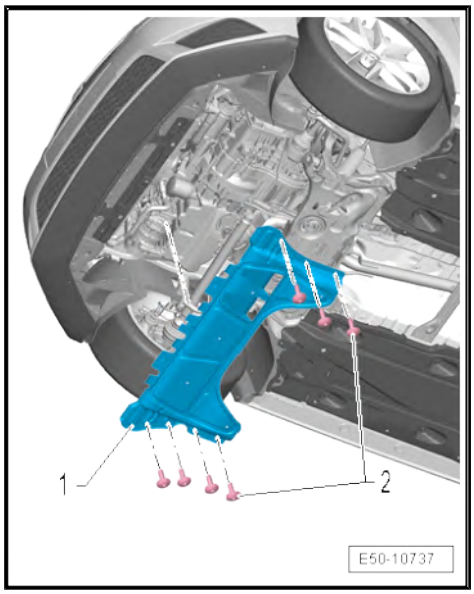


4.4.1 Noise insulation, short

Removing

– Remove bolts -2-.

– Using the lever - 3409- , press on the fixing tags and remove the centre noise insulation -1-.

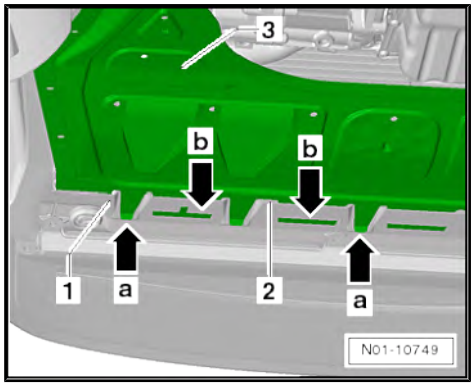


Installing

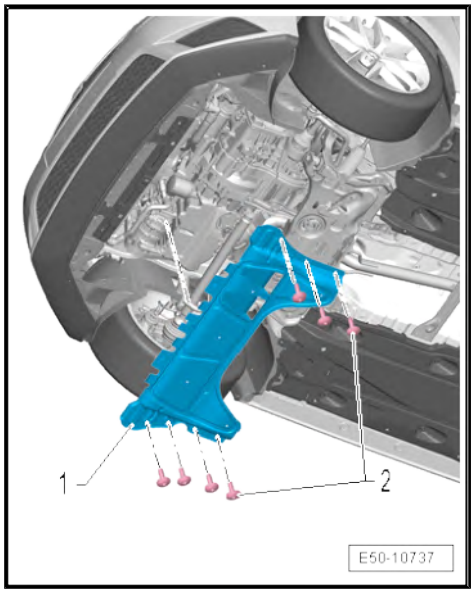
– Insert the noise insulation -3- into lock carrier -2- as shown in illustration.

– When inserting noise insulation, the narrow tabs -arrow a- have to be inserted below and the wider tabs -arrow b- above the edge of lock carrier -2-.

The retainers on the wider tabs must engage in the openings on the lock carrier.



– Tighten bolts -2-. Specified torque: 2 Nm.

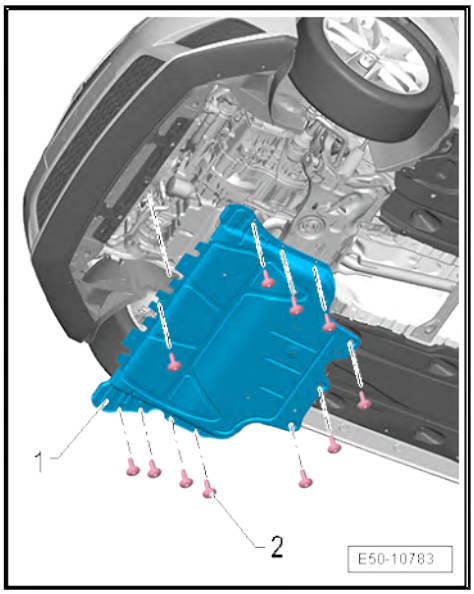


4.4.2 Noise insulation, long

Removing

– Remove bolts -2-.

– Using the lever - 3409- , press on the fixing tags and remove the centre noise insulation -1-.

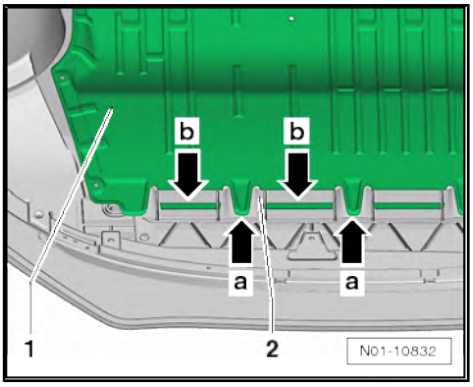


Installing

– Insert the noise insulation -3- into lock carrier -2- as shown in illustration.

– When inserting noise insulation, the narrow tabs -arrow a- have to be inserted below and the wider tabs -arrow b- above the edge of lock carrier -2-.

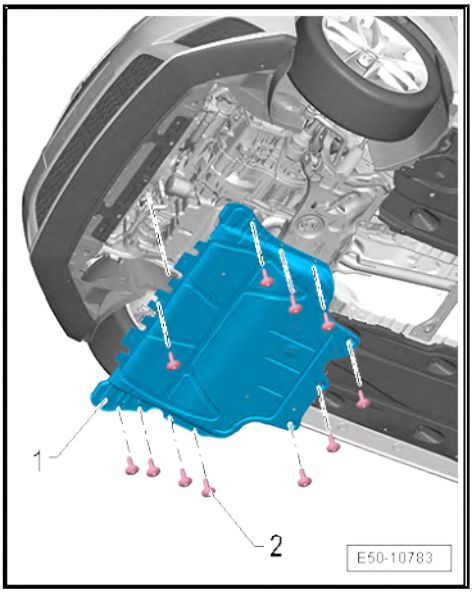
The retainers on the wider tabs must engage in the openings on the lock carrier.



– Tighten bolts -2-. Specified torque:

♦ Small bolts (8x): 2 Nm

♦ Large bolts (3x): 6 Nm



4.5 Seat belts: testing

⇒ “4.5.1 Checking the belt fabric”, page 36 .

⇒ “4.5.2 Checking the automatic roller mechanism (blocking effect)”, page 37 .

⇒ “4.5.3 Checking seat belt buckle”, page 38 .

⇒ “4.5.4 Functional check of belt buckle”, page 38 .

⇒ “4.5.5 Check guide fittings and tongue connector”, page 38 .

⇒ “4.5.6 Check securing components and anchorage points”, page 38 .

CAUTION

The seatbelt system must be systematically verified following every accident. If tests reveal any damage then the customer must be informed of the need to change the seatbelts.

In the event of the customer's refusal to replace seat belts, this should be reported in the Inspection and Maintenance Manual.

Observe safety precautions for belt tensioners ⇒ Bodywork - Interior fitting work; Rep. gr. 00 ; Safety information; Safety information for belt tensioners .

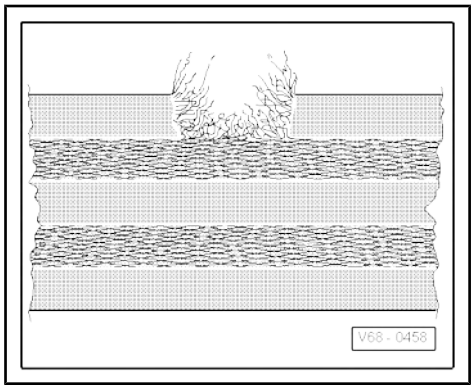
4.5.1 Checking the belt fabric

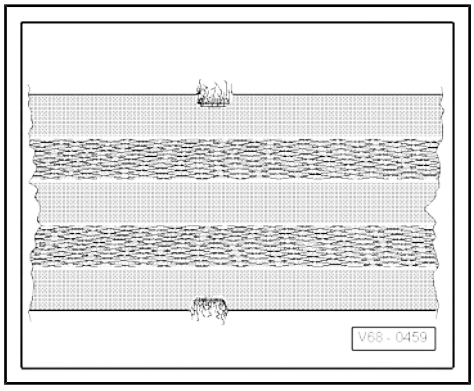
– Pull the belt webbing completely out of the automatic retractor or lap belt adjustment tongue.

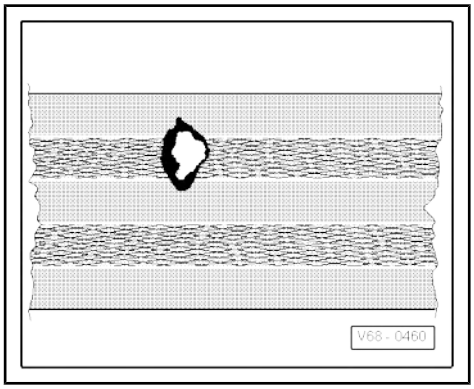
CAUTION

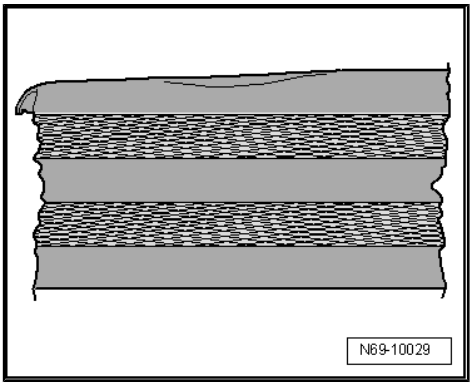
If a vehicle has been in an accident and any of the following damage (1 and 2) is detected, replace the complete seat belt with the belt buckle

If any of the damage described in points (1, 2 or 3) is observed in a vehicle which has not been in an accident, it is sufficient to change the worn seat belt.









- Belt fabric with cuts, tears, ripped or ragged.
- Fabric loops torn on the edge of the belts.
- Cigarette burn marks or similar.
- Deformation of the belt run on one side or undulated edge.

4.5.2 Checking the automatic roller mechanism (blocking effect)

The automatic inertial reel has two locking functions:

- Verification of the automatic winder using the dynamic test
- Automatic winder dynamic test

Testing automatic inertia real (using static test)

The locking function is actuated when the belt is pulled out of the automatic inertia reel with a jerk.

– Pull sharply the safety belt web

- No locking effect - renew complete seat belt including belt buckle.
- If there are any problems when retracting or extracting the seat belt, check if the position of the automatic winder has been altered.

Testing automatic inertia real (using dynamic test)

The second locking function is activated when there is a sudden change in vehicle motion (vehicle-dependent locking function).

– Fasten the seat belt.

– Accelerate the vehicle to 20 km an hour then brake suddenly.

- If the seat belt does not lock when braking, the complete belt and buckle must be replaced.

CAUTION

For safety reasons, this test should be carried out in a section where there is no traffic and there is no danger to other road users.

4.5.3 Checking seat belt buckle

– Check the seat belt buckle for cracking and damage.

♦ In case of damage, replace the entire safety belt and its buckle.

4.5.4 Functional check of belt buckle

Check of the belt buckle:

– Insert the seat belt tongue into the seat belt buckle until it clicks into place.

– Pull hard on a safety belt and ensure it remains locked in the buckle.

– Repeat the test at least 5 times.

♦ Replace the entire seat belt along with the buckle if the seat belt tongue is released even once during the 5 tests.

Checking release function:

– Insert the seat belt tongue into the seat belt buckle until it clicks into place.

– Release the seat belt by pressing on the buckle button with one finger. When the belt webbing is slack, the tongue should come out of the buckle.

– Repeat the test at least 5 times.

♦ Replace the entire seat belt along with the buckle if the seat belt tongue is not released even once.

CAUTION

No lubricants must be used to eliminate noise or stiffness in the belt lock release button under any circumstances.

4.5.5 Check guide fittings and tongue connector

After loading (seat belt worn in an accident), plastic covered fittings of the belt system show fine grooves, running parallel. Wear caused by frequent use may be recognized by a line-free smoothness.

– Check for twisting, damage and crack formation on the plastic.

♦ In case of the formation of channels and / or damage, replace the complete seat belt along with the buckle.

4.5.6 Check securing components and anchorage points

- Locking tongue deformed (stretched)
- Height regulation out of order
- Attachment points (seats, columns, vehicle floor) out of shape or threads damaged

– If damage is detected in any elements, replace the seat belt with the buckle.

– Replace the attachment points.

NOTICE

If the damage has not been caused by an accident but, e.g., by wear, only the respective part must be replaced.

4.6 Check function of all switches, electrical consumers, sockets, displays and other display elements.

– The following components must be checked:

- Lighting, headlights, fog lights, indicator lights, hazard lights, rear lights, rear fog lights, reversing lights, brake lights, parking light circuit
- Interior lights and reading lights (automatic cut-out for front interior light), glove box light, ashtray light, luggage compartment lights (there are several lights), ignition key light
- Warning buzzer indicating that lights and/or radio have been left on
- All switches on console
- Driver Information System (DIS)
- Instrument cluster with all the displays, counters, lights and illumination
- Dual-tone horn
- Windscreen wiper/washer system, headlight washer system
- Cigarette lighter
- Exterior electric mirrors (heated, adjustable)
- Electric windows
- Electric sunroof (slide/tilt)
- Central locking, radio remote control, comfort lock
- Seat heating
- Radio, navigation system

4.7 Windscreen wiper/washer system and headlight cleaning system: checking

⇒ “4.7.1 Check percentage of antifreeze”, page 40 .

⇒ “4.7.2 Mixture ratio”, page 40 .

⇒ “4.7.3 Adding liquid”, page 41 .

⇒ “4.7.4 Spray jets of windscreen wiper: check and, if necessary, adjust function”, page 41 .

⇒ “4.7.5 Spray jet of rear window: check and, if necessary, adjust function”, page 43 .

⇒ “4.7.6 Windscreen wiper system spray jets: Testing operation”, page 44 .

⇒ “4.7.7 Windscreen wiper arms: check park position”, page 45 .

⇒ “4.7.8 Eliminate the wiper scratching”, page 45 .

⇒ “4.7.9 Windscreen wiper blades: removing and fitting”, page 46 .

⇒ “4.7.10 Window wiper arms: check park position”, page 47 .

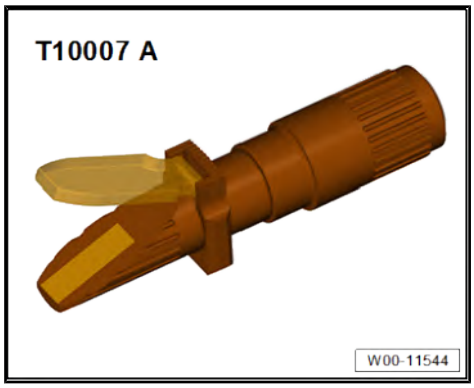
⇒ “4.7.11 Eliminating scratching noises on the rear windscreen wiper”, page 47 .

⇒ “4.7.12 Rear wiper blade: removing and installing”, page 48 .

4.7.1 Check percentage of antifreeze

Special tools and workshop equipment required

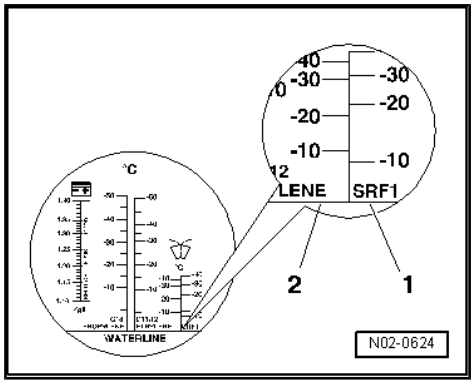
- Refractometer - T10007A-



– Check the concentration of the coolant additive using the refractometer - T10007A- (Observe the instruction manual).

The scale -1- of the refractometer - T10007A- corresponds to the original windscreen washer ⇒ Electronic parts catalogue .

The scale -2- corresponds to commercially-available windscreen washers as well as to a mix of these commercially-available windscreen washers and original windscreen washer ⇒ Electronic parts catalogue .



4.7.2 Mixture ratio

Antifreeze to	Windscreen washer fluid ⇒ Electronic parts catalogue	Water
-17/ -18 °C	1 part	3 parts
-22/ -23 °C	1 part	2 parts
-37/ -38 °C	1 part	1 part

The windscreen washer reservoir must be filled up fully.

For the windscreen wiper/washer, only use the “original windscreen washer” all the year round.

NOTICE

The original windscreen washer ⇒ Electronic parts catalogue avoids freezing of the jets, of the liquid reservoir and the connection pipes.

It is compulsory to use the original windscreen washer in vehicles with fan spray jets, since this liquid has lower viscosity at below-zero temperatures. Otherwise, the jets system can become obstructed by crystallised liquid, nullifying the fan spray of the jets. The "original windscreen washer" guarantees the functioning of this type of jet, even at low temperatures.

The original windscreen washer ⇒ Electronic parts catalogue should also be used during the warmer seasons. The powerful cleanser removes wax and oil residue from the glass.

The antifreeze protection of the windscreen washer must be guaranteed down to -25 °C (in countries with a polar climate, down to -35 °C approx.)

4.7.3 Adding liquid

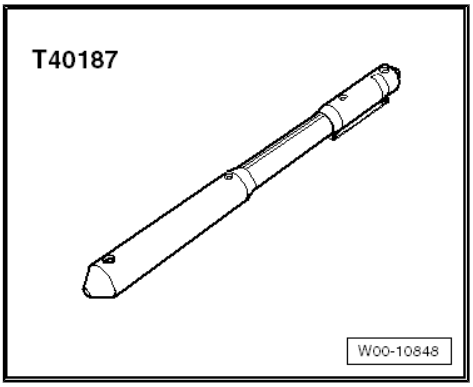
The windscreen washer reservoir must be filled up fully.

For the windscreen wiper/washer, only use the "original windscreen washer" all the year round.

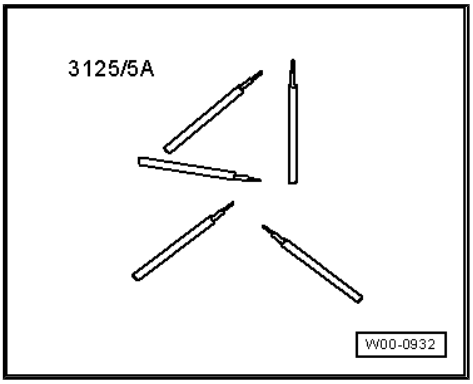
4.7.4 Spray jets of windscreen wiper: check and, if necessary, adjust function

Special tools and workshop equipment required

- Setting tool - T40187-

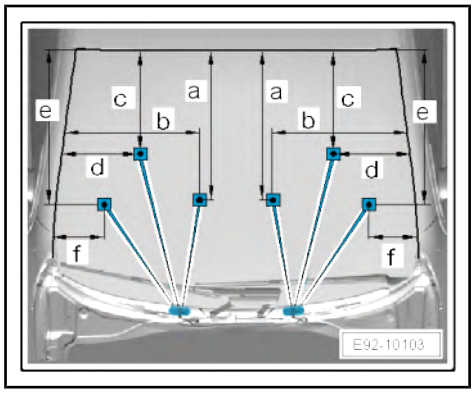


- Needle - 3125/5A-



Checking

– Using a washable crayon, mark the 6 points on the windscreen according to the dimensions in the table.



NOTICE

The specified distances are calculated to allow for the motion of the vehicle when driving. When the vehicle is stationary the direction of the jets will be slightly different.

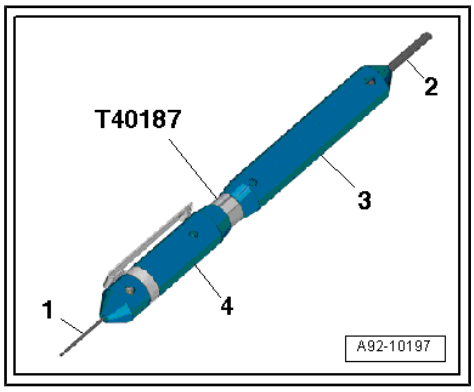
Dimension in mm	Driver side	Passenger side
-a- =	max. 322 mm	max. 322 mm
	minimum 536 mm	minimum 536 mm
-b- =	max. 556 mm	max. 556 mm
	minimum 498 mm	minimum 498 mm
-c- =	max. 239 mm	max. 239 mm
	minimum 533 mm	minimum 533 mm
-d- =	max. 275 mm	max. 275 mm
	minimum 326 mm	minimum 326 mm
-e- =	max. 495 mm	max. 495 mm
	minimum 673 mm	minimum 673 mm
-f- =	max. 84 mm	max. 84 mm
	minimum 197 mm	minimum 197 mm

– Compare the water jet of the nozzle with the value calculated, adjust if required.

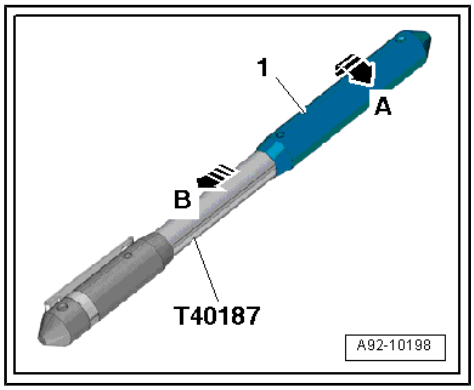
Adjusting

DANGER

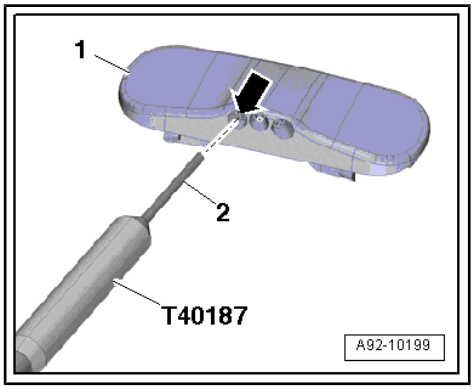
- **If the adjustment tool - T40187- is not used then make sure that both sides are covered and fixed with the covers -3- and -4-.**
- **If one of the sides are not protected by the cover, there is a risk of injury from the Needle - 3125/5A- -1- or with an adjustment pin -2-.**
- **When opening one of the sides, always make sure the opposite side of the tool does not point to your hand.**



– Unlock the long cover -1- of the adjusting tool - T40187- -arrow A- and push to the back -arrow B-.



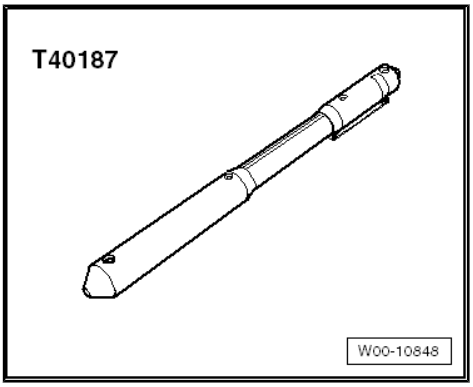
– Insert the adjustment pin -2- in the respective spray nozzle -arrow- of the spray nozzle unit -1-, aim at the marked points made on the windscreen.
– If the projection surface of the water jet does not meet the requirements, the dirt attached to the spray jet must be removed.



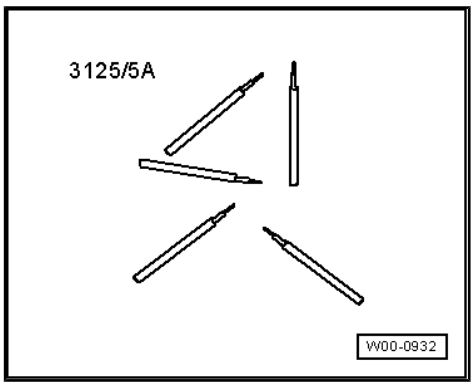
4.7.5 Spray jet of rear window: check and, if necessary, adjust function

Special tools and workshop equipment required

♦ Setting tool - T40187-



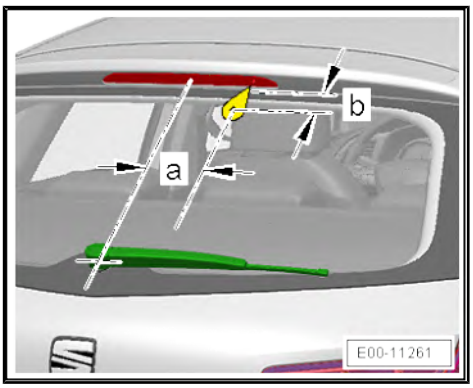
♦ Needle - 3125/5A-



Checking

– Compare the water jet of the nozzle with the value calculated, adjust if required.

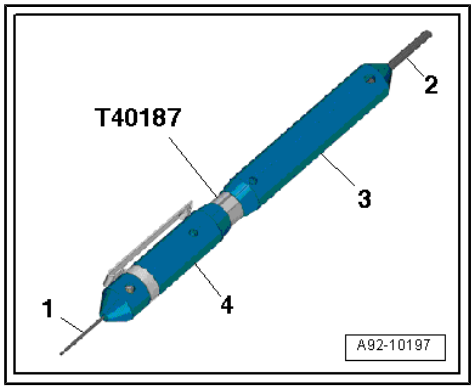
Dimension in mm	Rear window
-a- =	115
-b- =	54



Adjusting

NOTICE

In versions with “rear spoiler” the ejector cannot be adjusted

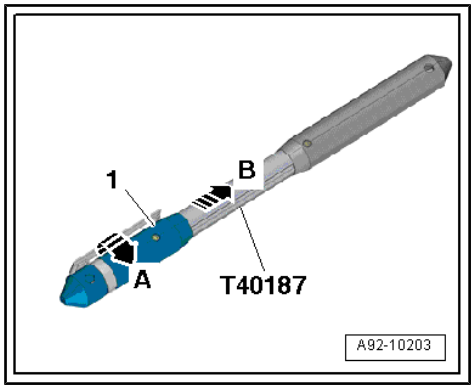


DANGER

- If the adjustment tool - T40187- is not used then make sure that both sides are covered and fixed with the covers -3- and -4-.
- If one of the sides are not protected by the cover, there is a risk of injury from the Needle - 3125/5A- -1- or with an adjustment pin -2-.
- When opening one of the sides, always make sure the opposite side of the tool does not point to your hand.

– Unlock the shorter cover -1- of the adjusting tool - T40187- -arrow A- and push to the back -arrow B-.

– Using the adjusting tool - T40187- , adjust the spray nozzle so that the water jet hits the point indicated above the rear window wiper.



NOTICE

The outer water jet of the windscreen washer hits the position zero precisely on the window.

– When the water jet does not meet the requirements, the dirt attached to the nozzle must be removed.

4.7.6 Windscreen wiper system spray jets: Testing operation

The following instructions apply for the headlight on the right side (perform the adjustment of the headlight on the left side in the same way).

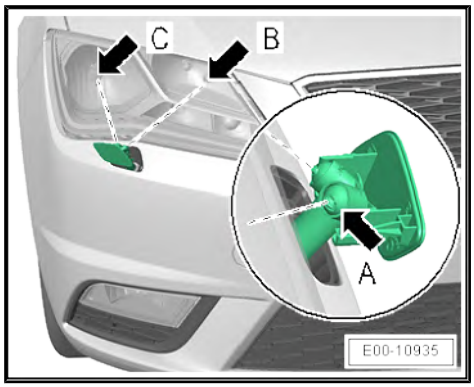
Check the nozzle setting

– Switch on the dipped beam.

– Operate the windscreen washer system for the windscreen.

The headlights will be washed when the windscreen washer lever is kept in the “wiping position” for at least 1.5 seconds.

The water jet of the headlamp washer system must hit the headlight across the middle, see -B- and -C-.



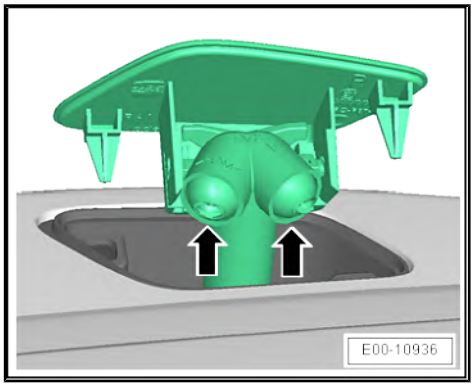
Windscreen washer nozzle adjustment.

– Switch on the dipped beam.

– Operate the windscreen washer system for the windscreen.

The headlights will be washed when the windscreen washer lever is kept in the “wiping position” for at least 1.5 seconds.

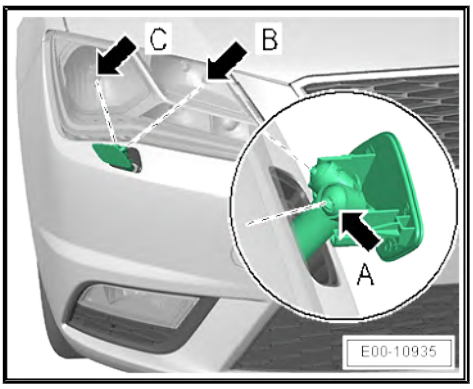
The spray nozzles -arrow- are moved out.



– Align the respective spray jet to the upper edge of the headlight, see -B- and -C-.

NOTICE

If there is an unequal spray pattern caused by impurities in the spray jet, remove the spray jet and rinse the spray jet in the opposite direction using water. Blowing through in the opposite direction with compressed air is permitted. Do not use any objects for cleaning spray jets!



4.7.7 Windscreen wiper arms: check park position

– Switch ignition on

– Actuate brief wipe function and allow wiper motor to move to the parking position.

– Switch off ignition and remove ignition key.

– Position wiper blades on windscreen and align as follows:

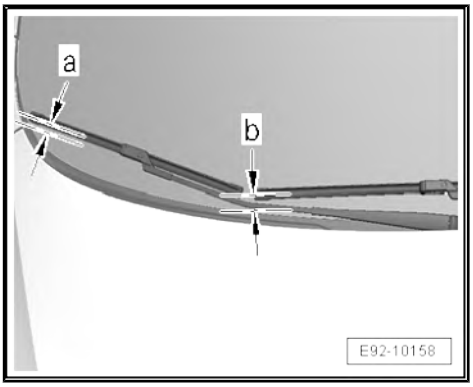
a - 21 + 10 mm

b - 26 + 10 mm

NOTICE

The dimensions correspond to the distance between the windscreen wiper blades and the air duct on the water box at bottom edge of windscreen.

In case there are no markings for aligning the windscreen wipers, use the dimension shown in the illustration to carry out the setting.



– If necessary, adjust the windscreen wiper brushes

4.7.8 Eliminate the wiper scratching

Possible causes for a scratch in the windscreen wiper:

- Scratched glass
- Rubber brushes, loose or deteriorated.
- Wiper arms / blades, loose or bent
- Brushes, with wax or uneven

If none of the reasons for the complaint “of the windscreen wiper causing scratching noises” is specified above apply, before re-

placing the windscreen wiper blades, check the working angle of the wiped blade and set if necessary.

4.7.9 Windscreen wiper blades: removing and fitting

Removing

NOTICE

In case the motor of the windscreen wiper has to run during work, the front bonnet must be closed completely otherwise the voltage supply to wiper motor is cut-off.

WARNING

If there is a risk of frost, first check that the wiper blades are not frozen onto the glass.

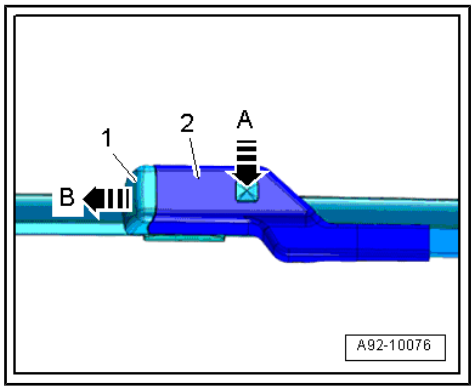
– Switch on ignition briefly and then switch off.
– Operate “touch wipe” function within 10 seconds.
• The wipers will run to the “service position”.

WARNING

Danger of damaging the bonnet in case the windscreen wipers move back to the home position.

- **Do not steer the vehicle when the windscreen wiper arms are aligned.**
- **The wipers automatically run back to the park position when the wiper switch is operated or when road speed exceeds 6 km/h.**

– Raise the windscreen wiper arm and fit the blade in the position as shown in the figure.
– Press retaining clip -arrow A- and slide wiper blade -1- off wiper arm -2- -arrow B-.
– Remove the wiper blade.



Installing

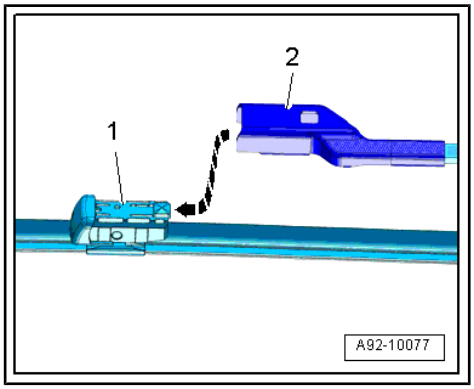
WARNING

Risk of damage to body.

- **The wiper blades for driver's and front passenger's side have different lengths.**

Installation is carried out in reverse order, noting the following:

– Insert the wiper blade -1- into wiper arm -2- in parallel position -arrow-. Insert the wiper blade far enough that you can hear the retaining clip engage with the wiper arm.
– In order to leave the “service position”operate the switch of the windscreen wiper or drive the vehicle faster than 6 km/h.
– Lower the blade and rest the windscreen wiper arm on the windscreen again.



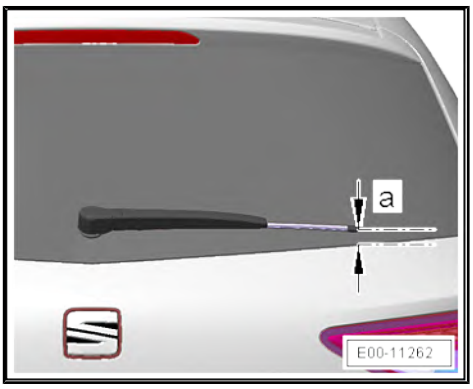
4.7.10 Window wiper arms: check park position

Special tools and workshop equipment required

♦ Torque wrench - VAG 1331-

– Switch ignition on
– Activate the rear window washer and ensure the wiper arm reaches the resting position.
– Switch off ignition.
– Check the distance between tip of wiper blade and bottom edge of glass.

a - 19 + 5 mm



NOTICE

Dimension -a- gives the distance from the point of the wiper blade to the lower edge of the window.

Depending on the model, the rear windscreen has the height -a- for setting engraved on it.

– Switch ignition on
– Activate the rear window washer and ensure the wiper arm reaches the resting position.
– Re-check the windscreen wiper arm adjustment; correct it if necessary.

4.7.11 Eliminating scratching noises on the rear windscreen wiper

Possible causes for a scratch in the rear windscreen wiper:

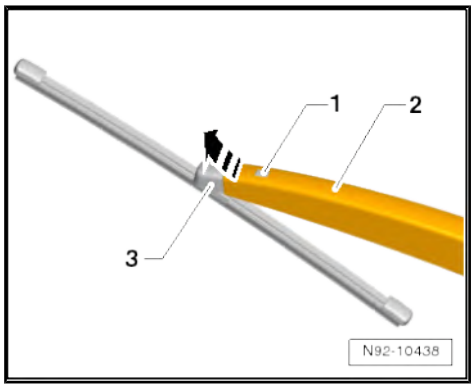
- Scratched glass
- Rubber brushes, loose or deteriorated.

- Arms/brushes, loose or bent
- Brushes, with wax or uneven

If none of the reasons for the complaint “of the rear windscreen wiper causing scratching noises” is specified above apply, before replacing the rear windscreen wiper blade, check the working angle of the wiped blade and set if necessary.

4.7.12 Rear wiper blade: removing and installing

Removing



– Raise the rear window wiper arm and fit the blade in the position as shown in the figure.
– Keep the tab pressed in -1- and remove the blade -3- in the direction of the -arrow-.

Installing

Install in reverse order. In the process, note the following:

- The wiper can only be installed in one position.
- You must be able to hear the wiper blade of the rear windscreen wiper clicking into the wiper arm.

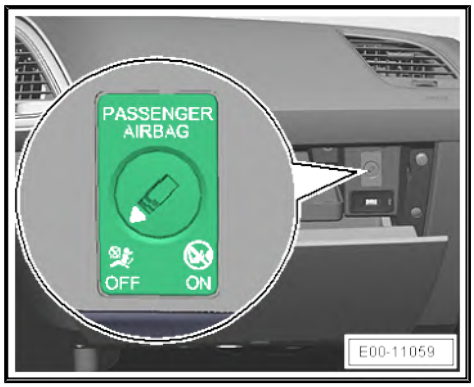
4.8 Passenger's airbag: Check key switch and “ON / OFF” function.

NOTICE

The “Airbag ON/OFF” switch is located in the glove compartment.

Check the function of the activation “ON” and deactivation “OFF” of the front passenger's airbag.

– Switch off ignition.
– Insert the ignition key into the switch and rotate the key to the position “OFF”.



– Check if the signal lamp illuminates when switching the ignition “OFF” -1-.

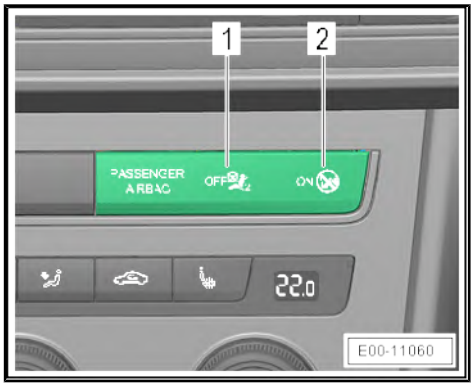
– Switch off ignition.

– Insert the ignition key into the switch and rotate the key to the position “ON”.

– Check if the signal lamp illuminates when switching the ignition “ON” -2-.

After the ignition is switched on, the signal lamp “ON” illuminates for 60 seconds and then goes off.

– Switch off ignition.



4.9 Initialise power windows (activate).

NOTICE

The automatic opening and closing features for the electric windows do not function after disconnecting and reconnecting the battery. Therefore, before a new vehicle is delivered, the window regulators must be reactivated. Once the positions of the electric windows have been set, do not disconnect the battery.

CAUTION

After batteries have been disconnected and reconnected the roll-back function of the electric window regulators is disabled. Severe pinching injuries could result!

Carry out the following procedure to reactivate the automatic functions of the window regulators:

NOTICE

The positioning of one or more window regulators can be reactivated at the same time.

– Switch ignition on

– Close all doors and windows completely.

– Pull button for electric window upwards. Hold button in this position for at least 1 second.

– Release buttons, pull up and hold again.

The one-touch opening and closing function is now ready for use.

– Switch off ignition.

4.10 Check vehicle key operation

⇒ “4.10.1 Check the operation of the alarm.”, page 50 .

⇒ “4.10.2 Check the batteries in the remote control key”, page 50 .

– Remove the keys from the key ring in order to check each one's operation.

– Place all the vehicle keys one by one in the ignition and start the engine.

– If after approximately 3 seconds the engine stops by itself and the message “save” appears in the mileometer, this means that the key in question has not been programmed for the immobiliser.

– Repair measure: Guided fault location (programming the vehicle keys).
– Note the number of vehicle keys that have been checked and delivered in the inspection record.

4.10.1 Check the operation of the alarm.

– Lock the vehicle using the lock button on the remote control key.
– Insert the key in the driver's door lock and turn to the left.
– Open vehicle door.

After approximately 15 seconds the alarm system will go off.

– Stop the alarm system using the unlock button on the remote control key.

Vehicles with volumetric sensor

– Fully open one of the vehicle windows.
– Lock the vehicle using the lock button on the remote control key.
– Insert one hand through the open window.

The volumetric sensors will detect the movement of the hand inside the vehicle compartment and the alarm system will be triggered.

– Stop the alarm system using the unlock button on the remote control key.

4.10.2 Check the batteries in the remote control key

As the batteries in the remote control key run down, the radius of action also diminishes.

If the battery warning light does not flash when the buttons are pressed the battery should be replaced.

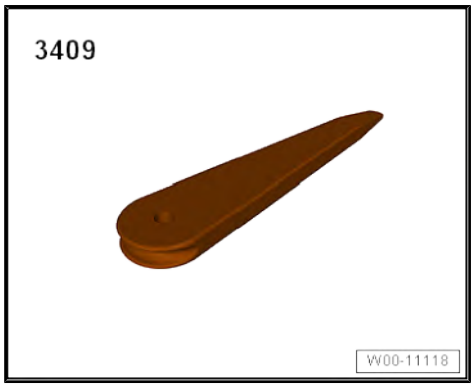
⚠ CAUTION

The use of incorrect batteries may damage the remote control. Used batteries should be replaced by new batteries of the same voltage and size.

