





Maintenance

Heading

1. Overview - Engine
2. Service Work
3. General Information
4. Procedure Descriptions
5. Emissions Test
6. 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.



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1 Overview - Engine

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This chapter contains information on the following:

Golf 5G1 Gasoline Engines. Refer to ➤ [page 1](#) .

Diesel Engines. Refer to ➤ [page 2](#) .

e-Golf BE1 | Electric Motor. Refer to ➤ [page 2](#) .



Note

To make it easier to search for an engine, the engine codes are in alphabetical order.

Gasoline Engines Golf 5G1

Engines:	⇒	Gasoline Engine	Gasoline Engine
Displacement	L	2.0	1.4
Engine codes		CHHA	CHPA
Number of cylinders/valves per cylinder		4/4	4/4
Output	kW at RPM	169/4200-6000	103/4500-6000
Torque	Nm at RPM	350/1500-4000	250/1500-3500
Bore	Diameter in mm	82.5	74.5
Stroke	mm	92.8	80.0
Compression ratio		9.6	10.5
Injection/Ignition		Motronic SIMOS 12.1 TSI Turbocharger	Motronic MED17.5.21 TSI Turbocharger
RON	unleaded, minimum.	95	95 (In exceptional circumstances minimum 91 RON unleaded, however with reduced performance)
Camshaft drive		Chain	Toothed belt

Engines:	⇒	Gasoline Engine
Displacement	L	2.0
Engine codes		CYFB
Number of cylinders/valves per cylinder		4/4
Output	kW at RPM	215/5300-6200
Torque	Nm at RPM	380/1900-5200
Bore	Diameter in mm	92.8
Stroke	mm	82.5
Compression ratio		9.3
Injection/Ignition		Motronic SIMOS 18.8 TSI Turbocharger
RON	unleaded, minimum.	95
RON	Ethanol 85	---



Engines:	⇒	Gasoline Engine
Displacement	L	2.0
Engine codes		CYFB
Camshaft drive		Chain

Diesel Engines Golf 5G1

Engines:	⇒	Diesel Engine
Displacement	L	2.0
Engine codes		CRBC
Number of cylinders/valves per cylinder		4/4
Output	kW at RPM	110/4000
Torque	Nm at RPM	320/1750-3000
Bore	Diameter in mm	81.00
Stroke	mm	95.5
Compression ratio		16.2
Injection/Ignition		TDI Common Rail
Diesel particulate filter		yes.
Camshaft drive		Toothed belt

A vehicle equipped with a factory-installed diesel particulate filter will have PR number 7MJ or 7MM listed on the vehicle data label.



Note

To make it easier to search for an engine, the engine codes are in alphabetical order.

Electric Motor e-Golf BE1

Engines:	⇒	Electric Motor
Engine codes		EAGA
Output	kW	85
Torque	Nm	270



Note

To make it easier to search for an engine, the engine codes are in alphabetical order.



2 Service Work

⇒ [“2.1 Fixed Service Information”, page 3](#) .

⇒ [“2.2 Maintenance Tables for Market Designation A”, page 5](#) .

⇒ [“3.9 Country Assignment According to Market Designation”, page 17](#) .

2.1 Fixed Service Information

⇒ [“2.1.1 Service Identification”, page 3](#) .

⇒ [“2.1.3 Fixed Service”, page 4](#) .

⇒ [“2.1.4 Service Interval Display”, page 4](#) .

2.1.1 Service Identification

- See if the vehicle is equipped with the following PR numbers using the vehicle data label. Refer to
⇒ [“3.7 Vehicle Data Label”, page 16](#) .

The PR number determines the service intervals. Refer to
⇒ [“2.2 Maintenance Tables for Market Designation A”, page 5](#) .

Vehicles with the following production control numbers:

Model year	PR Number	Service
From MY 2013	QI6	Flexible service
From MY 2013	QI1, QI2, QI3, QI4 and QI7	Fixed service
From MY 2014	VI9	Fixed Service (electric vehicles)

2.1.2 Flexible Service

Flexible service makes it possible to have extended service intervals, depending on individual driving habits and operating conditions.



Note

Special LongLife engine oil is required for flexible service. Refer to

⇒ [“2.2 Maintenance Tables for Market Designation A”, page 5](#) .

Vehicles with production control numbers “QI6” have flexible Service when they leave the factory. This means that these vehicles have a flexible service interval display and are equipped with the following components:

- ◆ Flexible service interval display inside the instrument cluster
- ◆ Engine oil level sensor
- ◆ Brake pad wear indicator, if equipped

On vehicles with flexible service, a control module determines the service interval and informs the driver via the service interval display. Refer to ⇒ [“2.1.4 Service Interval Display”, page 4](#) .

The service intervals therefore called flexible.



2.1.3 Fixed Service



Note

- ♦ *Vehicles with fixed service are programmed with fixed service intervals. This means that the specified distance or time values are determined by Volkswagen beforehand and are fixed. Under ordinary operating conditions, this technically assures that the service will be performed when these intervals are reached.*
- ♦ *The service intervals therefore called fixed.*

For vehicles

- ♦ Delivered without the service interval extension (PR numbers "Q11", "Q12", "Q13", "Q14", "Q17").
- ♦ that had the service interval extension switched off
- ♦ where LongLife engine oil was not used

have fixed service.

The fixed service intervals apply to all maintenance, which include an oil change.

This means the vehicles have a fixed service interval display and the maintenance likewise has fixed intervals. Refer to [⇒ "2.1.4 Service Interval Display", page 4](#). These vehicles have the following components:

- ♦ Fixed service interval display in instrument cluster
- ♦ Engine oil level sensor
- ♦ Brake pad wear indicator, if equipped

2.1.4 Service Interval Display

Fixed Service Interval Display (Only Vehicles with Fixed Service).
Refer to [⇒ page 4](#).

Service when Due [⇒ page 4](#)

Service Advance Warning [⇒ page 5](#)

Retrieve the service messages in the Infotainment system
[⇒ page 5](#).

Service Interval Display, Resetting. Refer to [⇒ "4.61 Service Interval Display, Resetting", page 178](#).

Fixed Service Interval Display (Only Vehicles with Fixed Service)

Calculating the maintenance intervals:

- ♦ The maintenance interval on vehicles with a fixed service is calculated in fixed service intervals. This means that the specified distance or time values are determined by Volkswagen beforehand and are fixed.
- ♦ Under ordinary operating conditions, this technically assures that the service will be performed when these intervals are reached.

Service when Due

- ♦ If the vehicle has text display in the instrument cluster, the message will appear: "Wrench symbol" and "Service now"



The service message will go out after a few seconds or when the engine is running.

Service Advance Warning

A "service advance warning" appears in the instrument cluster display when the ignition is switched on when a service is due soon.

- ◆ If the vehicle has text display, "Service in --- km or --- days" appears.

The service message will go out after a few seconds or when the engine is running.

- ◆ The service advance warning appears for the first time 20 days before the service due date.
- ◆ The remaining distance is rounded to the 100 km and the remaining time to whole days.

Retrieve the service messages in the Infotainment system:

It is possible to check the most current service message at any time. The ignition must be switched on but the engine must be off.

- Switch on the ignition.
- Switch on the Infotainment system.
- Press the **CAR** Infotainment button.
- Select **Setup** on the screen.
- Scroll through the menu until **Service** appears on the screen.
- Touch the **Service** button.

The service messages appear in the Infotainment system.

2.2 Maintenance Tables for Market Designation A

Country Assignment According to Market Designation. Refer to ➔ "3.9 Country Assignment According to Market Designation", page 17 .

The maintenance tables with the Volkswagen passenger vehicle maintenance specifications can be found in the following chapter.



Note

- ◆ *With combined distance and time measurements: whichever comes first.*
- ◆ *In addition to inspection or inspection with an extended inspection sequence, other maintenance work must be performed, depending on operating conditions (Refer to ➔ "3.8 Severe Operating Conditions", page 17) and vehicle equipment.*
- ◆ *It is also possible that additional work, depending on entries in the Maintenance booklet, must be performed outside of the service interval.*

2.2.1 Maintenance Tables for Market Designation A

Service Intervals. Refer to ➔ [page 6](#) .

Volkswagen Engine Oil Standards. Refer to ➔ [page 6](#) .



Filter Replacement Intervals. Refer to ⇒ [page 6](#) .

Toothed Belt Replacement Intervals. Refer to ⇒ [page 6](#) .

Spark Plug Replacement Intervals. Refer to ⇒ [page 6](#) .

Additional Time or Distance-Dependent Additional Work. Refer to ⇒ [page 6](#) .

Service Intervals

Refer to ⇒ Maintenance Intervals; Rep. Gr. 03

Volkswagen Engine Oil Standards

Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03

Filter Change Interval

Refer to ⇒ Maintenance Intervals; Rep. Gr. 03

Toothed Belt Replacement Interval

Refer to ⇒ Maintenance Intervals; Rep. Gr. 03

Spark plug change interval

Refer to ⇒ Maintenance Intervals; Rep. Gr. 03

Time or Distance Dependent Service Additional Work

Refer to ⇒ Maintenance Intervals; Rep. Gr. 03

2.3 Maintenance Tables for Market Designation B and C

Because there are more individual maintenance specifications they are now listed divided according to the market area in the time and distance-dependent intervals additional work.

2.3.1 Delivery Inspection

Work to be completed:
– Battery, Checking Battery Terminal Clamp for Secure Fit
– Battery Transport Mode, Deactivating
– Service Interval Display, Resetting
– Battery Charge, Checking
– DTC Memory, Reading Out for All Systems
– Radio / Radio/Navigation System: Storing Local Radio Stations to Radio Station Buttons
– Hour and Date, Adjusting
– All Switches, Electrical Equipment, Sockets, Displays and Other Controls, Checking Function
– Front Passenger Airbag, Checking Key Switch and On/Off Function Control
– Power Window Regulator, Performing Initialization (Activation)
– Vehicle Interior, Checking for Cleanliness.
– Seat Covers and Carpet Protective Film, Removing
– All Equipment Delivered with Vehicle, Installing (if applicable)
– Two Clamps, Installing According to Installation Instructions
– Edge Protection (Plastic Film) on Doors, Removing
– Vehicle Exterior, Checking for Cleanliness.
– Tire Pressure, Checking.
– Wheel Bolts, Tightening to Specified Tightening Specification
– Windshield Wiper Protectors, Removing
– Tire Pressure Monitoring System, Calibrating to Tire Pressure Adjustment
– Vehicle for Leaks and Damage, Visually Inspecting from Above and Below



Work to be completed:
– Brake System, Visually Inspecting for Leaks and Damage
– Transportation Safeguard, Removing if Equipped
– Vehicle Underbody, Visually Inspecting for Damage
– Windshield Wiper/Washer System and Headlamp Washer System, Checking Function and Adjustment
– Engine Oil Level, Checking; pay attention to oil specification when filling
– Coolant Level, Checking
– Brake Fluid, Changing on Vehicles Older than Six Months
– Brake Fluid Level, Checking it is at Maximum
– Key, Checking Number, Function, and Cleanliness
– Maintenance Schedule, Entering Pre-Delivery Inspection
– Owner's Literature, Checking for Completeness and Preparing for Customer Delivery
– Road Test, Performing
– Warning Label, Checking Presence
– Charge Cable, Checking Presence and Condition
– High-Voltage Battery, Charging
– Special Rubber Care Set, Hanging on Interior Rearview Mirror
– Roof Pillar Storage Compartments, Rear Longitudinal Member Felt and Hydraulic Pump Sound Enclosure, Checking for Moisture
– Instrument Cluster, Adjusting Language (does not apply to German-speaking countries)
– On-Board Computer in Front Information Display Control Head, Resetting

2.3.2 Services



Note

- ◆ The service intervals can be combined depending on the time and distance (inspection with oil change).
- ◆ The expanded inspection service is performed as a joint work procedure to the inspection.