Observe environmental requirements for disposal!

Special tools and workshop equipment required

♦ Release lever - 3409-

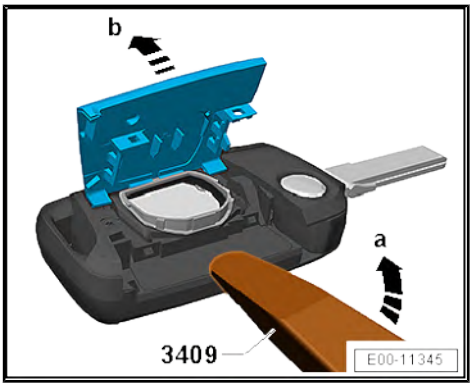


Battery removal

– Fold out the key -arrow A-.

– With the lever - 3409- , remove the cover in the direction of -arrow B-.

– On the intended tabs of the key body, remove the battery from its mount using a small flat-headed screwdriver.



Installing battery

NOTICE

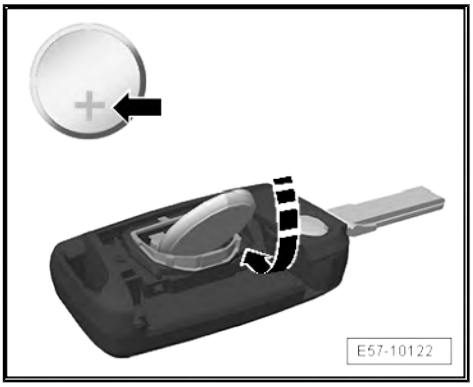
Ensure correct polarity and mounting position when installing battery.

The poles and the battery specification are embossed on the inside of the key cover.

– Insert the battery in the direction of the -arrow- into its mount making sure that the positive pole is visible (pointing upwards).

– Press down on the battery in order to engage tight in the mount.

– Fit the key cover and press on until you can hear a characteristic “clicking” sound.



4.11 Clock and date: Setting to correct time

NOTICE

The time can be set in the digital display of the dash panel insert or on the multi-functional touchscreen.

Dash panel insert: set time

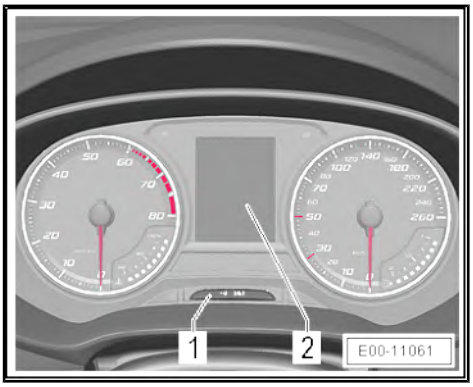
– Close all doors.

– Keep button -1- pressed for longer than 3 seconds so that the time is shown in the digital display -2-.

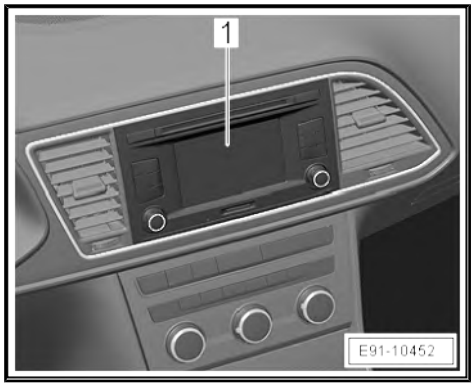
– Press the knob -1- until the desired hour has been set.

– For setting the minutes, wait for 3 seconds.

– Press the knob -1- until the desired minute has been set.



Multifunction touchscreen: set time and date

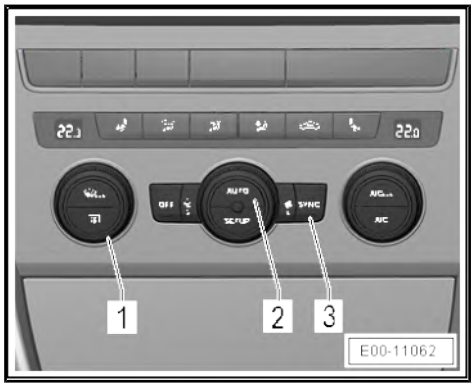


– Switch ignition on
– Switch on the multi-functional touchscreen -1-.
– Press the “CAR” button.
– Press “SETTINGS” on the touchscreen.
– Press “Date and Time” on the touchscreen.
– Perform the necessary date and time settings.

The changes carried out are then saved automatically when closing the menu.

4.12 Air conditioning: Set temperature to 22 ° C

– Switch ignition on
– Check all functions of the air conditioning system ⇒ Owners manual .
– Make sure that 22°C is shown in the display.
– If necessary, adjust the temperature as follows:
– Press key “AUTO” -2- for automatic operation.
– Press the “SYNC” -3- button to set the same temperature on both sides.
– Set temperature to 22°C using the rotary control -1-



4.13 Assign the station buttons of the radio or radio navigation system with the local radio stations

– Check the operation and program the most important local broadcasts into the memory.

See owner’s manual ⇒ radio and navigation system, radio, selecting, setting and saving stations .

4.14 Tyre pressure control system: carry out basic adjustments

NOTICE

The basic adjustment of the tyre control indicator should only be carried out after correcting the inflation pressure values of the tyres.

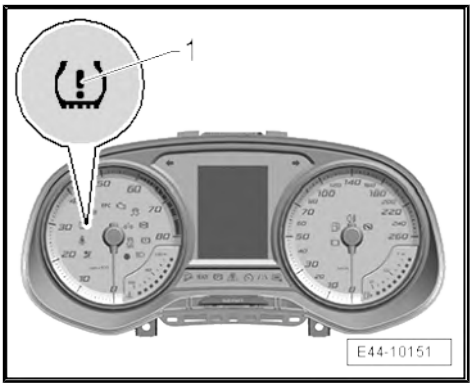
If no pressure loss and tyre damage are found after a tyre pressure warning, the “false alarm” can be rectified by a basic setting.

The tyre control system indicator uses the ABS sensors to compare the number of rotations, and with it the perimeter of the tread surface of each of the wheels. The tyre control system indicator will light up when the tread surface perimeter of one of the wheels changes.

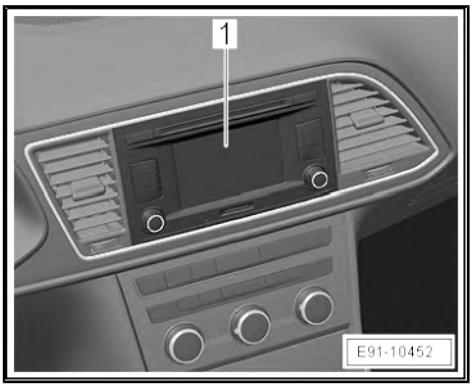
The tread surface perimeter changes when:

- The pressure in a tyre is insufficient
- the tyre has damage to its surface
- the vehicle is loaded on only one side
- the wheels of one axle suffer greater wear, for example when towing a trailer or going up or down long slopes
- the snow chains are attached
- the emergency wheel is fitted
- one wheel is changed on an axle

The tyre pressure monitoring warning lamp has a yellow lamp -1- in the dash panel insert.



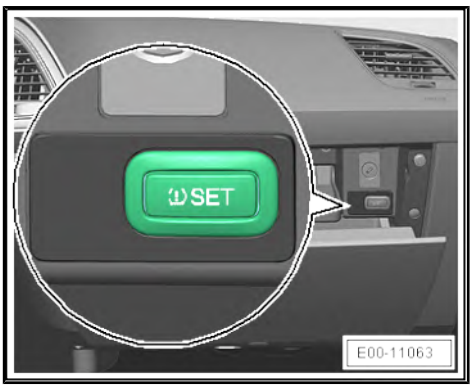
Carry out basic adjustment: Vehicles with multifunction touchscreen



– Switch ignition on
– Switch on the multi-functional touchscreen -1-.
– Press the “CAR” button.
– Press “SETTINGS” on the touchscreen.
– Push “Tyres” on the touchscreen.
– Press “Calibrate” on the touchscreen.

The changes carried out are then saved automatically when closing the menu.

Perform basic setting: vehicles without multi-functional touchscreen.



– Switch ignition on
– Press and hold the SET button in the glove compartment until an acoustic signal sounds.

The acoustic signal confirms the process for carrying out the basic setting.

The system calibrates itself to the tyre pressure and tyres installed during normal driving.

4.15 Connecting vehicle diagnosis and service information system

Special tools and workshop equipment required

- Vehicle diagnostic tester

NOTICE

It must be ensured that the selected vehicle diagnostic and service information system is only used with the associated diagnostic cable.

CAUTION

- **Always secure testing and measuring equipment on the rear seat during a road test.**
- **While the vehicle is moving this equipment must be operated by a second person; NOT by the driver.**

Procedure

– Apply handbrake.

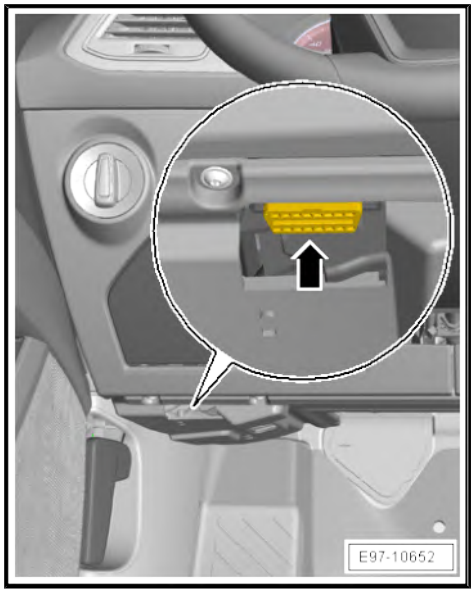
– Automatic gearbox: set the selector lever in the position “P” or “N”.

– Manual gearbox: gear lever at neutral.

– If the ignition is switched off connect the vehicle diagnostic and service information system .

– Switch ignition on

Now follow instructions on screen in order to start desired functions.



4.16 Error memory on all systems: interrogating

Special tools and workshop equipment required

- Vehicle diagnostic tester

Procedure

NOTICE

If no indications are displayed on the screen during these operations: ⇒ operating instructions vehicle diagnosis tester .

ODIS Service
– Connect vehicle diagnostic tester ⇒ page 53 .
– Switch ignition on
– Carry out vehicle identification.
– Enter task data or select “Without order”.
– Select “Control units”.

ODIS Service
– Select “Event memory list”.
– Repair all faults according to repair guidelines.

WARNING

The vehicle must always be delivered to the customer with fault memory cleared.

Static faults

If one or more static faults are found in the fault memory, it is recommended, in agreement with the customer, to rectify these faults using Guided Fault Finding.

Sporadic faults

If only sporadic faults or notes are stored in the event memory and the customer has no complaints regarding the electronic vehicle system, erase event memory.

4.17 Configure and check the Bluetooth connection between the customer's mobile telephone and the vehicle's hand-free system .

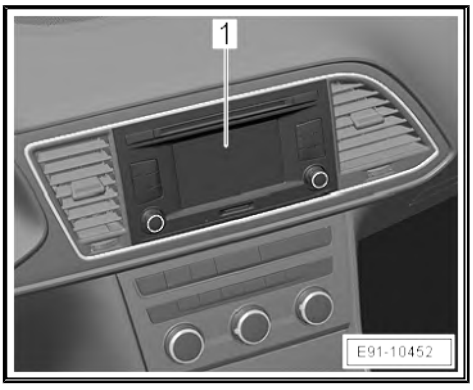
It is necessary to configure the Bluetooth connection between the mobile telephone and the hands-free system before it can be used for the first time.

See owner’s manual ⇒ radio and navigation system, telephone management (PHONE) .

4.18 Set the language of the driver information in vehicles with multi-function display

Select the language desired by the customer according to the instructions in the multi-functional touchscreen.

Multi-functional touchscreen:



– Switch ignition on
– Switch on the multi-functional touchscreen -1-.
– Press the “MENU” button.
– Press “SETTINGS” on the touchscreen.
– Press “Language” on the touchscreen.
– Select the desired language.

The changes carried out are then saved automatically when closing the menu.

4.19 Service interval display: resetting

NOTICE

The service interval indicator must be reset for the handing-over inspection as well as for each service.

For the handing-over inspection, the “oil change indicator” as well as the “inspection indicator” must be reset.

With the respective service, only the indicator of the service carried out must be reset (“Oil change”, “Inspection” or both, if carried out together).

WARNING

When necessary, adjust the programming of the service interval indicator from flexible service intervals to time and kilometre dependent intervals (fixed service interval) or vice-versa ⇒ page 57 **.**

Special tools and workshop equipment required

- Vehicle diagnostic tester

Procedure

NOTICE

If no indications are displayed on the screen during these operations: ⇒ operating instructions vehicle diagnosis tester .

ODIS Service
– Connect vehicle diagnostic tester ⇒ page 53 .
– Switch ignition on
– Carry out vehicle identification.
– Deselect “Using guided fault finding”.
– Select “Control units”.
– Select “Dash panel insert”.
– Select “Identify control unit”.
– Select “Guided Functions”.
– Select the respective service which is to be reset.
– Carry out the reading according to the details in the “Guided Functions”.

– Switch off the ignition and the vehicle diagnostic and service information system .

– Switch ignition on

After the ignition is switched on, the service event is no longer displayed.

4.20 Service interval indicator: Adjust the programming

NOTICE

Vehicles with PR number “QI6” are equipped with activated Longlife Service (flexible service intervals) ex-factory, it is however possible, to modify the programming to time or distance dependent service (fixed service interval).

Vehicles with PR numbers “QI1/QI2/QI3/QI4/QI7” are activated with time or distance dependent service ex-factory (fixed service interval). It is not possible to modify the programming with these vehicles.

The programming of the service interval indicator must be changed for the handing-over inspection as well as for each service.

Special tools and workshop equipment required

- Vehicle diagnostic tester

NOTICE

If no indications are displayed on the screen during these operations: ⇒ operating instructions vehicle diagnosis tester .

Recoding from flexible to fixed intervals

ODIS Service
– Connect vehicle diagnostic tester ⇒ page 53 .
– Switch ignition on
– Carry out vehicle identification.
– Deselect “Using guided fault finding”.
– Select “Control units”.
– Select “Dash panel insert”.
– Select “Identify control unit”.
– Select “Guided Functions”.
– Select “change flexible/fixed intervals”.
– Carry out the reading according to the details in the “Guided Functions”.

– Switch off the ignition and the vehicle diagnostic and service information system .

NOTICE

The vehicle diagnostic and service information system could have to remain connected for different tests.

Changing values for maximum distance to be driven (km) until next oil change service (fixed) during delivery inspection

ODIS Service
– Connect vehicle diagnostic tester ⇒ page 53 .
– Switch ignition on
– Carry out vehicle identification.
– Enter task data or select “Without order”.
– Select “Control units”.

ODIS Service
– Select “Dash panel insert”.
– Select “Guided Functions”.
– Select “Oil change service (fixed)”.
– Follow instructions on vehicle diagnostic tester in “Guided functions” mode.
– Reset “-1- Oil change service (fixed)”.
– Follow instructions on vehicle diagnostic tester in “Guided functions” mode.
The current maximum km values are displayed in the vehicle diagnostic and service information system .
– Select “No”.
– Select value for maximum distance to be driven until next oil change service, according to specifications valid in your country.
– Carry out adaption according to the information of “Guided Functions”.

– Switch off the ignition and the vehicle diagnostic and service information system .

NOTICE

The vehicle diagnostic and service information system could have to remain connected for different tests.

4.21 Re-setting interval display for natural gas system inspection

NOTICE

Gas system inspections must be carried out in accordance with legal requirements on vehicles which are operated using natural gas.

A new interval display has been introduced for this inspection in order to ensure that the gas system inspections are strictly complied with.

A message (advance service event warning) appears in the instrument cluster display before expiry of the specified maximum time to the next inspection.

The time to the first gas system inspection is calculated for new vehicles from the moment of the delivery inspection. The resetting of the advance service event warning and the setting of the maximum time interval must be undertaken:

- **on every vehicle delivery (delivery inspection)**
- **after every gas system inspection**

When doing this, it should be noted that no gas system inspection is required on a vehicle delivery (delivery inspection). Only the maximum value must be set.

Special tools and workshop equipment required

- Vehicle diagnostic tester

ODIS Service
– Connect vehicle diagnostic tester ⇒ page 53 .
– Switch ignition on

ODIS Service
– Carry out vehicle identification.
– Enter task data or select “Without order”.
– Select “Control units”.
– Select “0017- Instrument panel”.
– Select “Guided Functions”.
– Select “0017 - Gas system inspection” .
– Follow instructions on vehicle diagnostic tester in “Guided functions” mode.

4.22 Transport mode, factory mode and production mode: deactivate using the vehicle diagnostic and service information system .

NOTICE

This model has no “factory mode”.

The transportation mode is responsible for assuring the starting capability of vehicle.

Battery discharging is reduced by the transportation mode, because electrical consumers are switched off.

All vehicle functions which are not necessarily used during vehicle transportation and require no-load voltage or battery capacity are switched off with the activated transportation mode, with regard to the service life of battery.

These are especially all functions in the vehicle which can reduce the battery capacity when being misused.

Examples are radios, electronically operated flaps and attachments and anti-theft alarm systems which can produce faults during transportation.

Special tools and workshop equipment required

♦ Vehicle diagnostic tester

Procedure

NOTICE

If no indications are displayed on the screen during these operations: ⇒ operating instructions vehicle diagnosis tester .

ODIS Service
– Connect vehicle diagnostic tester ⇒ page 53 .
– Switch ignition on
– Carry out vehicle identification.
– Select “Without order”.
– Select “Test schedule”.
– Select “Select own test”.
– Select “Delivery Inspection”.
– Select “Data bus diagnostic interface - J533”.
– Follow instructions on vehicle diagnostic tester in “Guided functions” mode. [6)]

6) After switching off the transport mode, the battery status is displayed.

– Switch off the ignition and the vehicle diagnostic and service information system .

NOTICE

The vehicle diagnostic and service information system could have to remain connected for different tests.

4.23 Panorama sliding roof

⇒ “4.23.1 Panorama roof, Leon and Leon SC”, page 60 .

⇒ “4.23.2 Panorama roof, Leon ST”, page 66 .

4.23.1 Panorama roof, Leon and Leon SC

NOTICE

- **Lubricating paste G 060 751 A2 is coloured grey and easy to detect. The new special anti-seize agent G 060 567 A2 is colourless and barely noticeable.**
- **The previously used solid lubricating paste and the new special lubricant may not be mixed.**
- **The use of the new special lubricant effects a change to the procedure in service.**
- **Countries with a lot of dust ⇒ page 13 and less dusty countries must be differentiated.**
- **In less dusty countries, only a noise and function test is carried out ⇒ page 61 In countries with a lot of dust, the panorama sliding roof is still cleaned and greased.**
- **It must be checked with a visual inspection which grease can be detected in the area of the guide rails.**
- **The panorama sliding roofs for which the solid lubricating paste G 060 751 has been used, must still be cleaned and greased.**
- **Rather than a brush, it is better to apply the lubricant with a spray can and a long capillary tube.**

Special tools and workshop equipment required

- Brush
- Fine-pored sponge
- Workshop vacuum cleaner, for example wet-dry vacuum cleaner
- Lubricating paste G 060 751 A2
- Special lubricating paste G 060 567 A2
- Cleaning solution D 009 401 04

NOTICE

Adapt a brush (15 mm wide) using workshop equipment (bevel approx. 40°).

WARNING

A cloth is to be held underneath the area concerned to prevent soiling of the vehicle interior.

Checking function:

– Check the roof system for damage.

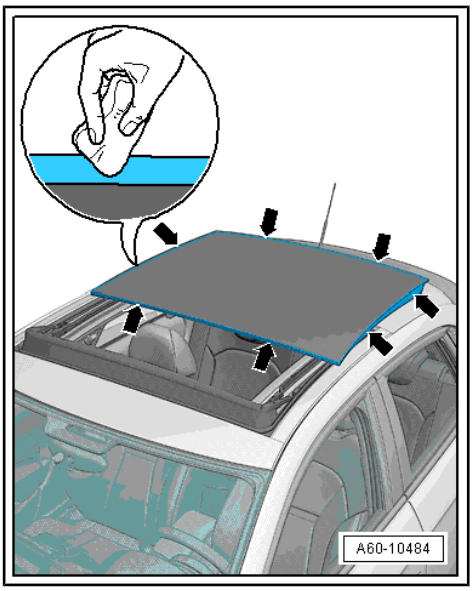
– Check the function of the roof system, i.e. completely open and close the glass cover and the sun visor system (sliding roof or blind).

In doing so, no other running noises may be heard other than the usual ones, no flapping, squeaking, banging or vibrations.

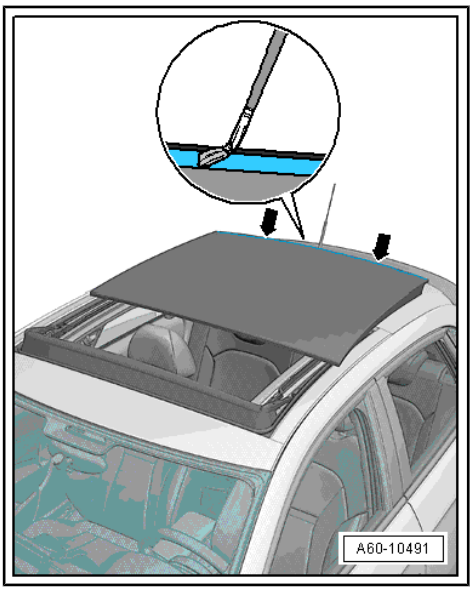
Clean and lubricate glass panel:

– Open glass panel completely.

– Remove dirt and residual grease from the glass panel using cleaning solution and a lint-free cloth -arrows-.



– Apply a thin film of the special lubricating paste to the seal of the glass panel (outer edge) using a fine-pore sponge -arrows-.



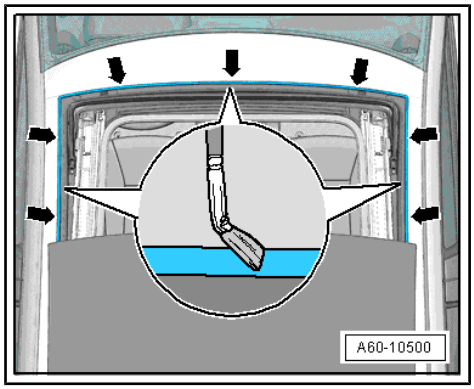
NOTICE

After application of the special lubricant past it is to be ensured that no large visible residues remain.

Clean and grease roof frame seal:

– Remove dirt and residual grease from the frame seal using cleaning solution and a lint-free cloth.

– Apply a thin film of the special lubricating paste (using a fine-pore sponge) to the frame seal -arrow-.



NOTICE

After application of the special lubricant past it is to be ensured that no large visible residues remain.

NOTICE

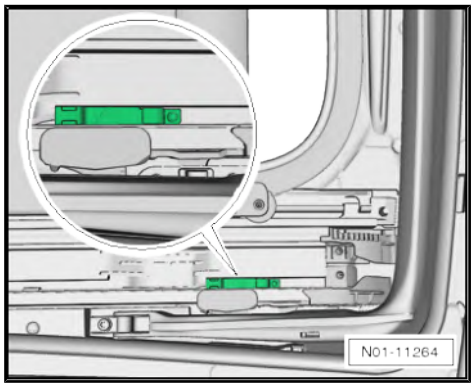
All following operations described are to be repeated on the opposite side of the vehicle.

Clean and grease the guide rail:

• Glass panel completely opened.

WARNING

The operating slide -green- must be neither cleaned nor greased. Risk of damage!



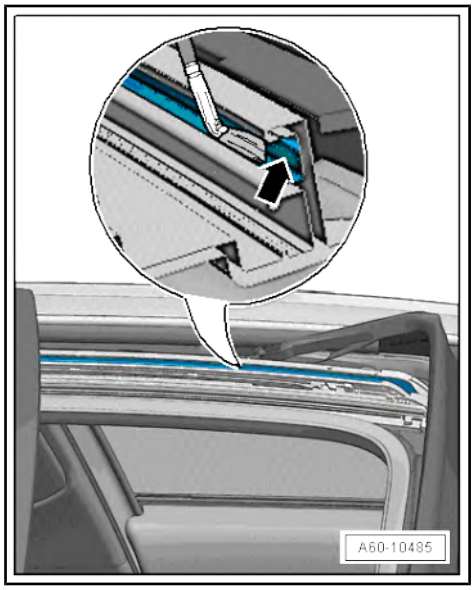
NOTICE

In case the locking device for the operating slide has to be unlocked when carrying out cleaning and lubricating work, the panoramic sliding roof must not be operated. (Risk of damage). Guide plate: locking ⇒ page 65

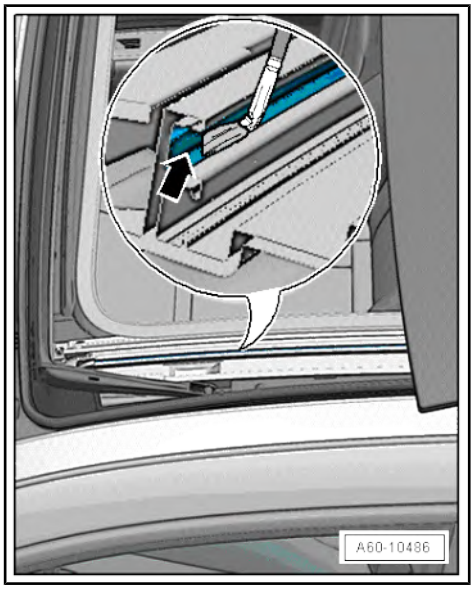
– If necessary fine sand and dust particles are to be removed from the guide rail using a workshop vacuum cleaner.

– Residual dirt and grease in the guide rail is to be removed using a lint-free cloth.

– Apply G 060 751 A2 lubricating paste to the outer guide rail with a brush -arrow-.

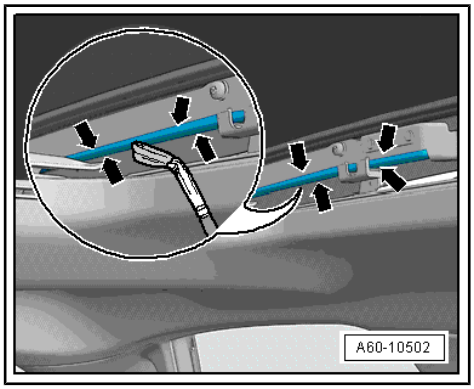


– Apply G 060 751 A2 lubricating paste to the inner guide rail with a brush -arrow-.
– Remove excess lubricant from the rails using a lint-free cloth.



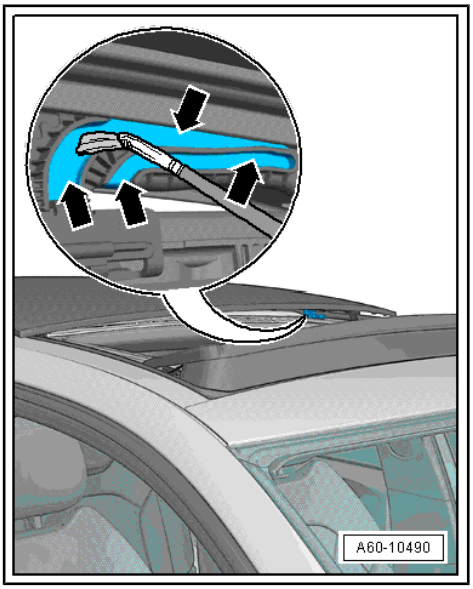
Clean from inside and grease guide rail:

– Push glass panel towards closed position until the wind deflector is fully raised.
– Remove residual dirt and grease from the guide rail of the glass panel mechanism (inside) using a lint-free cloth.
– Apply G 060 751 A2 lubricating paste to the guide rail of the glass panel mechanism (inside) using a brush -arrows-.
– Remove excess grease out of the guide rail of the glass panel mechanism (inside) using a lint-free cloth.



Clean from the inside and grease the sliding guide of the glass panel:

– Residual dirt and grease is to be removed using a lint-free cloth.
– Apply G 060 751 A2 lubricating paste to the inner sliding guide of the glass panel with a brush -arrows-.
– Remove excess lubricating grease from the sliding guide of the glass panel using a lint-free cloth.



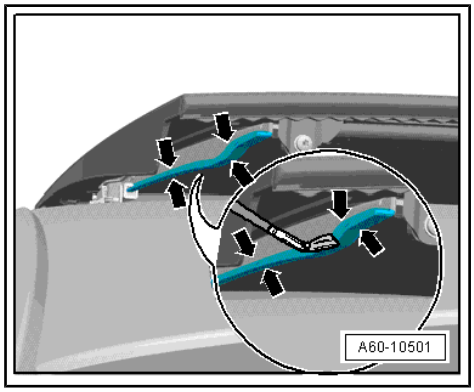
Clean and grease the outer guide rails:

– Open glass panel completely.

– Remove residual dirt and grease from the guide rail of the glass panel mechanism (outside) using a lint-free cloth.

– Apply G 060 751 A2 lubricating paste to the guide rail of the glass panel mechanism (outside) using a brush -arrows-.

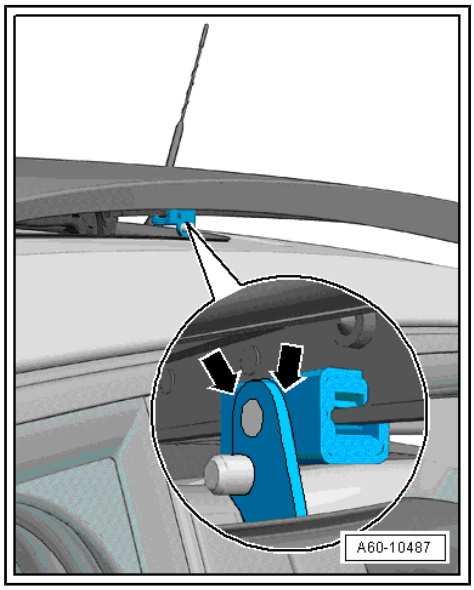
– Remove excess grease out of the guide rail of the glass panel mechanism (outside) using a lint-free cloth.



Clean and grease the glass panel mechanism:

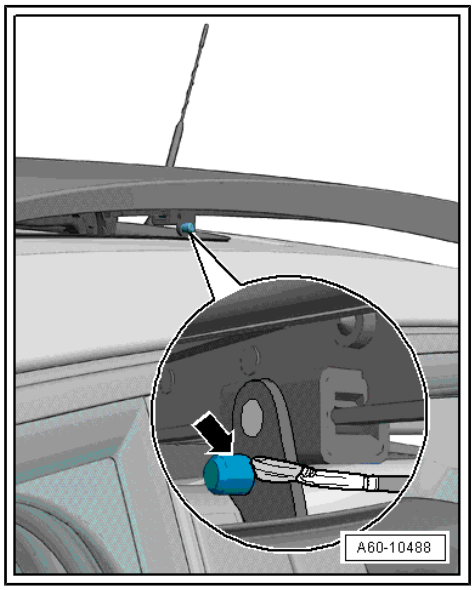
– Residual dirt and grease is to be removed using a lint-free cloth.

– Apply G 060 751 A2 lubricating paste to the mounting cage of the glass panel mechanism using a brush -arrows-.



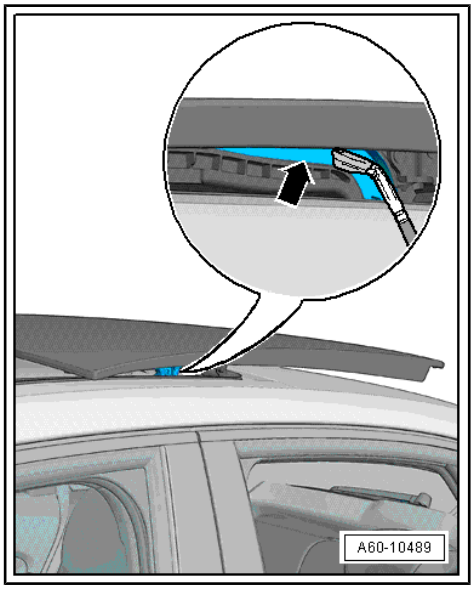
– Apply G 060 751 A2 lubricating paste to the tilt lever of the glass panel mechanism using a brush -arrow-.

– If necessary remove excess grease from the tilt lever using a lint-free cloth.



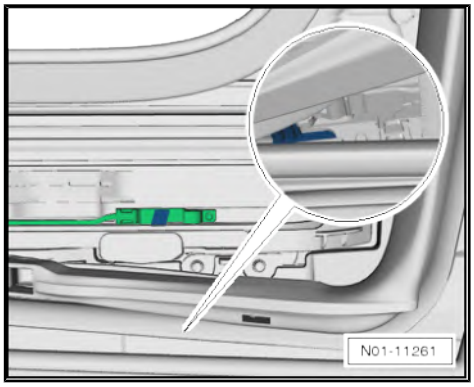
Clean and grease the outer sliding guides of the glass panel:

- Remove residual dirt and grease from the outer sliding guide of the glass panel using a lint-free cloth.
- Apply G 060 751 A2 lubricating paste to the outer sliding guide of the glass panel using a brush -arrow-.
- Remove excess lubricating grease from the sliding guide of the glass panel using a lint-free cloth.
- Operate the roof system through the complete cycle of movement and check once again that all lubricating points are free of residual grease.



Lock operating slide:

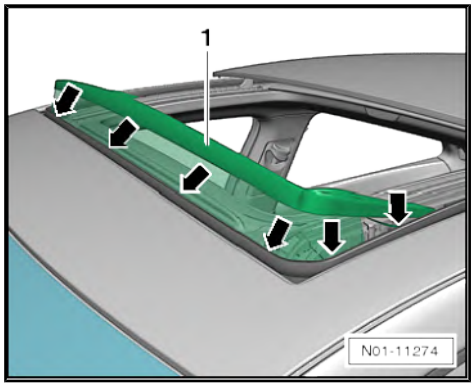
- Carefully depress the lever of operating slide -green-.
- Carefully push the locking device -blue- sideways onto the lever -green-with a screwdriver.



Clean wind deflector:

– Check the wind deflector -1- for dirt. Especially check lower part of wind deflector for dirt -arrows-.

– Remove dirt deposits using e.g. a wet-dry vacuum cleaner .



NOTICE

To remove insects and particles from the net and wind deflector frame, use a sponge and a soapy solution.

Mixing ratio for soapy solution: 3 drops of washing-up liquid to 1 litre of water.

WARNING

Do not use a commercially available insect remover or other solvents since such products have not been tested and approved.

– Then remove loose insects and particles using a vacuum cleaner with a suitable nozzle.

WARNING

Use a suitable nozzle for the wind deflector so that the net is not damaged!

Ensure that no dirt enters the inside of the vehicle while this work is being carried out.

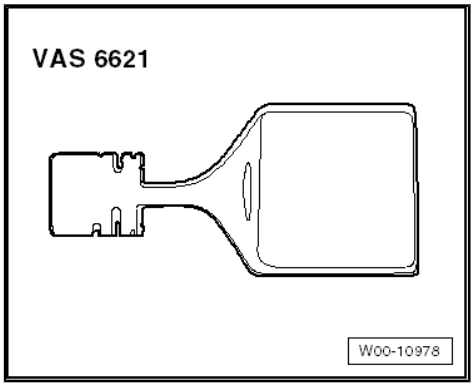
4.23.2 Panorama roof, Leon ST

NOTICE

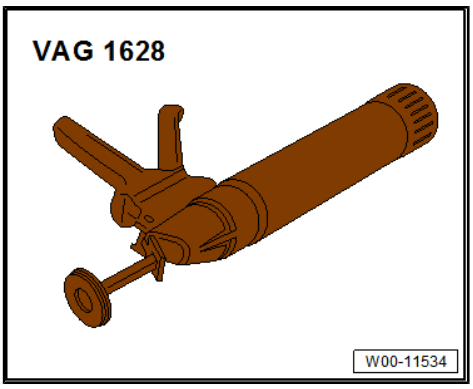
- **Lubricating paste G 060 751 A2 is coloured grey and easy to detect. The new special anti-seize agent G 060 567 A2 is colourless and barely noticeable.**
- **The previously used solid lubricating paste and the new special lubricant may not be mixed.**
- **The use of the new special lubricant effects a change to the procedure in service.**
- **Countries with a lot of dust ⇒ page 13 and less dusty countries must be differentiated.**
- **In less dusty countries, only a noise and function test is carried out ⇒ page 67 In countries with a lot of dust, the panorama sliding roof is still cleaned and greased.**
- **It must be checked with a visual inspection which grease can be detected in the area of the guide rails.**
- **The sliding panoramic roofs for which lubricating paste G 060 751 A2 has been used must still be cleaned and greased.**
- **Rather than a brush, it is better to apply the lubricant with a spray can and a long capillary tube.**

Special tools and workshop equipment required

- Headpiece - VAS 6621-



- Window seal gun - VAG 1628-



- Brush
- Fine-pored sponge
- Measuring container
- Workshop vacuum cleaner, for example wet-dry vacuum cleaner
- Lubricating paste G 060 751 A2
- Special lubricating paste G 060 567 A2
- Cleaning solution D 009 401 04

NOTICE

Adapt a standard brush (15 mm wide) using workshop equipment (bevel approx. 40°).

WARNING

A cloth is to be held underneath the area concerned to prevent soiling of the vehicle interior.

Checking function:

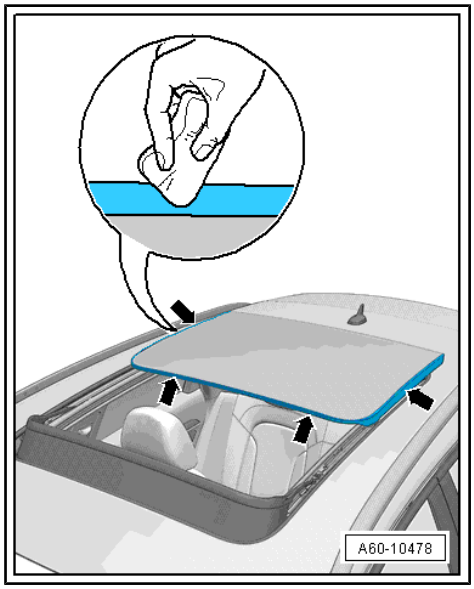
– Check the roof system for damage.

– Check the function of the roof system, i.e. completely open and close the glass cover and the sun visor system (sliding roof or blind).

In doing so, no other running noises may be heard other than the usual ones, no flapping, squeaking, banging or vibrations.

Clean the edges of the glass panel:

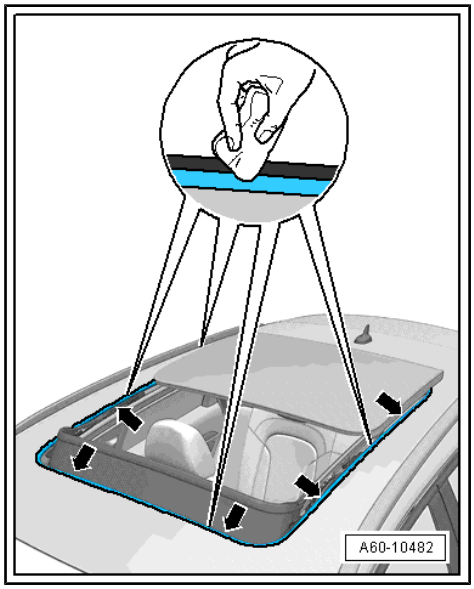
– Remove dirt and residual grease from the front and side edges of the glass panel using cleaning solution and a lint-free cloth -arrows-.



Clean and grease roof frame seal:

– Remove dirt and residual grease from the roof pillar seal using cleaning solution and a lint-free cloth -arrows-.

– Apply a thin film of the special lubricating paste to the seal of the roof pillar using a fine-pore sponge -arrows-.



NOTICE

After application of the special lubricant past it is to be ensured that no large visible residues remain.

All following operations described are to be repeated on the opposite side of the vehicle.

Clean the guide rails:

- Glass panel completely opened.
- For cleaning and greasing only the headpiece - VAS 6621- is to be used.

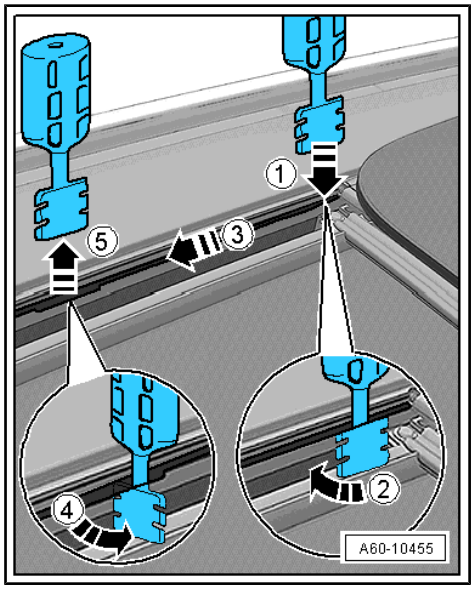
– Insert the headpiece - VAS 6621- at the rear of the guide rail -1- and turn through 90° -2-.

– Push the headpiece - VAS 6621- up to the centre of the guide rail in -the direction of arrow 3-.

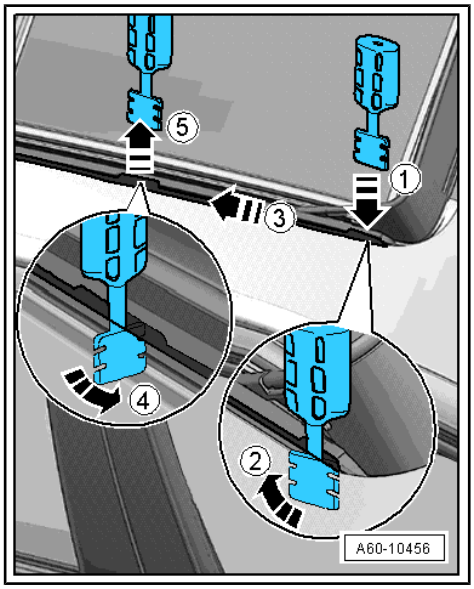
– Turn the headpiece - VAS 6621- through 90° -4- and remove the tool -5-.

– Remove accumulated residual grease and dirt from the respective guide rail using a lint-free cloth (where necessary remove sand and fine dust from the guide rail using a workshop vacuum cleaner).

– Repeat procedure several times as required.

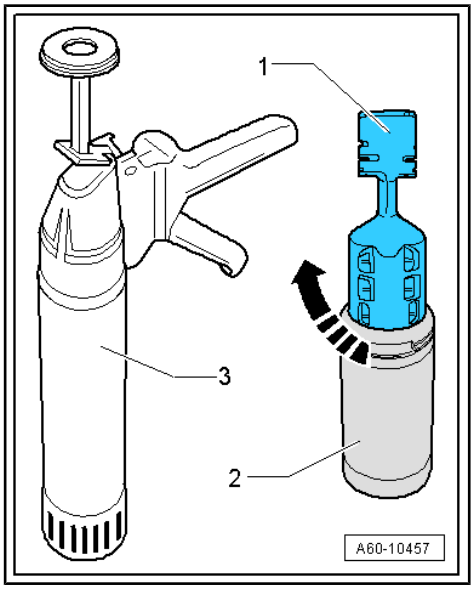


– Insert the headpiece - VAS 6621- into the front of the guide rail (next to the wind deflector) -1- and turn through 90° -2-.
– Push the headpiece - VAS 6621- up to the centre of the guide rail in -the direction of arrow 3-.
– Turn the headpiece - VAS 6621- through 90° -4- and remove the tool -5-.
– Remove accumulated residual grease and dirt from the respective guide rail using a lint-free cloth (where necessary remove sand and fine dust from the guide rail using a workshop vacuum cleaner).
– Repeat procedure several times as required.
– Repeat procedure on opposite side of vehicle.

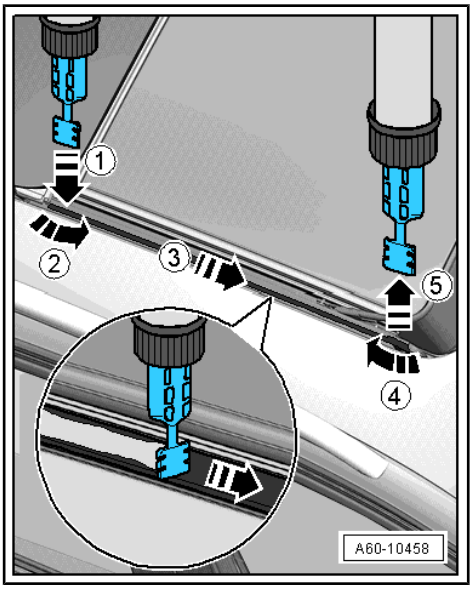


Grease the guide rail:

– Screw the headpiece - VAS 6621- -1- onto the thread of the G 060 751 A2 grease cartridge -2- in -the direction of arrow- and fit onto the window seal gun - VAG 1628- -3-.



– Fit the window seal gun - VAG 1628- with the headpiece - VAS 6621- to the end of the guide rail on the side -1- and turn through 90° -2-.
– Apply the G 060 751 A2 lubricating paste to the front part of the guide rail in -the direction of arrow 3- whilst at the same time operating the window seal gun - VAG 1628- smoothly.
– Turn the window seal gun - VAG 1628- with the headpiece - VAS 6621- through 90° -4- and remove -5-.
– Remove surplus grease on guide rails with a lint-free cloth.
– Repeat procedure on opposite side of vehicle.

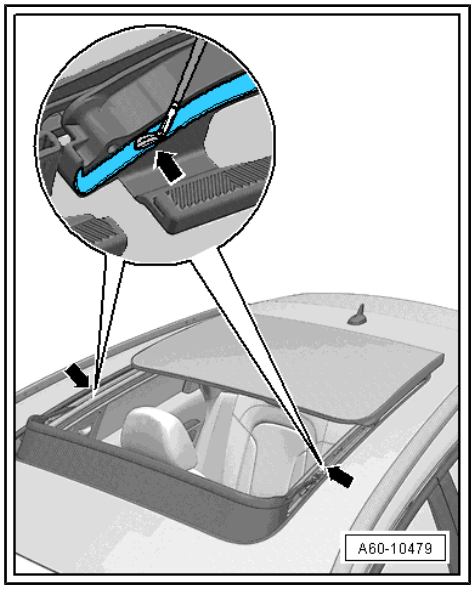


Clean and grease the sliding guide:

- Glass panel completely opened.

– Residual dirt and grease in the sliding guide is to be removed using a lint-free cloth.

– Operate the sliding sunroof through the cycle of movement and completely open the glass panel again.



NOTICE

The lubricating grease is spread onto the guide rails during the operating cycle. Accumulated excess lubricant can be used for greasing the sliding guide.

– Apply G 060 751 A2 lubricating paste to the sliding guide with a brush -arrow-.

– Remove excess grease from the sliding guides and guide rail with a cloth.

Clean and grease ratchets for the sunroof mechanism:

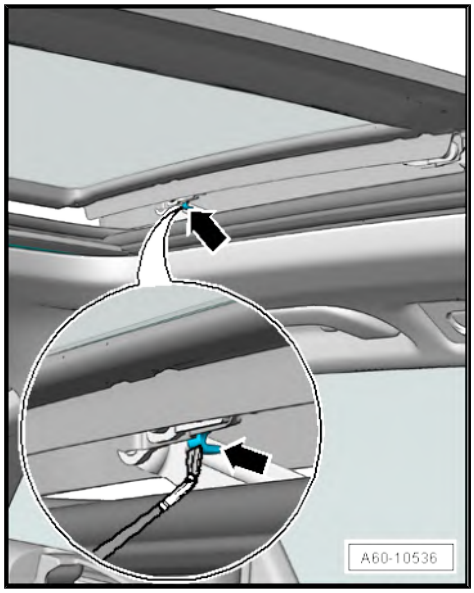
– Place the glass panel in tilt position.

– From the vehicle interior: Free the ratchet of the sliding sunroof mechanism from residual dirt and grease with the aid of a lint-free cloth.

– Apply G 060 751 A2 lubricating paste to the ratchet of the sliding sunroof mechanism using a brush -arrow-.

– Remove surplus lubricant with a lint-free cloth.

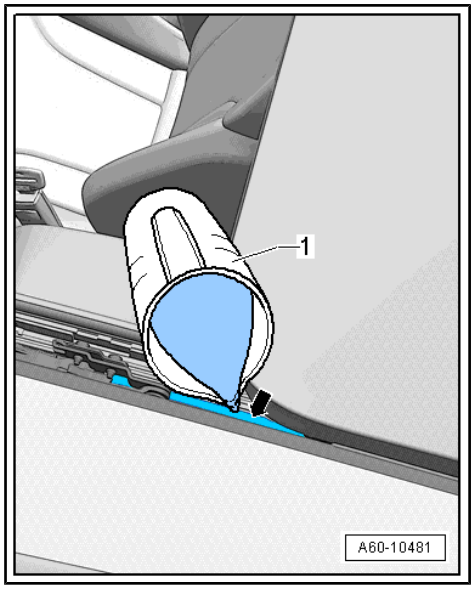
– Operate the roof system through the complete cycle of movement and check once again that all lubricating points are free of residual grease.



Check water drains for dirt:

– Open glass panel completely.

– Use a beaker -1- to pour water onto the opened glass panel in the guide rail -arrow-.



NOTICE

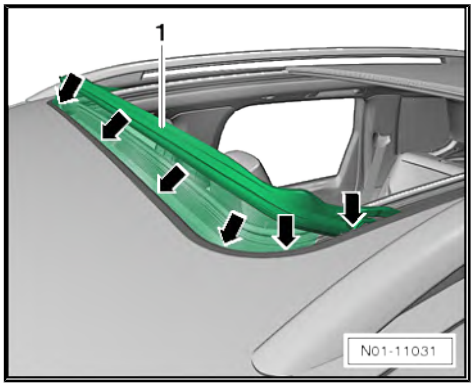
Proceed with care to prevent water running into the vehicle interior.

Proceed so that water flows in both directions and both drains are checked.

– Check that the water runs evenly from the front as well as the rear of the wheel housing at the underside of the vehicle.

– If the water does not drain at the appropriate points, the drains must be cleaned ⇒ General body repair, external installation work; Rep. gr. 60 ; Drain hoses; Drain hoses: cleaning (Repair measure).

Clean wind deflector:



– Check the wind deflector -1- for dirt. Especially check lower part of wind deflector for dirt -arrows-.

– Remove dirt deposits using e.g. a wet-dry vacuum cleaner .

NOTICE

To remove insects and particles from the net and wind deflector frame, use a sponge and a soapy solution.

Mixing ratio for soapy solution: 3 drops of washing-up liquid to 1 litre of water.

WARNING

Do not use a commercially available insect remover or other solvents since such products have not been tested and approved.

– Then remove loose insects and particles using a vacuum cleaner with a suitable nozzle.

WARNING

Use a suitable nozzle for the wind deflector so that the net is not damaged!

When doing this, ensure that no dirt drops into vehicle interior.

4.24 Battery: Check the battery terminals for correct fit by hand

Special tools and workshop equipment required

♦ Torque wrench - VAG 1331-

NOTICE

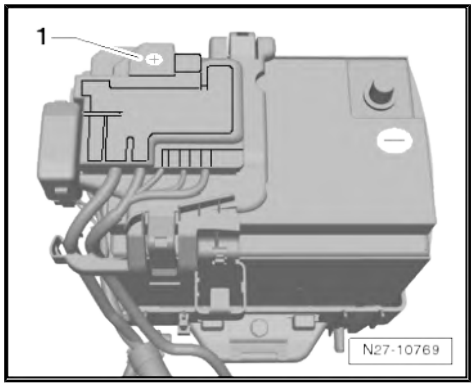
A securely seated battery clamp ensures trouble free function and long service life of the battery.

When securing terminal clamp, ensure that it is completely seated on battery terminal.

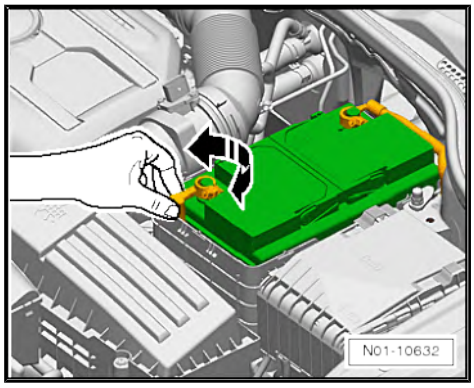
Procedure

– Switch off ignition and remove key from ignition lock.

– Open the battery positive pole cover -1-.



– Check whether battery terminal clamps are secure on battery terminals by moving battery positive cable and battery negative cable back and forth.



CAUTION

If the battery terminal clamp on the positive terminal is not fitted securely, disconnect the battery earth strap from the battery negative terminal first to avoid possible accidents.

If the battery clamp is NOT seated securely on positive terminal:

1 - Loosen the -NEGATIVE- battery clamp and remove.

2 - Tighten the -POSITIVE- battery clamp to 6 Nm.

3 - Reconnect battery clamp -MINUS- and tighten to 6 Nm.

If the battery clamp is NOT seated securely on negative terminal:

– Tighten the -NEGATIVE- battery clamp to 6 Nm.

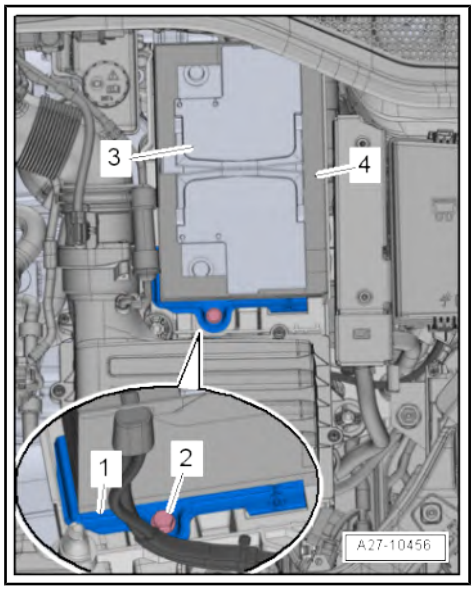
Check the battery attachment:

– Check that the battery is securely fitted.

– If necessary, tighten the screw -2- of the bracket -1- to 15 Nm.

If the battery is not held fast the following may occur:

- Shortened service life due to damage by jerking.
- Damage to the battery grille plates.
- Damage to the battery casing by the retainer plate (possible electrolyte leak, high resulting costs).
- Insufficient security in case of collision.



4.25 Check battery with the battery tester - VAS 6161-

Procedure

⇒ Electrical system: General information; Rep. gr. 27 ; Checking battery; Battery tester with printer - VAS 6161- .

NOTICE

For technical reasons, it is possible that some links do not make reference to the correct chapter. In this case select the procedure manually in the information.

4.26 Battery status: Read off and send the diagnosis protocol online.

NOTICE

Only applicable for vehicles with Start/Stop system and energy recovery system.

Procedure

The battery status is read while the transportation mode is being switched off ⇒ page 59 .

4.27 Charging the battery

Procedure

⇒ Electrical system: General information; Rep. gr. 27 ; Charging battery .

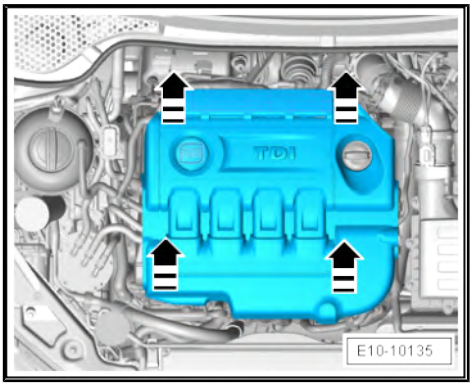
NOTICE

For technical reasons, it is possible that some links do not make reference to the correct chapter. In this case select the procedure manually in the information.

4.28 Remove engine cover .

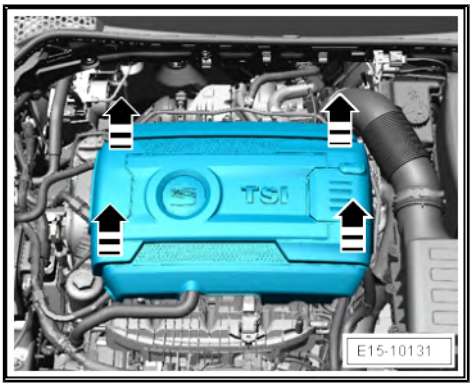
TDI common rail engines

– Disconnect the engine cover at points -arrows- and remove.



1.8 l and 2.0 l TSI engines

– Disconnect the engine cover at points -arrows- and remove.



4.29 Engine and engine compartment components: check for leaks and damage

⇒ “4.29.1 Engine and engine compartment components (from above): check for leaks and damage”, page 74 .

⇒ “4.29.2 Engine and engine compartment components (from below): check for leaks and damage”, page 74 .

4.29.1 Engine and engine compartment components (from above): check for leaks and damage

Carry out visual check as follows:

– Check engine and components in engine compartment for leaks and damage.

– Check the pipes, hoses and connections of the following systems for leaks, chafing, porosity and brittleness.

♦ Fuel type

♦ Cooling and heating system

♦ Brake system:

⚠ CAUTION

Any faults found must be rectified (repair measure).

Determine the cause of the loss and repair (equivalent to a repair).

4.29.2 Engine and engine compartment components (from below): check for leaks and damage

– Place the vehicle on a lifting platform.

Carry out visual check as follows:

– Check engine and components in engine compartment for leaks and damage.

– Check the pipes, hoses and connections of the following systems for leaks, chafing, porosity and brittleness.

♦ Fuel type

♦ Cooling and heating system

♦ Brake system:

⚠ CAUTION

Any faults found must be rectified (repair measure).

Determine the cause of the loss and repair (equivalent to a repair).

4.30 Coolant level and anti-freeze in cooling system: checking.

⇒ “4.30.1 Checking frost protection, replenishing coolant additive if necessary”, page 75 .

⇒ “4.30.2 Check liquid level and top up if necessary”, page 76 .

⇒ “4.30.3 Mixture ratio”, page 77 .

NOTICE

The water used for mixing has a major influence on the effectiveness of the coolant. Because the water quality differs from country to country and even from region to region, the quality of the water to be used in the cooling system has been specified by Volkswagen. Distilled water fulfils all requirements. Therefore, always use only distilled water when mixing coolant for topping up or renewing coolant.

Use only coolant additives listed in the ⇒ Electronic parts catalogue . Other coolant additives may reduce corrosion protection substantially. The resulting damage could lead to loss of coolant and subsequent severe damage to the motor.

Mixed in the proper proportions, coolant inhibits frost and corrosion damage as well as calcium deposits. Such additives also raise the boiling point of the coolant. For this reason, the cooling system must be filled all-year-round with coolant additives.

Because of its high boiling point, the coolant improves engine reliability under heavy loads, particularly in countries with tropical climates.

ONLY refractometer - T10007A- may be used for determining current anti-freeze value.

NOTICE

The anti-freeze is to be set to -25 °C; in countries with arctic climate to -36 °C. The anti-freeze may only be increased if the climatic conditions make a higher degree of protection necessary. But only to -48 °C. Otherwise, the cooling effect of the coolant will be impaired.

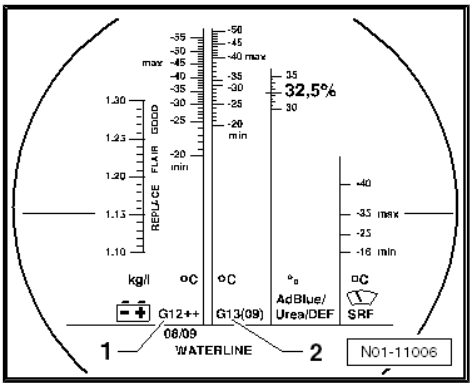
Do not reduce the coolant concentration by adding water even in warmer seasons and in warmer countries. Frost protection must be guaranteed down to at least -25 °C.

Read off anti-freeze figures for respective replenished coolant additives.

The temperature read off the refractometer - T10007A- corresponds the »ice flocculation point«. Flakes of ice may start forming in the coolant at this temperature.

Never reuse old coolant.

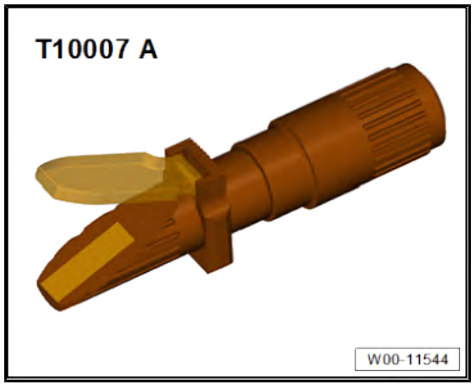
Use only a water/coolant additive mixture as a slip agent for coolant hoses.



4.30.1 Checking frost protection, replenishing coolant additive if necessary

Special tools and workshop equipment required

- Refractometer - T10007A-



NOTICE

For exact readings for the following tests refer to the light-dark border. Before carrying out the tests, you can first determine the light-dark border for water. To do so, use a pipette to place a drop of water on the glass. The light-dark border will now show up clearly at the "WATERLINE" marking.

CAUTION

The coolant additive G13 must not be mixed with any other additive.

– If frost protection is too low, drain coolant and add coolant additive ⇒ page 76 .

NOTICE

Please observe disposal instructions!

– Check coolant additive concentration after road test again.

4.30.2 Check liquid level and top up if necessary

DANGER

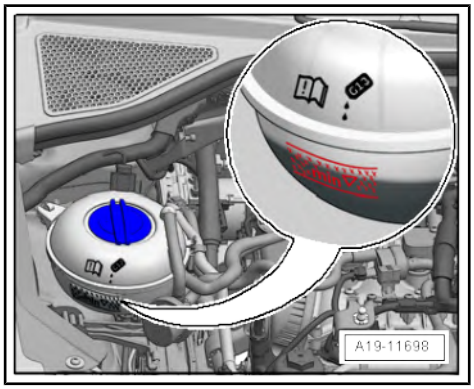
The coolant tank is under pressure. Open only when the engine is cold!

NOTICE

Permitted coolant additive ⇒ Electronic parts catalogue .

- The vehicle must be parked horizontally.

– Check coolant level on expansion tank while the engine is cold.



- ♦ Delivery inspection: the coolant level must at least reach the “MAX”-mark.
- ♦ Delivery Inspection: the coolant level must be above the “MIN” mark.

CAUTION

The coolant additive G13 must not be mixed with any other additive.

– If the coolant level is insufficient, add the necessary quantity, observing the mixture ratio ⇒ page 77 .

NOTICE

If fluid loss is greater than can be expected through normal use, determine source and rectify (repair measure).

4.30.3 Mixture ratio

WARNING

Only distilled water may be used for mixing coolant additives. The use of distilled water ensures optimum protection against corrosion.

Antifreeze to	Coolant additive portion	Distilled water
-25 °C	Approx. 40 %	Approx. 60 %
-36 °C	Approx. 50 %	Approx. 50 %

4.31 Air filter: Clean housing and renew filter element

⇒ “4.31.1 1.0 l TSI engines”, page 78

⇒ “4.31.2 1.2l and 1.4l TSI engines”, page 80 .

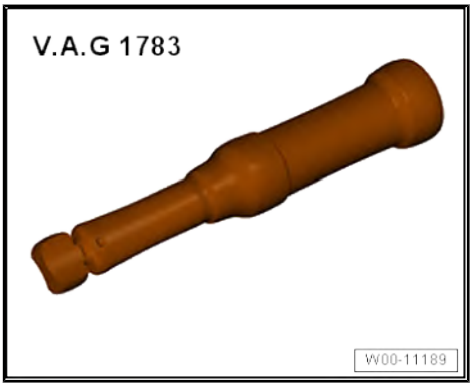
⇒ “4.31.3 1.6 l MPI engines”, page 82 .

⇒ “4.31.4 1.8 l and 2.0 l TSI engines”, page 82 .

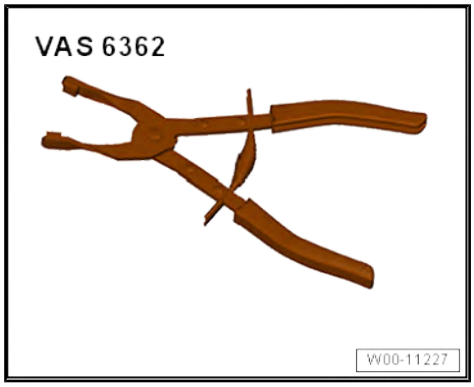
⇒ “4.31.5 TDI common rail engines”, page 83 .

Special tools and workshop equipment required

- ♦ Torque wrench 2-10 Nm - VAG 1783-



♦ Spring-type clip pliers - VAS 6362-



NOTICE

Always use a genuine air filter element: see ⇒ Electronic Parts Catalogue .

Use a silicone-free lubricant when installing the intake hose.

When installing the air filter cartridge ensure that it is centred in the receptacle in the bottom section of the air filter.

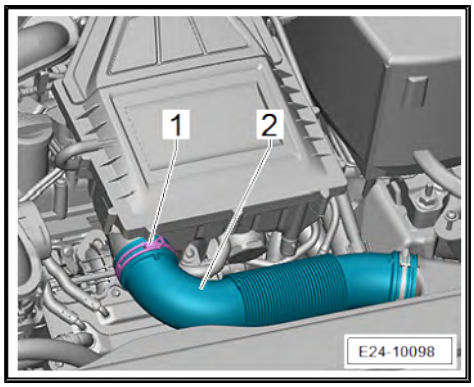
Hose fittings and hoses for the supercharging system should not have any oil or grease residues. Do not use any lubricants containing silicone when assembling.

Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ Electronic parts catalogue .

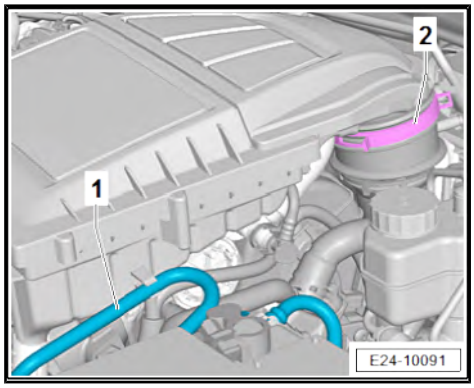
4.31.1 1.0 l TSI engines

Removing

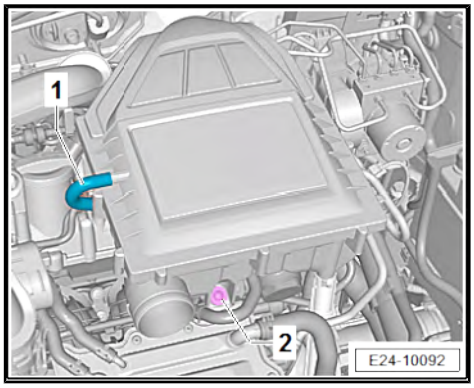
– Detach spring-type clip -1- and pull off air intake hose -2-.



– Unclip vacuum line -1- on the air filter housing and detach spring-type clip -2-.



– Carefully pull off air filter housing from the suction pipe of the turbocharger.
– Pull crankcase breather hose off -1-.
– Unscrew bolt -2- and lift the air filter housing slightly.

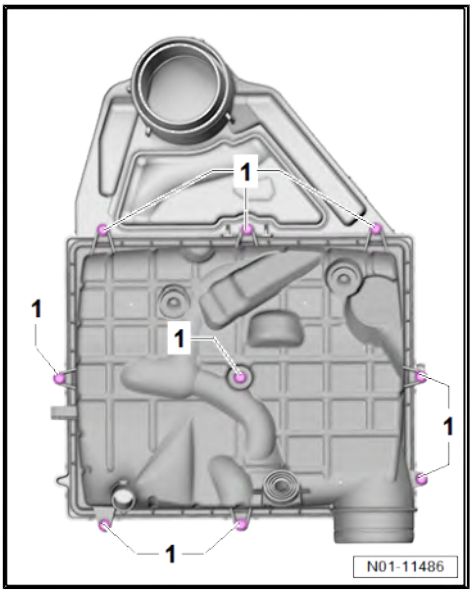


NOTICE

There are vacuum lines attached at the bottom of the air filter housing.

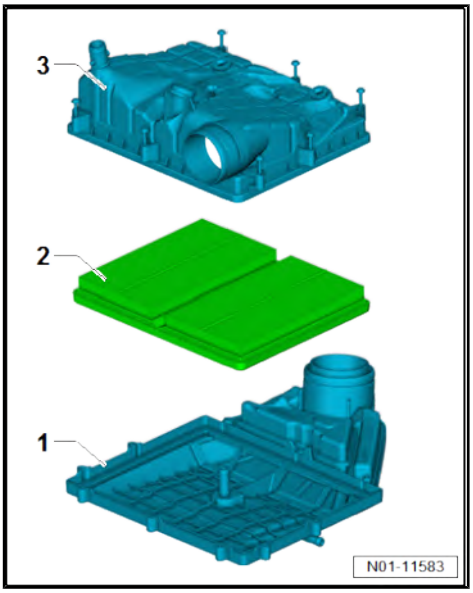
– Detach vacuum lines at bottom of air filter housing.

– Remove air filter housing upwards.
– Remove bolts -1- from air cleaner (bottom section).
– Detach the lower part of air filter and take out the air filter element.

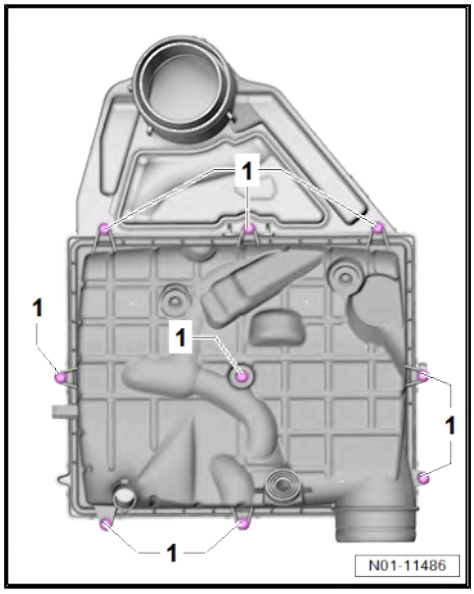


Installing

– Check for dirt in housing and water drains and clean if necessary.
– Insert air filter element -2- centrally in mounting in air cleaner (top section) -1-.



– Fit lower part of air filter -3- onto upper part of air filter -1-.
– Bolt upper part of air filter and lower part of air filter together using bolts -1-, and tighten bolts to specified torque.
– The remaining steps for installing the air filter housing are carried out in the reverse order of removal.

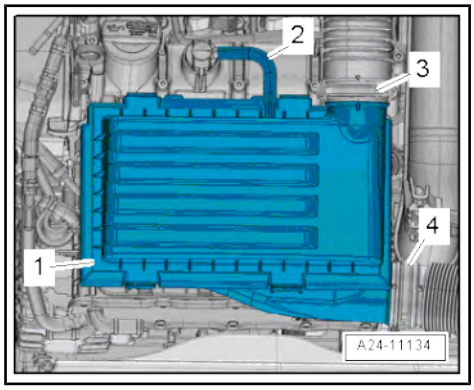


Specified torque	Nm
Securing bolts for upper part of air filter and lower part of air filter -1-	1.5
Securing bolt of the air filter housing -2-	5

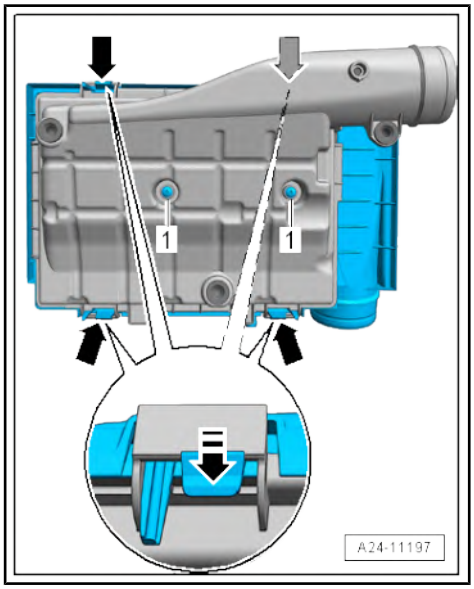
4.31.2 1.2l and 1.4l TSI engines

Removing

– Remove air hose -2- from air mass sensor upper section -1-.
– Release hose clips -3- and -4-.
– Lift air filter housing -1- off upwards from the ball studs.
– Remove the air conduit ducts -1- from the air filter housing.
– Remove the air filter housing -1- and set down turned by 180 degrees.



– Remove the screw -1- from the bottom section of the air filter housing.
– Unlock the fixing tabs -arrows- from the air filter housing one after another (risk of breakage).
– Remove the upper element of the air filter housing and take out the air filter cartridge.



Installing

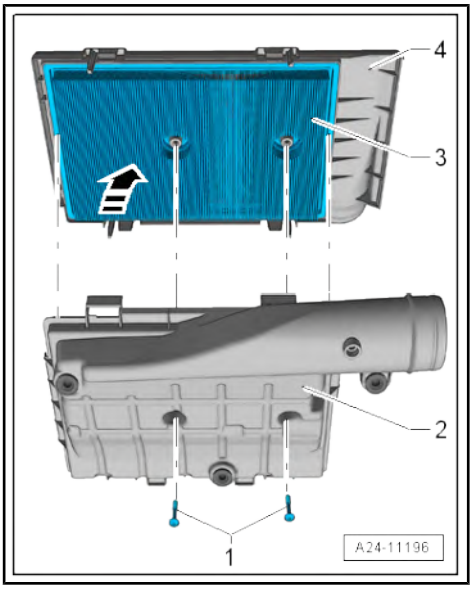
– Check the housing, air mass meter and the drains for soiling and clean if required.

NOTICE

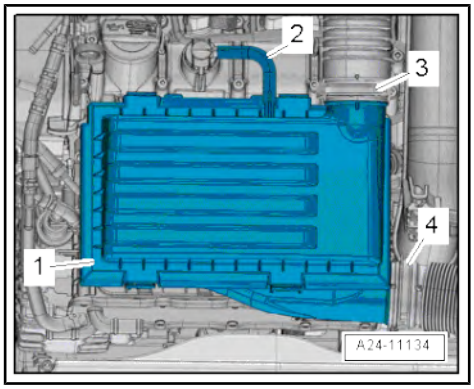
When cleaning the housing with compressed air, the following must be noted: in order to avoid running faults, cover the delicate components of the engine which participate in the air flow system, like for example the air volume gauge, the air intake hoses etc., with a clean cloth.

Please observe disposal instructions!

– Insert the air filter insert -3- into the centre of the mount in the upper section of the air filter -4-.
– Place the lower section of the air filter -2- onto the upper section -4- and secure using the screws -1- to the tightening torque.



– Insert the air conduit ducts -1- into the air filter housing.
– Fit hose clips -3- and -4-.
– Place the air filter housing -1- in the centre of the ball bolt and fix in place by pressing it.
– Place the air hose -2- onto the upper section of the air filter -1-.

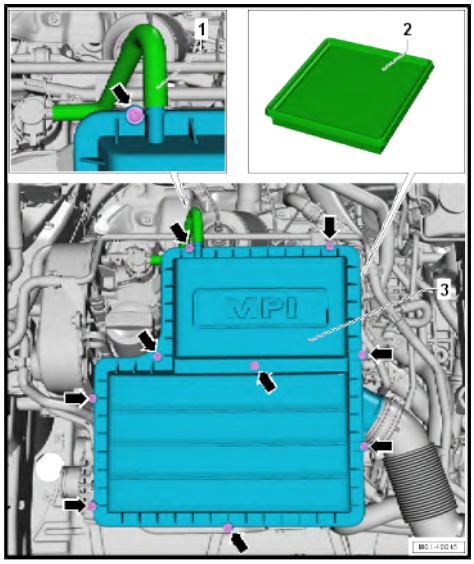


Specified torque	Nm
Securing bolts	1.5

4.31.3 1.6 l MPI engines

Removing

- Pull air hose -1- off upper part of air filter.
- Undo and remove bolts -arrows- from upper part of air filter.
- Lift off upper part of air filter -3- and move aside complete with hoses.
- Take out air filter element -2-.



Installing

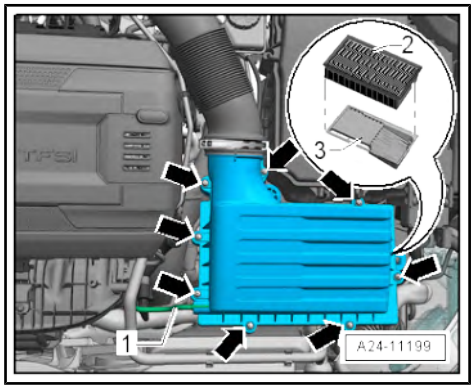
- Check for dirt in housing and water drains and clean if necessary.
- Insert air filter element -2- centrally into mounting in lower part of air filter.
- Carefully fit upper part of air filter -3- onto lower part of air filter without applying excessive force. Screw in securing bolts and tighten them to specified torque.
- Fit air hose -1- onto upper part of air filter again.

Specified torque	Nm
Securing bolts	2

4.31.4 1.8 l and 2.0 l TSI engines

Removing

- Pull vacuum hose -1- off air cleaner (top section).
- Unscrew the fixing screws -arrows- and lift the upper section of the air filter in the direction of the side with the complete air ducts.
- Take out air filter element -2- and snow screen -3-.



NOTICE

The snow screen is not installed in all vehicles.

Installing

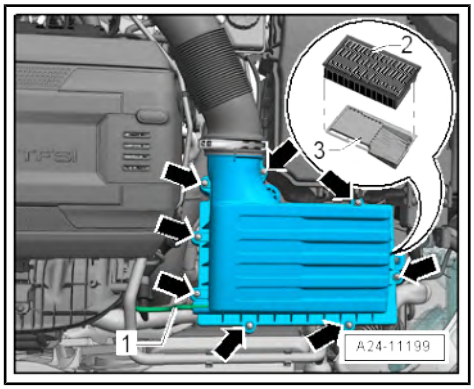
- Check the housing, air mass meter and the drains for soiling and clean if required.

NOTICE

When cleaning the housing with compressed air, the following must be noted: in order to avoid running faults, cover the delicate components of the engine which participate in the air flow system, like for example the air volume gauge, the air intake hoses etc., with a clean cloth.

Please observe disposal instructions!

– Install the snow screen -3- in the lower element of the air filter.
– Insert the air filter insert -2- into the centre of the mount in the lower section of the air filter.
– Carefully and without using excess force, attach the top section of the air filter to the bottom section and secure with the tightening torque.
– Attach the vacuum pressure hose -1- to the top of the filter.

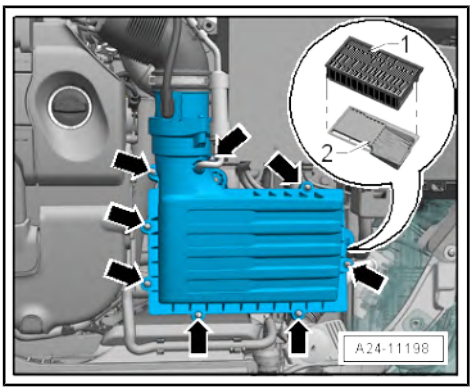


Specified torque	Nm
Securing bolts	1.5

4.31.5 TDI common rail engines

Removing

– Unscrew the fixing screws -arrows- and lift the upper section of the air filter in the direction of the side with the complete air ducts.
– Take out air filter element -1- and snow screen -2-.



NOTICE

The snow screen is not installed in all vehicles.

Installing

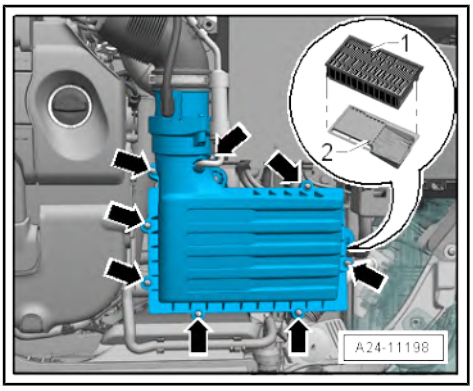
– Check the housing, air mass meter and the drains for soiling and clean if required.

NOTICE

When cleaning the housing with compressed air, the following must be noted: in order to avoid running faults, cover the delicate components of the engine which participate in the air flow system, like for example the air volume gauge, the air intake hoses etc., with a clean cloth.