Oil Change Service	Inspection	Expanded inspection service (only applies in combination with inspection)	Work to be completed
Vehicle Interior			
		X	– Interior Lamps in Headliner, Luggage Compartment and Glove Compartment Lamps, Checking Function
	X		– Horn, Checking Function
	X		– Charge Cable, Checking Presence and Condition
	X		– High-Voltage Battery Charge Level, Checking and Charging if Necessary
		X	– Panorama Tilting Sunroof: Checking Function
Vehicle Exterior			
	X		– Headlamp Washer System, Checking Function



Oil Change Service	Inspection	Expanded inspection service (only applies in combination with inspection)	Work to be completed
	X		– Front Lighting, Checking Function
	X		– Stationary Cornering Lamp, Checking Function
	X		– Automatic Headlamp Control, Checking Function
	X		– Rear Lamps, Checking Function
	X		– Windshield Wiper/Washer System, Checking Function, Spray Nozzle Adjustment and for Damage, and Adjusting if Necessary
	X		– Wiper Blades, Bringing into Service Position, Checking for Damage and Checking Park Position
		X	– Body Interior and Exterior, Visually Inspecting For Corrosion
	X		– Windshield, Visually Inspecting for Damage
	X		– High-Voltage Charging Socket in Radiator Grille, Visually Inspecting for Contamination and Damage
	X		– High-Voltage Charging Sockets in Radiator Grille and Fuel Filler Cap, Visually Inspecting for Contamination and Damage
X			– Reducing Agent (AdBlue®), Filling; Only at Customer Request
X			– Plenum Chamber, Checking for Debris
	X		– CSC Roof, Checking for Damage and Checking Function, Cleaning Wind Deflector and Seals and Applying Special Lubricant to Rubber Seals
		X	– Sliding/Tilting Sunroof, Cleaning and Lubricating Guide Rails for Glass Panel and Sun Visor
		X	– Hood Hook, Lubricating
		X	– Door Arrester, Lubricating
		X	– Convertible Top Locking Pieces, Cleaning and Lubricating
		X	– Convertible Top, Performing Leak Test
X			– Sliding Sunroof Seal, Lubricating
Vehicle from Below			
X			– Engine Oil, Draining and Replacing Oil Filter
	X		– Engine and Components in Engine Compartment (from Below), Visually Inspecting for Leaks and Damage
	X		– Transmission, Final Drive and CV Boots, Checking for Leaks and Damage
X			– Front and Rear Brake Pad Thickness and Brake Rotor Condition, Checking
		X	– Ribbed Belt, Checking Condition
		X	– Ball Joints, Axle Bearings, Coupling Rod and Stabilizer Bar Rubber Bushings, Visually Inspecting for Damage
		X	– Tie Rod Ends, Checking Play, Attachment and Ball Joint Boots
		X	– Brake System, Visually Inspecting for Leaks and Damage
		X	– Exhaust System, Visually Inspecting for Leaks, Attachment and Damage
		X	– Underbody, Visually Inspecting Underbody Protection, Underbody Trim Panels, Wire Routing and Plugs for Damage
		X	– Front and Rear Coil Springs and Stop Buffers, Visually Inspecting for Damage



Oil Change Service	Inspection	Expanded inspection service (only applies in combination with inspection)	Work to be completed
X			– Warning Label, Checking Presence
	X		– Removable Trailer Hitch, Checking
		X	– Air Suspension, Checking for Leaks and Damage
		X	– Sliding Sunroof, Checking Function, Cleaning Guide Rails, Lubricating with Special Lubricant
		X	– Automatic Transmission, Checking ATF Level
Tires			
	X		– Tire Pressure, Checking.
	X		– Tire Repair Kit, Checking for Damage and Contamination
	X		– Tires, Checking Condition and Wear Pattern; Tread Depth, Entering
Engine Compartment			
X			– Engine Oil, Filling
	X		– Engine Oil Level, Checking
	X		– Battery and Auxiliary Battery, Checking with Battery Tester if Necessary
	X		– Engine and Engine Compartment Components, Visually Inspecting for Leaks and Damage from Above
	X		– Brake Fluid Level, Checking Depending on Brake Pad Wear
	X		– Cooling System, Checking Freeze Protection and Coolant Level
	X		– Windshield Wiper/Washer System, Checking Freeze Protection and Filling Fluid
	X		– Hybrid Components, Visually Inspecting for Damage of the High-Voltage Components and Wires
	X		– High-Voltage Components and High-Voltage Cables, Visually Inspecting for Damage, Correct Wire Routing and Attachment
		X	– Power Steering, Checking Fluid Level
Final Procedures			
X			– Service Interval Display, Resetting
	X		– Headlamps, Checking and Adjusting if Necessary
	X		– Tire Pressure Monitoring System, Calibrating to Tire Pressure Adjustment
	X		– Road Test, Performing
X			– High-Voltage Battery, Charging



2.3.3 Time and Distance-Dependent Additional Work, from MY 2013

The intervals for the time and distance dependent additional work for the market designation A can be found in the maintenance tables. Refer to

⇒ **"2.2 Maintenance Tables for Market Designation A", page 5** .

Work to be completed	Market designation B. Refer to ⇒ "3.9 Country Assignment According to Market Designation", page 17 .	Market designation C. Refer to ⇒ "3.9 Country Assignment According to Market Designation", page 17 .
Oil change service (fixed)	Q11 every 5,000 km or 1 year ¹⁾	
	Q12 every 7,500 km or 1 year ¹⁾	
	Q13 every 10,000 km or 1 year ¹⁾	
	Q14 every 15,000 km or 1 year ¹⁾	
Inspection	Every 15,000 km or 1 year ¹⁾	Every 10,000 km or 1 year ¹⁾
Extended Inspection Sequence • Only applicable in connection with the inspection.	Every 30,000 km or 2 years ¹⁾	Every 20,000 km or 2 years ¹⁾
– Dust and Pollen Filter (Passenger Compartment Filter), Re- placing	Every 15,000 km or 1 year ¹⁾	Every 10,000 km or 1 year ¹⁾
– Air Filter Housing Stop Buffer, Replacing • Only applies to Scirocco R and Golf R Convertible	Every 30,000 km or 2 years ¹⁾	Every 30,000 km or 2 years ¹⁾
– Diesel Fuel Filter, Replacing	Every 30,000 km	Every 20,000 km
– Air Filter, Cleaning Housing and Replacing Filter Element	Every 30,000 km or 2 years ¹⁾	Every 20,000 km or 2 years ¹⁾
– Spark Plugs, Replacing	Every 30,000 km or 2 years ¹⁾	Every 20,000 km or 2 years ¹⁾
– Panorama Sliding Sunroof, Checking Function, Cleaning and Greasing Guide Rails, Cleaning Wind Deflector	Every 30,000 km or 2 years ¹⁾	Every 10,000 km or 1 year ¹⁾
– Automatic Transmission, Changing ATF	Every 60,000 km	Every 60,000 km
– DSG® Transmission (6-Speed DSG®), Replacing Transmis- sion Fluid and Filter	Every 60,000 km	Every 60,000 km
– DSG® Transmission (DSG®) 0DD, 0DL and 0BH, Replacing Transmission Fluid	Every 60,000 km	Every 60,000 km
– Ribbed Belt, Removing and In- stalling	Every 60,000 km	Every 60,000 km
– Idler Rollers and Ribbed Belts, Replacing • Only applies to V8 gasoline en- gine	Every 120,000 km	Every 120,000 km



Work to be completed	Market designation B. Refer to ⇒ <u>"3.9 Country Assignment According to Market Designation", page 17</u> .	Market designation C. Refer to ⇒ <u>"3.9 Country Assignment According to Market Designation", page 17</u> .
<ul style="list-style-type: none"> – Camshaft Drive Toothed Belt, Replacing • Applies to gasoline and diesel engines with toothed belt 	Every 120,000 km	Every 120,000 km
<ul style="list-style-type: none"> – Coolant Pump Toothed Belt, Replacing • Applies to all gasoline engines with coolant pump toothed belt 	Every 120,000 km	Every 120,000 km
<ul style="list-style-type: none"> – Transmission Mount: Replacing • Only applies to Phaeton with trailer hitch 	Every 150,000 km	Every 150,000 km
– Diesel Particulate Filter, Checking	At 180,000 km / 210,000 km, then every 30,000 km	At 180,000 km / 210,000 km, then every 30,000 km
– Haldex Clutch, Changing Oil	Every 3 years	Every 3 years
– Front Axle Differential Lock, Changing Oil	Every 3 years	Every 3 years
– Brake and Clutch System, Changing Brake Fluid	3 years after initial registration, then every 2 years	3 years after initial registration, then every 2 years
– Natural Gas System, Visually Inspecting Natural Gas Fuel Tank for Corrosion, Performing Leak Test	3 years after initial registration, then every 2 years	3 years after initial registration, then every 2 years
– Natural Gas Filler Tube and Cap, Checking Condition, Cleaning and Checking the Seal if Necessary	3 years after initial registration, then every 2 years	3 years after initial registration, then every 2 years
– Natural Gas Tank, Replacing	Every 20 years	Every 20 years

1) whichever occurs first



3 General Information

- ⇒ [“3.1 High-Voltage System General Warnings”, page 12](#) .
- ⇒ [“3.2 Vehicle, Raising with Hoist or Workshop Vehicle Jack”, page 12](#) .
- ⇒ [“3.3 Label”, page 14](#) .
- ⇒ [“3.4 Maintenance Schedule Entries”, page 14](#) .
- ⇒ [“3.8 Severe Operating Conditions”, page 17](#) .
- ⇒ [“3.5 Vehicle Diagnostic Tester ”, page 14](#) .
- ⇒ [“3.6 Vehicle Identification Number \(VIN\)”, page 15](#) .
- ⇒ [“3.7 Vehicle Data Label”, page 16](#) .
- ⇒ [“3.9 Country Assignment According to Market Designation”, page 17](#) .
- ⇒ [“3.10 Engine Code and Engine Number”, page 17](#) .
- ⇒ [“3.12 Type Plate”, page 18](#) .

3.1 High-Voltage System General Warnings

Refer to ⇒ Electric Drive; Rep. Gr. 00 ; High Voltage System
Danger Classification .

3.2 Vehicle, Raising with Hoist or Workshop Vehicle Jack

- ⇒ [“3.2.1 Safety Precautions”, page 12](#) .
- ⇒ [“3.2.2 Hoist and Floor Jack Mounting Points”, page 13](#)

3.2.1 Safety Precautions



WARNING

- ◆ *Before driving the vehicle onto a workshop hoist, make sure there is enough clearance between any low-lying components and the hoist.*
- ◆ *Before driving a vehicle onto a hoist it must be ensured that the vehicle weight does not exceed the permitted load rating of the platform.*
- ◆ *Vehicle may only be lifted at points indicated in illustration in order to avoid damaging vehicle floor pan and to prevent vehicle from tipping.*
- ◆ *Never start engine and engage a gear with vehicle lifted so long as even one wheel has contact with the floor! There is a risk of an accident if this is not observed!*
- ◆ *If work is to be performed under vehicle it must be supported by suitable stands.*



3.2.2 Hoist and Floor Jack Mounting Points



Caution

- ◆ *Positioning the vehicle incorrectly or unevenly on the mounting plate/arms on the hoist will cause damage to vehicle panels.*
- ◆ *Turn the mounting plate on the hoist outward so that there is enough space between the arm and the side sill. Only use the side sill reinforcement as a mounting point for the hoist mounting plate.*

Front Mounting Point:

- Position the mounting plate near the side sill marking (on the vertical floor panel reinforcement -arrow-).



WARNING

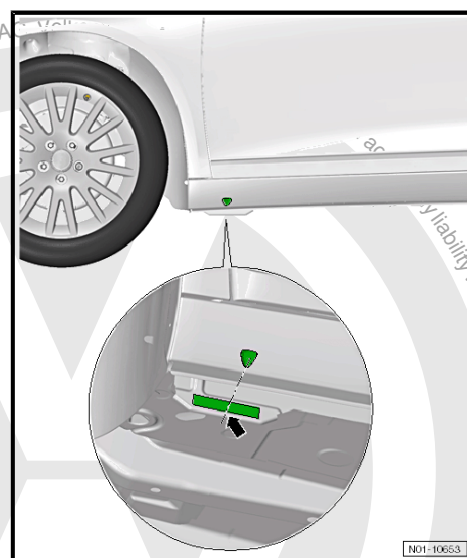
On "R models", the side sill markings are covered by the rocker panel extension. They are now located on the bottom of the rocker panel extension.