Please observe disposal instructions!

– Install the snow screen -2- in the lower element of the air filter.
– Insert the air filter insert -1- into the centre of the mount in the lower section of the air filter.
– Carefully and without using excess force, attach the top section of the air filter to the bottom section and secure with the tightening torque.



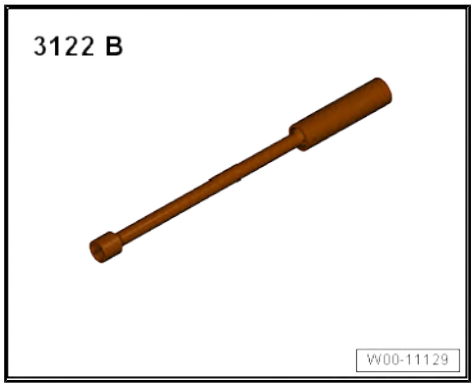
Specified torque	Nm
Securing bolts	1.5

4.32 Spark plugs: renewing

⇒ “4.32.1 1.0 l TSI engines”, page 84
⇒ “4.32.2 1.2l and 1.4l TSI engines”, page 86 .
⇒ “4.32.3 1.6 l MPI engines”, page 88 .
⇒ “4.32.4 1.8 l and 2.0 l TSI engines”, page 90 .

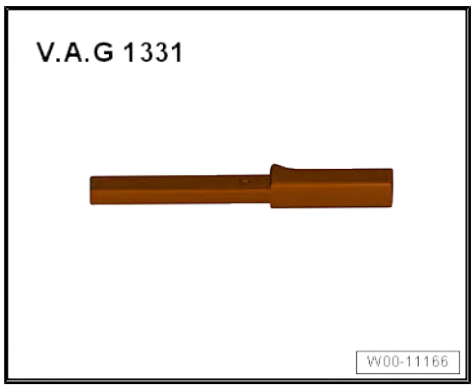
Special tools and workshop equipment required

- Spark plug socket and extension - 3122 B-



- Puller - T10530-

- Torque wrench - VAG 1331-



NOTICE

Identification of the spark plugs ⇒ Electronic parts catalogue .

Please observe disposal instructions!

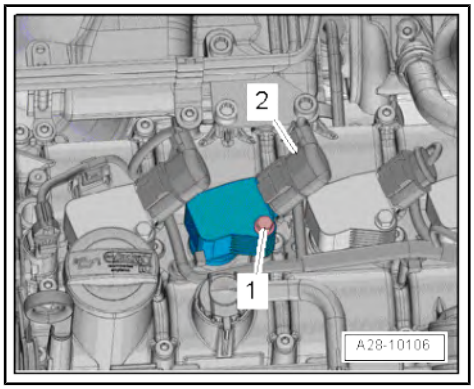
4.32.1 1.0 l TSI engines

Removing

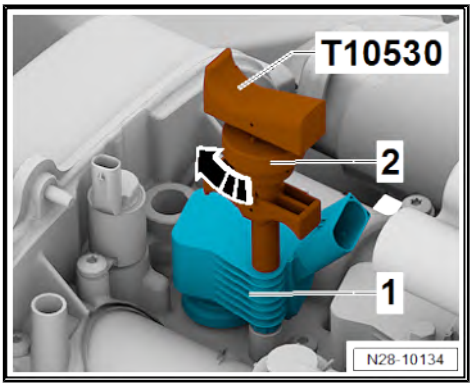
– Remove the air filter housing ⇒ 3 cylinder petrol engine (1.0 l direct injection, 4 V); Rep. gr. 24 ; air filter; air filter housing: removing and installing .

– Remove air guide hose ⇒ 3 cylinder petrol engine (1.0 l direct injection, 4 V); Rep. gr. 21 ; charge air system; exploded view: charge air system .

– Unplug electrical connector -2-.
– Unscrew bolt -1-.



– Push puller - T10530- as far as stop into hole in ignition coil -1-.
– Tighten knurled nut -2- in -direction of arrow-.



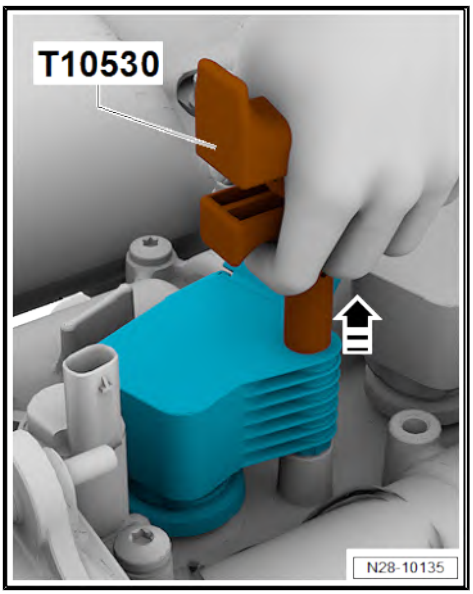
– Pull ignition coil out of camshaft housing in -direction of arrow- using puller - T10530- .

Repeat step for all ignition coils with output stage.

NOTICE

Note installation position of ignition coils with output stage.

Make sure that the wiring is not twisted or damaged.



– Unscrew spark plugs using spark plug socket and extension - 3122 B- .

NOTICE

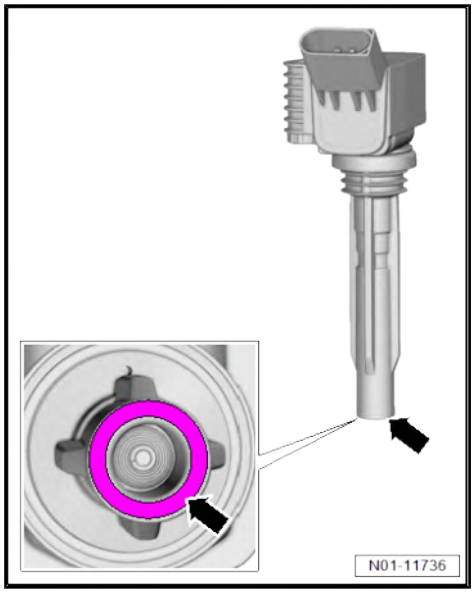
Please observe disposal instructions!

Installing

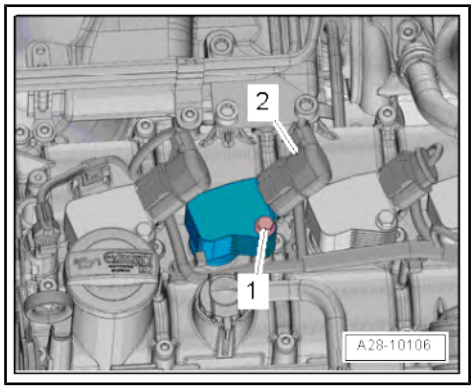
NOTICE

When installing new spark plugs, the ignition coils with output stage must be regreased with silicon paste ⇒ Electronic Parts Catalogue .

The correct silicon paste is shown in the ⇒ Electronic Parts Catalogue under ignition coils and/or spark plugs.



- Install new spark plugs using spark plug socket and extension - 3122 B- and tighten to specified torque ⇒ page 86 .
- Apply a thin bead of silicone paste on the circumference of the sealing hose of the ignition coil with output stage -arrow-.
- Align and insert all ignition coils with output stage one after another loosely into spark plug hole.
- Press ignition coils with output stage onto spark plugs evenly by hand (do not use any tools).



- Tighten bolt -1- of ignition coil with output stage to specified torque ⇒ page 86 .
- Plug in electrical connector -2-.

Repeat step for all ignition coils with output stage.

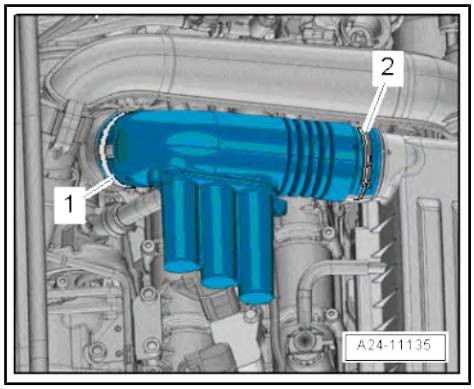
- Continue installation in reverse order.

Specified torque	Nm
Spark plugs in cylinder head	22
Bolt for ignition coil with output stage	8

4.32.2 1.2l and 1.4l TSI engines

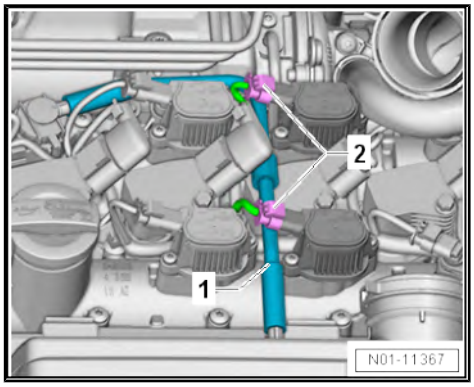
Removing

- Loosen hose clips -1- and -2- and remove air pipe.



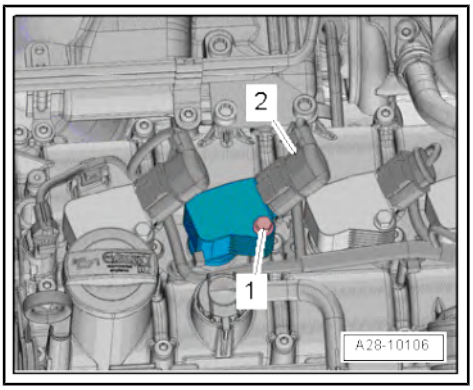
Only engines with code CZEA

– Disconnect connectors -2-, and pull off air hose -1-.

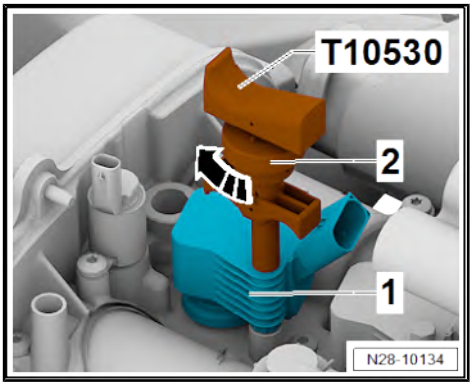


Continue for all engines

– Disconnect electrical connector -2-.
– Unscrew bolt -1-.



– Push puller - T10530- as far as stop into hole in ignition coil -1-.
– Tighten knurled nut -2- in -direction of arrow-.



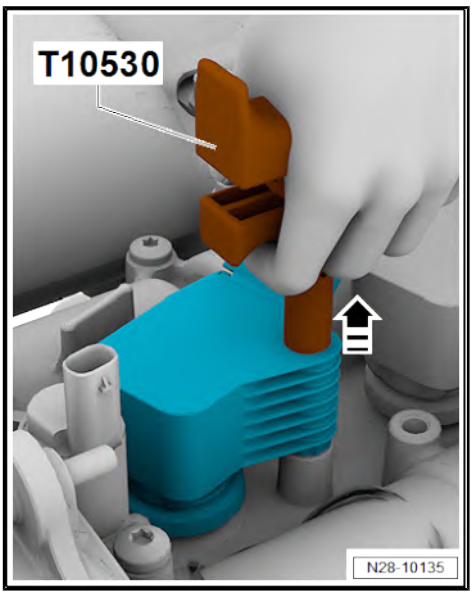
– Pull out the ignition coil with the puller - T10530- by pulling in the direction of the -arrow-.

Repeat this process with all ignition coils.

NOTICE

Note installation position of ignition coils with output stages.

Make sure that the wiring is not twisted or damaged.



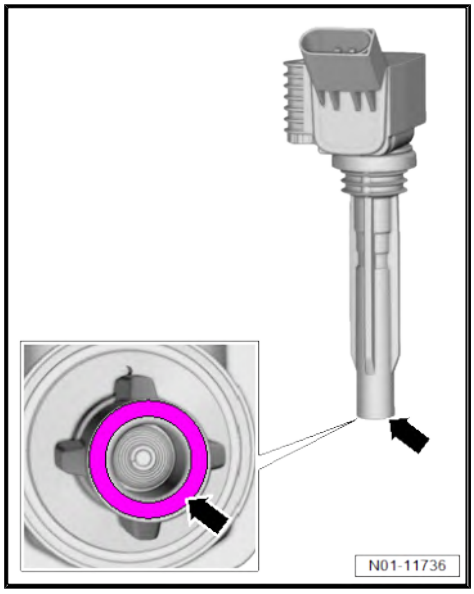
– Unscrew spark plugs with spark plug socket and extension - 3122 B- .

Installing

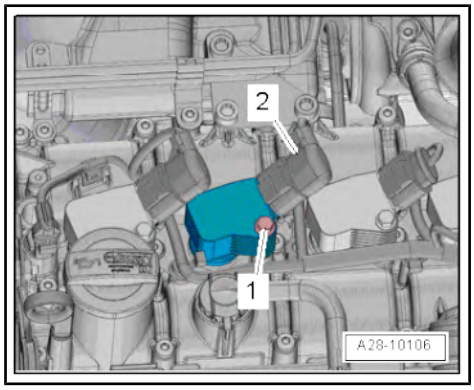
NOTICE

When installing new spark plugs, the ignition coils with output stage must be regreased with silicon paste ⇒ Electronic Parts Catalogue .

The correct silicon paste is shown in the ⇒ Electronic Parts Catalogue under ignition coils and/or spark plugs.



- Screw in new spark plugs using a spark plug socket and extension - 3122 B- to the tightening torque.
- Apply a thin bead of silicone paste on the circumference of the sealing hose of the ignition coil with output stage -arrow-.
- Align the ignition coils one after another and feed into the cavities for the spark plugs without pulling on them.
- Press ignition coils onto spark plugs by hand evenly (do not use tool).



- Tighten the screw -1- of the ignition coils at tightening torque.
- Plug in the electric connector -2-.

Repeat this process with all ignition coils.

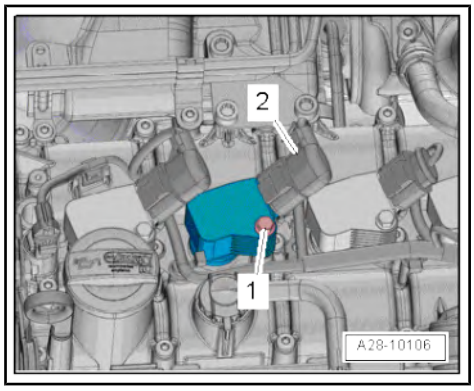
For installation, proceed in the reverse sequence.

Specified torque	Nm
Spark plugs in cylinder head	22
Ignition coil screws	8

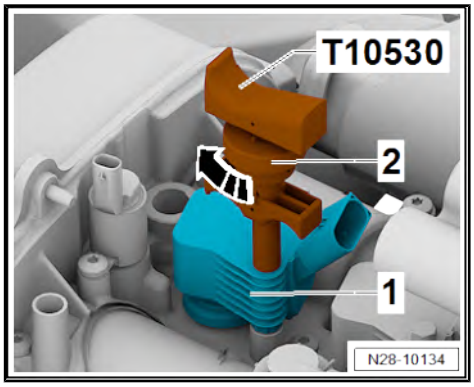
4.32.3 1.6 l MPI engines

Removing

- Remove air filter housing ⇒ Rep. gr. 24 ; Air filter; Removing and installing air filter housing .
- Unplug electrical connector -2-.
- Unscrew bolt -1-.



– Push puller - T10530- as far as stop into hole in ignition coil -1-.
– Tighten knurled nut -2- in -direction of arrow-.



– Pull ignition coil out of camshaft housing in -direction of arrow- using puller - T10530- .

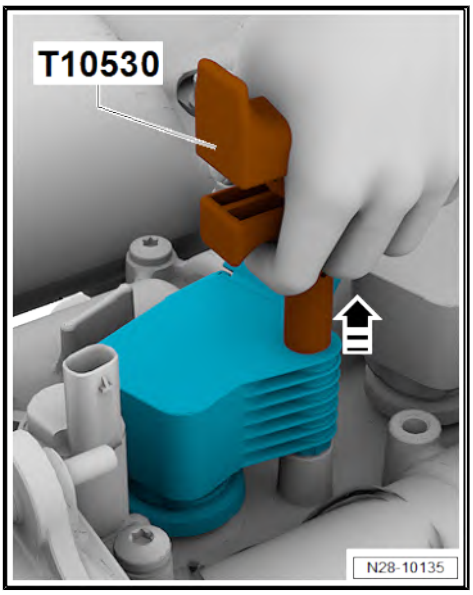
Repeat step for all ignition coils with output stage.

NOTICE

Note installation position of ignition coils with output stage.

Make sure that the wiring is not twisted or damaged.

– Unscrew spark plugs using spark plug socket and extension - 3122 B- .



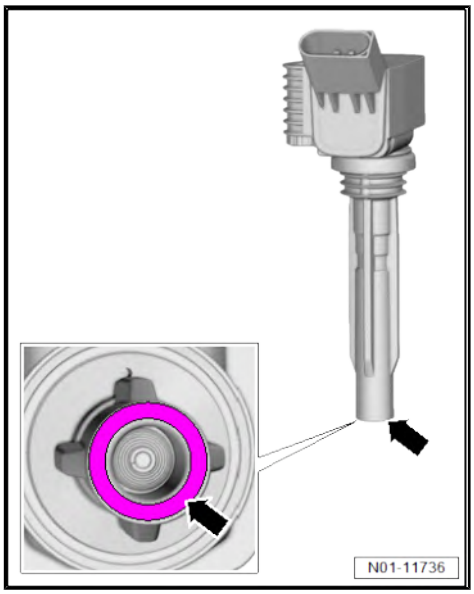
Installing

NOTICE

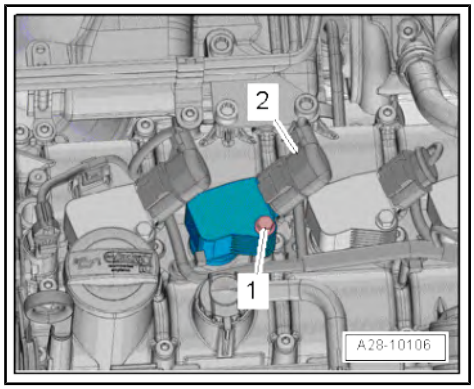
When installing new spark plugs, the ignition coils with output stage must be regreased with silicon paste ⇒ Electronic Parts Catalogue .

The correct silicon paste is shown in the ⇒ Electronic Parts Catalogue under ignition coils and/or spark plugs.

– Screw in new spark plugs using a spark plug socket and extension - 3122 B- to the tightening torque.
– Apply a thin bead of silicone paste on the circumference of the sealing hose of the ignition coil with output stage -arrow-.
– Align and insert all ignition coils with output stage one after another loosely into spark plug hole.
– Press ignition coils with output stage onto spark plugs evenly by hand (do not use any tools).



– Tighten the screw -1- of the ignition coils at tightening torque.
– Plug in electrical connector -2-.



Repeat step for all ignition coils with output stage.

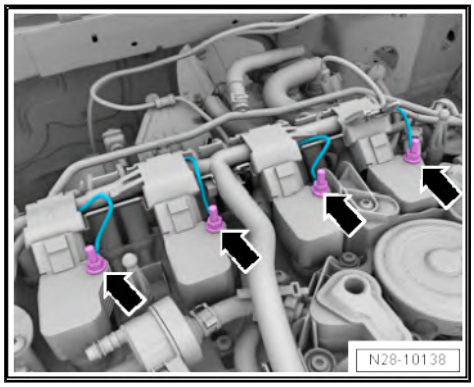
– Install air filter housing ⇒ Rep. gr. 24 ; Air filter; Removing and installing air filter housing .

Specified torque	Nm
Spark plugs in cylinder head	22
Ignition coil screws	8

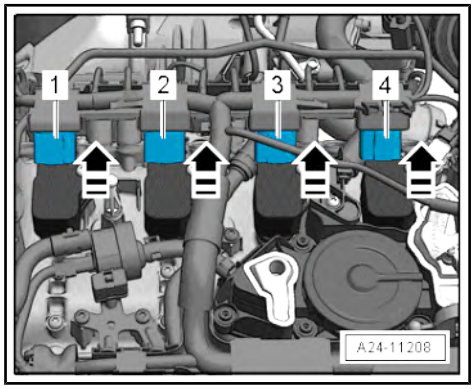
4.32.4 1.8 l and 2.0 l TSI engines

Removing

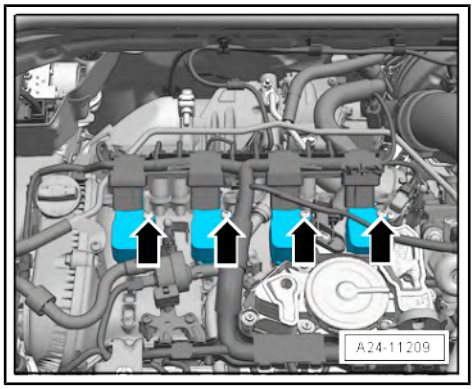
– Remove engine cover panel ⇒ page 73 .
– If fitted, unbolt earth wires -arrows-.



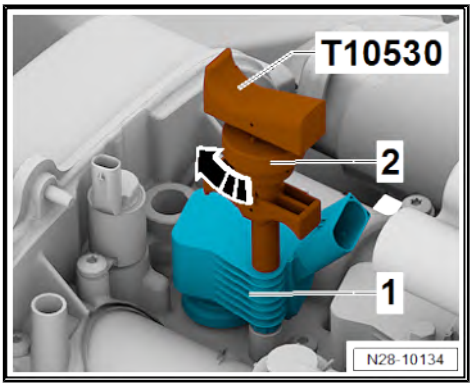
– Unlock electric plug connections -1 to 4- while removing all of the ignition coil plug connections.



– Unscrew the -arrows- ignition coil screws.



– Push puller - T10530- as far as stop into hole in ignition coil -1-.
– Tighten knurled nut -2- in -direction of arrow-.



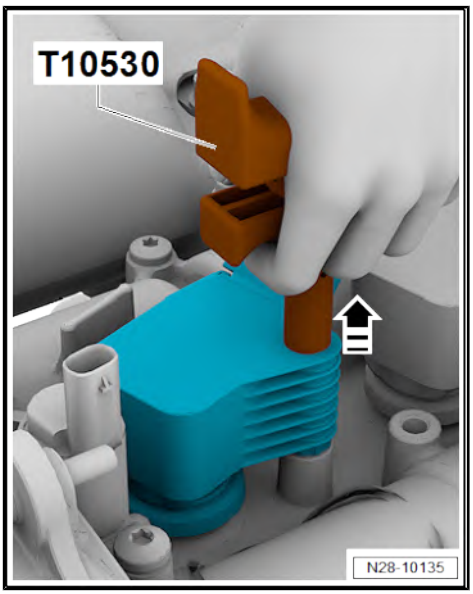
– Pull out the ignition coil with the puller - T10530- by pulling in the direction of the -arrow-.

Repeat this process with all ignition coils.

NOTICE

Note installation position of ignition coils with output stages.

Make sure that the wiring is not twisted or damaged.



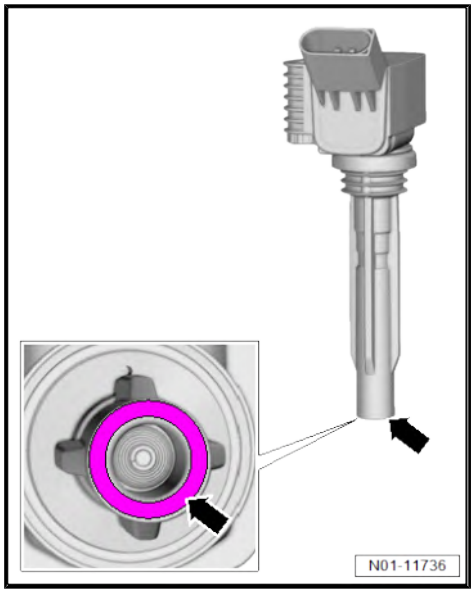
– Unscrew spark plugs with spark plug socket and extension - 3122 B- .

Installing

NOTICE

When installing new spark plugs, the ignition coils with output stage must be regreased with silicon paste ⇒ Electronic Parts Catalogue .

The correct silicon paste is shown in the ⇒ Electronic Parts Catalogue under ignition coils and/or spark plugs.



- Screw in new spark plugs using a spark plug socket and extension - 3122 B- to the tightening torque.
- Apply a thin bead of silicone paste on the circumference of the sealing hose of the ignition coil with output stage -arrow-.
- Align the ignition coils one after another and feed into the cavities for the spark plugs without pulling on them.
- Press ignition coils onto spark plugs by hand evenly (do not use tool).
- Tighten the screws of the ignition coil to tightening torque.
- Attach electrical connectors.
- Fit engine cover panel ⇒ page 73 .

Specified torque	Nm
Spark plugs in cylinder head	30
Ignition coil screws	10
Nut for earth wire	10

4.33 Diesel fuel filter: Drain

NOTICE

Only applies for vehicles with PR no. 1A8.

Descriptions of work:

WARNING

- **Ensure that no diesel fuel contacts other components in the engine compartment. Clean immediately, if necessary.**

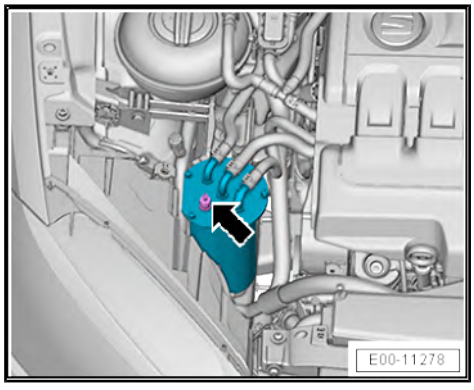
NOTICE

Please observe disposal instructions!

- Connect a suitable hose to the banjo bolt -arrow-.
- Start the engine.
- Carefully loosen the banjo bolt -arrow- until water escapes.

The water of the diesel fuel filter is drained through the system pressure.

- As soon as the diesel fuel escapes close the banjo bolt and disconnect the hose.
- Tighten the banjo bolt with the tightening torque.



Specified torque	Nm
Banjo bolt	8

4.34 Diesel fuel filter: Replace

NOTICE

Please ensure that no diesel fuel makes contact with the coolant hoses.

If necessary, clean hoses immediately!

Please observe disposal instructions!

DANGER

Danger of burning! The fuel is very hot!

In extreme cases the temperature of the fuel and fuel lines can reach 100°. Allow the fuel to cool down before disconnecting the lines. Otherwise, there is a risk of suffering severe burns.

Wear protective gloves.

Use safety goggles.

Injury from high fuel pressure.

To relieve the pressure in the fuel system, cover connection with rag and loosen carefully.

Special tools and workshop equipment required

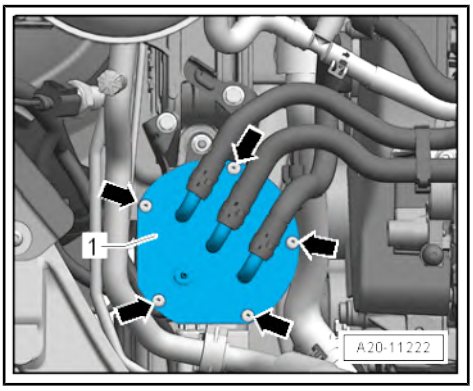
- Protective gloves
- Safety glasses

Removing

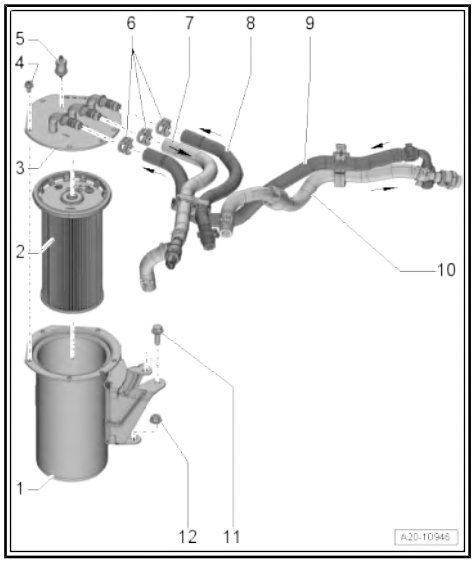
NOTICE

Before opening the system place a clean cloth around the filter housing!

– Unscrew the screws -arrows- and lift the cover of the filter housing -1- from the sides with the fuel lines attached.



– Remove the fuel filter cartridge -2- and the fuel filter housing -1-.



NOTICE

Disregard the remaining positions.

Installing

– Insert the fuel filter insert -2- into the centre of filter housing -1-.

– Screw the screws into the filter housing -4- and tighten to 5 Nm.

CAUTION

Running when dry causes irreparable damage to high-pressure pump.

- **Always observe the work instructions and information in ⇒ Rep. gr. 23 when bleeding the fuel system**
- **Failure to observe the work instructions can result in severe damage to the fuel pump.!**

– Bleed fuel system ⇒ Rep. gr. 23 .

– Start engine and check fuel system for leaks (visual check).

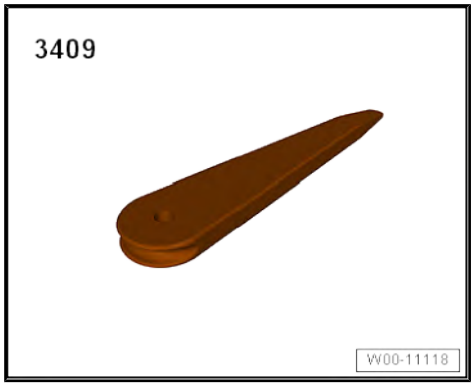
NOTICE

Please observe disposal instructions!

4.35 Dust and pollen filter for passenger compartment: replace

Special tools and workshop equipment required

- Release lever - 3409-

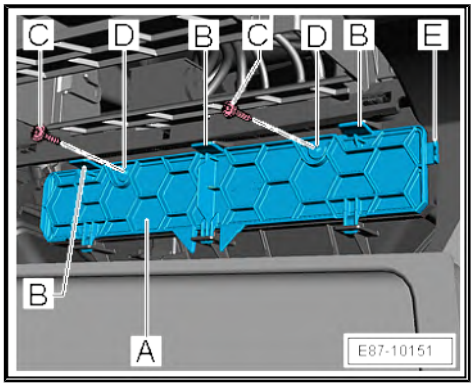


- Cover plate - T10532-
- Conventional vacuum cleaner

Should the retaining tabs -B- break (both on the air conditioning unit as well as the cover -A-), the cover -A- can also be attached to the air conditioning unit with 2 self-tapping screws -C- (e.g. 3.5 x 16 mm or 4.0 x 16 mm ⇒ Electronic parts catalogue).

For this purpose two holes are to be drilled in the cover -A- at both attachment points marked with -D- with a diameter of 4.5 mm.

The cover -A- can be equipped with a hook -E- which is used for removing the dust and pollen filter.



NOTICE

Different filters are available for this vehicle depending on the equipment version.

In vehicles with manual air conditioning control, the dust and pollen filter is installed ex-factory "without" activated carbon filter. When servicing, a dust and pollen filter with activated charcoal ⇒ Electronic parts catalogue can also be fitted into these vehicles.

The activated carbon filter takes over the function of a dust and pollen filter, but also filters dangerous gaseous pollutants such as ozone, benzene or nitrogen dioxide, etc.

The activated charcoal layer in the dust and pollen filter becomes saturated after a certain time.

A saturated filter can no longer absorb any hazardous substances.

Removing

– Switch off the ignition and all electrical consumers and remove the ignition key.

CAUTION

Proceed cautiously with the property of customers in the glove compartment.

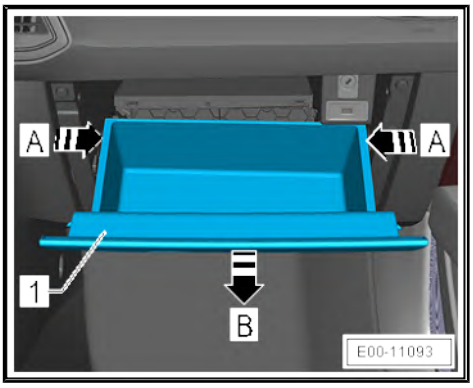
Right-hand drive vehicles:

– Remove glove compartment ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers; Removing and installing glove compartment .

Left-hand drive vehicle:

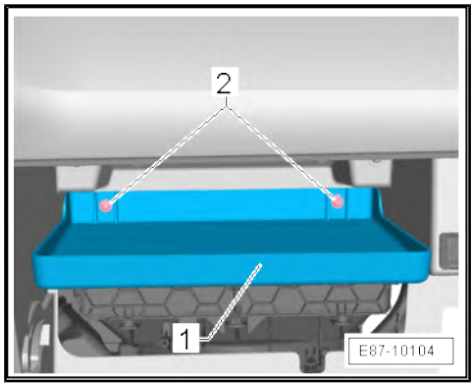
– Open the glove compartment, remove the customers property and cover the surface with paper.

– Press inwards on the sides -arrow A- and move the glove compartment -1- to the lowest position -arrow B- (service position).



Vehicles with shelf in glove compartment:

– Unscrew the screws -2- and remove the shelf -1-.



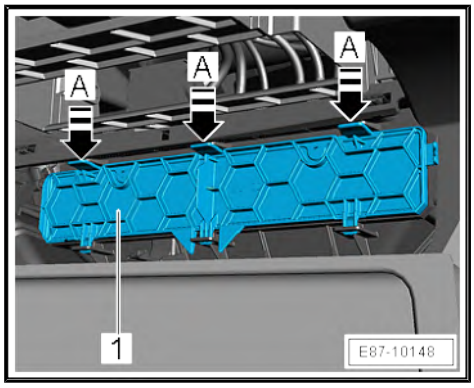
Vehicles with control unit 1 for information electronics - J794- in the glove compartment:

– Carefully pull the decorative trim panel off the control unit for 'Information Electronics 1' - J794- ⇒ General body repairs, interior; Rep. gr. 68 .

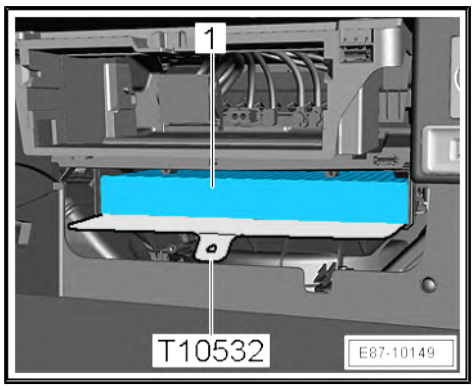
Continued for all vehicles:

– Carefully release the retaining tabs -arrows A- with the lever -3409- .

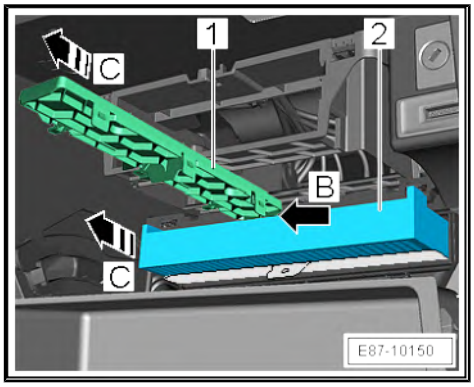
– Swivel the cover -1- backwards and remove.



– Push the cover plate - T10532- under the pollen filter -1-.



– Hook cover -1- into dust and pollen filter -2- -arrow -.



CAUTION

Danger of damaging the fresh air blower - V2- when eliminating impurities from the dust and pollen filter.

Take care to ensure that the cover plate - T10532- is not removed as well.

– Take out the dust and pollen filter -2- with the cover -1- in -the direction of arrow C-.

– Using a conventional vacuum cleaner, remove residual dirt and leaves from the cover plate - T10532- .

NOTICE

Please observe disposal instructions!

Installing

Installation is carried out in reverse order of removal. In the process, note the following:

NOTICE

If you assume that impurities have entered the fresh air blower - V2- , remove and clean the fresh air blower ⇒ Rep. gr. 87 .

– Observe installation position of dust and pollen filter.

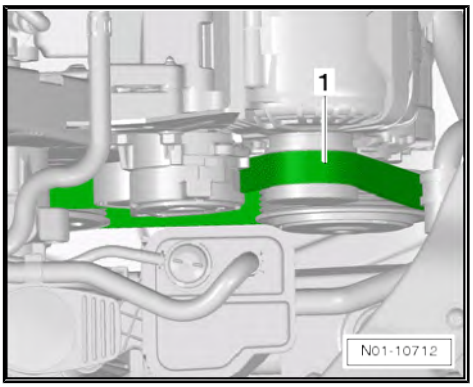
– Switch on the ignition and check the operation of the fresh air turbine - V2- .

4.36 Poly-V belt: check condition

Carry out the following work:

– Crank engine using vibration damper, using a socket spanner.

– Check the Poly-V belt -1- with respect to:



- Substructure cracks (cracks, core ruptures, cross sectional breaks)
- Layer separation (top layer, cord strands)
- Base break-up
- Fraying of cord strands
- Wear on edges of belt (wear of material, frayed edges, hardened edges -brittle edges-, surface cracks)
- Traces of oil and grease

NOTICE

If faults are detected, the Poly-V belt must be replaced. This will avoid possible breakdowns or operating problems. Renewing the poly V-belt is a repair measure.

4.37 Notched timing distribution belt: replace

TDI common rail engine

– Removing and fitting the notched belt ⇒ Rep. gr. 15 .

Tensioning roller

– Remove the notched belt tension roller ⇒ Rep. gr. 15 .

4.38 Renewing poly V-belt

– Removing and fitting the ribbed belt ⇒ Rep. gr. 13 .

4.39 Transportation devices: remove blocking pieces from front axle springs

NOTICE

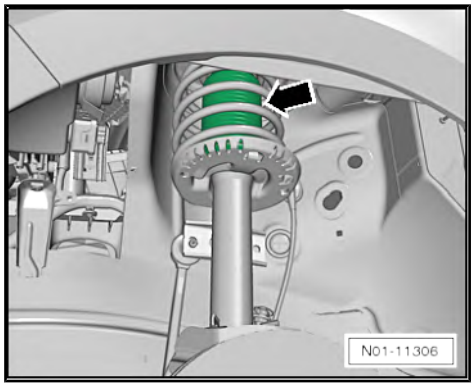
On some vehicle models locking element are installed in the front suspension struts. You can recognise these vehicles by the label that is hanging on the handle (passenger side).

There may also be locking blocks attached to both sides of the rear axle. Please check and remove if necessary.

It is not necessary to remove wheels.

– Relieve weight on springs by raising vehicle with a hoist.

– Slide dust protection on suspension strut -arrow- upward.



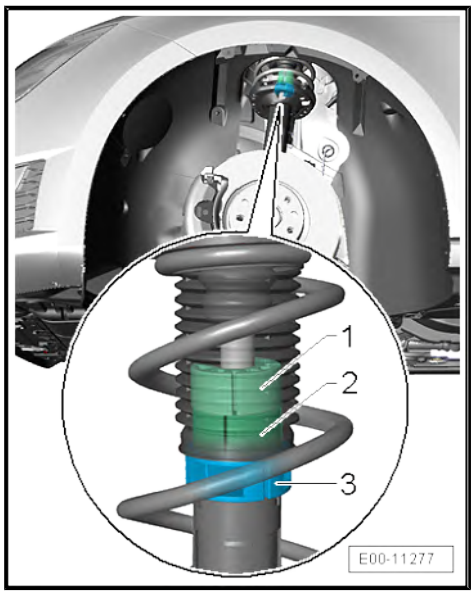
CAUTION

It is to be ensured that no locking elements are wedged in the upper part of the dust seal.

This model can have up to three locking blocks attached to each front suspension strut.

– Remove the locks -1, 2 and 3- from the piston rod.

– Slide dust protection downward over suspension strut.



4.40 Engine oil and oil filter: replace

CAUTION

For the Russian market only.

Due to climate conditions and fuel quality, the following engine oil must always be used in the Russian market for the 1.8l TSI and 2.0l TSI petrol engines:

- **Castrol EDGE A3/B4 SAE 0W-30**
- **Norm VW 502 00 / 505 00**
- **See ⇒ Electronic parts catalogue**

Failure to use this engine oil may result in oil pressure faults (the warning light on the dash panel insert will illuminate) with a resulting risk of engine damage!