Pay attention when lifting that the rocker panel extension is not damaged.



WARNING

Make sure that the side sill reinforcement contacts the center of the hoist mounting plate.



Rear Mounting Point:

- Position the mounting plate near the side sill marking on the vertical floor panel reinforcement -arrow-.



WARNING

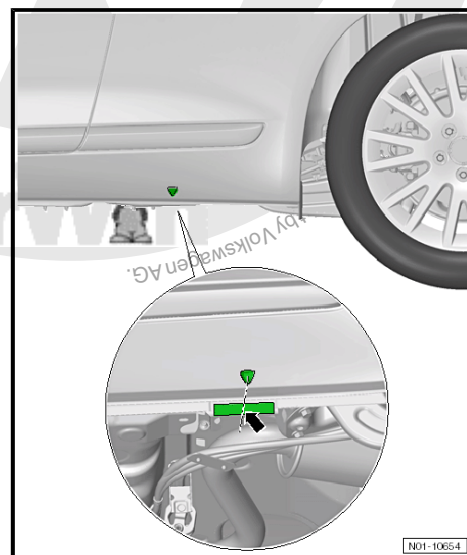
On "R models", the side sill markings are covered by the rocker panel extension. They are now located on the bottom of the rocker panel extension.

Pay attention when lifting that the rocker panel extension is not damaged.



WARNING

Make sure that the side sill reinforcement contacts the center of the hoist mounting plate.



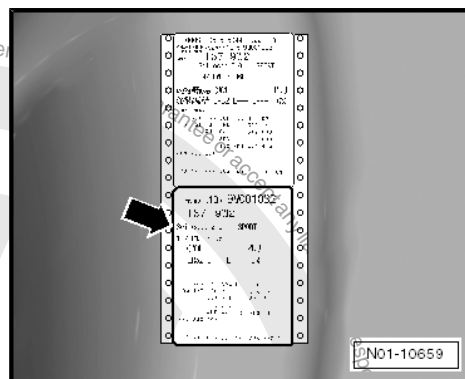


3.3 Label

⇒ **"3.3.1 Vehicle Data Label, Applying in Customer Maintenance Schedule", page 14** .

3.3.1 "Vehicle Data Label", Applying in Customer Maintenance Schedule

- Apply the bottom part of both vehicle data labels -arrow- inside the maintenance schedule.



3.4 Maintenance Schedule Entries

If a component that is being replaced according to the specified replacement interval by the manufacturer, for example, the toothed belt, then the time period for the new replacement interval begins from the time the component is replaced.

- For this reason it is very important to document every time these components are replaced in the maintenance schedule.
- This also applies to components that were replaced earlier than their scheduled replacement interval.



Note

- ◆ When using an "Original Replacement Part Kit", determine if it is technically necessary to use all of the components that come in the kit.
- ◆ If it is necessary to replace more components than what is technically required, always inform the customer before performing the repair.

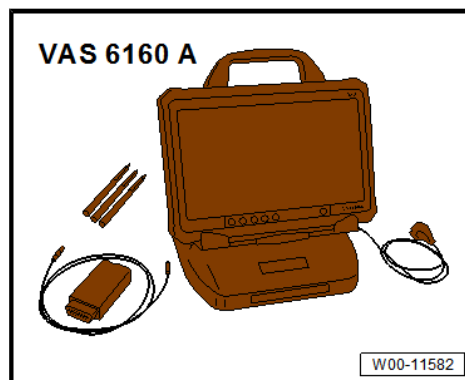
3.5 Vehicle Diagnostic Tester

⇒ **"3.5.1 Vehicle Diagnostic Tester , Connecting", page 14** .

3.5.1 Vehicle Diagnostic Tester , Connecting

Special tools and workshop equipment required

- ◆ Vehicle Diagnostic Tester





Note

Make sure the selected Vehicle Diagnostic Tester is only used with the accompanying diagnostic cable.



WARNING

- ◆ *During a road test always secure testing and measuring equipment on the back seat.*
- ◆ *While driving only the passenger may operate this equipment.*

- Perform the Following Procedure:
- Connect the diagnosis cable connector to the diagnostic connection.
- Switch on the Vehicle Diagnostic Tester .
- Switch on the ignition.

Follow the display appearing on the screen to start the desired functions.



3.6 Vehicle Identification Number (VIN)

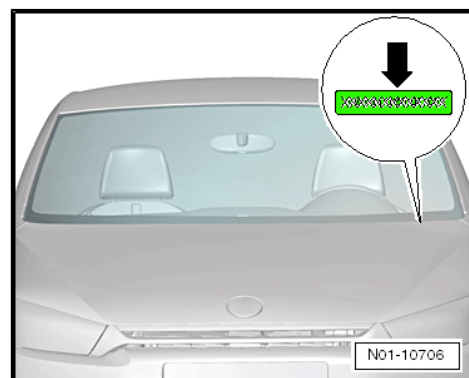
⇒ [“3.6.1 VIN on Lower Edge of Windshield”, page 15](#) .

⇒ [“3.6.2 VIN on Longitudinal Member Extension”, page 16](#) .

⇒ [“3.6.3 VIN Decoding”, page 16](#) .

3.6.1 VIN on Lower Edge of Windshield

The VIN -arrow- in on the left side of the vehicle in the windshield, in the area of the windshield wiper mount. It is visible from outside.





3.6.2 VIN on Longitudinal Member Extension

The Vehicle Identification Number (VIN) is located on the longitudinal member extension -arrow-.



3.6.3 VIN Decoding

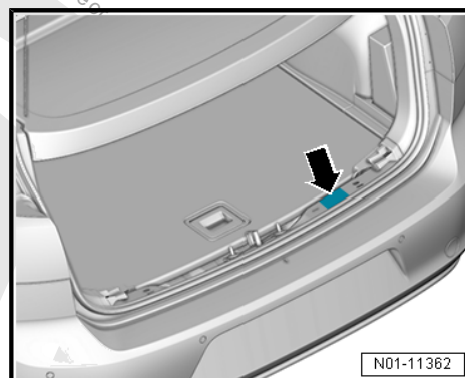
WVW	ZZZ	AU	Z	D	W	000 234
Manufacturer identification	Filler character	Type	Filler character	MY 2013	Production facility	Serial number

3.7 Vehicle Data Label

The vehicle data label -arrow- is located on the vehicle under the right rear lock carrier trim panel. The vehicle data label is also in the customer maintenance schedule.

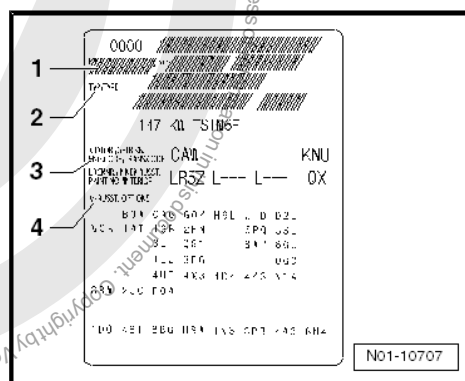
Procedure Description from Removing the Lock Carrier Trim Panel:

Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim; Lock Carrier Trim, Removing and Installing .



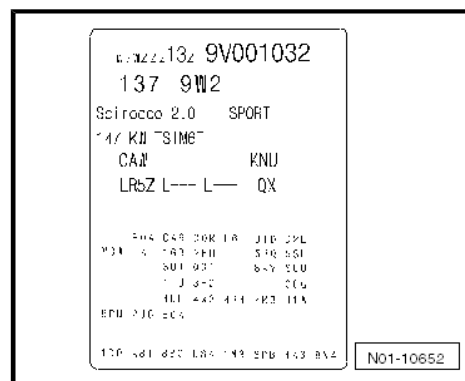
The label contains the following vehicle data:

- 1 - Vehicle Identification Number (VIN)
- 2 - Vehicle Model Engine Output, Transmission
- 3 - Engine and Transmission Codes, Paint Number, Interior Equipment
- 4 - Optional Equipment, PR Numbers





The sticker inside the customer maintenance schedule contains the same information. The legend is under the sticker.



3.8 Severe Operating Conditions

Under severe operating conditions, it is necessary to have some work performed before the next service is due or between the specified service intervals.

Severe Operating Conditions

- Constant short-distance driving or stop-and-go driving in the city
- High proportion of cold starts
- Operating the vehicle in areas with extremely low temperatures for an extended period of time
- Frequently left in idle for longer periods, for example, taxis
- Frequently driving full throttle or with a high load or a trailer
- Running with diesel fuel with high sulfur content
- Frequently operating in areas with excessive dust

3.9 Country Assignment According to Market Designation

Market Designation A
Canada
USA

3.10 Engine Code and Engine Number

Engine codes and engine number are found:

- ◆ On vehicle data label. Refer to ["3.7 Vehicle Data Label", page 16](#).

- ◆ On the type label

or

Refer to ⇒ Rep. Gr. 00 ; Identification; Engine Number/Engine Specifications .

3.11 Countries with High Air Dust Levels

Afghanistan	Gabon	Libya	Sierra Leone
Egypt	Gambia	Macao	Zimbabwe
Algeria	Georgia	Madagascar	Singapore
Angola	Ghana	Malawi	Somalia
Equatorial Guinea	Greece	Maldives (India subcontinent)	Sri Lanka



Argentina	Guadeloupe	Mali	South Africa
Armenia	Guatemala	Morocco	Sudan
Azerbaijan	Guinea	Martinique	Suriname
Ethiopia	Guinea-Bissau	Mauritania	Swaziland
Australia	Guyana	Mauritius	Syria
Bahrain	Honduras	Mexico	Tadzhikistan
Bangladesh	Hong Kong	Mongolia	Tanzania
Barbados	India	Mozambique	Thailand
Belize	Indonesia	Myanmar (Burma)	Togo
Benin (Dahomey)	Iraq	Namibia	Chad
Bhutan	Iran	Nepal (India subcontinent)	Tunisia
Bolivia	Israel	Nicaragua	Turkey
Botswana	Yemen	Republic of Niger	Turkmenistan
Brazil	Jordan	Nigeria	Uganda
Brunei		North Korea	Uruguay
Burkina Faso (Upper Volta)	Cambodia	Oman	Ukraine
Burundi	Cameroon	Pakistan	Uzbekistan
Chile	Kazakhstan	Palestine	Venezuela
Costa Rica	Qatar	Panama	United Arab Emirates / Abu Dhabi
Curacao	Kenya	Paraguay	Vietnam
Democratic Republic of the Congo	Kyrgyzstan Republic	Peru	White Russia (Belarus)
Djibouti	Columbia	Puerto Rico	West Sahara
Dominican Republic	Congo	Rest of Asia ¹⁾	Central African Republic
Dubai	Cuba	Réunion	China
Ecuador	Kuwait	Rwanda	
El Salvador	Laos	Russian Federation	
Ivory Coast	Lesotho	Zambia	
Eritrea	Lebanon	Saudi Arabia	
French Guyana	Liberia	Senegal	

¹⁾ Fiji, Papua New Guinea, Solomon Islands, Tonga, Vanuatu

3.12 Type Plate



Note

Vehicles for some countries do not have a type label.



4-Door Vehicles

The type plate -arrow- is visible at the bottom of the B-pillar when the left front door is open.

The type plate contains the following vehicle data:

A - Vehicle Identification Number (VIN)

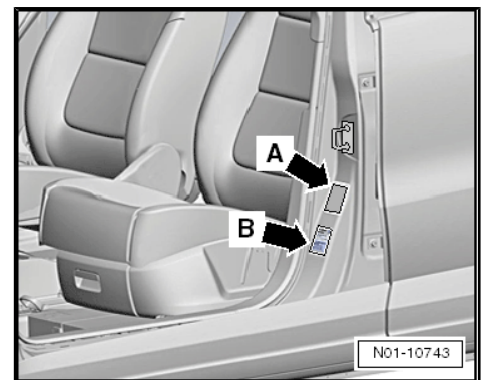
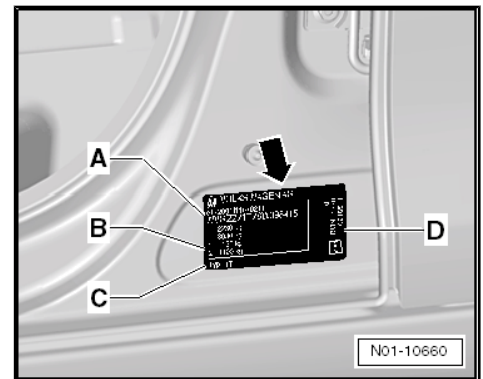
B - Variable Specifications, for example, Axle Loads, Total Permissible Weights, Permissible Towing Weights

C - Type number

D - Engine Code

2-Door Vehicles

The type plate -A- is visible near the door lock on the B-pillar when the left front door is open.







4 Procedure Descriptions

- ⇒ "4.1 Ball Joints and Axle Bearing, Visually Inspecting", page 23 .
- ⇒ "4.2 Automatic Headlamp Control and Stationary Cornering Lamp, Checking Function", page 24 .
- ⇒ "4.5 12V Battery, Checking Battery Terminal Clamp for Secure Seating", page 27 .
- ⇒ "4.6 12V Battery, Checking Using Battery Tester (Always Follow Repair Manual)", page 31 .
- ⇒ "4.7 12V Battery Level, Reading and Sending Diagnostic Log Online", page 31 .
- ⇒ "4.8 Tires, Checking Condition, Wear Pattern, Pressure and Tread Depth", page 31 .
- ⇒ "4.9 Brake and Clutch System, Changing Brake Fluid", page 68 .
- ⇒ "4.10 Brake System and Shock Absorbers, Visually Inspecting for Leaks and Damage", page 72 .
- ⇒ "4.11 Front and Rear Brake Rotors, Checking Brake Pad Thickness and Condition", page 73 .
- ⇒ "4.12 Brake Fluid Level, Checking", page 75 .
- ⇒ "4.13 6-Speed Direct Shift Gearbox (DSG®) Transmission 0D9, Changing Transmission Fluid and Filter", page 76 .
- ⇒ "4.14 6-Speed Direct Shift Gearbox (DSG®) Transmission 0DD, Changing Transmission Fluid", page 76 .
- ⇒ "4.38 Diesel Fuel Filter, Draining Water", page 113 .
- ⇒ "4.39 Diesel Fuel Filter, Replacing", page 114 .
- ⇒ "4.15 Diesel Particulate Filter, Checking", page 76 .
- ⇒ "4.16 Three-Phase Current Drive, Calibrating", page 77 .
- ⇒ "4.17 Power Window Regulators, Checking Position", page 77 .
- ⇒ "4.21 DTC Memory for All Systems, Reading with Vehicle Diagnostic Tester and Correcting Faults According to Repair Procedure", page 83 .
- ⇒ "4.22 Overview - Driving School Pedals", page 84 .
- ⇒ "4.23 Driving School Pedals, Lubricating Components", page 89 .
- ⇒ "4.24 Driving School Pedals, Checking for Secure Bolt Fit", page 93 .
- ⇒ "4.25 Overview - Control Equipment Buzzer", page 95 .
- ⇒ "4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer", page 97 .
- ⇒ "4.27 CV Boots, Visually Inspecting", page 98 .
- ⇒ "4.28 Haldex Clutch, Changing Oil", page 99 .
- ⇒ "4.29 High-Voltage Battery Charge Level, Checking", page 102 .
- ⇒ "4.30 High-Voltage Battery Maintenance", page 103 .
- ⇒ "4.31 High-Voltage Battery, Charging", page 103 .



⇒ "4.32 High-Voltage Components and High-Voltage Cables, Visually Inspecting for Damage, Correct Wire Routing and Attachment", page 103 .

⇒ "4.33 Hybrid Components, Visually Inspecting for Damage of the High-Voltage Components and Wires", page 104 .

⇒ "4.34 Interior and Exterior Body, Visually Inspecting for Corrosion with Doors and Lids Opened", page 105 .

⇒ "4.35 Ribbed Belt, Checking Condition", page 105 .

⇒ "4.36 Cooling System, Checking Freeze Protection and Coolant Level", page 107 .

⇒ "4.37 High-Voltage Cooling System, Checking Freeze Protection and Coolant Level", page 110 .

⇒ "4.40 Air Filter, Cleaning Housing and Replacing Filter Element", page 116 .

⇒ "4.42 Engine and Engine Compartment Components, Visually Inspecting for Leaks and Damage (from Above and Below)", page 126 .

⇒ "4.43 Upper Engine Cover, Removing and Installing", page 127 .

⇒ "4.44 Lower Engine Compartment Cover (Noise Insulation), Removing and Installing", page 128 .

⇒ "4.45 Engine Oil Level, Checking", page 128 .

⇒ "4.46 Engine Oil, Draining, Replacing Oil Filter, and Filling", page 129 .

⇒ "4.47 Engine Oil, Capacities and Specifications", page 141 .

⇒ "4.48 Panorama Sliding Sunroof, Checking Function, Cleaning and Greasing Guide Rails, Cleaning Wind Deflector", page 142 .

⇒ "4.49 Panorama Sliding/Tilting Sunroof with Rear Panorama Roof, Checking Function, Cleaning and Greasing Guide Rails, and Cleaning Wind Deflector", page 144 .

⇒ "4.50 Road Test, Performing (Driving Behavior, Noises, A/C System, etc.)", page 146 .

⇒ "4.51 Wheel Bolts, Tightening to Specification", page 146 .

⇒ "4.52 Tire Pressure Monitoring System, Calibrating", page 149 .

⇒ "4.53 Tire Repair Kit, Checking", page 150 .

⇒ "4.54 Windshield Wiper and Washer System and Headlamp Washer System, Checking Function", page 151 .

⇒ "4.55 Windshield Wiper Protectors, Removing", page 154 .

⇒ "4.56 Headlamp Adjustment, Checking, Halogen Headlamp", page 157 .

⇒ "4.57 Headlamp Adjustment, Checking, HID Headlamp without Dynamic Light Assist", page 161 .

⇒ "4.58 Headlamp Adjustment, Checking, HID Headlamp with Dynamic Light Assist", page 165 .

⇒ "4.59 Headlamp Adjustment, Checking, LED Headlamps", page 172 .

⇒ "4.60 Headlamp Adjustment, Checking, Fog Lamp", page 176 .

⇒ "4.61 Service Interval Display, Resetting", page 178 .



⇒ [“4.63 Tie Rod Ends, Checking Play, Attachment and Ball Joint Boots”, page 180](#) .

⇒ [“4.64 Dust and Pollen Filter, Cleaning Housing and Replacing Filter”, page 181](#) .

⇒ [“4.65 Battery Transport Mode, Deactivating”, page 181](#) .

⇒ [“4.66 Transportation Safeguards, Removing Transportation Blocks”, page 182](#) .

⇒ [“4.67 Clock and Date, Adjusting”, page 183](#) .

⇒ [“4.68 Underbody, Visually Inspecting Underbody Protection, Underbody Trim Panels, Wire Routing and Plugs for Damage”, page 184](#) .

⇒ [“4.69 Front Axle Differential Lock, Changing Oil”, page 184](#) .

⇒ [“4.69.1 Front Axle Differential Lock, Changing Oil, R Model”, page 188](#) .

⇒ [“4.70 e-Golf Warning Label, Checking”, page 192](#) .

⇒ [“4.71 Warning Label, Checking, Golf GTE”, page 198](#) .

⇒ [“4.72 Camshaft Drive Toothed Belt, Replacing, Diesel Engines”, page 201](#) .

⇒ [“4.73 Camshaft Drive Toothed Belt, Checking”, page 202](#) .

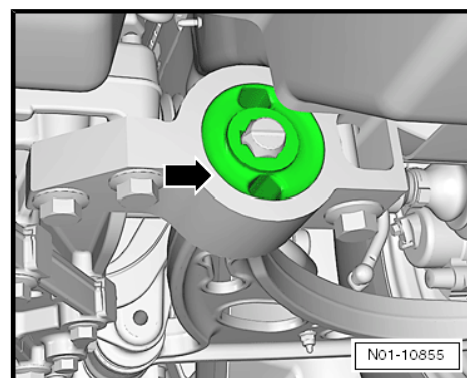
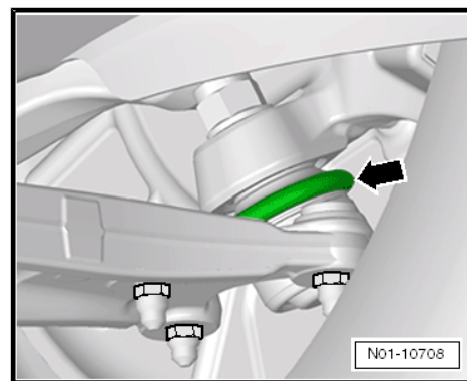
⇒ [“4.74 Coolant Pump Toothed Belt, Checking”, page 204](#) .

⇒ [“4.75 Spark Plugs, Replacing”, page 208](#) .

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4.1 Ball Joints and Axle Bearing, Visually Inspecting

- Check ball joint boots -arrow- for leaks and damage.



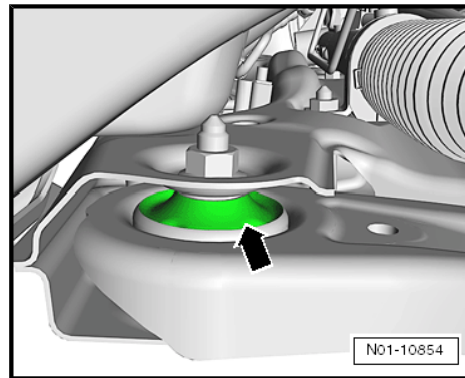


- Check the axle bearing -arrow- for the following damage:
- ◆ Large cracks, tears or cuts in the rubber piece.
- ◆ Complete tear of the connection between rubber molded part and metal.
- ◆ Large amount of play between the bearing and the axle components, which can significantly influence the bearing negatively.



Note

- ◆ *Rips and tears that are only on the surface such as small detachments between the rubber molded part and metal do not influence the function of the elastokinematic bearing and are not cause for concern.*
- ◆ *A damaged thin rubber skin in cavity depending on the design is permissible.*
- ◆ *Play between the bearing and the axle component is permissible, as long as the function of the bearing is not affected.*



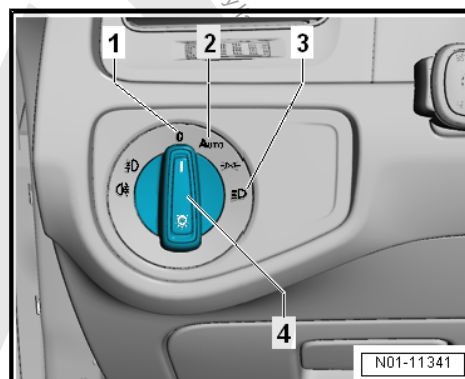
4.2 Automatic Headlamp Control and Stationary Cornering Lamp, Checking Function



Note

The automatic headlamp control is also called **automatic headlamps**.

- Vehicle must be in daylight.
- Switch on the ignition.
- Turn the light switch -4- into the “Auto” -2- position.



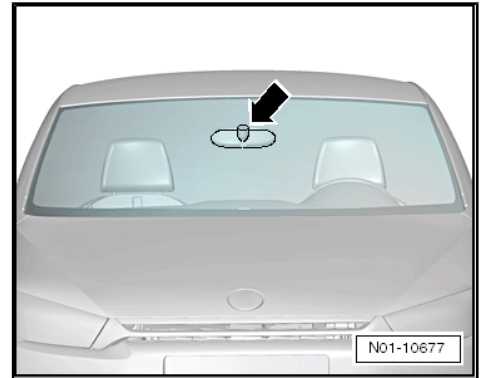


The headlamp should not come on when it is bright.