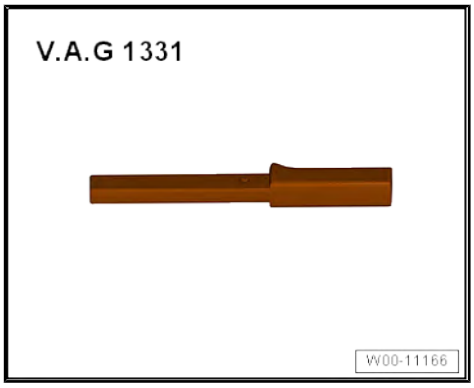
⇒ “4.40.1 1.0 l, 1.2 l and 1.4 l TSI engines and 1.6 l MPI engines”, page 99 .

⇒ “4.40.2 1.8 l and 2.0 l TSI engines”, page 101 .

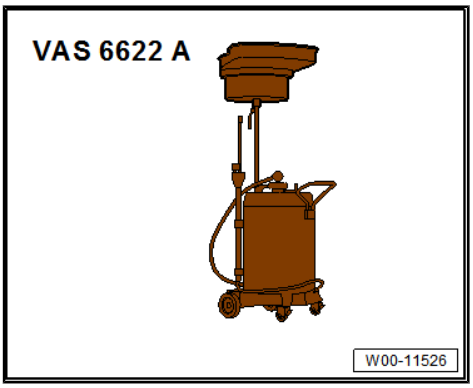
⇒ “4.40.3 TDI common rail engines”, page 103 .

Special tools and workshop equipment required

- Torque wrench - VAG 1331-



- Oil extractor - VAS 6622A-

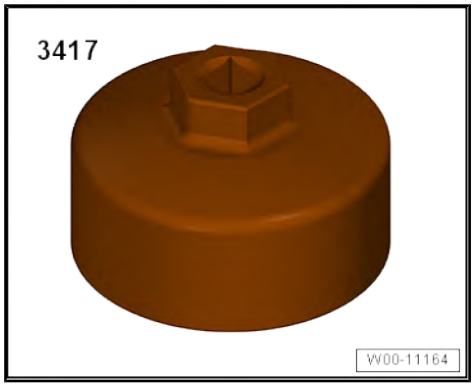


- Cloths

4.40.1 1.0 l, 1.2 l and 1.4 l TSI engines and 1.6 l MPI engines

Special tools and workshop equipment required

♦ Puller - 3417-



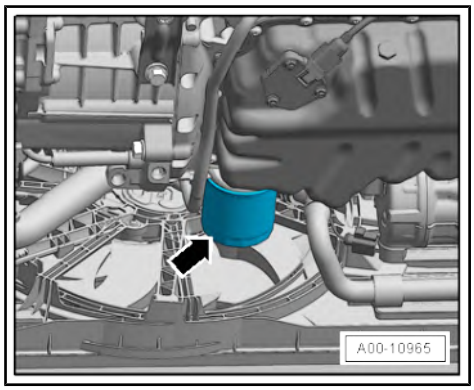
NOTICE

Prevent engine oil from dripping onto components.

Before starting with the generator removal, cover with a cloth.

– Remove central soundproofing ⇒ page 33 .

– Unscrew oil filter -arrow- with the puller - 3417- .



NOTICE

Observe fitting instructions on oil filter.

Please observe disposal instructions!

– Clean the surface between the seal of the oil filter and the engine.

– Lightly grease the seal of the new filter.

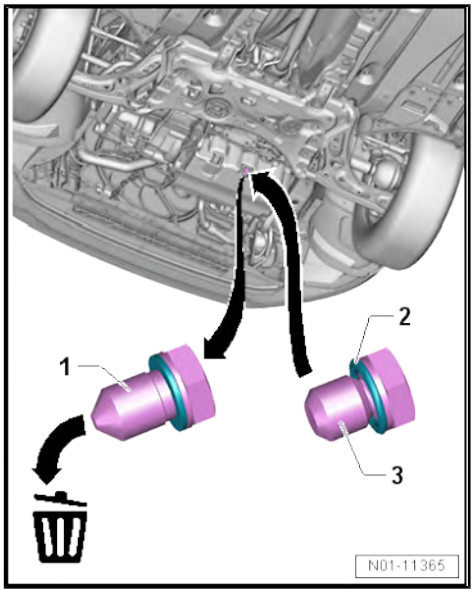
– Screw in the new filter by hand and tighten using the puller - 3417- with the specified tightening torque.

Specified torque	Nm
Oil filter	20

At the first oil change, drain the engine oil.

– Screw out the oil drain plug with the lock seal -1- and discard it.

– Allow engine oil to drain out.



NOTICE

Please observe disposal instructions!

– Screw in the new oil drain plug -3- with a new seal -2- by hand and tighten it with the specified torque.

Specified torque	Nm
Oil drain plug	30

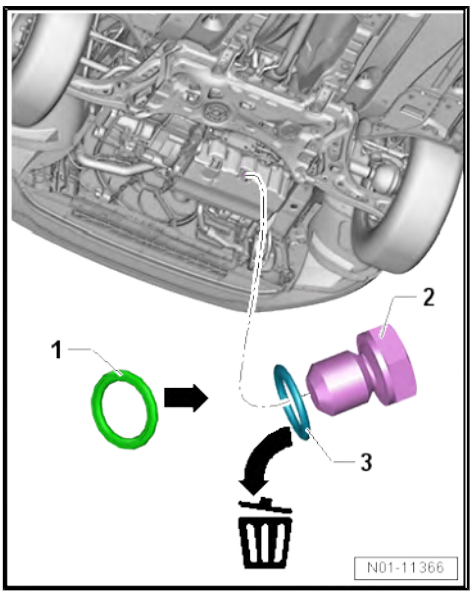
After the first oil change, drain the engine oil.

– Screw out the oil drain plug -2- and discard the seal -3-.

NOTICE

Continue to use the oil drain plug after the first oil change.

– Allow engine oil to drain out.



NOTICE

Please observe disposal instructions!

– Screw in the oil drain plug -2- with a new seal -1- and tighten it with the specified torque.

Specified torque	Nm
Oil drain plug	30

– Fit central soundproofing ⇒ page 33 .

– Top up engine oil, specifications ⇒ page 105 .

CAUTION

- **Torque specifications must not be exceeded.**
- **A higher torque can lead to leaks in the area of the drain plug or even to damage.**

4.40.2 1.8 l and 2.0 l TSI engines

Special tools and workshop equipment required

- Assembly aid - T10549-
- 32 mm socket wrench

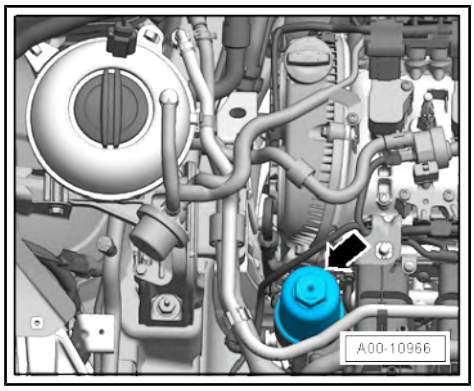
♦ Oil mop cloth

– Remove engine cover panel ⇒ page 73 .

– Loosen the oil filter housing -arrow- with a SW 32 mm socket wrench .

– Wait a few minutes until the oil flows from the housing to the oil filter.

– Completely remove the oil filter housing-arrow-.



NOTICE

Prevent engine oil from dripping onto components.

Before starting with the generator removal, cover with a cloth.

Extracting engine oil

– Route the suction probe of the oil removal device through the oil level measuring tube and siphon the engine oil.

NOTICE

Use a suction probe with the largest possible diameter!

Insert the suction probe no further than to the point where you feel the first resistance. The tip can otherwise be deflected at the bottom in the oil basin; in this case a large amount of oil will remain in the engine.

Follow the operating instructions of the suction device.

Drain the oil through the drain plug

– Remove noise insulation under the engine ⇒ page 33 .

– In vehicles with plastic oil sump: unscrew drain plug with the assembly tool - T10549- .

– In vehicles with sheet metal oil sump: unscrew drain plug with captive seal ring.

– Allow engine oil to drain out.

NOTICE

After the engine oil has been drained, the plug must always be renewed. This prevents leaks.

Please observe disposal instructions!

– Moisten O-ring of the new drain plug with engine oil.

– In vehicles with plastic oil sump: tighten new drain plug with the assembly tool - T10549- up to stop.

– In vehicles with sheet metal oil sump: bolt new drain plug hand-tight and then tighten with the specified tightening torque.

– Install noise insulation under the engine ⇒ page 33 .

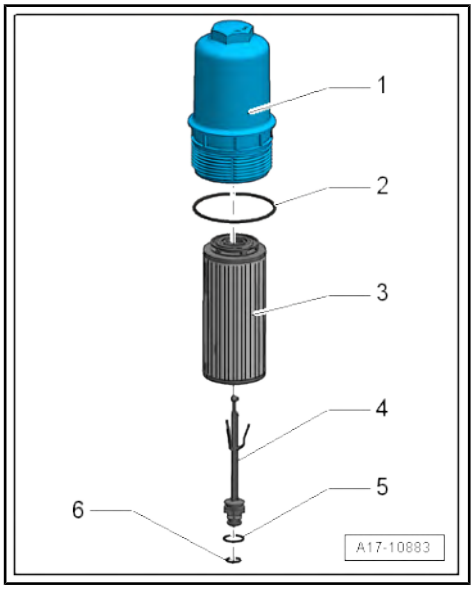
Renewing oil filter element

– Removing the filter element.

NOTICE

Please observe disposal instructions!

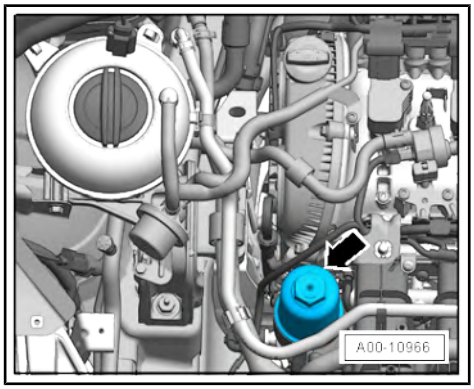
– Moisten the new O-ring -2- on the oil filter housing -1- with engine oil and insert it into the groove.
– Renew filter element -3-.



NOTICE

Disregard the remaining items -4, 5 and 6-.

– Use an SW 32 mm socket wrench to tighten the oil filter housing -arrow- to the specified tightening torque.
– Top up engine oil, specifications ⇒ page 105 .



NOTICE

Fill the engine oil slowly! Narrow fill nozzle with the housing structure underneath. The oil thus flows very slowly.

– Fit engine cover panel ⇒ page 73 .

Specified torques	Nm
Oil drain plug for oil sump	30
Oil filter screw connection	25

CAUTION

- **Torque specifications must not be exceeded.**
- **A higher torque can lead to leaks in the area of the drain plug or even to damage.**

4.40.3 TDI common rail engines

NOTICE

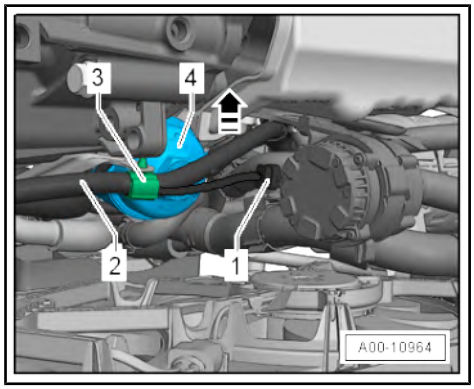
For “extracting” the engine oil with TDI Common Rail engines, the flexible probe with a diameter of 5 mm and length of 750 mm must be used to make sure that this has been inserted completely into the guide tube of the oil dipstick.

Special tools and workshop equipment required

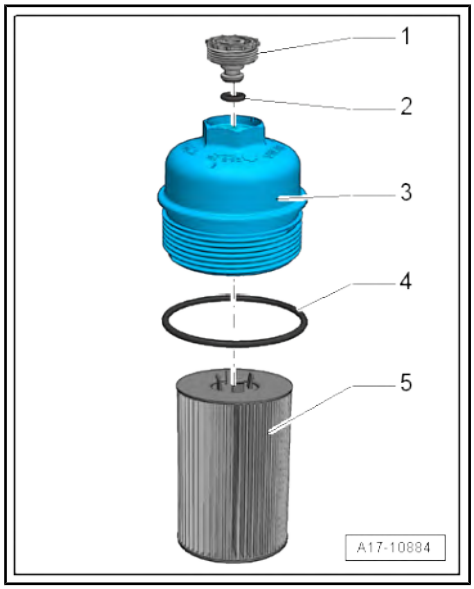
- 13 mm socket wrench
- 32 mm socket wrench

– Remove central soundproofing ⇒ page 33 .

– Unplug the connector -1- of the pump for the active cycle after the motor has run.
– Undo the generator line -2- with clamp -3- and turn in the -direction of the arrow-.



– Unscrew the oil drain plug -1- using a 13 mm socket and drain the engine oil from the screw connection -3-.
– Unscrew the oil drain plug from the oil sump and drain the engine oil.
– Tighten the screw connection -3- with a 32 mm socket wrench .
– Remove the filter insert -5-.



NOTICE

Please observe disposal instructions!

– Lubricate the new O-ring -4- with engine oil and replace the filter insert -5-.
– Tighten the screw connection -3- with a 32 mm socket wrench to the specified tightening torque.
– Insert the O-ring -2- in the groove of the oil drain plug of the screw connection -1- and tighten with the specified tightening torque using a 13 mm socket wrench .
– Screw the oil drain plug of the oil sump in with a new sealing ring and tighten at the specified tightening torque.

NOTICE

If the sealing ring of the oil drain plug for the oil sump cannot be replaced separately, the complete screw must be replaced ⇒ Electronic parts catalogue .

– Fit central soundproofing ⇒ page 33 .
– Top up engine oil, specifications ⇒ page 107 .

Specified torques	Nm
Oil drain plug to oil sump	30
Oil filter screw connection	25
Oil drain plug of the screw connection	5

CAUTION

- **Torque specifications must not be exceeded.**
- **A higher torque can lead to leaks in the area of the drain plug or even to damage.**

4.41 Engine oil: replenishing

Special tools and workshop equipment required

♦ Oil filler funnel - VAS 6842-

The engine is filled ex factory with a high-quality multi-grade oil, which with the exception of extremely cold climates, can be used all the year round.

CAUTION

For the Russian market only.

Due to climate conditions and fuel quality, the following engine oil must always be used in the Russian market for the 1.8l TSI and 2.0l TSI petrol engines:

- **Castrol EDGE A3/B4 SAE 0W-30**
- **Norm VW 502 00 / 505 00**
- **See ⇒ Electronic parts catalogue**

Failure to use this engine oil may result in oil pressure faults (the warning light on the dash panel insert will illuminate) with a resulting risk of engine damage!

NOTICE

When topping up it is permissible to mix different types of oil.

The engine oil capacities and specifications must be followed **⇒ page 105** **.**

– If necessary use the oil filler funnel - VAS 6842- for topping up the oil.

– Following an oil change and an oil filter change note the following:

Following the first engine start:

♦ As long as the oil pressure warning is lit in the instrument cluster, the engine must only run in neutral. Do not accelerate! If acceleration is applied in this moment, the turbocharger may be damaged or destroyed.

♦ Oil pressure has been reached and the acceleration may be used only after the indicator light is turned off.

– Check oil level ⇒ page 107 .

4.42 Engine oil: capacities and specifications

From now on the new standard for engine oil VW 508 00/509 00 will be used. This standard is distinguished by reduced fuel consumption and CO_2 emissions.

We have compiled the most important data here:

- VW 508 00/509 00 is a combined product, in which 508 00 represents the specification for petrol and 509 00 the specification for diesel.
- The product may not be poured into all engine generations. In this chapter, the engines are displayed for which the application if this new VW standard for engine oil is allowed.
- Engines that are filled in the factory with the new oil can also be filled with conventional oils during servicing. The new oil may also be mixed. If necessary this can cause a higher fuel consumption and larger CO_2 emission.
- As of model year 2018, engines that are not allowed to use the new oil will have a notice (lock carrier/engine compartment) from which the oil standard to be used can be gleaned.
- The new oil cannot be used in some markets. See the tables ⇒ page 13 and ⇒ page 15 to determine which countries are not permitted to use the new oil.
- If the oil with the standard for engine oil VW 508 00/509 00 is used in engines for which it is not intended, these engines may become damaged.

WARNING

Only SEAT approved engine oils must be used; see applicable data under ⇒ ServiceNet, Documentation, Vehicle Engineering, Approved Engine Oils .

Petrol engines

Engines	Oil quantity with filter (l)	VW engine oil standards		
		With flexible service as of model year 2018	**With flexible service until model year 2017**	**With fixed service**
1.0 l TSI	4.0 l	508 00 / 504 00(1)	504 00	502 00
1.2 l TSI	4.0 l	508 00 / 504 00(1)	504 00	502 00
1.4 l TSI	4.0 l	508 00 / 504 00(1)	504 00	502 00
1.4 l TGI	4.0 l	---	---	502 00
1.6 l MPI	4.0 l	---	---	502 00
1.8 l TSI	5.2 l	504 00	504 00	502 00
2.0 l TSI	5.7 l	504 00	504 00	502 00

7) (1) The use of engine oil in accordance with the specifications VW 504 00 instead of VW 508 00 may result in a deterioration of the exhaust gas values of the vehicle.

Diesel engines

Engines	Oil quantity with filter (l)	VW engine oil standards	
		With flexible service	**With fixed service**
1.6 l TDI	4.6 l	507 00	507 00
2.0 l - TDI (with particulate filter)	4.6 l	507 00	507 00

Engines	Oil quantity with filter (l)	VW engine oil standards	
		With flexible service	**With fixed service**
2.0 l - TDI (without particulate filter)	4.6 l	-	505 01

4.43 Engine oil: checking levels

Prerequisites:

- Engine oil temperature min. 60°C.
- Vehicle is level.
- After shutting off engine, wait at least 3 minutes so that the oil can flow back into the sump.

– Pull out the dipstick, wipe with a clean cloth and insert again as far as it will go.

– Pull oil dipstick out again and read oil level.

NOTICE

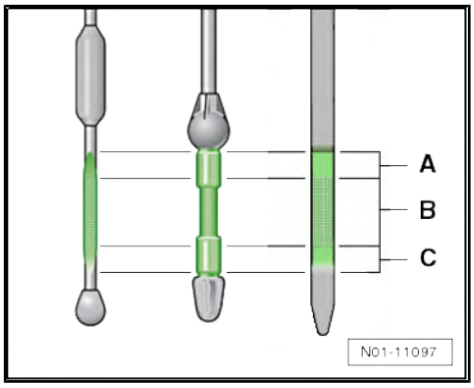
Please observe disposal instructions!

Markings on oil dipstick:

A - Oil must not be topped up.

B - It is not necessary to top up the oil. However, the oil can be topped up, whereby it must be ensured that the oil level does not exceed area -A-.

C - Oil must be replenished. The oil level must then lie in the striped area -B-.



NOTICE

A danger exists of damaging the catalytic converter when oil level is above area -A-.

– If it is necessary to add engine oil, observe the specifications ⇒ page 105 .

4.44 Brake system: check for leaks and damage

Check for possible leaks and damage in the following components:

- Brake master cylinder
- Brake servo (in the ABS: hydraulic unit)
- Brake pressure regulator and
- Brake calliper

– Ensure that brake hoses are not twisted.

– When turning the steering wheel to its limits, ensure that the brake hoses do not come into contact with any vehicle part.

– Check brake hoses for porosity and ruptures.

– Check brake hoses and lines for chafing.

– Check correct seating of the connections and fittings, as well as signs of corrosion and possible leaks.

CAUTION

Detected faults must be rectified (equivalent to a repair measure).

4.45 Thickness of brake pads and condition of brake discs, front and rear: Check

⇒ “4.45.1 Front brake pads: Checking”, page 108

⇒ “4.45.2 Rear disc brake pads: Checking”, page 109

⇒ “4.45.3 Condition of brake discs: Checking”, page 109

Special tools and workshop equipment required

- Torque wrench - V.A.G 1332-

- Electric hand torch and mirror

Follow the procedure shown below:

The adapter to loosen and tighten anti-theft wheel bolts is in the vehicle tool kit ⇒ page 137 .

4.45.1 Front brake pads: Checking

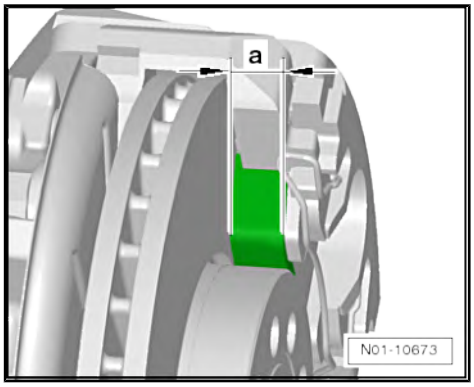
– For better evaluation of remaining pad thickness, use a test mirror and, if necessary, remove the wheel on the side where the brake pad wear indicator is installed.

– Pull off wheel bolt covers ⇒ page 137 .

– Mark position of wheel relative to brake disc.

– Unscrew wheel securing bolts and remove wheel.

– Measure inner and outer pad thickness.



a - Pad thickness “without” backplate

Wear limit: 2 mm

When brake pad thickness is down to 2 mm (without backplate) the brake pads have reached their wear limit and must be renewed (repair measure). Please inform the customer.

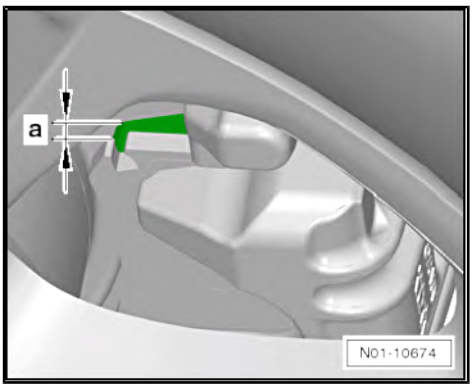
NOTICE

When replacing brake pads, always check brake discs as well for wear! Checking and if necessary replacing the brake discs is a repair measure.

– Check wear of brake discs ⇒ Brake system; Rep. gr. 46 ; Front brake; Assembly overview - front brake
– Install wheel in marked position.
– Tighten wheel bolts diagonally and alternately, specified torque ⇒ page 137 .
– Place adapter back in vehicle tool kit after completing work.
– Fit wheel bolt covers if necessary .

4.45.2 Rear disc brake pads: Checking

– Shine with a flashlight through one spoke of the rim.
– Determine thickness of outer pad by checking visually.
– Illuminate inner pad with a hand-held light and use a mirror.
– Determine thickness of inner pad by checking visually.



a - Thickness of inner and outer brake pads (without backplate)

Wear limit: 2 mm

When brake pad thickness is down to 2 mm (without backplate) the brake pads have reached their wear limit and must be renewed (repair measure). Please inform the customer.

NOTICE

When replacing brake pads, always check brake discs as well for wear! Checking and if necessary replacing the brake discs is a repair measure.

– Check wear on brake pads: ⇒ Brake system; Rep. gr. 46 ; Rear brake; Assembly overview - rear brake

4.45.3 Condition of brake discs: Checking

Please check all brake discs for the following fault patterns listed:

- Cracks
- Scratches
- Rust (no surface rust)
- Burs on the edge of the brake disc

NOTICE

Inform the customer if brake disc damage is similar to these damage patterns. Replacing the brake discs is a repair measure.

4.46 Visual check for damage to the underbody trims and underbody protection, line routing and plugs

After visually checking the undercarriage protection, observe the lower plates, the wheel wells and the lower crossbars.

Pay special attention to zones exposed to wear produced by water, mud and gravel thrown up by the wheels.

Always ensure that all lines are secured in their mountings, all plugs are available and that there is no visible damage on the underbody.

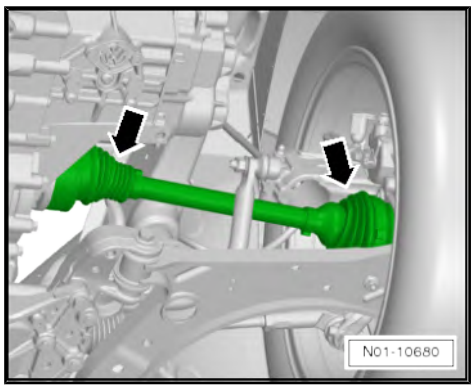
NOTICE

Any problems detected should always be repaired (repair measure). In this manner deterioration and corrosion perforations are avoided.

Re-establish the corrosion and noise protection ⇒ Electronic parts catalogue .

4.47 Drive shaft dust cover: Visual inspection for damage

– Check the dust protection on inside and outside of propeller shafts -arrows- for damage and leakage.



4.48 Ball joint mount: check the play, correct seating and the dust protection caps.

NOTICE

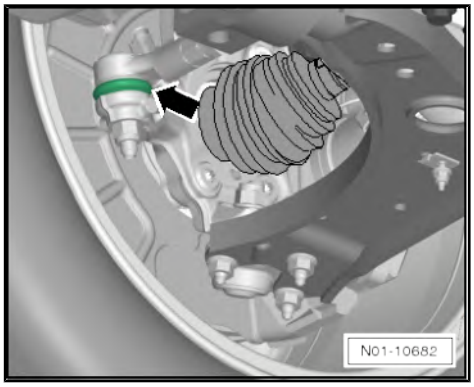
The test must be carried out with vehicle raised on a lifting platform (wheels hanging).

– Check play by moving the track rods and wheels.

• There must be no clearance.

– Care must be taken that the counter nut of the steering joint is tightened to 50 Nm.

– Make sure that the dust protective caps -arrow- are not damaged and are properly fitted.



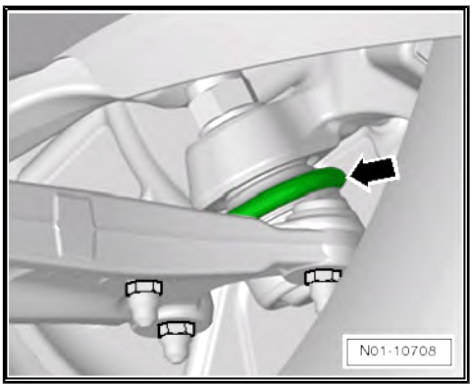
4.49 Self-aligning bearing and rubber bearing of the roller rocker arms: Visual inspection for damage

NOTICE

This test must be performed with the vehicle standing on its wheels.

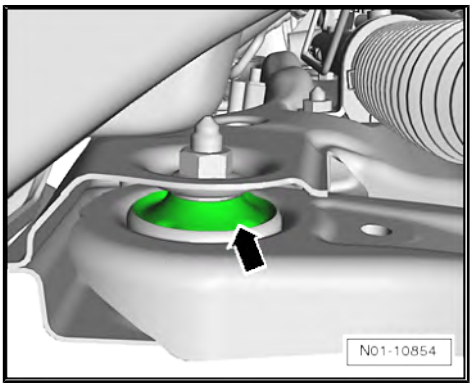
– Make sure that the dust protective caps -arrow- are not damaged and are properly fitted.

– Check the rear side of the dust caps using a mirror.



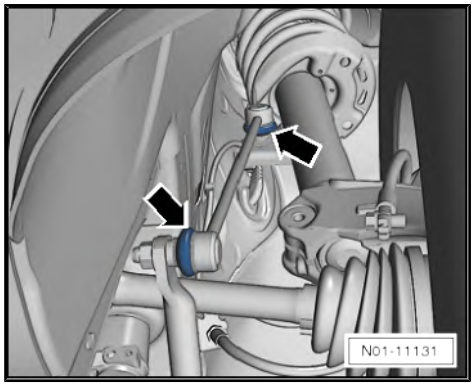
– Check that the bearing of the wishbone -arrows- is not damaged.

- There must be no clearance.
- The vulcanised rubber bearing must not tear nor have any porous locations.

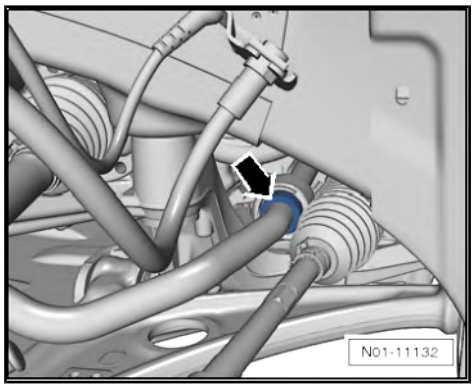


4.50 Coupling rod and rubber bearing of the stabiliser coupling: Visual inspection for damage

– Check that the dust guards of the coupling rods -arrows- are not damaged.



– Check that the rubber bearings -arrow- are not damaged.



4.51 Automatic gearbox: renewing ATF

NOTICE

The ATF for manual gearbox 09G must be changed, especially in warm countries. The consumption of ATF gearbox oil is greater under these climatic conditions. Countries affected are listed in the following table.

Hot countries

Afghanistan	Egypt	Algeria
Angola	Equatorial Guinea	Ethiopia
Australia	Bahrain (AGCC)	Benin (Dahomey)
Botswana	Brunei	Burkina Faso (Upper Volta)
Burundi	China	Dem. Rep. Congo
Djibouti	Dubai (AGCC)	Ivory Coast
Eritrea	Gabon	Gambia
Ghana	Guinea	Guinea-Bissau
India	Indonesia / (Borneo)	Iraq
Iran	Israel	Japan
Yemen (AGCC)	Jordan	Cameroon
Qatar (AGCC)	Kenya	Congo
Kuwait (AGCC)	Lesotho	Lebanon
Liberia	Libya	Madagascar
Malawi	Malaysia	Mali
Morocco	Mauritania	Mauritius

Mexico	Mozambique	Namibia
Niger	Nigeria	Oman (AGCC)
Palestine	Puerto Rico	Ruanda
Zambia	Saudi Arabia (AGCC)	Senegal
Sierra Leone	Zimbabwe	Singapore
Somalia	South Africa	Sudan
Swaziland	Syria	Tanzania
Thailand	Togo	Chad
Tunisia	Turkey	Uganda
United States of America	United Arab Emirates / Abu Dhabi (AGCC)	Western Sahara
Central African Republic		

– ⇒ 6-speed dual clutch gearbox 0D9; Rep. gr. 34 ; Gear oil; Draining and filling gear oil .

4.52 6-gear DSG gearbox 0D9: change the oil and filter

– Renewing gear oil

– ⇒ 6-speed dual clutch gearbox 0D9; Rep. gr. 34 ; Gear oil; Draining and filling gear oil .

– Renew gear oil filter.

– ⇒ 6-speed dual clutch gearbox 0D9; Rep. gr. 34 ; Gear oil section; Removing and installing gear oil filter .

4.53 7-gear DSG gearbox 0GC: change oil

– Renewing gear oil

– ⇒ 7-speed dual clutch gearbox 0GC; Rep. gr. 34 ; Gear oil; Draining and filling gear oil .

4.54 Front differential lock: change oil

NOTICE

On the front differential lock, a multi-plate clutch similar to the all-wheel clutch can be found.

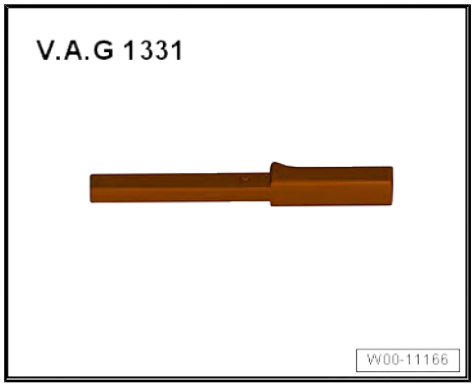
The front differential lock is filled with high-performance oil for all-wheel drive clutches.

Drain oil ⇒ page 115 .

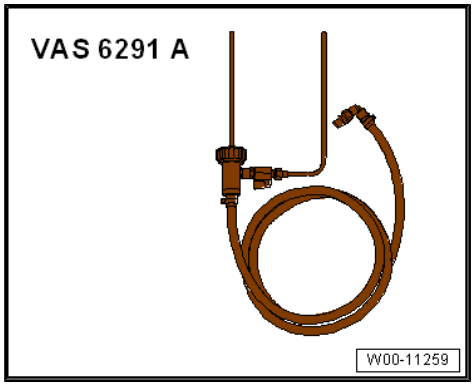
Fill oil ⇒ page 116 .

Special tools and workshop equipment required

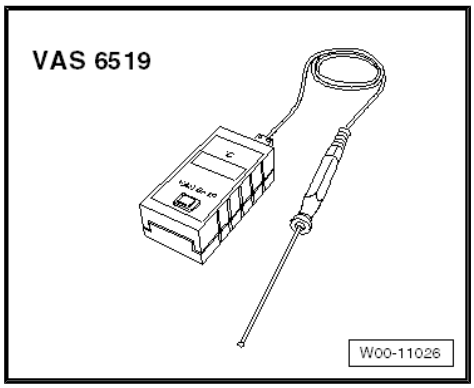
- Torque wrench - VAG 1331-



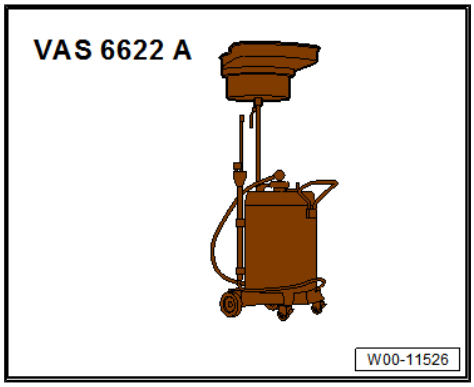
- Filling device - VAS 6291A-



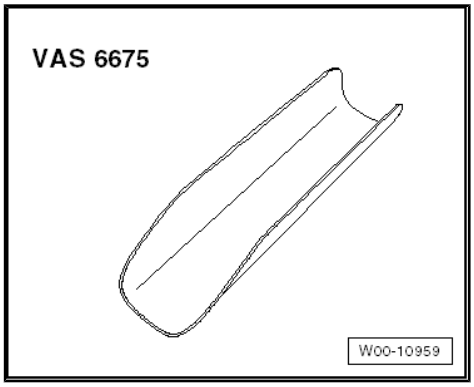
- Temperature gauge - VAS 6519-



- Oil extractor - VAS 6622A-



♦ Funnel, flexible - VAS 6675-



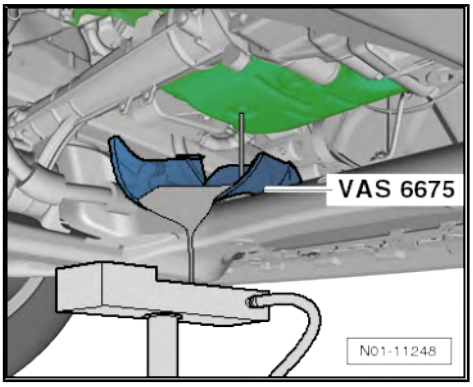
Draining oil

– Lift the vehicle up with the lifting platform and place the used oil collection and extraction unit - VAS 6622A- underneath the front axle differential lock.

– Use funnel, flexible - VAS 6675- to drain the oil.

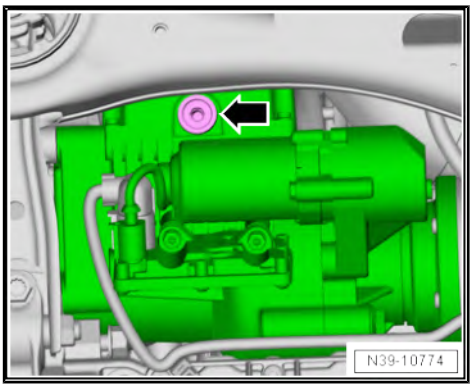
– Place flexible funnel - VAS 6675- such that subframe does not come in contact with oil.

The illustration shows an example of how to use the flexible funnel - VAS 6675- .



– Unscrew drain plug -arrow- and drain high-performance oil for all-wheel drive coupling completely.

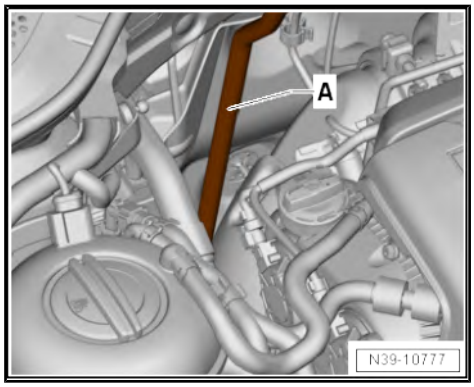
– Attach the new oil drain plug -arrow- and tighten with the appropriate tightening torque.



Specified torque	Nm
Oil drain plug	14 ± 3

Topping up fluid

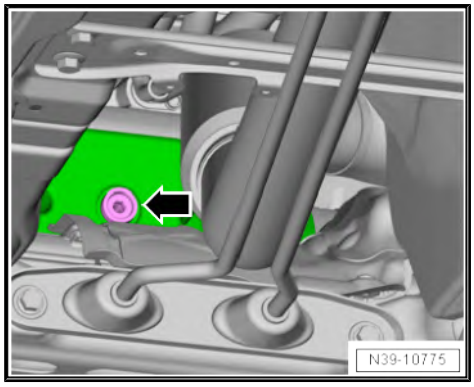
– Insert the -A- of the charging device - VAS 6291A- through the engine compartment.



– Lift the vehicle up with the lifting platform and place the used oil collection and extraction unit - VAS 6622A- underneath the front axle differential lock.

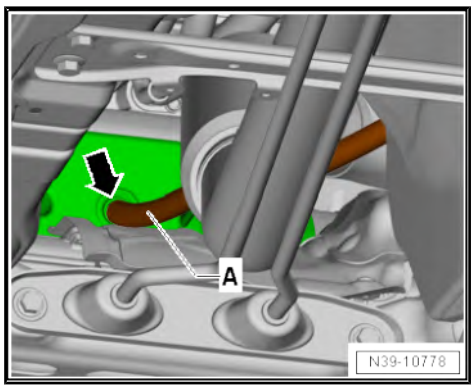
– Clean area around oil filler plug -arrow- of front differential lock.

– Remove oil filler plug -arrow-.



– Remove the elbow of the filling device - VAS 6291A- .

– Insert the hose -A- of the filling device - VAS 6291A- into the oil filler hole -arrow-.



NOTICE

The prescribed temperature range for oil during oil level check is 20 °C to 40 °C.

Observe the temperature of oil container when topping up oil.

After topping up oil, the temperature gauge - VAS 6519- can be used for measuring oil temperature.

Oil capacity and oil specification ⇒ page 117 .

– Screw on the oil reservoir to the filling device - VAS 6291A- with closed valve -arrow-.

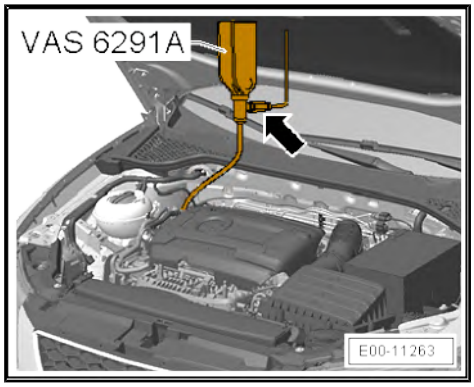
– Open the valve -arrow- of the filling device - VAS 6291A- and hold up the oil container.

– Fill with oil until it overflows between hose and gearbox housing.

– Close the valve -arrow- of the filling device - VAS 6291A- .

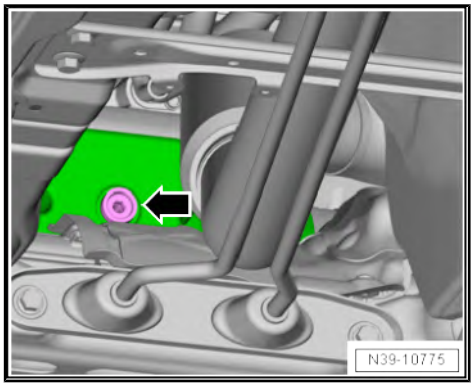
– Remove the hose and allow the excess oil to run into the used oil collection and extraction unit - VAS 6622A- .

– Attach the previously removed elbow back onto the filling device - VAS 6291A- and fix with a hose clip.



- The oil level is correct if it is at the lower edge of the oil filler hole.

– Attach the new oil filler plug -arrow- and tighten with the appropriate tightening torque.



Specified torque	Nm
Oil filler plug	14 ± 3

Ensure adherence to prescribed temperature range during oil level check, if oil temperature was not within prescribed temperature range of 20 °C to 40 °C when topping up oil.