Rain/light recognition sensor is located in upper center area of front windshield -arrow-.

- Switch on the ignition.
- Turn the light switch -4- into the “Auto” -2- position.
- Cover the rain/light recognition sensor -arrow- from the outside by hand or with a suitable object.

The decrease in light is measured and the headlamps are switched on.



- Turn the light switch -4- in the “0” position -1- and switch off the ignition.

Stationary Cornering Lamp

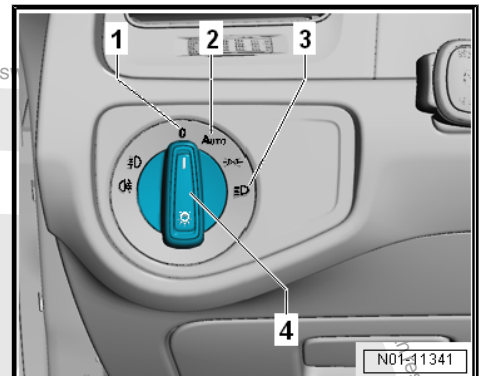


Note

The stationary cornering lamp is deactivated when the driving profile is set to “ECO”.

The stationary cornering lamp is integrated in the headlamp.

- Start the engine.
- Switch on the low beam or the automatic headlamp control.
- Turn on the turn signal.
- Check the cornering lamp.
- Repeat on the other side.



4.3 Automatic Transmission 09G, Changing ATF



Note

The 09G transmission ATF must also be replaced in countries with a very hot climate. The ATF wears down in these climate conditions. All countries affected are listed in the table below.

Procedure

- ⇒ Automatic Transmission; Rep. Gr. 37 ; ATF Level Checking and Correcting; ATF Draining and Filling .

Hot Climate Countries

United States of America

4.4 Front Passenger Airbag, Checking Key Switch and “ON/OFF Function”



Note

The “PASSENGER AIRBAG ON/OFF” control is on the side of the instrument panel on the front passenger side.



Front Passenger Airbag, Checking Key Switch and "ON/OFF Function" Indicator

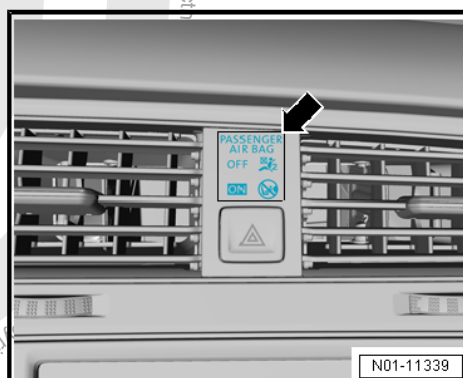
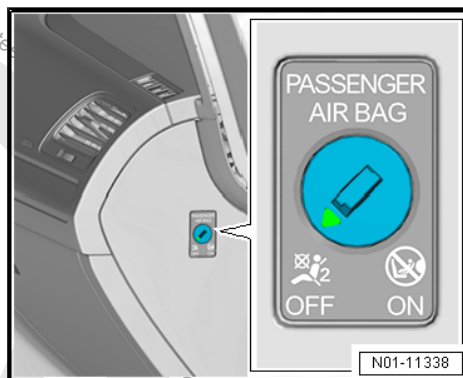
- Using the key, turn the switch to "PASSENGER AIRBAG OFF".
- Switch on the ignition.
- The "PASSENGER AIRBAG OFF" display -arrow- must also light up after the self-test (the front passenger airbag is not active).



Note

On the Golf Sportsvan the display "PASSENGER AIRBAG OFF" is on top of the heater and A/C system display control head.

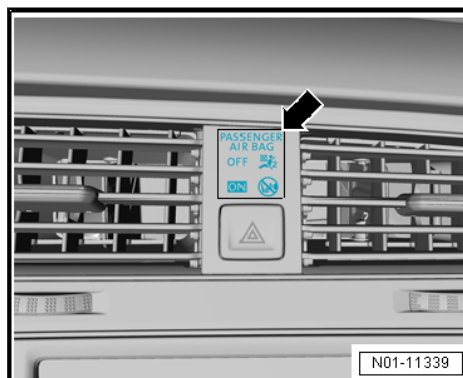
- Turn off the ignition.



- Using the key, turn the switch to "PASSENGER AIRBAG ON".
- Switch on the ignition.



- The control indicator "PASSENGER AIRBAG OFF" -arrow- must go out after the self-test (front passenger airbag activated).
- Turn off the ignition.





4.5 12V Battery, Checking Battery Terminal Clamp for Secure Seating

⇒ ["4.5.1 12V Engine Compartment Battery, Checking Battery Terminal Clamp for Secure Seating", page 27](#) .

⇒ ["4.5.2 12V Luggage Compartment Battery, Checking Battery Terminal Clamp for Secure Seating", page 28](#) .

4.5.1 12V Engine Compartment Battery, Checking Battery Terminal Clamp for Secure Seating

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

V.A.G 1331



W00-11166



Note

- ◆ *Tight battery terminal clamps assure trouble-free battery function and long service life.*
- ◆ *Make sure the terminal clamp is attached completely to the battery terminal.*

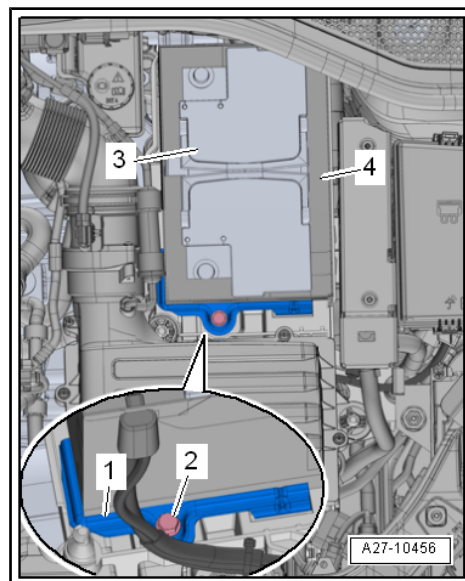


WARNING

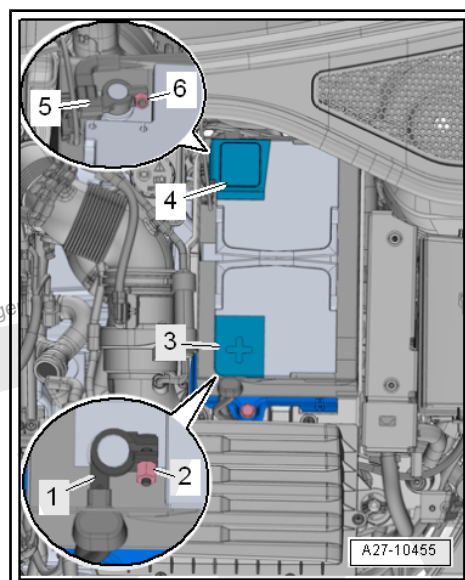
If the battery clamp is not seated securely on the positive terminal, disconnect the battery ground strap on the battery negative terminal first to prevent possible accidents.



- Open the cover for the heat shield -4-.
- Make sure the battery -3- is secure. Tighten the bolt -2- again to the tightening specification.



- Open the cover -4- above the battery negative terminal.
- Check the battery terminal clamps -1 and 5- for a secure fit. If necessary, tighten the nuts -2 and 6-.



Tightening Specification	Nm
Nut on battery terminal	6
Bolt to bracket	15

After connecting the battery, perform the following:

Procedure

Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

4.5.2 12V Luggage Compartment Battery, Checking Battery Terminal Clamp for Secure Seating

Special tools and workshop equipment required



◆ Torque Wrench 1331 5-50Nm - VAG1331-

V.A.G 1331



W00-11166



Note

- ◆ *Tight battery terminal clamps assure trouble-free battery function and long service life.*
- ◆ *Make sure the terminal clamp is attached completely to the battery terminal.*



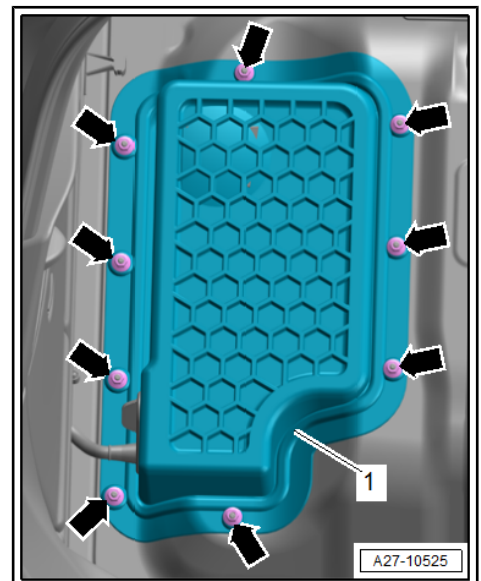
WARNING

If the battery clamp is not seated securely on the positive terminal, disconnect the battery ground strap on the battery negative terminal first to prevent possible accidents.

The battery is in the luggage compartment.

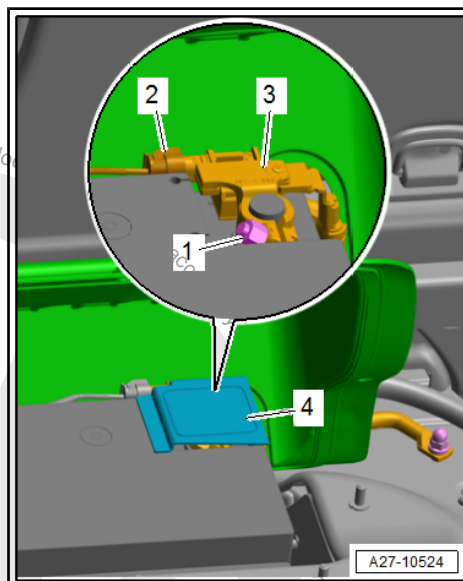
Procedure:

- If equipped remove the ignition key.
- Remove the luggage compartment floor toward the rear from the vehicle.
- Remove the nuts -arrows- from the battery cover -1-.
- Pivot the cover -1- as far upward as possible.
- Open the cover -4- on top of the battery negative terminal, if equipped.

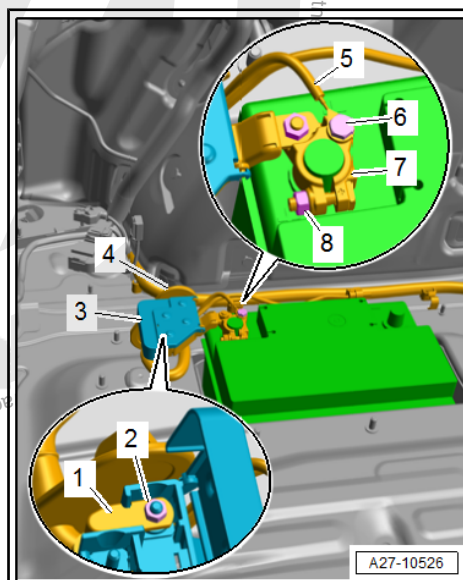




- Check the battery terminal -3- for secure seating by hand, if necessary, tighten the nuts -1- on the battery terminal -3- to the tightening specification.

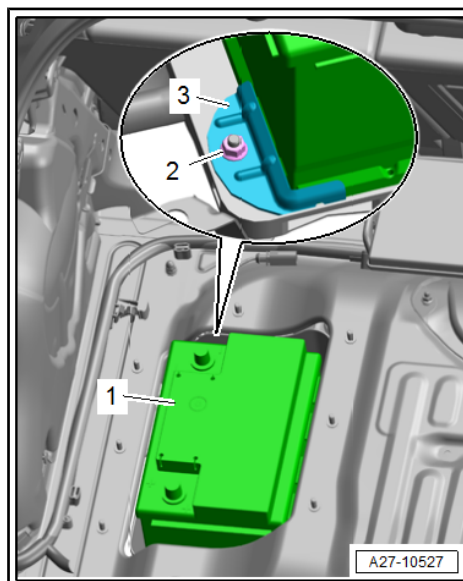


- Check the battery terminal -7- for secure seating by hand, if necessary, tighten the nuts -8- on the battery terminal -7- to the tightening specification.



- Check the battery -1- for secure seating by hand; if necessary, tighten the nut -2- on the bracket -3- to the tightening specification.

Install in reverse order of removal. Pay attention to the tightening specifications.





Tightening Specification	Nm
Battery cover nuts	9
Nuts for battery terminal clamps	6
Bracket nut	20

After connecting the battery, perform the following:

Procedure

Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

4.6 12V Battery, Checking Using Battery Tester (Always Follow Repair Manual)

Before checking the battery the correct test mode must be selected on the Battery Tester - VAS6161- .

- ◆ Maintenance test: only applies to new vehicles, which will be stored before delivery to the customer at the importer or dealer.
- ◆ Warranty test: only applies to vehicles or components that are under warranty.
- ◆ Service test: applies to vehicles or components that are outside of warranty and for vehicles with nonoriginal batteries.

Procedure

Battery, checking. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery, Checking .

4.7 12V Battery Level, Reading and Sending Diagnostic Log Online



Note

Only for vehicles with start/stop system and regeneration.

Procedure

The battery level is read while the battery transport mode is being deactivated. Refer to
⇒ ["4.65 Battery Transport Mode, Deactivating", page 181](#) .

4.8 Tires, Checking Condition, Wear Pattern, Pressure and Tread Depth

⇒ ["4.8.1 Tires, Checking Condition", page 32](#) .

⇒ ["4.8.2 Tires, Checking Wear Pattern", page 32](#) .

⇒ ["4.8.3 Tires, Checking Tread Depth \(Including Spare Tire\)", page 32](#) .

⇒ ["4.8.4 General Information", page 33](#) .

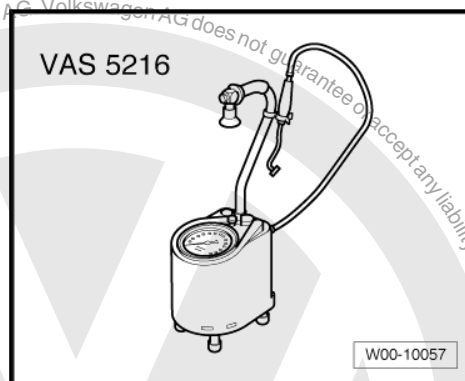
⇒ ["4.8.5 Tire Pressures, Golf/e-Golf", page 34](#) .

⇒ ["4.8.6 Tire Pressures, Golf Wagon", page 55](#) .

Special tools and workshop equipment required



◆ Tire Inflation Device - VAS5216-



4.8.1 Tires, Checking Condition



WARNING

If damage is discovered, the tire must be examined to determine whether a new one must be installed.

Checks during the Delivery Inspection:

- Check for damage and any foreign objects, such as nails or glass shards, in the tire treads and side walls.

Checks during Service:

- Check for damage and any foreign objects, such as nails or glass shards, in the tire treads and side walls.
- Check tire treads for cupping, feathering, one-sided tread wear, porous side walls, cracks, cuts, and rim damage.

4.8.2 Tires, Checking Wear Pattern

The tread wear on the front tires will help determine whether toe or camber need to be checked.

- ◆ Feathered edges of the tire tread may indicate a faulty toe adjustment.
- ◆ One-sided tire tread wear is mostly caused by a faulty camber.

If such wear patterns are found, determine the causes by checking the axle alignment (repair measure).

4.8.3 Tires, Checking Tread Depth (Including Spare Tire)

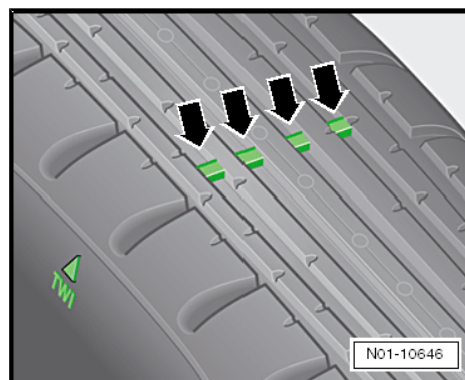
- Check the tread depth.

Minimum tread depth: 1.6 mm



Note

- ◆ *This value may vary for individual countries due to different legal regulations. Check with the importer.*
- ◆ *The minimum tread depth is reached when no more profile is present at the 1.6 mm high tread wear indicators -arrows- positioned at intervals around the tire.*
- ◆ *If the tread depth is close to the permitted minimum tread depth, inform customer.*





4.8.4 General Information



WARNING

- ◆ *For driving safety, all tires on the vehicle should be of the same make and tread design. Approved wheel/tire combination, for example ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .*
- ◆ *On All Wheel Drive (AWD) vehicles, always use tires of the same make and tread design. If not, the center differential can get damaged.*



Note

- ◆ *The tire pressures for relevant model are found on a sticker. This sticker is bonded on the inside of the fuel filler door or on the B-pillar.*
- ◆ *Keep in mind that the tire pressure specifications on the sticker refer to cold tires. Do not reduce tire pressure when the tires are warm.*
- ◆ *Depending on the vehicle the sticker may contain a comfort filling pressure. The comfort filling pressure increases the driving comfort.*
- ◆ *Adjust tire pressure according to the load. During the pre-delivery inspection or when servicing, it is recommended to use the comfort filling pressure.*
- ◆ *If the tire pressure for the spare wheel is not listed, then fill the spare wheel with the highest tire pressure specified for the vehicle.*
- ◆ *On vehicles with tire pressure monitoring display, make sure that a basic setting is performed after each pressure adjustment. Refer to ["4.52 Tire Pressure Monitoring System, Calibrating", page 149](#) .*

Winter Tires



Note

- ◆ *Important information about recommended winter tires. Refer to ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .*
- ◆ *If winter tires are installed, a label informing the customer of the speed limit must be affixed inside the passenger compartment so that it is clearly visible.*
- ◆ *On winter tires, the tire pressure must no longer be increased. This applies only if the winter tires being used are the exact same size as the standard summer tire, and the speed index does not exceed "H". If deviating from this, then the tire manufacturer recommendations must be followed.*



4.8.5 Tire Pressures, Golf/e-Golf



Note

- ◆ *Make sure the tire pressure label is there during the pre-delivery inspection. Order a new sticker from the Electronic Parts Catalog (ETKA) if it is missing.*
- ◆ *The required tires pressures for the relevant model are on a sticker attached to the inside of fuel filler flap, or on driver side B-pillar.*
- ◆ *If the tire pressure label is missing, do the following:*
- ◆ *Get the correct part number for the vehicle in the Parts Catalog*
- ◆ *With the part number get the corresponding tire pressure from the tire pressure label.*
- ◆ *Standard pressure: If there are no tire pressures give under a part number, then one standard pressure applies for all approved tire/wheel combinations. ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .*

Check the tire pressure using Tire Inflation Device/Tire Filler Unit - VAS5216- and correct if necessary.

Part Number - 5G0 010 829 A-	Golf			
Part Number - 5G0 010 841 G-				
Part Number - 5G0 010 000 AQ-				
Part Number - 5G0 010 000 BL-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41
Emergency spare wheel	415/4.2/61			

¹⁾ Applies to all approved tire/wheel combinations. ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 841 A-		Golf		
Part Number - 5G0 010 841 J-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
195/65 R15	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41
205/55 R16				
225/45 R17				
205/50 R17	220/2.2/32	220/2.2/32	240/2.4/35	290/2.9/42
225/40 R18				
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

¹⁾ Spare tire




Part Number - 5G0 010 841 C-	Golf			
Part Number - 5G0 010 841 L-				
Part Number - 5G0 010 000 D-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	220/2.2/32	220/2.2/32	240/2.4/35	280/2.8/41
Emergency spare wheel	415/4.2/61			

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Wheels, Tires, Wheel Alignment; Wheel and Tire Combinations .

Part Number - 5G0 010 841 D-	Golf			
Part Number - 5G0 010 841 M-				
Part Number - 5G0 010 000 BH-				
Part Number - 5G0 010 000 CD-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16	240/2.4/35	240/2.4/35	260/2.6/38	300/3.0/44
205/50 R17				
225/45 R17				
225/40 R18				
225/35 R19	260/2.6/38	260/2.6/38	280/2.8/41	310/3.1/45
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 845 D-		Golf					
Part Number - 5G0 010 845 E-							
Part Number - 5G0 010 000 BA-							
Part Number - 5G0 010 000 BQ-							
	Half load kPa/bar/psi			Full load kPa/bar/psi			
Tire size	Front	Rear		Front	Rear		
205/55 R16	200/2.0/29	200/2.0/29		230/2.3/33	280/2.8/41		
205/50 R17 M&S	230/2.3/33	230/2.3/33		250/2.5/36	290/2.9/42		
225/35 R19							
T125/70 R16 ¹⁾	415/4.2/61						
T125/70 R18 ¹⁾							

¹⁾ Spare tire



Part Number - 5G0 010 841 S-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	200/2.0	200/2.0	230/2.3	280/2.8
225/45 R17 91W				
205/50 R17 93V				
225/40 R18 92Y	220/2.2	220/2.2	240/2.4	290/2.9
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 842-		Golf		
		Half load kPa/bar	Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	220/2.2	220/2.2	240/2.4	280/2.8
205/55 R16 91V				
225/45 R17 91W				
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 845 F-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	200/2.0	200/2.0	230/2.3	280/2.8
205/50 R17 93V	230/2.3	230/2.3	250/2.5	290/2.9
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 841-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41
Emergency spare wheel	415/4.2/61			

¹⁾ Applies to all approved tire/wheel combinations. ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



Part Number - 5G0 010 851 K-		Golf		
Part Number - 5G0 010 851 L-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
195/65 R15	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41
205/55 R16				
205/50 R17				
225/45 R17				
225/40 R18				
225/35 R19	230/2.3/33	230/2.3/33	250/2.5/36	290/2.9/42
Emergency spare wheel	415/4.2/61			

Part Number - 5G0 010 841 B-		Golf		
Part Number - 5G0 010 841 K-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/50 R17	250/2.5/36	250/2.5/36	270/2.7/39	300/3.0/44
225/45 R17				
225/40 R18				
225/35 R19	280/2.8/41	280/2.8/41	300/3.0/44	330/3.3/48
Emergency spare wheel	415/4.2/61			

Part Number - 5G0 010 841 C-		Golf		
Part Number - 5G0 010 000 AL				
Part Number - 5G0 010 000 AJ-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all 1)	220/2.2/32	220/2.2/32	240/2.4/35	280/2.8/41
Emergency spare wheel	415/4.2/61			

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 841 D-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16	240/2.4/35	240/2.4/35	260/2.6/38	300/3.0/44
205/50 R17				
225/45 R17				



Part Number - 5G0 010 841 D-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
225/40 R18				
225/35 R19	260/2.6/38	260/2.6/38	280/2.8/41	310/3.1/45
T125/70 R16	415/4.2/61			
T125/70 R18				

Part Number - 5G0 010 841 H-		Golf		
Part Number - 5G0 010 000 BF-				
Part Number - 5G0 010 000 CB-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all 1)	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41
Emergency spare wheel	415/4.2/61			

1) Applies to all approved tire/wheel combinations. ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 841 Q-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	200/2.0	200/2.0	230/2.3	280/2.8
205/55 R16 91V				
225/45 R17 91W				
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

1) Spare tire

Part Number - 5G0 010 841 R-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	210/2.1	210/2.1	230/2.3	280/2.8
225/45 R17 91W				
225/40 R18 92Y				
225/35 R19 88Y	230/2.3	230/2.3	250/2.5	290/2.9
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