The oil temperature can be measured using temperature gauge - VAS 6519- .

If the oil temperature is not between 20 and 40 °C, the temperature must be reached by warming up or cooling down.

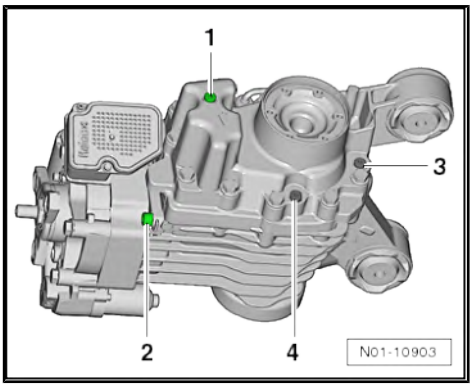
Oil capacity and oil specification	
Oil capacity front axle differential lock	⇒ Replacement of the 6-speed dual clutch gearbox 0D9; Rep. gr. 00 ; Technical data; fill capacities ⇒ 6-speed manual gearbox 02Q and 6-speed manual gearbox 0FB; Rep. gr. 00 ; Technical data; fill capacities
Oil specifications	⇒ Electronic parts catalogue

4.55 All-wheel drive coupling: Change oil

NOTICE

On vehicles with all-wheel drive coupling the drain plugs and sealing plugs of both systems are often interchanged, due to the integrated housing construction of all-wheel drive coupling and final drive. Caution must be exercised during maintenance and servicing, as incorrect fitting can cause the all-wheel drive coupling and the final drive to fail.

The all-wheel drive coupling and the final drive are one system with separate oil circuits.



1 - Oil filler neck plug for all-wheel drive coupling.

2 - Oil drain plug for all-wheel drive coupling.

3 - Filler neck plug for axle oil.

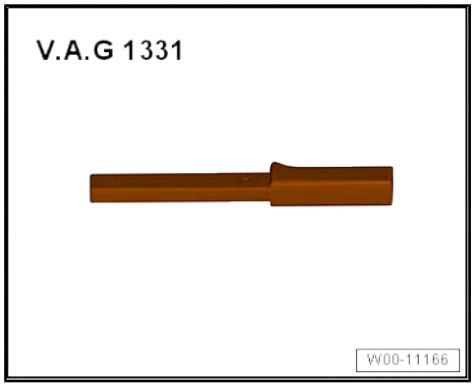
4 - Drain plug for axle oil.

Drain oil ⇒ page 119 .

Fill oil ⇒ page 119 .

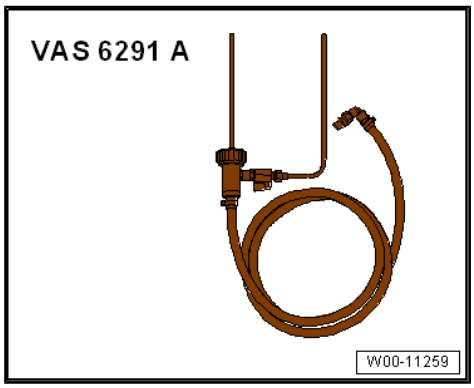
Special tools and workshop equipment required

- Torque wrench - VAG 1331-

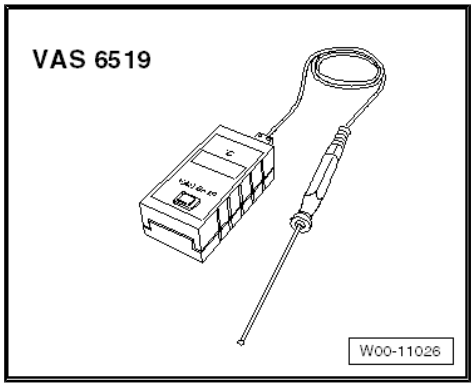


- Drip tray - VAS 6208-

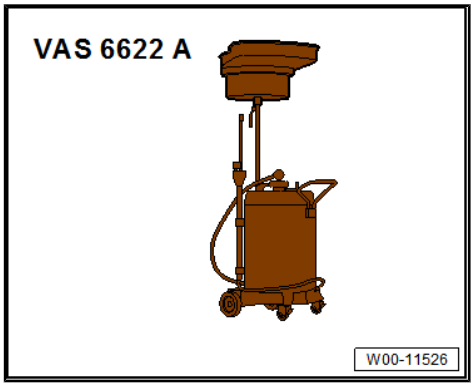
- Filling device - VAS 6291A-



- Temperature gauge - VAS 6519-



♦ Oil extractor - VAS 6622A-

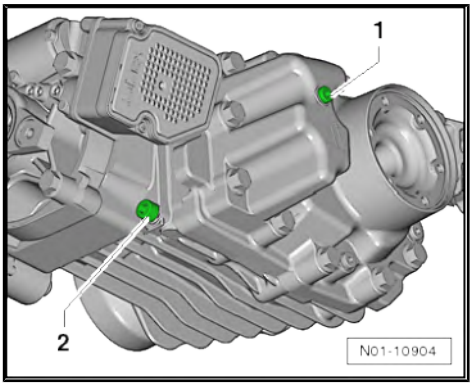


Draining oil

– Raise vehicle on lifting platform and place used oil collection and extraction unit - VAS 6622A- under all-wheel drive coupling.

– Unscrew oil drain plug -2- and fully drain high performance oil.

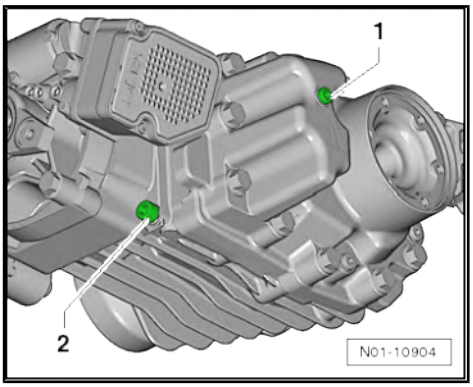
– Screw on a new oil drain plug with a new seal and tighten with the tightening torque. Oil drain plug is fitted with captive seal.



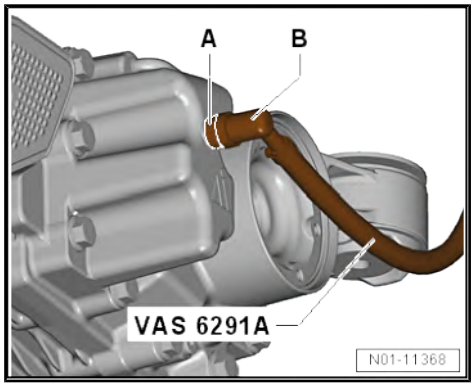
Specified torque	Nm
Oil drain plug	30

Topping up fluid

– Remove oil filler plug -1-.



– Separate angled piece -B- from adapter -A- and screw adapter fully in oil filler hole.
– Reconnect angled piece and route hose above drive shaft to prevent sagging.
– Place tray - VAS 6208- below final drive.
– The vehicle can be lowered as soon as the hose above the rear left wheel leads away from the vehicle.



NOTICE

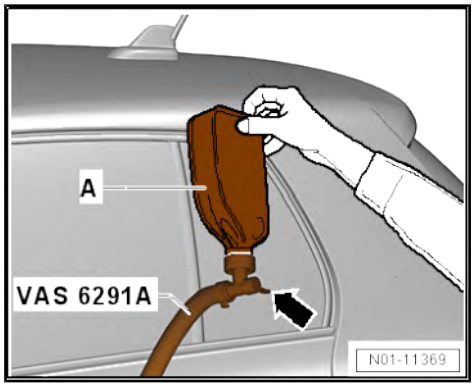
The prescribed temperature range for oil during oil level check is 20 °C to 40 °C.

Observe the temperature of oil container when topping up oil.

After topping up oil, the temperature gauge - VAS 6519- can be used for measuring oil temperature.

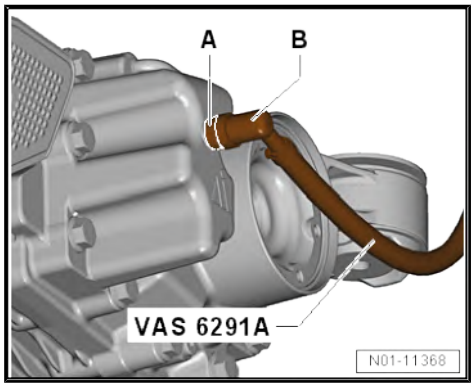
Oil capacity and oil specification ⇒ page 121 **.**

– Screw the oil reservoir -A- with the valve closed -arrow- to the filling device for all-wheel drive coupling - VAS 6291A- .
– Open valve -arrow- and hold oil container as shown in the illustration.
– Fill the oil with the filling device for all-wheel drive coupling - VAS 6291A- until it overflows between the adapter and the gear housing.

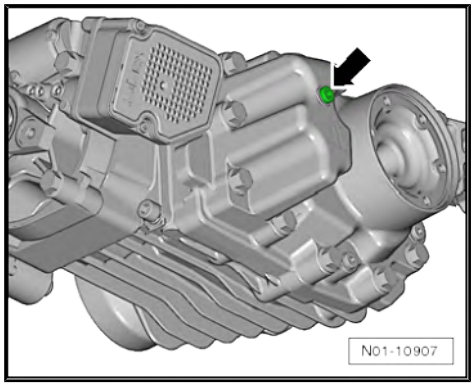


– Remove the filling device for all-wheel drive coupling - VAS 6291A- .
– Unscrew adapter -A-.
– Let any excess oil flow out until it is only dripping out of hole.

The oil level is correct if oil is dripping out of the oil filler hole.



– Screw in new oil filler plug -arrow- with captive seal and tighten it to specified torque.



Specified torque	Nm
Oil filler plug	15

Ensure adherence to prescribed temperature range during oil level check, if oil temperature was not within prescribed temperature range of 20 °C to 40 °C when topping up oil.

The oil temperature can be measured using temperature gauge - VAS 6519- .

If the oil temperature is not between 20 and 40 °C, the temperature must be reached by warming up or cooling down.

Oil capacity and oil specification	
Oil fill quantity of the all-wheel drive coupling	⇒ Rear propshaft and final drive; Rep. gr. 00 ; Technical data; Capacities
Oil specifications	⇒ Electronic parts catalogue

4.56 Tyres, including spare tyre: check condition, tread, inflation pressure, depth of tyre tread

⇒ “4.56.1 Check age of the tyre”, page 121

⇒ “4.56.2 Checking condition of tyre”, page 122

⇒ “4.56.3 Check the tyre tread for even wear”, page 122

⇒ “4.56.4 Check depth of tread (including spare wheel)”, page 122

⇒ “4.56.5 Tyre pressure until MY 15 (week 21/2015)”, page 123

⇒ “4.56.6 Tyre pressure as of MY 16 (week 22/2015)”, page 132

NOTICE

All tyres and wheels (front and rear) must be of same type and size. On four-wheel drive vehicles you must also ensure that all tyres are made by the same manufacturer and have the same tread pattern.

4.56.1 Check age of the tyre

The age of the tyre can be determined using the “DOT” marking which specifies the date of manufacturing.

CAUTION

We recommend not to use any tyres older than 6 years.

Example of a “DOT” marking from the 01.01.2000:

DO ..... T .	0 1	0 0 The last two digits specify the year of manufacture.
	Week of the year	

In this example, the date of manufacture would be the first week of the year 2000.

4.56.2 Checking condition of tyre

Carry out the following work:

Delivery Inspection

– Check tyres (tread and side walls) for damage and remove foreign bodies, for example nails and glass splinters, if necessary.

NOTICE

If damage is determined, always check to see if a new tyre should be fitted.

Inspection Service

– Check tyres (tread and side walls) for damage and remove foreign bodies, for example nails and glass splinters, if necessary.

– Check tyres for erosion, one-sided tread wear, porosity on the side walls, cuts and perforations.

NOTICE

The customer must be informed of any deficiencies found.

4.56.3 Check the tyre tread for even wear

The wear pattern on the front tyres will indicate, for example, if toe and camber settings should be checked:

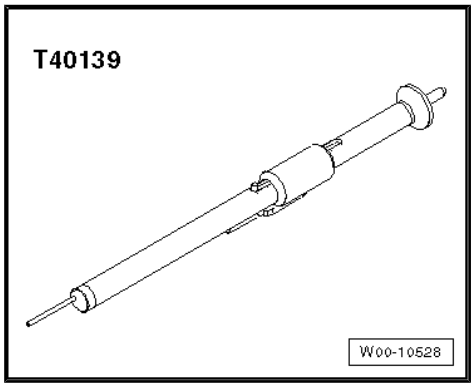
- Feathering on tread indicates incorrect toe setting.
- One-sided tread wear is mainly attributed to incorrect camber.

When wear of this nature is noticed, locate the cause by measuring the geometry of the axles (repair measure).

4.56.4 Check depth of tread (including spare wheel)

Special tools and workshop equipment required

- Measuring tool - T40139-



To check the tread depth of the tyres, move the sliding ring to the end in the direction of the measuring tip.

Then move the measuring tip of the tester up to the end in a tread groove and push the device evenly in the direction of the tyre until the tester makes contact with the belt of the tyre.

Then remove the tester and read-off the value on the scale with the tyre symbol.

NOTICE

After a successful measurement, when removing the test device, take care that the sliding ring is not displaced. Otherwise, the measurement is faulty.

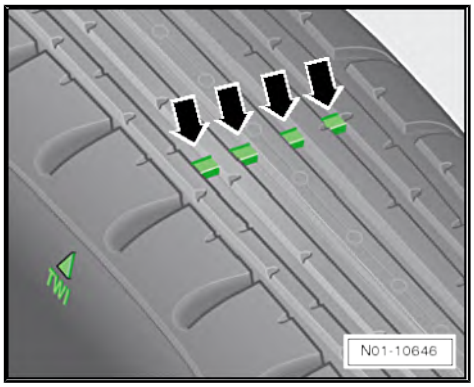
The second scale on the tester (brake symbol) can be used to determine the thickness of the brake pad.

- Minimum depth: 1.6 mm

NOTICE

This figure may vary according to legislation in individual countries.

The minimum tread depth is reached when the tyres have worn down level with the 1.6 mm high tread wear indicators -arrows- positioned at intervals around the tyre.



NOTICE

If the tread depth is approaching the minimum allowed depth, inform the customer.

4.56.5 Tyre pressure until MY 15 (week 21/2015)

Data chart Leon and Leon SC, excluding Great Britain ⇒ page 124 .

Data chart Leon and Leon SC, Great Britain only ⇒ page 125 .

Data chart Leon ST, excluding Great Britain ⇒ page 127 .

Data chart Leon ST, Great Britain only ⇒ page 129 .

NOTICE

The mandatory tyre pressures for the respective model can also be found on a sticker attached to the inside of the tank flap or to the B-pillar.

Check for the presence of the inflation pressure sticker at delivery inspection.

If the inflation pressure sticker is missing, proceed as follows:

Look up the correct part number for the respective vehicle in the ⇒ Electronic parts catalogue .

Using the part number, locate the respective inflation pressures in the inflation table.

Spare wheel with standard tyres: Observe the maximum designated tyre pressure for the vehicle.

Temporary spare wheel: The tyre pressure is indicated on the tyre sidewall.

Data chart Leon and Leon SC, excluding Great Britain

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.2/63 kW	6Jx15 ET43	195/65 R15	220/2.2/32	200/2.0/29	240/2.4/35	260/2.6/38
1.2/77 kW						
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR						
1.6 81 kW CR Ecomotive	6Jx15 ET43	195/65 R15	270/2.7/39	270/2.7/39	270/2.7/39	280/2.8/41
1.2/63 kW	6.5Jx16 ET46	205/55 R16	220/2.2/32	200/2.0/29	240/2.4/35	260/2.6/38
1.2/77 kW						
1.4/90 kW						
1.4/103 kW						
1.4/110 kW						
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
1.6 81 kW CR Ecomotive	6.5Jx16 ET46	205/55 R16	270/2.7/39	270/2.7/39	270/2.7/39	280/2.8/41
2.0 81 kW CR	6.5Jx16 ET46	205/55 R16	240/2.4/35	220/2.2/32	260/2.6/38	280/2.8/41
2.0 105 kW CR						
2.0 110 kW CR						
1.2/77 kW	7Jx17 ET49	225/45 R17	220/2.2/32	200/2.0/29	240/2.4/35	260/2.6/38
1.4/90 kW						
1.4/103 kW						
1.4/110 kW						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR	7Jx17 ET49	225/45 R17	240/2.4/35	220/2.2/32	260/2.6/38	280/2.8/41

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
2.0 105 kW CR						
2.0 110 kW CR						
1.4/90 kW	7.5Jx17 ET51	225/45 R17	220/2.2/32	200/2.0/29	240/2.4/35	260/2.6/38
1.4/103 kW						
1.4/110 kW						
1.8/135 kW	7.5Jx17 ET51	225/45 R17	240/2.4/35	220/2.2/32	260/2.6/38	280/2.8/41
2.0 105 kW CR						
2.0 110 kW CR						
2.0 135 kW CR	7.5Jx17 ET51	225/45 R17	250/2.5/36	230/2.3/33	280/2.8/41	280/2.8/41
1.4/90 kW	7.5Jx18 ET51	225/40 R18	220/2.2/32	200/2.0/29	240/2.4/35	260/2.6/38
1.4/103 kW						
1.4/110 kW						
1.8/135 kW	7.5Jx18 ET51	225/40 R18	240/2.4/35	220/2.2/32	260/2.6/38	280/2.8/41
2.0 105 kW CR						
2.0 110 kW CR						
2.0 135 kW CR	7.5Jx18 ET51	225/40 R18	250/2.5/36	230/2.3/33	280/2.8/41	280/2.8/41
2.0 195 kW Cupra	7.5Jx18 ET51	225/40 R18	260/2.6/38	230/2.3/33	280/2.8/41	280/2.8/41
2.0 206 kW Cupra						
2.0 195 kW Cupra	7.5Jx19 ET51	235/35 R19	270/2.7/39	240/2.4/35	290/2.9/42	290/2.9/42
2.0 206 kW Cupra						

Data chart Leon and Leon SC, Great Britain only

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.2/63 kW	6Jx15 ET43	195/65 R15	200/2.0/29	180/1.8/26	240/2.4/35	260/2.6/38
1.2/77 kW						

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR						
1.6 81 kW CR Ecomotive	6Jx15 ET43	195/65 R15	270/2.7/39	270/2.7/39	270/2.7/39	280/2.8/41
1.2/63 kW	6.5Jx16 ET46	205/55 R16	200/2.0/29	180/1.8/26	240/2.4/35	260/2.6/38
1.2/77 kW						
1.4/90 kW						
1.4/103 kW						
1.4/110 kW						
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
1.6 81 kW CR Ecomotive	6.5Jx16 ET46	205/55 R16	270/2.7/39	270/2.7/39	270/2.7/39	280/2.8/41
2.0 81 kW CR	6.5Jx16 ET46	205/55 R16	220/2.2/32	200/2.0/29	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
1.2/77 kW	7Jx17 ET49	225/45 R17	200/2.0/29	180/1.8/26	240/2.4/35	260/2.6/38
1.4/90 kW						
1.4/103 kW						
1.4/110 kW						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR	7Jx17 ET49	225/45 R17	220/2.2/32	200/2.0/29	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
1.4/90 kW	7.5Jx17 ET51	225/45 R17	200/2.0/29	180/1.8/26	240/2.4/35	260/2.6/38
1.4/103 kW						

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.4/110 kW						
1.8/135 kW	7.5Jx17 ET51	225/45 R17	220/2.2/32	200/2.0/29	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
2.0 135 kW CR	7.5Jx17 ET51	225/45 R17	230/2.3/33	210/2.1/31	280/2.8/41	280/2.8/41
1.4/90 kW	7.5Jx18 ET51	225/40 R18	200/2.0/29	180/1.8/26	240/2.4/35	260/2.6/38
1.4/103 kW						
1.4/110 kW						
1.8/135 kW	7.5Jx18 ET51	225/40 R18	220/2.2/32	200/2.0/29	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
2.0 135 kW CR	7.5Jx18 ET51	225/40 R18	230/2.3/33	210/2.1/31	280/2.8/41	280/2.8/41
2.0 195 kW Cupra	7.5Jx18 ET51	225/40 R18	260/2.6/38	230/2.3/33	280/2.8/41	280/2.8/41
2.0 206 kW Cupra						
2.0 195 kW Cupra	7.5Jx19 ET51	235/35 R19	270/2.7/39	240/2.4/35	290/2.9/42	290/2.9/42
2.0 206 kW Cupra						

Data chart Leon ST, excluding Great Britain

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.2/63 kW	6Jx15 ET43	195/65 R15	220/2.2/32	220/2.2/32	240/2.4/35	260/2.6/38
1.2/77 kW						
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR						

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.6 81 kW CR Ecomotive	6Jx15 ET43	195/65 R15	280/2.8/41	280/2.8/41	280/2.8/41	290/2.9/42
1.2/63 kW	6.5Jx16 ET46	205/55 R16	220/2.2/32	220/2.2/32	240/2.4/35	260/2.6/38
1.2/77 kW						
1.4/90 kW						
1.4/103 kW						
1.4/110 kW						
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
1.6 81 kW CR Ecomotive	6.5Jx16 ET46	205/55 R16	280/2.8/41	280/2.8/41	280/2.8/41	290/2.9/42
2.0 81 kW CR	6.5Jx16 ET46	205/55 R16	240/2.4/35	240/2.4/35	260/2.6/38	280/2.8/41
2.0 105 kW CR						
2.0 110 kW CR						
1.2/77 kW	7Jx17 ET49	225/45 R17	220/2.2/32	220/2.2/32	240/2.4/35	260/2.6/38
1.4/90 kW						
1.4/103 kW						
1.4/110 kW						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR	7Jx17 ET49	225/45 R17	240/2.4/35	240/2.4/35	260/2.6/38	280/2.8/41
2.0 105 kW CR						
2.0 110 kW CR						
1.4/90 kW	7.5Jx17 ET51	225/45 R17	220/2.2/32	220/2.2/32	240/2.4/35	260/2.6/38
1.4/103 kW						
1.4/110 kW						
1.8/135 kW	7.5Jx17 ET51	225/45 R17	240/2.4/35	240/2.4/35	260/2.6/38	280/2.8/41
2.0 105 kW CR						
2.0 110 kW CR						

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
2.0 135 kW CR	7.5Jx17 ET51	225/45 R17	250/2.5/36	250/2.5/36	280/2.8/41	280/2.8/41
1.4/90 kW	7.5Jx18 ET51	225/40 R18	220/2.2/32	220/2.2/32	240/2.4/35	260/2.6/38
1.4/103 kW						
1.4/110 kW						
1.8/135 kW	7.5Jx18 ET51	225/40 R18	240/2.4/35	240/2.4/35	260/2.6/38	280/2.8/41
2.0 105 kW CR						
2.0 110 kW CR						
2.0 135 kW CR	7.5Jx18 ET51	225/40 R18	250/2.5/36	250/2.5/36	280/2.8/41	280/2.8/41
2.0 195 kW Cupra	7.5Jx18 ET51	225/40 R18	260/2.6/38	250/2.5/36	280/2.8/41	280/2.8/41
2.0 206 kW Cupra						
2.0 195 kW Cupra	7.5Jx19 ET51	235/35 R19	270/2.7/39	260/2.6/38	290/2.9/42	290/2.9/42
2.0 206 kW Cupra						

Data chart Leon ST, Great Britain only

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.2/63 kW	6Jx15 ET43	195/65 R15	200/2.0/29	200/2.0/29	240/2.4/35	260/2.6/38
1.2/77 kW						
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR						
1.6 81 kW CR Ecomotive	6Jx15 ET43	195/65 R15	280/2.8/41	280/2.8/41	280/2.8/41	290/2.9/42
1.2/63 kW	6.5Jx16 ET46	205/55 R16	200/2.0/29	200/2.0/29	240/2.4/35	260/2.6/38
1.2/77 kW						
1.4/90 kW						

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.4/103 kW						
1.4/110 kW						
1.6 66 kW CR						
1.6 77 kW CR						
1.6 81 kW CR						
1.6 81 kW CR Ecomotive	6.5Jx16 ET46	205/55 R16	280/2.8/41	280/2.8/41	280/2.8/41	290/2.9/42
2.0 81 kW CR	6.5Jx16 ET46	205/55 R16	220/2.2/32	220/2.2/32	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
1.2/77 kW	7Jx17 ET49	225/45 R17	200/2.0/29	200/2.0/29	240/2.4/35	260/2.6/38
1.4/90 kW						
1.4/103 kW						
1.4/110 kW						
1.6 77 kW CR						
1.6 81 kW CR						
2.0 81 kW CR	7Jx17 ET49	225/45 R17	220/2.2/32	220/2.2/32	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
1.4/90 kW	7.5Jx17 ET51	225/45 R17	200/2.0/29	200/2.0/29	240/2.4/35	260/2.6/38
1.4/103 kW						
1.4/110 kW						
1.8/135 kW	7.5Jx17 ET51	225/45 R17	220/2.2/32	220/2.2/32	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
2.0 135 kW CR	7.5Jx17 ET51	225/45 R17	230/2.3/33	230/2.3/33	280/2.8/41	280/2.8/41
1.4/90 kW	7.5Jx18 ET51	225/40 R18	200/2.0/29	200/2.0/29	240/2.4/35	260/2.6/38
1.4/103 kW						
1.4/110 kW						

Engine	Standard wheels		Tyre pressure (kPa/bar/psi)			
	Disc wheels (wheel rims)	Tyres	Semi-charged		Full load	
			front	rear	front	rear
1.8/135 kW	7.5Jx18 ET51	225/40 R18	220/2.2/32	220/2.2/32	260/2.6/38	260/2.6/38
2.0 105 kW CR						
2.0 110 kW CR						
2.0 135 kW CR	7.5Jx18 ET51	225/40 R18	230/2.3/33	230/2.3/33	280/2.8/41	280/2.8/41
2.0 195 kW Cupra	7.5Jx18 ET51	225/40 R18	260/2.6/38	250/2.5/36	280/2.8/41	280/2.8/41
2.0 206 kW Cupra						
2.0 195 kW Cupra	7.5Jx19 ET51	235/35 R19	270/2.7/39	260/2.6/38	290/2.9/42	290/2.9/42
2.0 206 kW Cupra						

4.56.6 Tyre pressure as of MY 16 (week 22/2015)

Data table for Leon and Leon SC ⇒ page 132 .

Data table for Leon ST ⇒ page 135 .

NOTICE

The mandatory tyre pressures for the respective model can also be found on a sticker attached to the inside of the tank flap or to the B-pillar.

Check for the presence of the inflation pressure sticker at delivery inspection.

If the inflation pressure sticker is missing, proceed as follows:

Look up the correct part number for the respective vehicle in the ⇒ Electronic parts catalogue .

Using the part number, locate the respective inflation pressures in the inflation table.

Spare wheel with standard tyres: Observe the maximum designated tyre pressure for the vehicle.

WARNING

Depending on the vehicle, the tyre pressure can be adapted to a partial load for better driving comfort (comfort tyre pressure).

When driving with the comfort tyre pressure, fuel consumption may increase slightly.

Data table for Leon and Leon SC

Part number - 5F0 010 000 BA-	Leon 5F					
Part number - 5F0 010 000 CF-						
Part number - 5F0 010 000 CT-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1)]	250/2.5/36	230/2.3/33	220/2.2/32	200/2.0/29	250/2.5/36	260/2.6/38
Emergency spare tyre	420/4.2/61					

[1)] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 BJ-	Leon 5F					
Part number - 5F0 010 000 CG-						
Part number - 5F0 010 000 DD-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1)]	250/2.5/36	250/2.5/36	220/2.2/32	220/2.2/32	250/2.5/36	260/2.6/38
Emergency spare tyre	420/4.2/61					

[1)] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 BG-	Leon 5F					
Part number - 5F0 010 000 CH-						
Part number - 5F0 010 000 DC-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1)]	270/2.7/39	240/2.4/35			290/2.9/42	290/2.9/42
Emergency spare tyre	420/4.2/61					

[1)] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 BB-	Leon 5F					
Part number - 5F0 010 000 CJ-						
Part number - 5F0 010 000 DA-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1)]	270/2.7/39	250/2.5/36	240/2.4/35	220/2.2/32	270/2.7/39	280/2.8/41
Emergency spare tyre	420/4.2/61					

[1)] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 BC-	Leon 5F					
Part number - 5F0 010 000 CK-						
Part number - 5F0 010 000 DB-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	280/2.8/41	260/2.6/38	250/2.5/36	230/2.3/33	280/2.8/41	280/2.8/41
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 AD-	Leon 5F					
Part number - 5F0 010 000 CL-						
Part number - 5F0 010 000 CS-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	270/2.7/39	270/2.7/39	240/2.4/35	240/2.4/35	270/2.7/39	280/2.8/41
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 S-	Leon 5F					
Part number - 5F0 010 000 CR-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	280/2.8/41	280/2.8/41	250/2.5/36	250/2.5/36	280/2.8/41	290/2.9/42
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Data table for Leon ST

Part number - 5F0 010 000 BJ-	Leon 5F					
Part number - 5F0 010 000 CG-						
Part number - 5F0 010 000 DD-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	250/2.5/36	250/2.5/36	220/2.2/32	220/2.2/32	250/2.5/36	260/2.6/38
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 BK-	Leon 5F					
Part number - 5F0 010 000 CM-						
Part number - 5F0 010 000 DE-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	270/2.7/39	270/2.7/39	240/2.4/35	240/2.4/35	270/2.7/39	280/2.8/41
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 BQ-	Leon 5F					
Part number - 5F0 010 000 CN-						
Part number - 5F0 010 000 DG-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	270/2.7/39	260/2.6/38			290/2.9/42	290/2.9/42
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 BL-	Leon 5F					
Part number - 5F0 010 000 CP-						
Part number - 5F0 010 000 DF-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1)]	280/2.8/41	280/2.8/41	250/2.5/36	250/2.5/36	280/2.8/41	280/2.8/41
Emergency spare tyre	420/4.2/61					

[1)] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 CA-	Leon 5F					
Part number - 5F0 010 000 CD-						
Part number - 5F0 010 000 DH-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1)]	290/2.9/42	270/2.7/39	260/2.6/38	240/2.4/35	290/2.9/42	290/2.9/42
Emergency spare tyre	420/4.2/61					

[1)] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 010 000 S-	Leon 5F					
Part number - 5F0 010 000 CQ-						
Part number - 5F0 010 000 CR-						
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1)]	280/2.8/41	280/2.8/41	250/2.5/36	250/2.5/36	280/2.8/41	290/2.9/42
Emergency spare tyre	420/4.2/61					

[1)] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 000 071 801 AK-	Leon 5F					
	Half payload kPa/bar/psi		Half payload, Convenience kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	270/2.7/39	240/2.4/35	-	-	290/2.9/42	290/2.9/42
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

Part number - 5F0 071 801-	Leon 5F					
	Half payload kPa/bar/psi		RACETRACK kPa/bar/psi		Full payload kPa/bar/psi	
Tyre size	**front**	**rear**	**front**	**rear**	**front**	**rear**
All [1]	270/2.7/39	240/2.4/35	220/2.2/32	220/2.2/32	290/2.9/42	290/2.9/42
Emergency spare tyre	420/4.2/61					

[1] Valid for all authorised wheel/tyre combinations. ⇒ Wheels and Tyres Guide; Rep. gr. 44 ; Wheel and tyre combinations .

4.57 Wheel securing bolts: Tighten to specified torque

At the delivery inspection

- Loosen / tighten the anti-theft wheel bolts ⇒ page 137 .
- Tightening wheel bolts ⇒ page 138 .
- Install wheel centre trim, wheel bolt cover caps and wheel cover ⇒ page 138 .

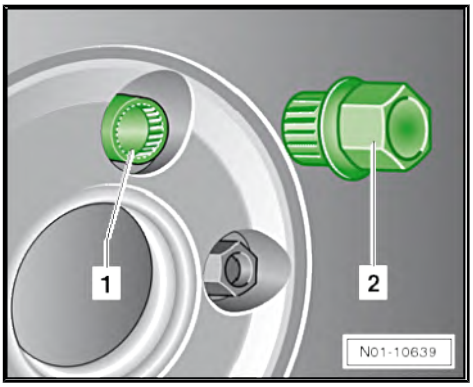
Loosen / tighten the anti-theft wheel bolts.

NOTICE

To loosen or tighten the anti-theft wheel bolts, you need a special adapter that is part of the on-board tools.

You are not allowed to not use an impact screwdriver to loosen the anti-theft wheel bolts (bolts with lock).

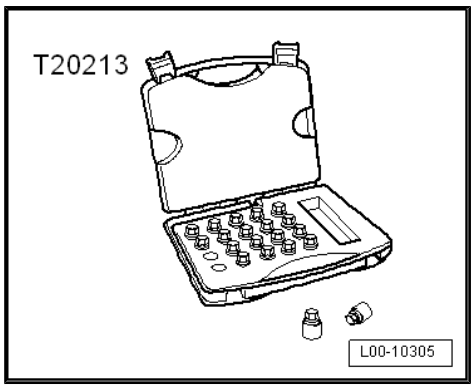
If there is no adapter in the vehicle for tightening / loosening the anti-theft wheel bolts, use the respective main kit for the wheel bolts.



Special tools and workshop equipment required

♦ Torque wrench - VAG 1332-

♦ Adapter set for tamper-proof wheel bolts - T20213-



– Push adapter -2- into anti-theft wheel bolt -1- onto stop.
– Push wheel brace onto adapter -2- onto stop.

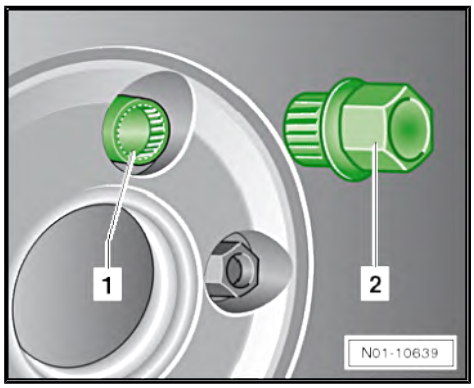
Tightening wheel bolts:

– Tighten the wheel bolts diagonally and alternately to the following torque setting:

♦ 120 Nm.

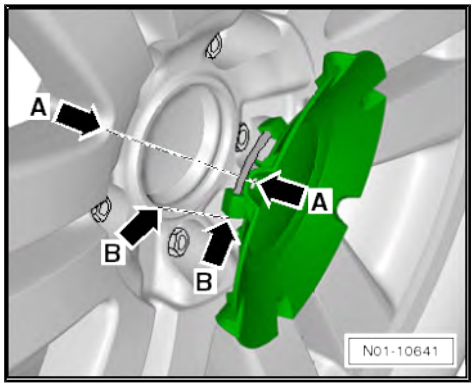
CAUTION

Never use an impact screwdriver for tightening the wheel bolts.

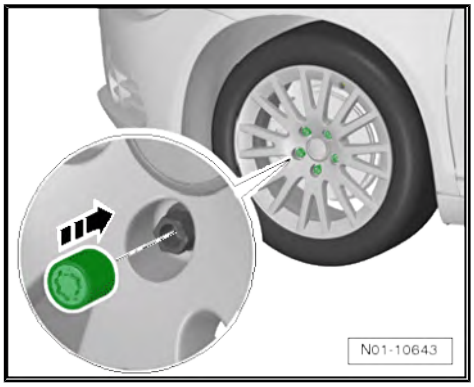


Install wheel centre trim, wheel bolt cover caps and wheel cover:

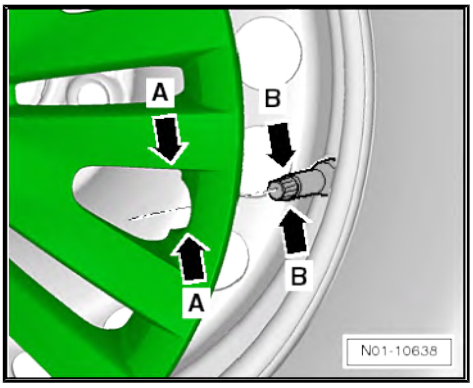
– Press the wheel hub cover in the intended opening of the wheel hub. Ensure that -A and B- are accurately fitted on rim.



Install the wheel bolt covers.



Press the wheel trim equally onto the steel rim. Make sure that valve -B- seats in cut-out -A- of wheel trim.



NOTICE

After finishing the work, duly deposit the anti-theft bolt with the vehicle tool kit.

4.58 Anti-puncture kit: check expiry date on sealed bottle, and replace if necessary.

NOTICE

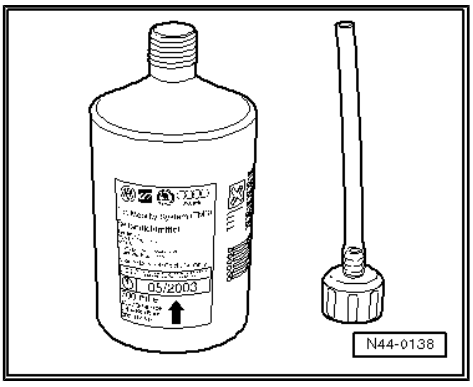
The breakdown set is located in the cavity of the spare tyre.

The breakdown set includes a tyre sealant bottle, among other things.

Expiration date

– Check the expiration date.

The use-by date is on a sticker on the bottle of tyre sealant -arrow-



– If the expiration date has been exceeded, replace the tyre sealant (the tyre sealant expires after 4 years).

NOTICE

The bottle must be replaced after use.

Please observe disposal instructions!

4.59 Brake fluid level according to wear of pads: check

⇒ “4.59.1 Delivery Inspection”, page 140 .

⇒ “4.59.2 Inspection Service”, page 140 .

Only use new genuine brake fluid in accordance with standard US FMVSS 116 DOT 4.

CAUTION

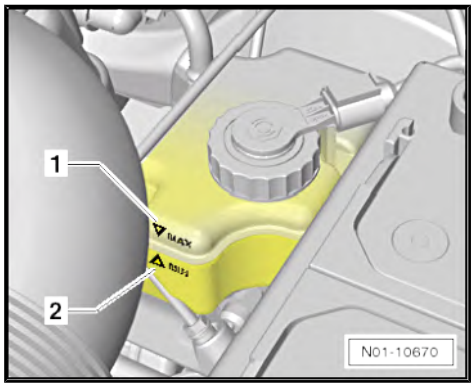
- **Do not under any circumstances allow brake fluid to come into contact with fluids that contain mineral oils (e.g. oil, petrol, cleaning agents). Mineral oils will damage seals and sleeves of brake system.**
- **Brake fluid is poisonous. In addition, due to its corrosive nature, it must not come into contact with paint.**
- **Brake fluid is hygroscopic, i.e. it attracts moisture from the surrounding air and therefore must always be stored in airtight containers.**
- **Rinse off brake fluid spillages using plenty of water.**
- **Please observe disposal instructions!**

– Observe the differences for:

- Delivery Inspection
- Inspection Service

4.59.1 Delivery Inspection

– When performing the Delivery Inspection, ensure that the fluid level is at the MAX -1- mark.



NOTICE

The fluid level must not exceed the MAX -1- mark, otherwise the fluid will overflow.

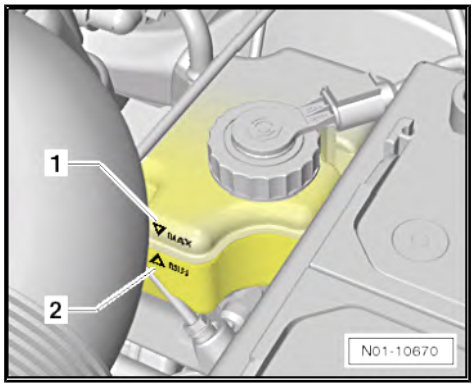
4.59.2 Inspection Service

When the vehicle is driven, the brake fluid level will drop slightly with use and as a result of the automatic adjustment of the brake pads.

– The fluid level must always be judged in conjunction with lining/pad wear.

– If the fluid level is at or slightly above the MIN -2- marking, topping up is not necessary if the pads are close to their wear limit.

– If the pads are new, or quite far from reaching their wear limit, the fluid level must be between the MIN and MAX markings.



CAUTION

If the fluid level has fallen below the MIN mark, check the brake system (repair measure) before adding brake fluid.