1) Spare tire



Part Number - 5G0 010 841 T-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	250/2.5	250/2.5	270/2.7	300/3.0
225/45 R17 91W				
225/40 R18 92Y				
225/35 R19 88Y	280/2.8	280/2.8	300/3.0	330/3.3

1) Spare tire

Part Number - 5G0 010 842 A-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	240/2.4	240/2.4	260/2.6	300/3.0
225/45 R17 91W				
225/40 R18 92Y				
225/35 R19 88Y	260/2.6	260/2.6	280/2.8	310/3.1
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

1) Spare tire

Part Number - 5G0 010 841 E-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16	230/2.3/33	230/2.3/33	250/2.5/36	290/2.9/42
205/50 R17				
225/45 R17				
225/40 R18	260/2.6/38	260/2.6/38	280/2.8/41	310/3.1/45
225/35 R19				
Emergency spare wheel	415/4.2/61			

Part Number - 5G0 010 853 Q-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16	250/2.5/36	250/2.5/36	270/2.7/39	300/3.0/44
205/50 R17				
225/45 R17				
225/40 R18				
225/35 R19	270/2.7/39	270/2.7/39	290/2.9/42	320/3.2/46



Part Number - 5G0 010 853 Q-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
Emergency spare wheel	415/4.2/61			

Part Number - 5G0 010 853 S-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	250/2.5	250/2.5	270/2.7	300/3.0
225/45 R17 91W				
225/40 R18 92Y				
225/35 R19 88Y	270/2.7	270/2.7	290/2.9	320/3.2
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 842 B-		Golf		
Part Number - 5G0 010 842 C-				
Part Number - 5G0 010 000 AR-				
Part Number - 5G0 010 000 BM-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all 1)	240/2.4/35	240/2.4/35	240/2.4/35	280/2.8/41
Emergency spare wheel	415/4.2/61			

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5GE 010 000-		Golf		
Part Number - 5GE 010 000 B-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	280/2.8/41	280/2.8/41	280/2.8/41	280/2.8/41
Emergency spare wheel	415/4.2/61			

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



Part Number - 5G0 010 000 G-	Golf			
Part Number - 5G0 010 000 H-				
Part Number - 5G0 010 000 BJ-				
Part Number - 5G0 010 000 CE-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
195/65 R15	240/2.4/35	240/2.4/35	260/2.6/38	300/3.0/44
205/55 R16				
205/50 R17				
225/45 R17				
225/40 R18	250/2.5/36	250/2.5/36	270/2.7/39	310/3.1/45
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

1) Spare tire

Part Number - 5G0 010 841 F-	Golf			
Part Number - 5G0 010 841 P-				
Part Number - 5G0 010 000 BE-				
Part Number - 5G0 010 000 CA-				
Part Number - 5G0 010 000 CJ-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	260/2.6/38	260/2.6/38	280/2.8/41	310/3.1/45
T125/70 R18 ²⁾	415/4.2/61			

1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

2) Spare wheel

Part Number - 5G0 010 858 T-	Golf			
Part Number - 5G0 010 859-				
Part Number - 5G0 010 000 AK-				
Part Number - 5G0 010 000 AM-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
195/65 R15 M&S	230/2.3/33	230/2.3/33	230/2.3/33	280/2.8/41
205/55 R16				
205/50 R17				
225/45 R17	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

1) Spare tire



Part Number - 5G0 010 000 D-	Golf						
Part Number - 5G0 010 000 E-							
Part Number - 5G0 010 000 DC-							
Part Number - 5G0 010 000 CG-							
	Half load kPa/bar/psi		Full load kPa/bar/psi				
Tire size	Front	Rear	Front	Rear			
195/65 R15	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41			
205/55 R16							
225/45 R17							
205/50 R17	230/2.3/33	230/2.3/33	250/2.5/36	290/2.9/42			
225/40 R18							
T125/70 R16 ¹⁾	415/4.2/61						
T125/70 R18 ¹⁾							

¹⁾ Spare tire

Part Number - 5G0 010 000 F-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	210/2.1	210/2.1	230/2.3	280/2.8
205/55 R16 91V				
225/45 R17 91W				
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 859 A-	Golf			
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	230/2.3	230/2.3	230/2.3	280/2.8
205/50 R17 93V				
225/45 R17 91W	200/2.0	200/2.0	230/2.3	280/2.8
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire



Part Number - 5G0 010 865 E-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	230/2.3	230/2.3	250/2.5	290/2.9
205/50 R17 93V				
225/45 R17 91W				
225/40 R18 82Y	260/2.6	260/2.6	280/2.8	310/3.1
225/35 R19 88Y				
235/35 R19 91Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 N-		Golf				
Part Number - 5G0 010 000 P-						
Part Number - 5G0 010 000 CH-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire 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

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 AS-		Golf				
Part Number - 5G0 010 000 BN-						
	Half load kPa/bar/psi		Full load kPa/bar/psi			
Tire size	Front	Rear	Front	Rear		
195/65 R15	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41		
205/55 R16						
205/50 R17						
225/45 R17						
225/40 R18	230/2.3/33	230/2.3/33	250/2.5/36	290/2.9/42		
225/35 R19						
T125/70 R16 ¹⁾	415/4.2/61					
T125/70 R18 ¹⁾						

¹⁾ Spare tire



Part Number - 5G0 010 000 AT-		Golf				
Part Number - 5G0 010 000 BP-						
	Half load kPa/bar/psi		Full load kPa/bar/psi			
Tire size	Front	Rear	Front	Rear		
205/55 R16	200/2.0/29	200/2.9/29	230/2.3/33	280/2.8/41		
225/45 R17						
205/50 R17	220/2.2/32	220/2.2/32	240/2.4/35	290/2.9/42		
225/40 R18						
T125/70 R16 ¹⁾	415/4.2/61					
T125/70 R18 ¹⁾						

¹⁾ Spare tire

Part Number - 5G0 010 000 BD-		Golf		
Part Number - 5G0 010 000 BT-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/50 R17	250/2.5/36	250/2.5/36	270/2.7/39	300/3.0/44
225/45 R17				
225/40 R18				
225/35 R19	280/2.8/41	280/2.8/41	300/3.0/44	330/3.3/48
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 BK-		Golf		
Part Number - 5G0 010 000 CF-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16	250/2.5/36	250/2.5/36	270/2.7/39	300/3.0/44
205/50 R17				
225/45 R17				
225/40 R18				
225/35 R19	270/2.7/39	270/2.7/39	290/2.9/42	320/3.2/46
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

¹⁾ Spare tire



Part Number - 5G0 010 000 BC-	Golf			
Part Number - 5G0 010 000 BS-				
Part Number - 5G0 010 000 AN-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16 M&S	250/2.5/36	250/2.5/36	270/2.7/39	300/3.0/44
205/50 R17				
225/45 R17				
225/40 R18				
225/35 R19	280/2.8/41	280/2.8/41	300/3.0/44	330/3.3/48
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

¹⁾ Spare tire

Part Number - 5Ge 010 000 D-	Golf					
Part Number - 5GE 010 000 E-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire 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

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5GE 010 000-	Golf	
	kPa/psi	kPa/psi
Tire size	Front	Rear
205/55 R16	280/41	280/41

Part Number - 5G0 010 000 CK-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	200/2.0	200/2.0	230/2.3	280/2.8
205/55 R16 91V				
225/45 R17 91W				
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire



Part Number - 5G0 010 000 CL-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	210/2.1	210/2.1	230/2.3	280/2.8
205/55 R16 91V				
225/45 R17 91W				
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 CM-		Golf				
	Half load kPa/bar		Full load kPa/bar			
Tire size	Front	Rear	Front	Rear		
205/55 R16 91V	200/2.0	200/2.0	230/2.3	280/2.8		
225/45 R17 91W						
205/50 R17 93V	220/2.2	220/2.2	240/2.4	290/2.9		
225/40 R18 92Y						
T125/70 R16 96M ¹⁾	415/4.2					
T125/70 R18 99M ¹⁾						

¹⁾ Spare tire

Part Number - 5G0 010 000 CR-		Golf		
Tire size	Half load kPa/bar		Full load kPa/bar	
	Front	Rear	Front	Rear
205/55 R16 91V	250/2.5	250/2.5	270/2.7	300/3.0
225/45 R17 91W				
225/40 R18 92Y				
225/35 R19 88Y	280/2.8	280/2.8	300/3.0	330/3.3
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 CT-		Golf		
Tire size	Half load kPa/bar		Full load kPa/bar	
	Front	Rear	Front	Rear
195/65 R15 91H	220/2.2	220/2.2/	240/2.4	280/2.8



Part Number - 5G0 010 000 CT-		Golf			
		Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear	
205/55 R16 91V					
225/45 R17 91W					
225/40 R18 92Y					
T125/70 R16 96M ¹⁾					
T125/70 R18 99M ¹⁾					
415/4.2					

1) Spare tire

Part Number - 5G0 010 000 DD-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
225/45 R17 91W	260/2.6	260/2.6	280/2.8	310/3.1
225/40 R18 92Y				
235/35 R19 91Y				
T125/70 R18 99M ¹⁾	415/4.2			

1) Spare tire

Part Number - 5G0 010 000 DB-		Golf		
Tire size	Half load kPa/bar		Full load kPa/bar	
	Front	Rear	Front	Rear
205/55 R16 91V	250/2.5	250/2.5	270/2.7	300/3.0
225/45 R17 91W				
225/40 R18 92Y				
225/35 R19 88Y	270/2.7	270/2.7	290/2.9	320/3.2
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

1) Spare tire

Part Number - 5G0 010 000 CN-		Golf		
Tire size	Half load kPa/bar		Full load kPa/bar	
	Front	Rear	Front	Rear
205/55 R16 91V	200/2.0	200/2.0	230/2.3	280/2.8
225/45 R17 91W				
205/50 R17 93V				
225/40 R18 92Y	230/2.3	230/2.3	250/2.5	290/2.9
225/35 R19 88Y				



Part Number - 5G0 010 000 CN-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 CP-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	230/2.3	230/2.3	230/2.3	280/2.8
205/50 R17 93V				
225/45 R17 91W	200/2.0	200/2.0	230/2.3	280/2.8
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 DA-		Golf					
	Half load kPa/bar		Full load kPa/bar				
Tire size	Front	Rear	Front	Rear			
205/55 R16 91V	230/2.3	230/2.3	250/2.5	290/2.9			
205/50 R17 93V							
225/45 R17 91W							
225/40 R18 92Y	260/2.6	260/2.6	280/2.8	310/3.1			
225/35 R19 88Y							
T125/70 R16 96M ¹⁾	415/4.2						
T125/70 R18 99M ¹⁾							

¹⁾ Spare tire

Part Number - 5G0 010 000 CS-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
225/45 R17 91W	250/2.5	250/2.5	270/2.7	300/3.0
225/40 R18 92Y				
225/35 R19 88Y	280/2.8	280/2.8	300/3.0	330/3.3
T125/70 R18 99M ¹⁾	415/4.2			

¹⁾ Spare tire



Part Number - 5G0 010 000 GA-		Golf		
Tire size	Half load kPa/bar/psi		Full load kPa/bar/psi	
	Front	Rear	Front	Rear
235/35 R19 91Y	250/2.5/36	250/2.5/36	280/2.8/41	300/3.0/44
225/40 R18 92Y				
205/50 R17 93H M&S				
225/40 R18 92V M&S	280/2.8/41	280/2.8/41	300/3.0/44	320/3.2/46
T125/70 R18 ¹⁾	415/4.2/61			

¹⁾ Spare tire

Part Number - 5G0 010 000 FQ-		Golf				
Part Number - 5G0 010 000 FR-						
Tire size	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
	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

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 BB-		Golf				
Part Number - 5G0 010 000 BR-						
Tire size	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
	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	300/3.0/44

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 AE-		Golf		
Part Number - 5G0 010 000 AF-				
Tire size	Half load kPa/bar/psi		Full load kPa/bar/psi	
	Front	Rear	Front	Rear
all ¹⁾	260/2.6/38	260/2.6/38	280/2.8/41	300/3.0/44