4.60 Brake fluid and clutch: Renew

⇒ “4.60.1 Brake and clutch system: Changing brake fluid”, page 141 .

⇒ “4.60.2 Table of work sequence and brake fluid quantities”, page 144 .

CAUTION

- Do not under any circumstances allow brake fluid to come into contact with fluids that contain mineral oils (e.g. oil, petrol, cleaning agents). Mineral oils will damage seals and sleeves of brake system.
- Brake fluid is poisonous. In addition, due to its corrosive nature, it must not come into contact with paint.
- Brake fluid is hygroscopic, i.e. it attracts moisture from the surrounding air and therefore must always be stored in airtight containers.
- Rinse off brake fluid spillages using plenty of water.
- Observe environmental requirements for disposal!

NOTICE

Only use new genuine brake fluid in accordance with standard US FMVSS 116 DOT 4.

4.60.1 Brake and clutch system: Changing brake fluid

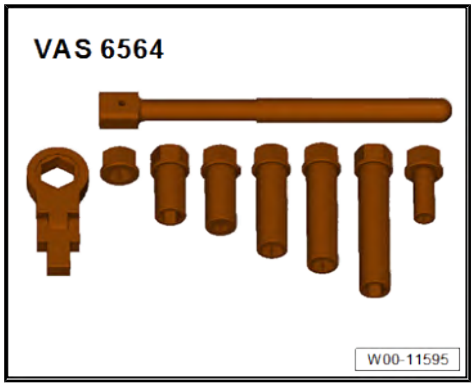
CAUTION

- Do not under any circumstances allow brake fluid to come into contact with fluids that contain mineral oils (e.g. oil, petrol, cleaning agents). Mineral oils damage the seals and rubber sleeves in the brake system.
- Brake fluid is poisonous. In addition, due to its corrosive nature, it must not come into contact with paint.
- Brake fluid is hygroscopic, i.e. it attracts moisture from the surrounding air and therefore must always be stored in airtight containers.
- Rinse off brake fluid spillages using plenty of water.
- Please observe disposal instructions!

Special tools and workshop equipment required

- Brake filling and bleeding equipment - VAS 5234-

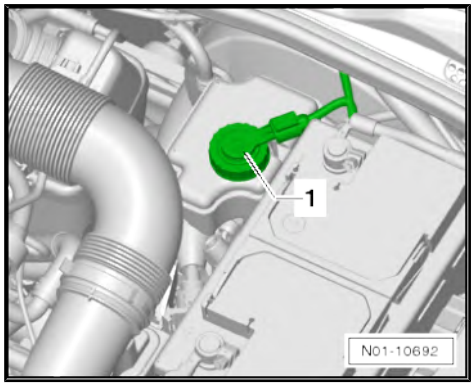
- Bleeder set - VAS 6564-



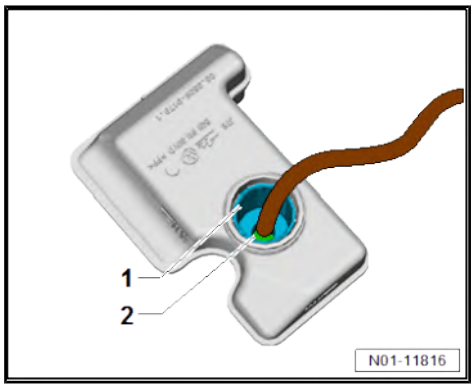
- Depending on the equipment, the front and rear brakes need to be bled in installed condition using the tool set for brake bleeding - VAS 6564- .

Brake fluid: extracting

– Remove the plug -1- from the brake fluid reservoir.



– Using the suction hose from brake filling and bleeding unit , extract as much brake fluid -2- from the brake fluid reservoir as possible through the strainer -1-.



NOTICE

The strainer in the brake fluid reservoir must not be removed.

Make sure that no more fluid flows back into the reservoir from the strainer after extracting the fluid. The brake fluid level in the reservoir must be no higher than the bottom edge of the strainer.

CAUTION

The siphoned (used) brake fluid can not be re-used.

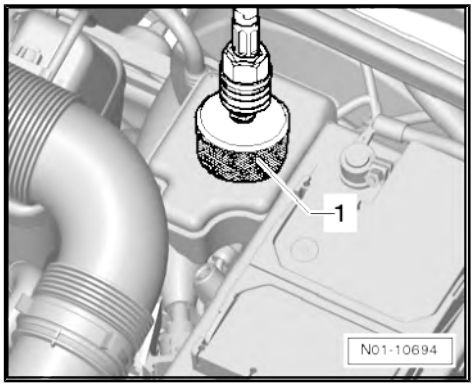
NOTICE

When working on the electrical system with some electrical consumers switched on, such a e.g. the brake filling and bleeding equipment - VAS 5234- , the battery must be charged with a charging device with"support mode", in order to prevent damage to the battery ⇒ Electrical system, general information; Rep. gr. 27 ; Battery support mode .

– Attach adapter -1- of brake filling and bleeding equipment - VAS 5234- to brake fluid reservoir.

– Connect the filler hose of the brake filling and bleeding equipment - VAS 5234- to the adapter -1-.

– Set correct pressure in brake filling and bleeding equipment - VAS 5234- (see Owner's Manual).



Vehicles with manual gearbox

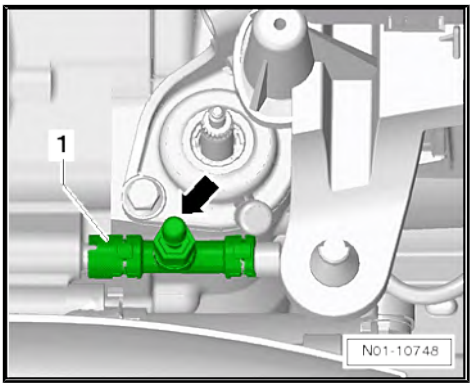
– Remove the air filter housing, where necessary.

♦ Diesel engines ⇒ Rep. gr. 23

♦ Petrol engines ⇒ Rep. gr. 24

– Remove the purge screw cap from the clutch slave cylinder.

– Connect the breather line of the brake filling and bleeding equipment - VAS 5234- to the bleeder screw -arrow- of the slave cylinder -1-.



– Open the bleeder screw and drain approx. 0.1 litres.

– Close the bleed screw.

– Rapidly pump clutch pedal through full range of travel 10 to 15 times.

– Open the bleeding screw.

– Drain of approx. 0.05 l. of brake fluid.

– Close bleed screw and install cover cap.

– Press the clutch pedal several times.

– If removed, install air filter housing:

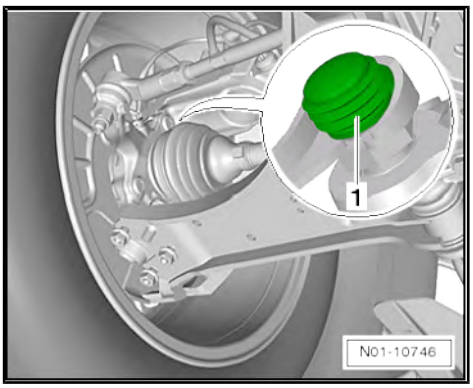
♦ Diesel engines ⇒ Rep. gr. 23

♦ Petrol engines ⇒ Rep. gr. 24

Specified torque	Nm
Bleeder screw of the clutch slave cylinder	4.5

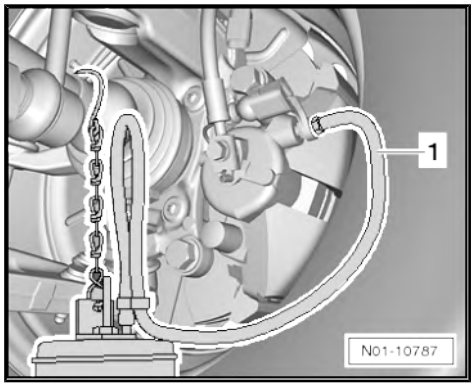
Continuation for all vehicles

– Remove the bleeder screw caps -1- on the brake callipers.



– Connect bleeder hose -1- of the front left bleeder hose.

– Open bleed screw and let appropriate quantity of brake fluid run out (see table ⇒ page 144).



NOTICE

Start at the front right wheel on right-hand drive vehicles.

Use suitable bleeder hose. The pipe must be connected tightly onto the bleeder screw, so that no air enters the brake system.

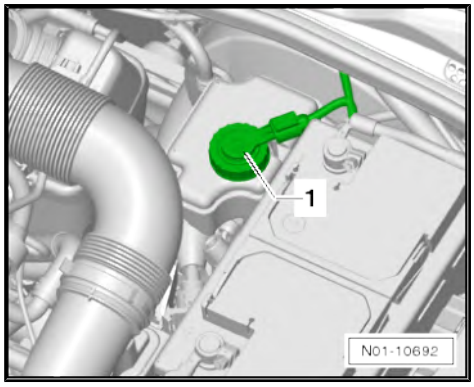
– Then pull off bleeder screw, pull off breather hose and attach the protective cap to the bleeder screw.

Specified torque	Nm
Bleeder screw of the brake caliper	10

– Repeat the bleeding process in the rest of the brake calipers following the indicated order (see table ⇒ page 144).

– Fill the brake fluid reservoir to the “MAX” mark, taking into account the wear to the brake pads, and screw on the cap-1-.

– Start the engine and check the run and pressure of the brake pedal. Free play: max. $^{1}/_{3}$ of pedal travel.



NOTICE

If there is excessive brake pedal movement, check for leak faults in the brake system and / or repeat the air bleeding process.

– Perform a test drive of the vehicle to check the operating function of the brakes.

4.60.2 Table of work sequence and brake fluid quantities

Work sequence, drain plugs:	Quantity of brake fluid to be drained off:	
Brake calliper	**left-hand drive vehicle**	**Right-hand drive vehicles**
Front left	0.20 litres	0.4 litres
Front right	0.20 litres	0.4 litres
Rear left	0.30 litres	0.6 litres
Rear right	0.30 litres	0.6 litres
Clutch slave cylinder	0.15 litres	0.15 litres
Total amount (Automatic gearboxes)	approx. 1.00 litres	approx. 2.00 litres
Total amount (manual gearboxes)	approx. 1.15 litres	approx. 2.15 litres

4.61 Headlights – check adjustment

⇒ “4.61.1 Testing and adjusting conditions”, page 145 .

⇒ “4.61.2 Halogen headlights: Check setting”, page 147 .

⇒ “4.61.3 LED headlights: Check setting”, page 148 .

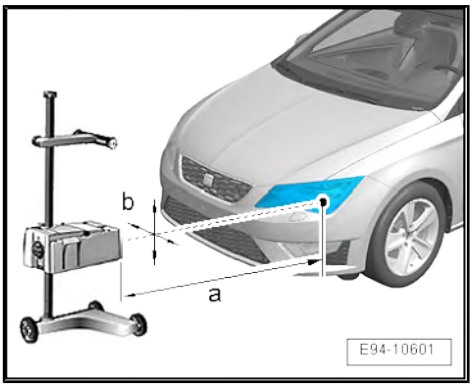
⇒ “4.61.4 Adjusting the headlights”, page 149 .

Special tools and workshop equipment required

♦ Headlight adjustment unit

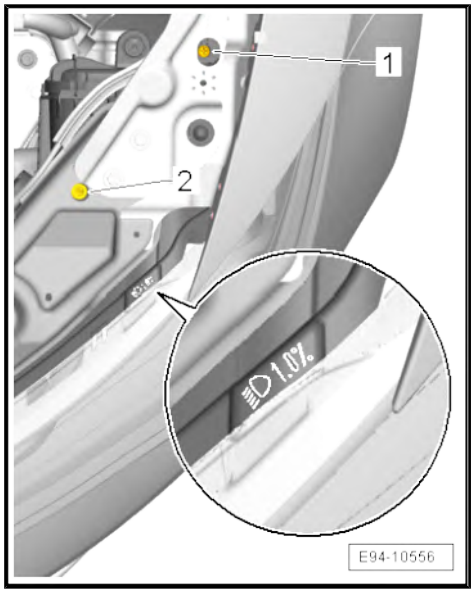
The following descriptions for adjustment and verification are generally valid for all countries. However, national legislation and guidelines for individual countries must be adhered to.

4.61.1 Testing and adjusting conditions



- The vehicle and the lamp regulating equipment should be on a flat surface.
- Filled fuel container
- Tyre pressure is correct
- The headlamp glass should not be damaged or dirty
- Reflectors and lamps are okay
- Allow headlight to cool down to ambient temperature – with bonnet open, check by touching housing cover on back of headlight with your hand.
- Load: with one person or 75 kg on the driver's seat and the rest of the vehicle empty (empty weight)
- Headlamp regulating control set to “0”
- The vehicle must have run a little, or the front and rear shock absorbers should be pushed up and down several times, so the springs are correctly seated.
- The parking brake should not be pressed so that the vehicle is not clamped
- The vehicle and the headlight setting unit must be aligned.
- Halogen headlights: Distance -a- must be 20 to 30 cm ⇒ Operating Manual on the headlight adjustment unit
- LED headlights: Distance -a- should be 30 to 70 cm and distance -b- should be not more than 3 cm from the reference LED.

The inclination heights in “%” are engraved on the left-hand side of the headlamp. Headlights must be adjusted according to this information. The percentage is based on a projection interval of 10 m. Example: Converting a dip setting of 1.0 % = 10 cm.



For vehicles with halogen headlights and manual light range adjustment, the following applies:

- Headlight range adjuster knob must be set to -0-.

With one person or 75 kg on the driver's seat and the vehicle otherwise unloaded (curb weight).

The unladen weight is the weight of the vehicle ready for operation with full fuel tank (at least 90 %) including the weight of all equipment normally carried (e.g. spare wheel, tools, jack, fire extinguisher, etc.).

If the fuel tank is not at least 90% full put in additional weight as follows:

– Read fuel level in fuel tank from the fuel gauge. Determine additional weight from following table and place weight in luggage compartment.

Fuel gauge table

Fuel tank filling level	Additional weight in kg
1/4	38
1/2	25
3/4	13
full	0

Example:

When the tank is half full an additional weight of 25 kg must be placed in the boot if the vehicle is front-wheel drive.

NOTICE

As an additional weight it is best to use a fuel canister filled with water (a 5 litre fuel canister filled with water weighs approx. 5 kg).

Write the weight in kg on the container and secure it against being opened again in order to prevent misuse.

In order to avoid dirt, place a mat/board of some kind in the luggage compartment.

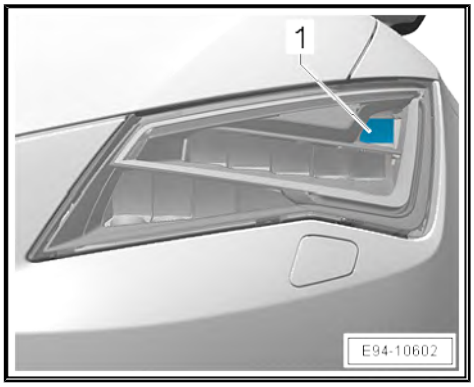
For vehicles with LED headlights:

– Turn light switch - E1- to “dipped beam” position – not to “Auto” position.

– Switch off ignition and on again so that the headlight is set at position 0.

– Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.

- Headlight adjustment unit must be centrally aligned with uppermost LED lens -1-.



4.61.2 Halogen headlights: Check setting

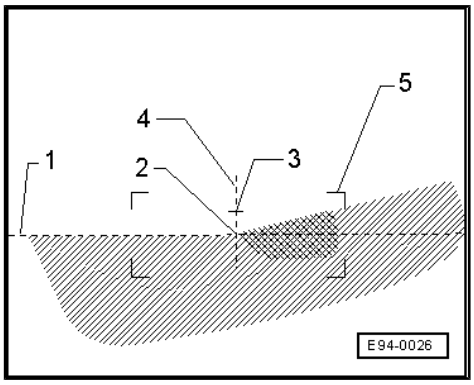
⇒ “4.61.1 Testing and adjusting conditions”, page 145 .

Verification of the headlight setting (with new screen without adjustment line of 15°)

Perform the following check of the main headlamps:

– Check that with the dipped beam on, the bright/dim horizontal limit touches the dividing line -1- of the verification surface.

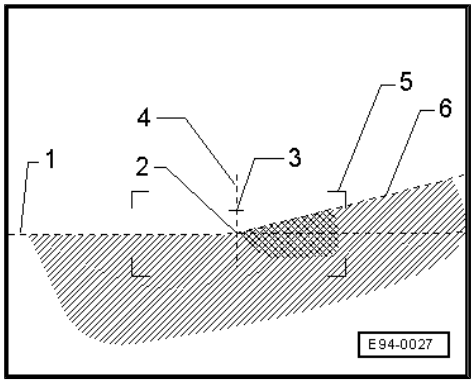
– The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The clear centre of the light beam should be, in this case, to the right of the vertical -4-.



Verification of the headlight setting (with new screen with adjustment line of 15°)

Perform the following check of the main headlamps:

– Check that with the dipped beam on, the bright/dim horizontal limit touches the dividing line -1- of the verification surface.
– Check if the right raising part touches the Bright/dim limit of the adjusting line of 15°, which starts to go up after the point of inflection -2-. The clear centre of the light beam should be, in this case, to the right of the vertical -4-.



For both methods

NOTICE

To better locate the point of inflection -2-, follow the bright/dim limit on the extreme limits -5- from left to right, and find the intersection point with the prolongation of the line of 15° of the bright limit/ dim limit, following from top to bottom.

After the regulatory dipped beam adjustment, half of the light beam of the road lamp should be on the central mark -3-.

If the alignment unit of the headlamps is well regulated, it may be verified that in the final lamp position the acceptable limit value of light intensity is not overshot (normally < 1 lx). If this limit is exceeded, the adjustment must be repeated in order not to blind other drivers ⇒ Operating instructions of the headlight adjustment device and country specific guidelines .

Moreover, the final position of the headlight may be verified with a vertical wall situated 10 metres from the vehicle with the headlight adjustment unit test method ⇒ Operating Manual for headlamp adjustment unit .

Control of full-beam lights

Switch on the main beams after adjusting the passing beam. A very illuminated area can be seen in the centre of the plate. If this is not the case, adjust the headlights to the left or right.

Fog lights

– Check whether the upper light-dark border touches the setting line and runs horizontally over the entire width of the test screen.

NOTICE

If necessary, adjust this setting after checking the headlights **⇒ page 149** **.**

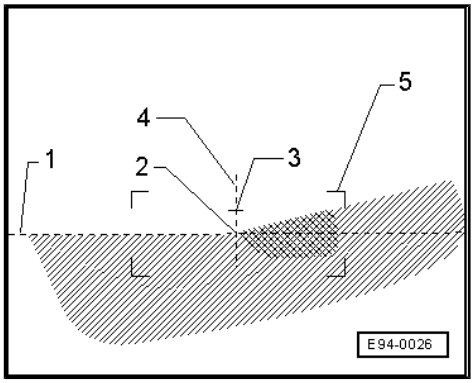
4.61.3 LED headlights: Check setting

⇒ “4.61.1 Testing and adjusting conditions”, page 145 .

Check the adjustment of headlights (with a new display without an adjustment line of 15°)

Perform the following check of the main headlamps:

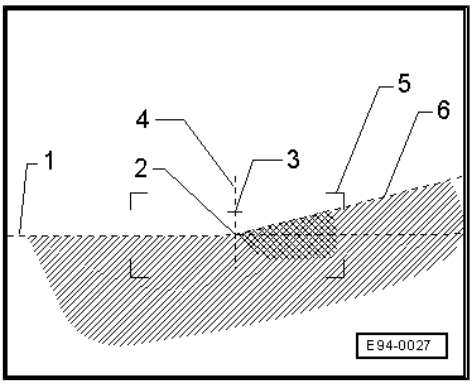
– Check that with the dipped beam on, the bright/dim horizontal limit touches the dividing line -1- of the verification surface.
– The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The clear centre of the light beam should be, in this case, to the right of the vertical -4-.



Check the adjustment of headlamps (with display with adjustment line of 15°)

Perform the following check of the main headlamps:

– Check that with the dipped beam on, the bright/dim horizontal limit touches the dividing line -1- of the verification surface.
– Check if the right raising part touches the Bright/dim limit of the adjusting line of 15°, which starts to go up after the point of inflection -2-. The clear centre of the light beam should be, in this case, to the right of the vertical -4-.



For both methods:

NOTICE

To better locate the point of inflection -2-, follow the bright/dim limit on the extreme limits -5- from left to right, and find the intersection point with the prolongation of the line of 15° of the bright limit/ dim limit, following from top to bottom.

After the regulatory dipped beam adjustment, half of the light beam of the road lamp should be on the central mark -3-.

If the alignment unit of the headlamps is well regulated, it may be verified that in the final lamp position the acceptable limit value of light intensity is not overshot (normally < 1 lx). If this limit value is overshot, the alignment should be repeated to avoid dazzling other drivers. ⇒ Instructions for the use of the lamp alignment unit and valid regulations in each country.

It is recommended to align the headlamps with the verification screen at an adjust line of 15°.

Moreover, the final position of the headlamps may be verified with a vertical wall situated 10 meters from the vehicle with the lamp alignment unit. ⇒ Operating instructions for the headlight setting device

Fog lights

– Check whether the upper light-dark border touches the setting line and runs horizontally over the entire width of the test screen.

NOTICE

If necessary, adjust this setting after checking the headlights **⇒ page 149** .

4.61.4 Adjusting the headlights

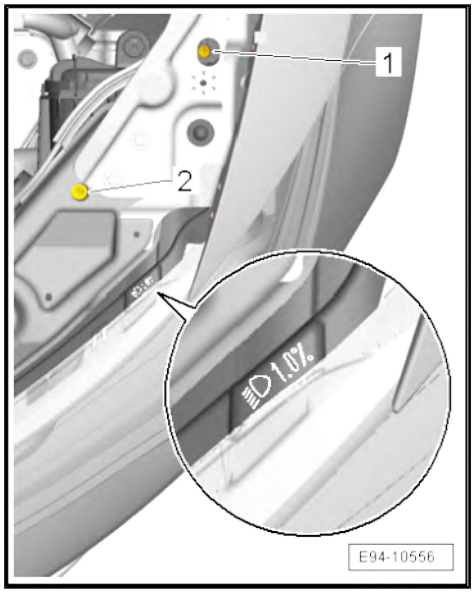
⇒ “4.61.2 Halogen headlights: Check setting”, page 147 .

⇒ “4.61.3 LED headlights: Check setting”, page 148 .

Headlights

– Carry out adjustment with the correct screwdrivers, taking care not to damage the regulating gears.

The left headlamp is shown in the figure. The arrangement of adjuster screws on the right-hand headlight is symmetrically opposite.



1 - Screws for the height adjustment

2 - Lateral adjustment screw

– To set the height, turn screw -1-.

– For lateral adjustment, turn screw -2-.

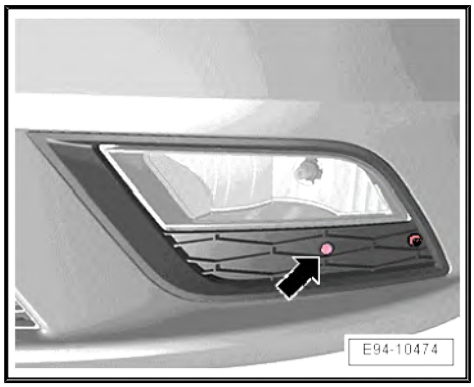
NOTICE

The inclination heights in "%" are engraved on the left-hand side of the headlamp. Headlights must be adjusted according to this information. The percentage is based on a projection interval of 10 m. Example: Converting a dip setting of 1.0 % = 10 cm.

Also check that both headlamps work at the same time when headlamp adjustment is activated.

Fog lights

– The conditions for checking and adjustment are the same as for the main headlamps.



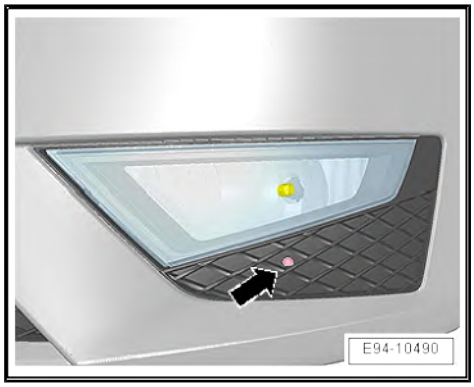
– Regulate the fog light range, turning the alignment screw -arrow- with a screwdriver.

Tilting figure:

♦ -1 % + 0.2

Fog lights FR

– The conditions for checking and adjustment are the same as for the main headlamps.



– Regulate the fog light range, turning the alignment screw -arrow- with a screwdriver.

Tilting figure:

♦ -1 % + 0.2

Other additional lights

Additionally retrofitted lights of other systems must be checked and set according to valid guidelines.

4.62 Particulate filter: checking

Special tools and workshop equipment required

♦ Vehicle diagnostic tester

Procedure

NOTICE

If no indications are displayed on the screen during these operations: ⇒ operating instructions vehicle diagnosis tester .

ODIS Service
– Connect vehicle diagnostic tester ⇒ page 53 .
– Switch ignition on
– Carry out vehicle identification.
– Deselect “Using guided fault finding”.
– Select “Control units”.
– Select “Engine electronics”.
– Select “Identify control unit”.
– Select “Guided Functions”.
– Select “check particulate filter for soot clogging”.
– Follow instructions on vehicle diagnostic tester in “Guided functions” mode.

– Switch off the ignition and the vehicle diagnostic and service information system .

4.63 Exhaust gas installation: check fixings and ensure absence of leaks and damage

Visually check the components which have an influence on the exhaust gases

- Vacuum hoses, connected
- Lambda probe
- Activate carbon filter system tubes connected
- Catalytic converter present and undamaged
- No exhaust leaks
- The exhaust gas system must be correctly adjusted and free of tension
- The secondary air system must be free of leaks

NOTICE

If faults are found they must be repaired.

4.64 Performing exhaustive test drive

Which of the following can be checked depends on vehicle equipment and local conditions (urban/country).

Check the following during a road test:

– Engine: Output, misfiring, idling speed, acceleration.

– Clutch: pulling away, pedal pressure and smell.

– Gear selection: Ease of operation, stick position.

– Automatic gearbox: selector lever position, shift-lock / ignition key removal lock, switching performance and display in the instrument cluster

– Foot and parking brake: operation, unladen travel and efficiency, deviation, vibration and squeaks.

– ABS function: when braking with the ABS regulating, vibration should be felt through the brake pedal.

- Steering: Function, steering free clearance, steering wheel centred when vehicle is travelling straight ahead
- Panoramic roof: operation test.
- Cruise control system: operation
- Radio and navigation system: operation, tuning and interference.
- Multi-function indicator (MFI): Functions
- Air conditioner (heating): check functioning.
- Vehicle: Pulling to one side when travelling straight-ahead (level road)
- Imbalance: Wheels, drive shafts, propshaft
- Wheel bearings: Noises
- Engine: Hot starting behaviour

4.65 Raise vehicle with lifting platforms or trolley jack

⇒ “4.65.1 Lifting points for lifting platform and trolley jack”, page 153 .

CAUTION

- **Before driving on to a lifting platform ensure there is sufficient clearance between low-lying components and lifting platform.**
- **Before driving a vehicle onto a lifting platform it must be ensured that the vehicle weight does not exceed the permissible lifting capacity of the platform.**
- **In order to avoid damage to the undercarriage and to ensure that it does not tip over, it should only be lifted at the lifting points shown in the illustrations.**
- **Never start engine and engage a gear with vehicle lifted as long as even one driven wheel has contact with the floor! Disregarding these warnings risks the danger of an accident!**
- **If work is to be performed under the vehicle, it must be securely supported by suitable stands.**

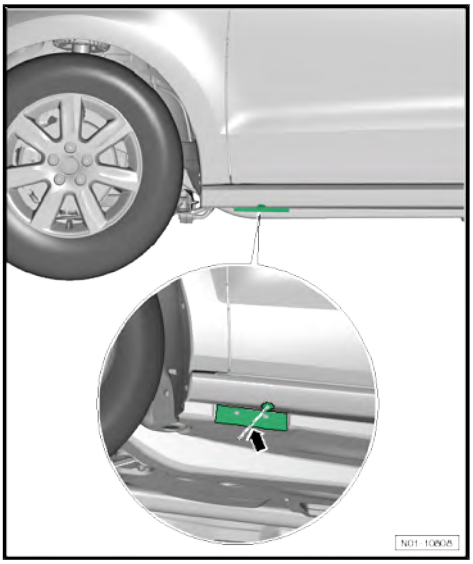
4.65.1 Lifting points for lifting platform and trolley jack

Front:

– Place the retaining plate in the marked section of the lower sill under the vertical reinforcement of floor panel -arrow-.

CAUTION

Ensure that the lower crossbar reinforcement is supported at the centre of the lifting platform plate.

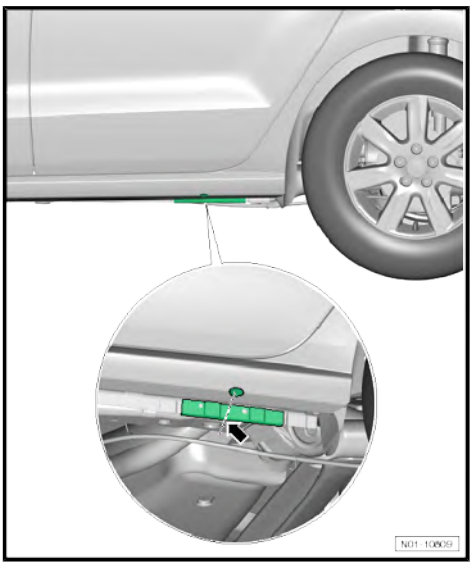


Rear:

– Place the retaining plate in the marked section of the lower sill under the vertical reinforcement of floor panel -arrow-.

CAUTION

Ensure that the lower crossbar reinforcement is supported at the centre of the lifting platform plate.



4.66 Towing and being towed

⇒ “4.66.1 Front towing eye”, page 154 .

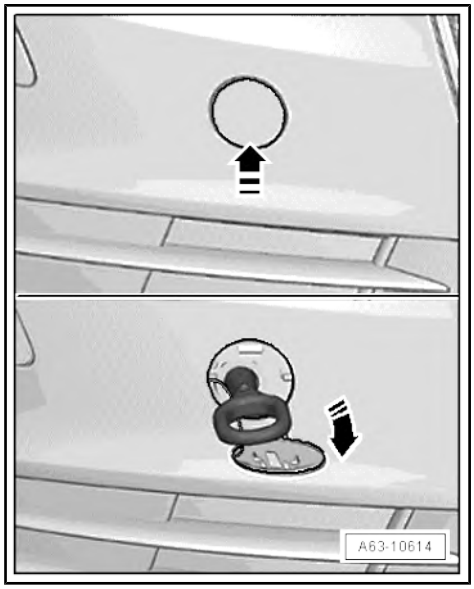
⇒ “4.66.2 Rear towing eye”, page 154 .

⇒ “4.66.3 Tow-starting/ towing the vehicle”, page 155 .

– Attach tow rope or tow bar only to the following towing eyes:

4.66.1 Front towing eye

- The cover of the bumper is raised by pressing slightly -arrow-.
- Carefully remove the cover in -direction of arrow-.
- Screw-in the towing eye all the way into the threaded hole.
- After use, remove the towing eye and store back in the tool mount.

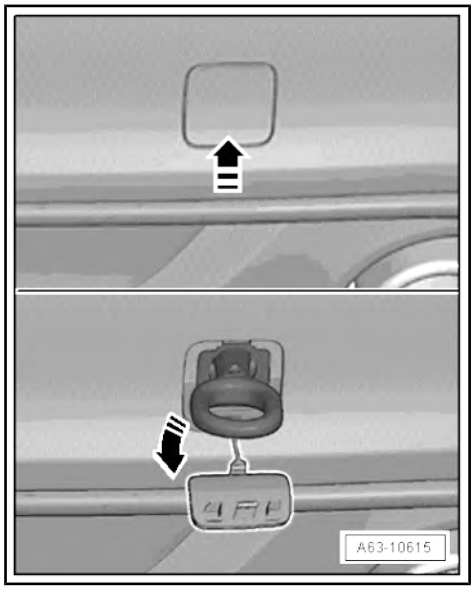


4.66.2 Rear towing eye

NOTICE

Vehicles fitted with towing hitch ex-factory are not equipped with a thread for the towing eye. In this case, the towing rope / the towing rod should be placed on the installed towing hitch.

- The cover of the bumper is raised by pressing slightly -arrow-.
- Carefully remove the cover in -direction of arrow-.
- Screw-in the towing eye all the way into the threaded hole.
- After use, remove the towing eye and store back in the tool mount.



4.66.3 Tow-starting/ towing the vehicle

NOTICE

A tow rope or towing bar may only be coupled to the above mentioned towing eyes.

The tow rope should be slightly elastic to reduce the risk of damage to both vehicles. It is advisable to only use synthetic fibre ropes or ropes of similar elastic material. However, it is safer to use a tow bar.

Avoid excessive towing forces and do not jerk. During towing operations on unsurfaced roads there is always a danger that the attachment parts will be over-stressed and damaged.

The vehicle should only be tow-started if it is not possible to start the engine using jump leads.

If the vehicle has to be towed or tow-started, please note the following points:

- Legal regulations concerning towing must be observed.
- Both drivers must be familiar with towing procedures. Inexperienced drivers should not attempt to tow-start or tow.
- When using a tow rope, the driver of the towing vehicle must engage the clutch very gently when moving off and changing gear.
- The driver of the vehicle being towed must take care that the tow rope is always tense.
- Both vehicles must switch on their hazard warning lights, unless otherwise specified by local regulations.
- The ignition must be switched on so that the steering wheel is free and the turn signals, horn and windscreen wiper and washer system can be used.
- Because the brake servo only works when the engine is running, considerably more pressure is required on the brake pedal when the engine is not running.
- As power-assisted steering does not work when the engine is not running; more force is therefore required to turn the steering wheel, when the engine is off.
- If there is no lubricant in the manual or automatic gearbox, the vehicle must be towed with the driven wheels raised off the ground.

Important notes on tow-starting:

In general it is recommended not to tow-start vehicles. Instead you should use jump leads.

There are several reasons why tow-starting should be avoided:

- Tow-starting involves a high risk of accidents, e.g. collision with towing vehicle.
- On vehicles with petrol engine, unburnt fuel could enter the catalytic converter and cause damage.
- For technical reasons, it is not possible to tow-start a vehicle with an automatic gearbox.

If you should decide to tow-start although it is not recommended, please note the following:

– Before starting the towing, engage 2nd or 3rd gear, press clutch pedal and hold.

– Switch ignition on
– When both vehicles are moving, release clutch pedal.
– As soon as engine starts, depress clutch and move gear stick into neutral to avoid running into the towing vehicle.

NOTICE

Vehicles with a catalytic converter (petrol engines only) must not be tow-started over a distance of more than 50 m with the catalytic converter at operating temperature. Otherwise, unburnt fuel may enter the catalytic converter and cause damage.

When towing vehicles with automatic gearbox, please also note the following:

- Selector lever must be in position “N”.
- Do not tow at more than 50 km/h.
- The maximum towing distance is 50 kilometres.

If towing over greater distances, the vehicle must be lifted at the front.

Reason: When the engine is not running, the gearbox oil pump does not work, therefore the gearbox is not sufficiently lubricated for high speeds and long distances.

When using a breakdown vehicle, the vehicle can only be towed with the front wheels raised.

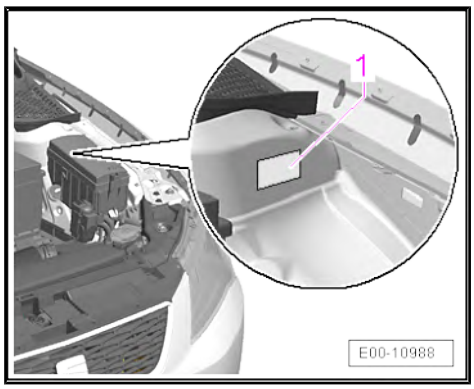
Reason: If raised at the rear, the drive shafts turn backwards. As a result, the planetary gears in the automatic gearbox will then turn at such high speeds that the gearbox will be severely damaged in a short time.

NOTICE

If it is not possible to tow the vehicle normally, it must be transported by a special transporter or trailer. This also applies to distances greater than 50 kilometres.

4.67 Type plate

– The type plate is situated on the left side member inside the engine cavity.



Meaning of sections on plate

A - Authorization number signature

B - Vehicle identification number

C - Maximum permissible weight

D - Maximum permissible weight of the unit

E - Maximum authorised weight front axle

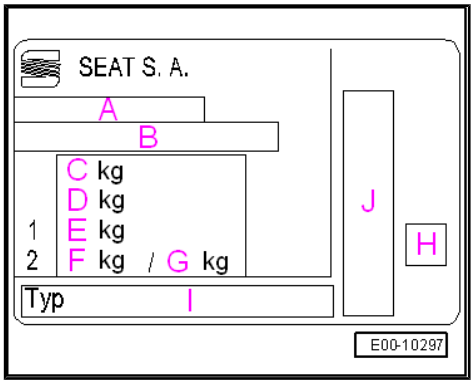
F - Maximum permissible weight on the rear axle without trailer

G - Maximum permissible weight on the rear axle with trailer

H - Fume absorption coefficient

I - Model

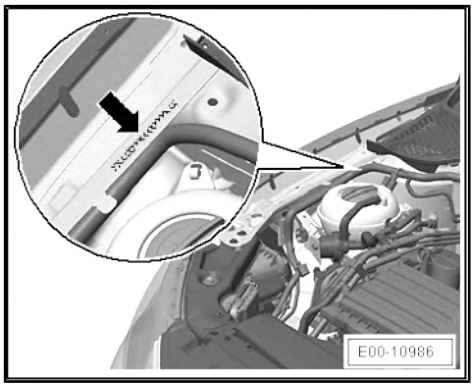
J - Approval information



4.68 Vehicle identification number

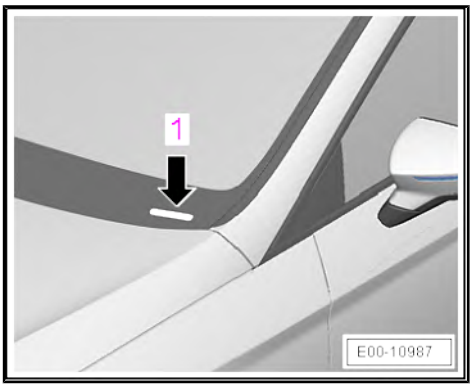
Engraved chassis number

– The chassis number is engraved in the engine compartment, in the upper region of the right-hand wheel housing.



Chassis number card

– The chassis number plate -1-is located in the interior, on the windscreen at the bottom left. The number can be read from outside the vehicle without opening the engine bonnet.



Meaning of the digits of the chassis number

A - Serial number

B - Production location

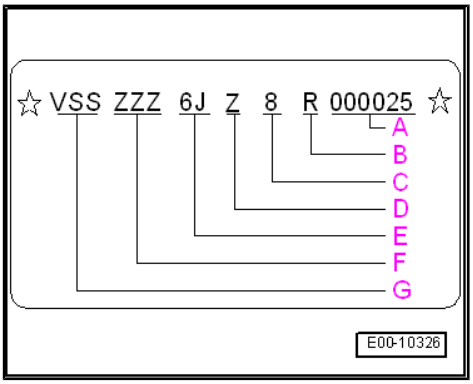
C - Year of production

D - Free space - no relevance

E - Version

F - Free space - no relevance

G - Manufacturer's code (Brand)



4.69 Engine code and engine number

NOTICE

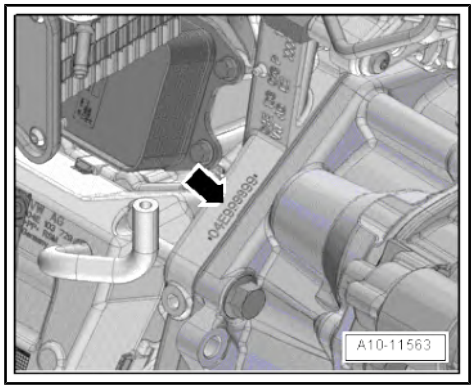
The engine number consists of up to nine (alphanumeric) characters. The first section (maximum of thee letters) are the "engine code"; the second section (6 digits) are the "serial number". When more than 999 999 engines with the same code were manufactured, the first digit is replaced by a letter.

The "engine code" can is also given on the vehicle data stickers in the Service Schedule and in the spare wheel well or on the luggage compartment floor.

There is also a sticker on the notched belt guard giving the engine code and engine number.

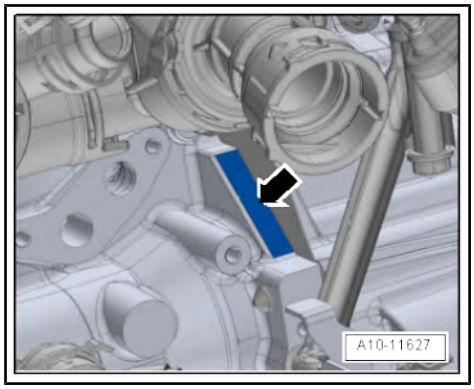
Petrol engines:

The engine number ("Engine code" and "Serial number") can be found on the left on the joint between engine and gearbox -arrow-.



Diesel engines:

The engine number ("engine code" and "serial number") is at the front of the join between engine and gearbox -arrow-.



4.70 Biodiesel

Only vehicles approved by SEAT or retrofitted for use with biodiesel (PR No. 2G0), may be operated with biodiesel.

CAUTION

If biodiesel is used in a normal engine then the fuel system will be damaged.

When using biodiesel, only use fuel conforming to DIN EN 14214 (FAME, Fatty Acid Methyl Ester).

If another biodiesel is used and then the fuel filter may be obstructed.

The biodiesel used must conform to the standard DIN EN 14214 (FAME).

- RME stands for Rape Methyl Ester.

- DIN stands for “Deutsches Institut für Normung” , the German Institute of standardization.
- EN is the abbreviation for Euro-Norm (European Standard).
- FAME is the abbreviation for "Fatty Acid Methyl Ester".
- The PR number 2G0 on the data label indicates that the vehicle has been equipped to use biodiesel ⇒ page 32 .

Characteristics of RME biodiesel.

- Vehicle performance may be reduced using biodiesel.
- Fuel consumption may increase slightly.
- RME keeps combustion characteristics until about -10 °C.
- When the temperature falls below -10 °C, refuel using winter grade diesel.

NOTICE

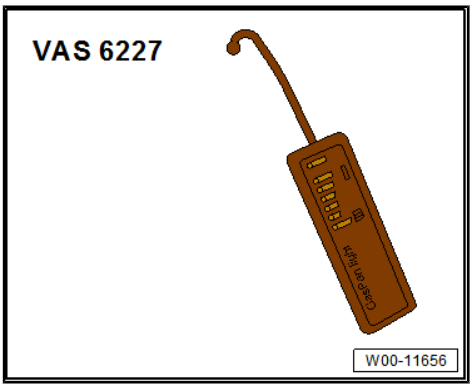
When biodiesel is used, drainage and fuel filter changes must be more frequent

If the vehicle is to remain about two weeks or more without being used that it is recommended to use normal diesel for about 50 km in order to protect the injection system.

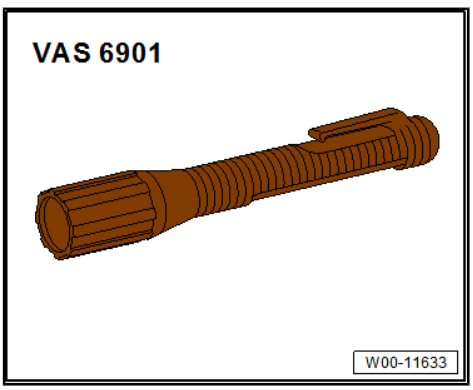
4.71 Natural gas system: Visual inspection of the natural gas tank for corrosion and implementation of a leakage test

Special tools and workshop equipment required

- Gas leak detector for natural gas vehicles - VAS 6227-



- Mirror
- Lamp - VAS 6901-



CAUTION

For reasons of safety, service and maintenance of the natural gas system may only be meticulously carried out by specially trained personnel.

Natural gas is highly inflammable and, in combination with air, creates a combustible mixture.

There must be no open flame or source of ignition near the natural gas system.

Inhaling natural gas can lead to light-headedness and lung damage. There is a risk of suffocation due to lack of oxygen with higher concentrations.

Natural gas is NOT odourless because a gas having a strong odour is added.

Prerequisites for testing:

- All parts of the natural gas system to be checked must be reached easily.
- The exhaust gas warning lamp in the dash panel insert must not light up and there must be no entries concerning natural gas in the event memory of the engine control unit.
- Workplace without draught.

NOTICE

Every draught of air above 1.8 km/h (slight gust of wind) will result in falsification of the measuring result. Therefore, it is essential to work in a draught-free environment.

When working on the natural gas system always ensure for tidiness and cleanliness!

Visual check:

– Remove the air filter housing ⇒ 4 cylinder injection engine (natural gas, 4 valve engines); Rep. gr. 24 ; Air filter; Removing and installing air filter housing .

– Remove underbody trim ⇒ General body repairs, exterior; Rep. gr. 66 ; Underbody trims; underbody trims: exploded view .

– Check natural gas system for corrosion and security.

– With the aid of a mirror, carry out visual check of complete natural gas tank.

CAUTION

If corrosion is found on the natural gas tanks during a visual check, the respective component must be renewed for reasons of safety.

Corroded natural gas tanks can burst under pressure and cause serious injuries.

NOTICE

Exchanging is a repair measure!

Leakage test:

– Switch on ignition and start engine to set the pressure ratios in the gas system to the operating mode. For the leakage test, the engine can be switched off.

Requirements for the leak test ⇒ 4 cyl. petrol engine (1.4 l natural gas, 4 V, turbocharger, EA211); Rep. gr. 24 ; check for leaks on the natural gas supply; check for leaks on the natural gas system .

WARNING

- **Pressurised natural gas may escape from natural gas tanks.**
- **Natural gas is highly inflammable and, in combination with air, creates a combustible mixture.**
- **Mechanically close valves for tank locking ⇒ Fuel supply - natural gas engines; Rep. gr. 20 ; Fuel tank; mechanically lock valves for tank locking N361/N362 .**

– Using gas leak detector for natural gas vehicles - VAS 6227- , check only indicated test locations -arrows- for leaks. It is absolutely necessary to check all threaded connections of the gas system.

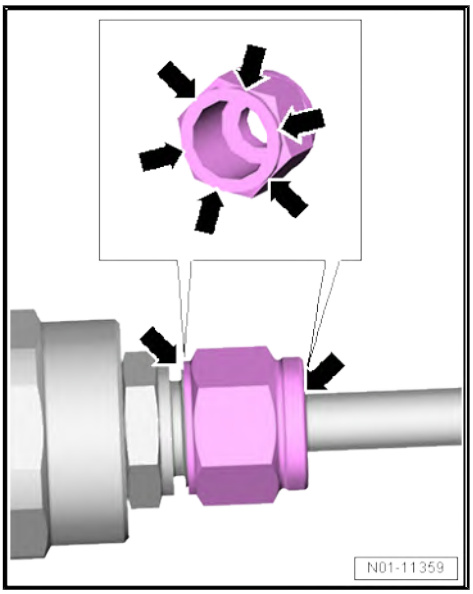
– The probe must have a clearance of maximum 5 mm to the sector/component being checked! Where the clearance is more than 5 mm measurement is no longer possible.

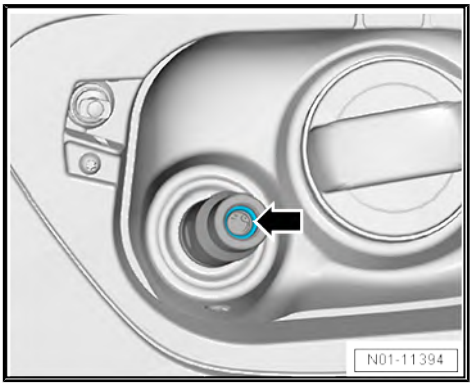
NOTICE

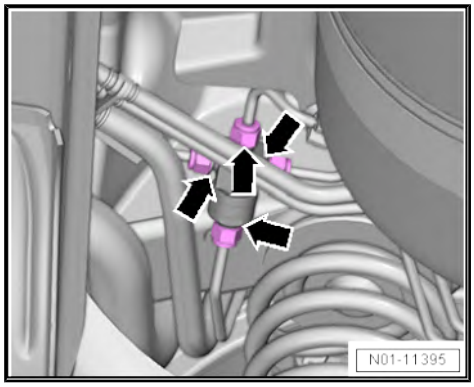
The gas leak detector can only be used to find out whether there is any gas in the surrounding air.

Any other result than a green LED for OK is not permitted on the gas leak detector. As soon as a yellow or red LED lights up, a leak detection spray must be used to obtain clear proof of whether gas is really escaping from the vehicle's system or not. When a leak detector spray is used, no bubbles may escape from the sprayed area within a test period of 3 minutes. If leaks occur, they must be repaired and the gas system test must then be repeated.

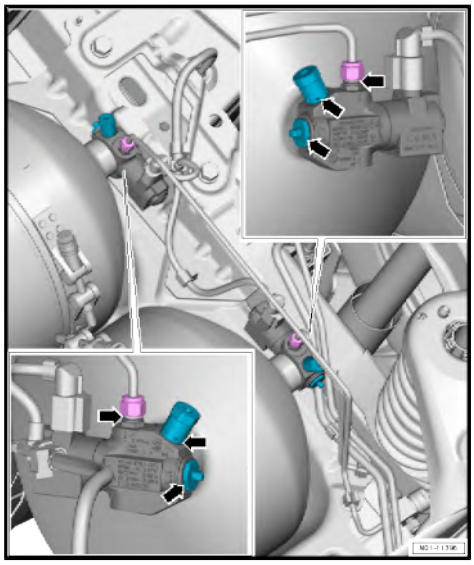
Test locations:

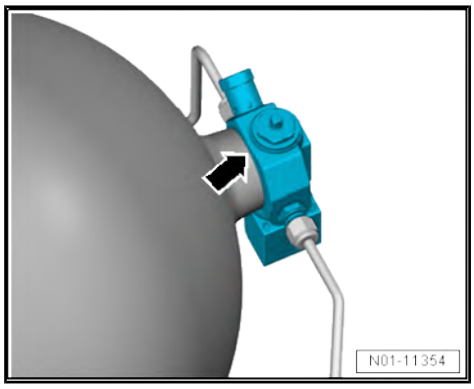


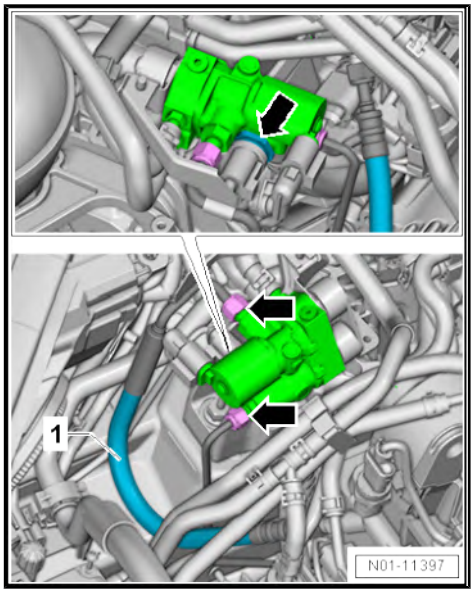




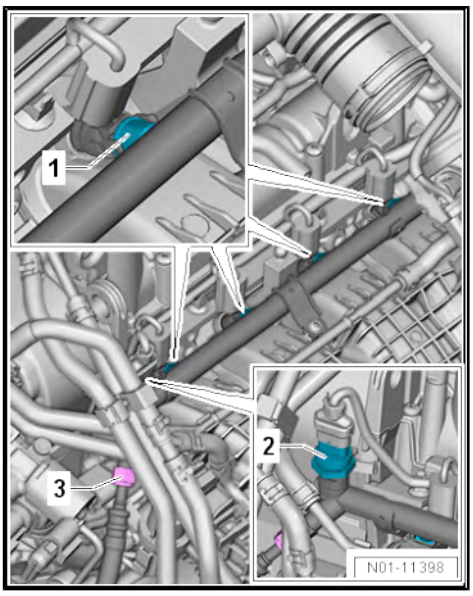
- Natural gas filler neck -arrow-.
- Distribution piece -arrows- on the vehicle underbody.
- Tank shut-off valves for natural gas tanks 1 and 2 with all connections, threaded connections and mechanical shut-off valves -arrows-.







- ♦ Check electromechanical high-pressure regulator for gas mode with all connections and threaded connections -arrows-. Check condition of low-pressure hose -1-.
- ♦ Gas rail with gas injectors -1-, gas rail sensor -2- and connection for low-pressure line -3-.
- – Install the air filter housing ⇒ 4 cylinder injection engine (natural gas, 4 valve engines); Rep. gr. 24 ; Air filter; Removing and installing air filter housing .
- – Install underbody trim ⇒ General body repairs- exterior; Rep. gr. 66 ; Underbody trims; underbody trims: exploded view .



4.72 Natural gas system: check the wax layer between the natural gas tank and the fuel tank shut-off valve

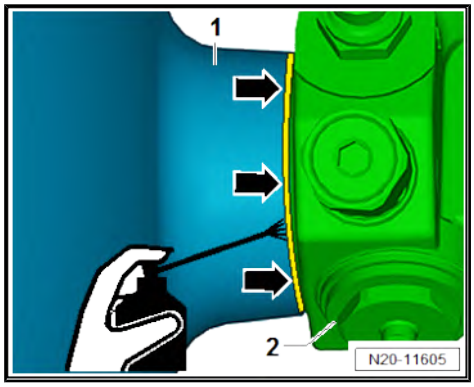
NOTICE

Only applies for the German market.

Special tools and workshop equipment required

- ♦ Wax ⇒ Electronic parts catalogue

– Check that there is sufficient wax between the natural gas tank -1- and the tank shut-off valve -2-.
– If necessary, spray wax onto the entire unit -arrows-.



4.73 Natural gas tank: Renew

CAUTION

Service and maintenance on the high pressure part of natural gas system must only be performed by specially trained personnel.

Natural gas is highly inflammable and, in combination with air, creates a combustible mixture.

There must be no open flame or source of ignition near the natural gas system.

Inhaling natural gas can lead to light-headedness and lung damage. There is a risk of suffocation due to lack of oxygen with higher concentrations.

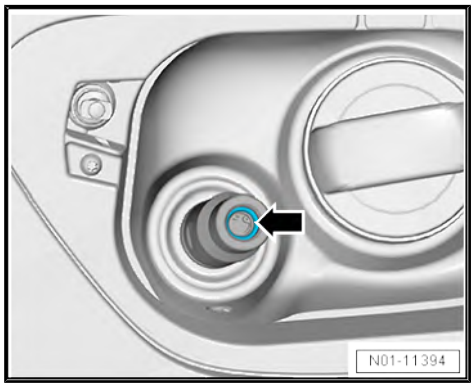
Natural gas is NOT odourless because a gas having a strong odour is added.

Descriptions of work:

⇒ Fuel supply system - natural gas engines; Rep. gr. 20 ; Fuel tanks; Removing and installing natural gas tank .

4.74 Check condition of sealing cap and natural gas filler connection, clean if necessary and check seal

– Open tank flap and remove protective cap from natural gas filler neck.
– Check the presence and condition of the sealing ring -1-.
– Check natural gas filler neck for dirt, damage and surface corrosion. Clean natural gas filler neck ONLY from outside.
– If the filler neck is dirty, clean off dirt using compressed air. The filler neck will not be damaged as a result.
– If corrosion is found on the surface of the natural gas filler neck, remove it using a lint-free cloth.



4.75 Warning triangle: Check if fitted

Fitting location:

– ⇒ Owners Manual .

Procedure:

– Check that the warning triangle(s) is/are in the intended place.

4.76 First aid kit: check and make a note of the expiry date

Fitting location:

– ⇒ Owners Manual .

Procedure:

– Remove the first aid kit and check the printed expiry date

– Enter the expiry date in maintenance table.

– In case the use-by date has been expired: Replace the first aid kit.

4.77 Seat belts: Check the completeness of the rivets and locking device of the automatic belt retractors

Procedure:

For all seat belts:

– Check that the rivets or clamps are in their intended places.

– Check the locking mechanism of the automatic belt retractors upon sudden pulling on the belts.

NOTICE

if objects have been fastened using the seat belt (a child seat, for example): Do not release the seat belt! Only check the locking mechanism with the seat belt fastened! In this case it is not necessary to check the rivet or clamp!

4.78 Vehicle tool kit: Check the completeness of the components relevant in the event of a breakdown

Fitting location:

The vehicle tool kit and the jack are in the luggage compartment, either underneath the luggage compartment floor or behind one of the side panels.

– ⇒ Owners Manual .

Procedure:

– Check that the jack and the hand wheel are in the vehicle.

– Check that the following components of the vehicle tool kit are complete:

♦ Spanner for the wheel bolts

♦ Adapter for the anti-theft wheel bolts

♦ Puller hooks

♦ Pliers

♦ Towing eye

– Replace the missing elements.

4.79 Full Link connection process

NOTICE

A data connection via WiFi or via SIM is not necessary to establish the connection to the smartphone using Full Link.

However, in order for all features of the applications to be available, a data connection via WiFi or via SIM is required.

Please proceed as follows to use Full Link:

1. Switch on infotainment.

2. Connect the smartphone to the USB cable at the USB connection.

3. Select the following in the main menu of the Infotainment system:

3.1. Full Link

3.1.1. Settings

3.1.1.1. Activate data transfer for SEAT Apps: activate

3.1.1.2. Preferred connection type: Choice between Mirror Link or Android Auto (only for Android phones compatible with both technologies. In the case of phones with the iOS system, the connection is automatically established if the phone is compatible)

3.1.1.3. Select device from the list of devices.

NOTICE

Depending on the device, it may be necessary to unlock it so that a connection can be established.

4. A message appears informing that the data transfer will begin once the device is switched on. Press OK.

5. The technology compatible with your device can now be used.

4.80 Interior and exterior body: Perform visual check for corrosion when doors and flaps are open

Test locations

- Sunroof frame
- Inner and outer door frame
- Area around trim strips
- Windscreen roof edge
- Outer and inner A-pillar
- Bonnet
- Wheel housings
- Inner and outer tailgate

4.81 Battery - connect stationary battery charger

Special tools and workshop equipment required

- Battery charger - VAS 5906A-

♦ Wire

This is achieved when:

- Ignition switched off

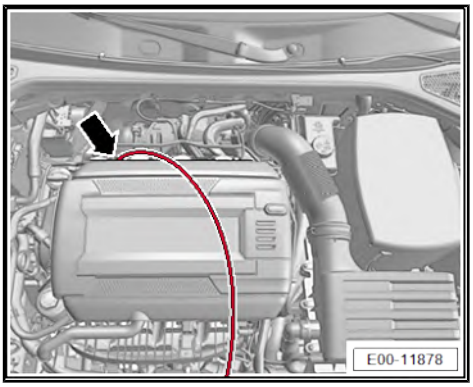
WARNING

Risk of injury if battery terminal clamps are connected incorrectly.

♦ **Connect positive battery terminal clamp first, then connect negative battery terminal clamp.**

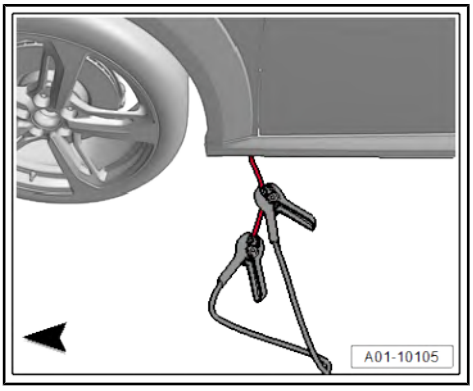
Connect battery charger:

– Guide wire from above through engine compartment in area at rear right of engine cover panel -arrow- and guide out from underside of vehicle.



– Attach both charger clamps to wire (see -illustration-) and guide upwards into engine compartment.

– Open cover for heat insulation sleeve.



– Open battery terminal cover -2-.

– First connect charger clamp (+) to battery terminal (+) -1-, and ensure that charger clamp does not make contact with bonnet when it is closed.

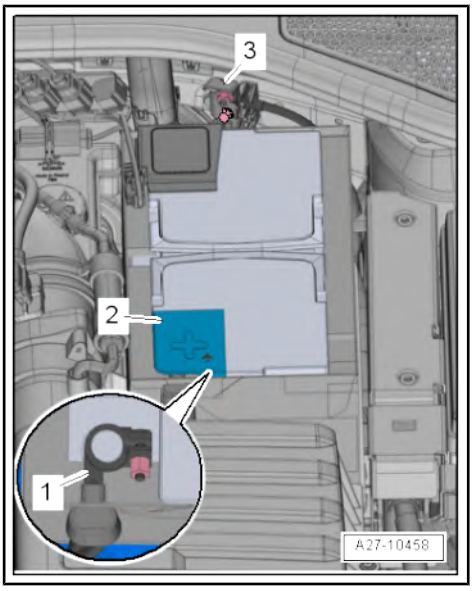
– Then connect charger clamp (-) to earth point (-) -3- on body, and ensure that charger clamp does not make contact with front lid when it is closed.

– Close cover of heat insulation sleeve as far as possible.

– Arrange wiring of battery charger - VAS 5906A- neatly in engine compartment.

– Switch on battery charger - VAS 5906A- and adjust settings as needed.

– Position battery charger - VAS 5906A- under vehicle so that it is hidden from view as well as possible, ensuring that ventilation grille of charger is unobstructed.



Disconnect battery charger:

Remove in reverse sequence.

4.82 Exhaust emissions test

⇒ “4.82.1 Exhaust gases inspection (petrol engines) using the exhaust gas analyser SAT 3500A ”, page 168 .

⇒ “4.82.2 Exhaust gases inspection (diesel engines) using the exhaust gas analyser SAT 3500A ”, page 169 .

⇒ “4.82.3 Exhaust emissions test, petrol engines, with emissions testing station L VAS 7320 A ”, page 173 .

⇒ “4.82.4 Exhaust emissions test, diesel engines, with emissions testing station L VAS 7320 A ”, page 174 .

NOTICE

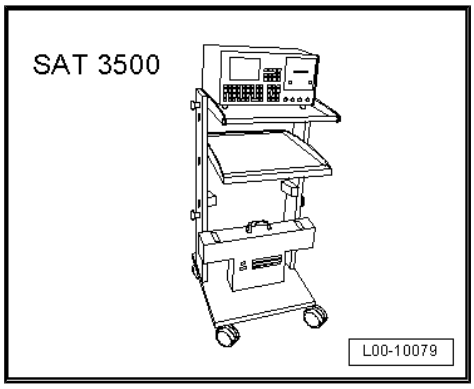
Please observe the country-specific laws and regulations.

The following exhaust emissions test description is applicable only in countries where no specific exhaust emission regulations have to be adhered to.

4.82.1 Exhaust gases inspection (petrol engines) using the exhaust gas analyser - SAT 3500A-

Special tools and workshop equipment required

♦ Exhaust gas analyser - SAT 3500A-



Test conditions

- Allow the engine to reach service temperature.
- Oil temperature should be above 70 ºC
- Turn off all electricity consumers.
- Air filter must be OK.
- There should be no fault recorded.
- The exhaust system must be sealed ⇒ page 151 .

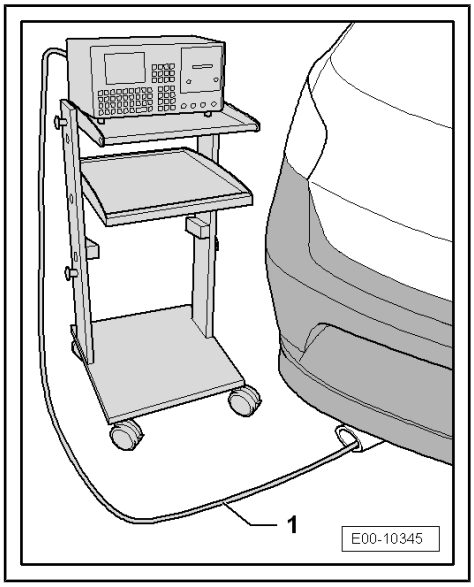
– Switch on the exhaust gas analyser - SAT 3500A- .

The display for warm-up phase appears.

When F1 petrol is selected, the gas measure screen is displayed. (The equipment must be calibrated with the probe in the exhaust tube).

– Calibrate the exhaust gas analyser - SAT 3500A- according to the instructions in the ⇒ Petrol/diesel exhaust gas analysis set .

– Fit the probe -1- to the exhaust tube.



When calibration is finished, the machine begins the exhaust gas analysis automatically.

- % vol. CO, carbon monoxide
- % vol. CO_2, Carbon dioxide
- ppm-% HC, uncombusted hydrocarbons
- % vol. O_2, remaining oxygen
- Lambda factor (Brettschneider formula)
- Value of ppm NO_x, nitrogen oxides

All the data required for the inspection is available in ⇒ Data pages for exhaust gas inspection .

If the real values differ from specifications then carry out repairs.

NOTICE

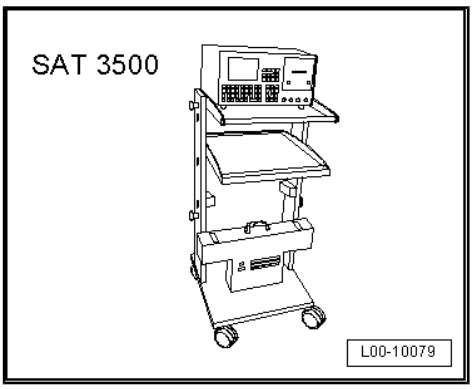
A new calibration must be done for each measurement; remember to remove the probe from the exhaust.

SUBSTANCES	NO CATALYTIC CONVERTER	WITH CATALYTIC CONVERTER	
		BEFORE	**AFTER**
CO (Carbon monoxide)	0.5 % ... 1.5 %	0.5 % ... 1 %	0 %
HC (Hydrocarbons)	< 150 ppm.	100 ... 200 ppm.	0 ppm.
CO_2 (Carbon dioxide)	13 % ... 14.5 %	> 13 %	> 14 %
O_2 (Oxygen)	0.4 % ... 0.8 %	0.4 % ... 0.8 %	< 0.4 %

4.82.2 Exhaust gases inspection (diesel engines) using the exhaust gas analyser - SAT 3500A-

Special tools and workshop equipment required

- Exhaust gas analyser - SAT 3500A-



Test conditions

- Allow the engine to reach service temperature.
- Oil temperature should be above 70 ºC
- Turn off all electricity consumers.

- Air filter must be OK.
- There should be no fault recorded.
- The exhaust system must be sealed ⇒ page 151 .

– Switch on the exhaust gas analyser - SAT 3500A- .

The display for warm-up phase appears.

When F2 diesel is selected, the gas measure screen is displayed. (The equipment must be calibrated with the probe in the exhaust tube).

NOTICE

If the chamber is connected when the equipment is already operating, when the diesel test is selected a pre-heating message will appear while preheating is being done, and until the pre-heating time is over no other function can be accessed. When this message disappears, the following will be displayed:

- Rapid test F1
- Official test F2

Rapid test

If F1 is pressed the screen displayed will be similar to the following table:

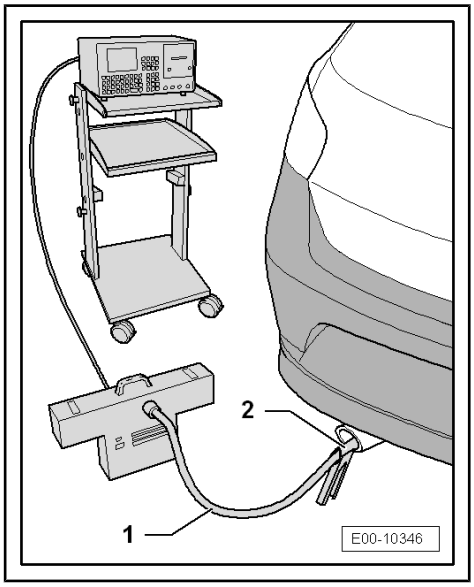
EXHAUST GAS ANALYSER			
RAPID TEST			
WARNING			
BEFORE BEGINNING THE TEST PRESS THE ACCELERATOR TWICE			
EXHAUST Temp.	------ °C	ZERO	
Engine temp.	------ °C	KM-1	%

According to the message on the screen, two accelerations must be done to clean the exhaust tube before connecting the probe. Once this is done, press a function key Q to cancel the message.

– Calibrate the exhaust gas analyser - SAT 3500A- according to the instructions in the ⇒ Petrol/diesel exhaust gas analysis set .

When the equipment has finished calibration then it is prepared to complete the opacity test on the vehicle.

– Fit the probe -1- at least 15 cm into the exhaust pipe and secure with a clamp -2- to the pipe wall so that it is not expelled by the vibrations.



EXHAUST GAS ANALYSER			
RAPID TEST			
Km-1	1.87	Max.	2.09
Rpm	0	Max.	0
EX-HAUST Temp.	58 °C	ZERO	
Engine temp.	------ °C	KM-1	%

– Once this operation has been completed, accelerate energetically but gently bringing the engine to its maximum flow.

– Hold this position for at least two seconds.

The screen will display the maximum opacity reached by the exhaust gases and record this in the MAX field. The field KM^{-1} indicates the instantaneous opacity which varies according to engine speed.

If the value is within the permitted limits and does not exceed the maximum contamination value previously indicated then the vehicle may be considered approved.

Official test (free acceleration)

According to the message on the screen, two accelerations must be done to clean the exhaust tube before connecting the probe. Once this is done, press a function key Q to cancel the message.

– Calibrate the exhaust gas analyser - SAT 3500A- according to the instructions in the ⇒ Petrol/diesel exhaust gas analysis set .

When the equipment has finished calibration then it is prepared to complete the opacity test on the vehicle.

– Fit the probe at least 15 cm down into the exhaust pipe and secure with the clamp to the pipe wall so that it is not expelled by the vibrations.

If RESET is pressed the screen displayed will be similar to the following table:

EXHAUST GAS ANALYSER					
OFFICIAL TEST (FREE ACCELERATION)					
TEST Nº 1					
m-1	0.00 K	1.	0	2.	0
1 rpm	0	3.	0	4.	0
EN-GINE	---	RESULT		RESET	
T.GAS	---	0		A [8]	

8) The button A can be used to change the type of vehicle to be tested; atmospheric engines A or supercharged engines B. This function is valid so that the machine selects the maximum comparison value.

Once the test has started and the button RESET has been selected using the function key 0, take the following steps:

Acceleration

The engine is accelerated energetically and progressively but not suddenly until the maximum flow of the injector pump.

Hold this

Attempt to maintain a constant engine speed while the screen is displaying information.

Deceleration

Release the accelerator for the deceleration duration. The test value is recorded in the corresponding field according to the test being done.

Now the test 2 is done, repeating the previous steps (acceleration, hold and deceleration). This process may be repeated up to eight times as necessary.

If the values obtained during the first four tests are within the margins and do not exceed the permitted contamination levels then these are considered to be correct.

If the difference between values is more than that permitted, the difference being more than (0.5 m-1) between the largest and smallest value, up to eight tests may be repeated while four consecutive tests are not within limits.

If incorrect values are obtained, then the vehicle will not be approved.

Any problems should be repaired.

If the value is within the permitted limits and does not exceed the maximum contamination value previously indicated then the vehicle may be considered approved.

DATA ABOUT THE MAXIMUM VALUES FOR DIESEL ENGINE VEHICLES			
	ATMOSPHERIC ENGINES	**TURBOCHARGED ELEMENTS**	**TURBOCHARGED ENGINES WITH CATALYTIC CONVERTER**
MAX VALUE IN m-1	2.5 m-1	3 m-1	1.5 m-1

4.82.3 Exhaust emissions test, petrol engines, with emissions testing station L - VAS 7320 A-

Special tools and workshop equipment required

- ♦ Exhaust gas testing station L - VAS 7320 A-

NOTICE

The following description refers to vehicles fitted with "Onboard diagnosis" OBD.

The OBD monitors all components and (sub)systems which affect the exhaust gas quality.

It is only possible to carry out an exhaust emissions test when all units of the emissions testing station are connected properly and combined with each other according to the operating instructions.

All work to be performed is displayed by the emissions testing station .

Test conditions

- All test conditions and data required for exhaust emissions test are found on EET data sheet for the respective engine.
- The data sheet of the exhaust gases inspection must be printed out so that the bar code can be read-off.
- Automatic gearbox: Selector lever in position "P" or "N".
- Manual gearbox: Gear lever in neutral
- Parking brake applied.

– Perform exhaust emissions test according to instructions on display.

Entering vehicle data

– Enter the following data:

- ♦ Registration number
- ♦ Key numbers
- ♦ Vehicle identification number
- ♦ Fuel
- ♦ Mileage (km)

The following vehicle data can be found in the vehicle registration certificate part 1:

- ♦ Registration number: "e.g. WOB-HH 1234"
- ♦ Emission key: "field 14.1 (code for field 14)"
- ♦ Manufacturer: "Field 2", "Field 2.1 (code for field 2)"
- ♦ Vehicle identification number "field E"
- ♦ Type and version "Field D2 (type only)", "Field 2.2 (code for field D.2)"

Entering exhaust emissions test specifications

There are different ways to enter the specified data:

- ♦ 1. manual
- ♦ 2. By scanning the bar code from the emissions test data sheet

- 3. ELSA web service

NOTICE

To use the ELSA web service, the exhaust gas testing station L which is used for the exhaust emissions test must be integrated in the workshop network.

When using the ELSA web service, the vehicle specifications are entered on the corresponding screen automatically via the network.

Manual specified data input for EET:

NOTICE

All test conditions and data required for exhaust emissions test, see ⇒ Data sheets for exhaust emissions test for respective engine.

– Perform manual data input according to instructions on display.
– Enter displayed values on EET data sheet in column “Test values for exhaust emissions test” on display as follows:

1 - Test speed (idling speed)
2 - Warm-up phase for catalytic converter
3 - Engine temperature
4 - Increased idling speed
5 - CO content at increased idling speed
6 - Lambda at increased idling speed
7 - Idling speed
8 - Select regulating probe type, either “step-type probe” or “wideband probe”.
9 - Lambda probe value

Specified data input for EET as bar code:

– If EET nominal data is present in bar code format then read in bar code of EET data sheet using reader pen.

All data required are shown on display.

visual inspection

– Inspect all components relevant to exhaust emissions.
– Check that all components of exhaust system are fitted, complete and free of leaks and damage.

Grommet

– Follow instructions of emissions testing station .

4.82.4 Exhaust emissions test, diesel engines, with emissions testing station L - VAS 7320 A-

Special tools and workshop equipment required

- Exhaust gas testing station L - VAS 7320 A-

NOTICE

The following description refers to vehicles fitted with “Onboard diagnosis” OBD.

The OBD monitors all components and (sub)systems which affect the exhaust gas quality.

It is only possible to carry out an exhaust emissions test when all units of the emissions testing station are connected properly and combined with each other according to the operating instructions.

All work to be performed is displayed by the emissions testing station .

Test conditions

- All test conditions and data required for exhaust emissions test are found on EET data sheet for the respective engine.
- For bar code reading of specified data for EET, the EET data sheet must be printed out.
- Automatic gearbox: Selector lever in position “P” or “N”.
- Manual gearbox: Gear lever in neutral
- Parking brake applied.

– Perform exhaust emissions test according to instructions on display.

Entering vehicle data

– Enter the following data:

♦ Registration number

♦ Key numbers

♦ Vehicle identification number

♦ Fuel

♦ Mileage (km)

The following vehicle data can be found in the vehicle registration certificate part 1:

♦ Registration number: “e.g. WOB-HH 1234”

♦ Emission key: “field 14.1 (code for field 14)”

♦ Manufacturer: “Field 2”, “Field 2.1 (code for field 2)”

♦ Vehicle identification number “field E”

♦ Type and version “Field D2 (type only)”, “Field 2.2 (code for field D.2)”

Entering exhaust emissions test specifications

There are different ways to enter the specified data:

♦ 1. manual

♦ 2. By scanning the bar code from the emissions test data sheet

♦ 3. ELSA web service

NOTICE

If there is no ESP to deactivate the engine speed limiter, the rev limit can be measured using the engine speed limited by the control unit. To do this, all the EET specifications must be entered manually.

To use the ELSA web service, the exhaust gas testing station L which is used for the exhaust emissions test must be integrated in the workshop network.

When using the ELSA web service, the vehicle specifications are entered on the corresponding screen automatically via the network.

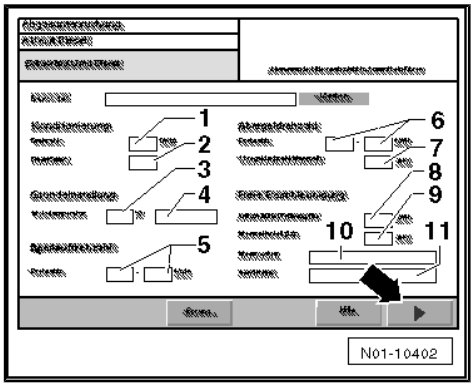
Manual specified data input for EET:

NOTICE

All test conditions and data required for exhaust emissions test, see ⇒ Data sheets for exhaust emissions test for respective engine.

If the engine speed limiter cannot be deactivated, enter the value 2500 ± 200 rpm in the box for rev limit and 2500 in the box for engine speed for conditioning.

– Perform manual data input according to instructions on display.
– Enter displayed values on EET data sheet in column “Test values for exhaust emissions test” on display as follows:



1 - Speed for conditioning
2 - Number of times engine revved up for temperature conditioning
3 - Engine oil temperature (min. value)
4 - Select engine oil temperature measurement procedure
5 - Idling speed
6 - Governed speed
7 - Governed speed measuring time (to nearest second)
8 - Type plate value ⇒ page 177
9 - Select probe type (number of probe)
10 - Select measuring mode
11 - Time required for measurement

NOTICE

In practice, the person carrying out the emissions testing must use the vehicle-related sticker value on the type plate as an emissions testing limit value.

If no value is indicated on the type plate, the opacity figure specified by the manufacturer and indicated in ELSA must be used.

If no value is indicated on the type plate and no opacity figure has been specified by the manufacturer, the statutory opacity figures (2.5 m^{-1} or 1.5 m^{-1}, depending on date of initial registration) must be used.

For all Euro-6-vehicles an opacity figure of max. 0.5 m^{-1} applies.

Specified data input for EET as bar code:

– If EET nominal data is present in bar code format then read in bar code of EET data sheet using reader pen.

If the opacity figure on the EET data sheet is different from the value indicated on the type plate, enter the type plate value manually.

visual inspection

– Inspect all components relevant to exhaust emissions.
– Check that all components of exhaust system are fitted, complete and free of leaks and damage.

Grommet

– Follow instructions of emissions testing station .

Evaluation

NOTICE

If the exhaust emissions test was performed with an active rev limiter, enter the following in the test log:

“The test was performed with the automatic engine speed limit of 2500 rpm.”

5 Glossary

The following clarifications and definitions concern only the “Precise maintenance” log book, and are therefore not universally valid.

Term	Definition
ABS	Anti-lock brake system: the ABS is a regulating system in the brake system, that prevents locking when braking. This helps to maintain directional stability and steerability.
ATF	Automatic transmission fluid: gear oil for automatic gearboxes.
Common Rail “CR”	The term that designates the injection system where the fuel under pressure is not injected direct from the pump, but originates from a fuel tank. This container (the “entire line”) is a pipeline with branches leading to each injector.
CO	Carbon monoxide is produced when fuels containing carbon are not combusted completely.
CO_2	Carbon dioxide.
DIN	Deutsches Institut für Normung e.V. (German Standards Authority)
DPF (Diesel Particle Filter)	The particulate filter is fitted behind the catalytic converter and is used to filter soot from the exhaust gasses
EN	European Norm
FAME	Fatty acid methyl ester
GNC	Compressed natural gas.
HC	Hydrocarbons
MPI	Multi Point Injection
PR No.	Abbreviation of production control number. For the identification, among other things, of additional equipment, deviations specific for each country
O_2	Oxygen
RON	Research octane number: indication of the knock resistance of petrol.
Unit injector	Injector pump: injection device for diesel engines.
SAE	Society of Automotive Engineers: an American society providing and establishing standards for the automobile industry
TFSI	Turbo Fuel Stratified Injection.
TSI	The designation TFSI is no longer used from model year 2008 and is replaced with TSI.
TDI	Turbo diesel engine - direct injection
TGI	Charge air system with turbocharger and natural gas injection