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



Part Number - 5GE 010 000 A-	Golf	
	kPa/psi	
Tire size	Front	Rear
205/55 R16	280/41	280/41

Part Number - 5G0 010 000 AH-	Golf	
	kPa/psi	
Tire size	Front	Rear
225/40 R18 92Y XL	270/39	270/39
T125/70 R18 ¹⁾	420/61	

¹⁾ Spare tire

Part Number - 5G0 010 000 GF-	Golf	
	kPa/psi	
Tire size	Front	Rear
235/35 R19 91Y XL	270/39	270/39
T125/70 R18 ¹⁾	420/61	

¹⁾ Spare tire

Part Number - 5G0 010 000 JB-	Golf					
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all ¹⁾	230/2.3/33	230/2.3/33	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41
T125/70 R16	415/4.2/61					
T125/70 R18						

¹⁾ Applies to all approved tire/wheel combinations. → Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 JC-	Golf					
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all ¹⁾	240/2.4/35	240/2.4/35	210/2.1/30	210/2.1/30	240/2.4/35	280/2.8/41
T125/70 R16	415/4.2/61					
T125/70 R18						

¹⁾ Applies to all approved tire/wheel combinations. → Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



Part Number - 5G0 010 000 JC-		Golf				
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
195/65 R15	240/2.4/35	240/2.4/35	210/2.1/30	210/2.1/30	240/2.4/35	280/2.8/41
205/55 R16						
205/50 R17						
225/45 R17						
225/40 R18						
T125/70 R16	415/4.2/61					
T125/70 R18						

Part Number - 5G0 010 000 JD-		Golf			
	Half load kPa/bar/psi			Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	
225/35 R19	230/2.3/33	230/2.3/33	250/2.5/36	290/2.9/42	
T125/70 R16	415/4.2/61				
T125/70 R18					

Part Number - 5G0 010 000 JB-		Golf				
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
205/55 R16	230/2.3/33	230/2.3/33	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41
225/45 R17						
205/50 R17						
225/40 R18						
T125/70 R16	415/4.2/61					
T125/70 R18						

Part Number - 5G0 010 000 JP-		Golf								
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi					
Tire size	Front	Rear	Front	Rear	Front	Rear				
205/55 R16	250/2.5/36	250/2.5/36	220/2.2/32	220/2.2/32	250/2.5/36	290/2.9/42				
205/50 R17										
225/45 R17										
T125/70 R16	415/4.2/61									
T125/70 R18										



Part Number - 5G0 010 000 JQ-		Golf			
	Half load kPa/bar/psi		Full load kPa/bar/psi		
Tire size	Front	Rear	Front	Rear	
225/40 R18	230/2.3/33	230/2.3/33	260/2.6/38	300/3.0/44	
225/35 R19					
T125/70 R16	415/4.2/61				
T125/70 R18					

Part Number - 5G0 010 000 JF-		Golf				
		Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi
Tire size		Front	Rear	Front	Rear	Front Rear
205/55 R16		270/2.7/39	270/2.7/39	240/2.4/35	240/2.4/35	270/2.7/39 300/3.0/44
225/45 R17						

Part Number - 5G0 010 000 JG-		Golf		
		Half load kPa/bar/psi		Full load kPa/bar/psi
Tire size		Front	Rear	Front Rear
225/40 R18		260/2.6/38	260/2.6/38	280/2.8/41 300/3.0/44

Part Number - 5G0 010 000 JH-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16	250/2.5/36	250/2.5/36	280/2.8/41	300/3.0/44
225/45 R17				
205/50 R17				
225/40 R18				
T125/70 R18	415/4.2/61			

Part Number - 5G0 010 000 JJ-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
225/35 R19	280/2.8/41	280/2.8/41	300/3.0/44	330/3.3/48
T125/70 R18	415/4.2/61			



Part Number - 5G0 010 000 JH-		Golf		
		Half load kPa/bar/psi		Full load kPa/bar/psi
Tire size		Front	Rear	Front Rear
all ¹⁾		250/2.5/36	250/2.5/36	280/2.8/41 300/3.0/44
T125/70 R18		415/4.2/61		
T125/70 R16				

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 JE-		Golf				
		Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi
Tire 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	260/2.6/38 280/2.8/41
T125/70 R16		415/4.2/61				
T125/70 R18						

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 JK-		Golf				
		Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi
Tire size		Front	Rear	Front	Rear	Front Rear
225/40 R18		260/2.6/38	260/2.6/38	230/2.3/33	230/2.3/33	260/2.6/38 290/2.9/42
T125/70 R16		415/4.2/61				
T125/70 R18						

Part Number - 5G0 010 000 JL-		Golf				
		Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi
Tire 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

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



Part Number - 5G0 010 000 JM-		Golf				
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
205/55 R16	270/2.7/39	270/2.7/39	240/2.4/35	240/2.4/35	270/2.7/39	300/3.0/44
225/45 R17						
205/50 R17						
T125/70 R18	415/4.2/61					
T125/70 R16						

Part Number - 5G0 010 000 JN-		Golf		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
225/40 R18	250/2.5/36	250/2.5/36	280/2.8/41	310/3.1/45
225/35 R19				
T125/70 R16	415/4.2/61			
T125/70 R18				

Part Number - 5G0 010 000 JK-		Golf				
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all ¹⁾	260/2.6/38	260/2.6/38	230/2.3/33	230/2.3/33	260/2.6/38	290/2.9/42
T125/70 R16	415/4.2/61					
T125/70 R18						

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 JM-		Golf				
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire 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	300/3.0/44
T125/70 R18	415/4.2/61					

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



Part Number - 5G0 010 000 B-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
all ¹⁾	280/2.8	280/2.8	280/2.8	280/2.8

¹⁾ Applies to all approved tire/wheel combinations. ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 JR-		Golf		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
all ¹⁾	250/2.5	250/2.5	280/2.8	300/3.0
T125/70 R18	415/4.2			

¹⁾ Applies to all approved tire/wheel combinations. ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

4.8.6 Tire Pressures, Golf Wagon



Note

- ◆ Make sure the tire pressure label is there during the pre-delivery inspection. Order a new sticker from the Electronic Parts Catalog (ETKA) if it is missing.
- ◆ The required tires pressures for the relevant model are on a sticker attached to the inside of fuel filler flap, or on driver side B-pillar.
- ◆ If the tire pressure label is missing, do the following:
- ◆ Get the correct part number for the vehicle in the Parts Catalog.
- ◆ With the part number get the corresponding tire pressure from the tire pressure label.
- ◆ Standard pressure: If there are no tire pressures give under a part number, then one standard pressure applies for all approved tire/wheel combinations. ➔ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Check the tire pressure using Tire Inflation Device/Tire Filler Unit - VAS5216- and correct if necessary.

Part Number - 5G0 010 852 D-		Golf Wagon		
Part Number - 5G0 010 873 L-				
Part Number - 5G0 010 000 DE-				
Part Number - 5G0 010 000 DK-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41




Part Number - 5G0 010 852 D-	Golf Wagon			
Part Number - 5G0 010 873 L-				
Part Number - 5G0 010 000 DE-				
Part Number - 5G0 010 000 DK-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
T125/70 R16 ²⁾	415/4.2/61			
T125/70 R18 ²⁾				

1) Applies to all approved tire/wheel combinations ➤ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

2) Spare wheel

Part Number - 5G0 010 873 F-	Golf Wagon						
Part Number - 5G0 010 873 M-							
Part Number - 5G0 010 000 DF-							
Part Number - 5G0 010 000 DL-							
	Half load kPa/bar/psi		Full load kPa/bar/psi				
Tire size	Front	Rear	Front	Rear			
195/65 R15	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41			
205/55 R16							
225/45 R17							
205/50 R17	220/2.2/32	220/2.2/32	240/2.4/35	290/2.9/42			
225/40 R18							
T125/70 R16 ¹⁾	415/4.2/61						
T125/70 R18 ¹⁾							

1) Spare tire

Part Number - 5G0 010 873 G-		 Golf Wagon		
Part Number - 5G0 010 873 N-				
Part Number - 5G0 010 000 DG-				
Part Number - 5G0 010 000 DM-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
195/65 R15 M&S	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41
205/55 R16				
225/45 R17				
205/50 R17	220/2.2/32	220/2.2/32	240/2.4/35	290/2.9/42
225/40 R18				
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

1) Spare tire




Part Number - 5G0 010 000 DH-	Golf Wagon						
Part Number - 5G0 010 000 DN-							
	Half load kPa/bar/psi		Full load kPa/bar/psi				
Tire size	Front	Rear	Front	Rear			
195/65 R15	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41			
205/55 R16							
225/45 R17							
205/50 R17	230/2.3/33	230/2.3/33	250/2.5/36	300/3.0/44			
225/40 R18							
T125/70 R16 ¹⁾	415/4.2/61						
T125/70 R18 ¹⁾							

1) Spare tire

Part Number - 5G0 010 000 B-		Golf Wagon				
Part Number - 5G0 010 000 C-						
	Half load kPa/bar/psi		Full load kPa/bar/psi			
Tire size	Front	Rear	Front	Rear		
195/65 R15	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41		
205/55 R16						
225/45 R17						
205/50 R17	240/2.4/35	240/2.4/35	260/2.6/38	310/3.1/45		
225/40 R18						
T125/70 R16 ¹⁾	415/4.2/61					
T125/70 R18 ¹⁾						

1) Spare tire

Part Number - 5G0 010 873 H-		 Golf Wagon				
Part Number - 5G0 010 873 P-						
Part Number - 5G0 010 000 DJ-						
Part Number - 5G0 010 000 DP-						
	Half load kPa/bar/psi		Full load kPa/bar/psi			
Tire size	Front	Rear	Front	Rear		
205/55 R16	230/2.3/33	230/2.3/33	250/2.5/36	300/3.0/44		
225/45 R17						
205/50 R17	250/2.5/36	250/2.5/36	270/2.7/39	320/3.2/46		
225/40 R18						
T125/70 R16 ¹⁾	415/4.2/61					
T125/70 R18 ¹⁾						

1) Spare tire



Part Number - 5G0 010 873 K-		Golf Wagon		
Part Number - 5G0 010 873 R-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
195/65 R15	210/2.1/30	210/2.1/30	230/2.3/33	280/2.8/41
205/55 R16				
225/45 R17				
205/50 R17	230/2.3/33	230/2.3/33	250/2.5/36	300/3.0/44
225/40 R18				
T125/70 R18 ¹⁾	415/4.2/61			

¹⁾ Spare tire

Part Number - 5G0 010 873 J-		Golf Wagon		
Part Number - 5G0 010 873 Q-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	240/2.4/35	240/2.4/35	240/2.4/35	280/2.8/41

¹⁾ Applies to all approved tire/wheel combinations. → Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 873 S-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	200/2.0	200/2.0	230/2.3	280/2.8
205/55 R16 91V				
225/45 R17 91W				
205/50 R17 93V				
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 873 T-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	200/2.0	200/2.0	230/2.3	280/2.8
205/55 R16 91V				
225/45 R17 91W				
205/50 R17 93V	220/2.2	220/2.2	240/2.4	290/2.9



Part Number - 5G0 010 873 T-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 874-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	200/2.0	200/2.0	230/2.3	280/2.8
225/45 R17 91W				
205/50 R17 93V	220/2.2	220/2.2	240/2.4	290/2.9
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾	AG Volkswagen AG			

¹⁾ Spare tire

Part Number - 5G0 010 874 B-		Golf Wagon				
	Half load kPa/bar		Full load kPa/bar			
Tire size	Front	Rear	Front	Rear		
195/65 R15 91H	210/2.1	210/2.1	230/2.3	280/2.8		
205/55 R16 91V						
225/45 R17 91W						
205/50 R17 93V	230/2.3	230/2.3	250/2.5	300/3.0		
225/40 R18 92Y						
T125/70 R16 96M ¹⁾	415/4.2					
T125/70 R18 99M ¹⁾						

¹⁾ Spare tire

Part Number - 5G0 010 874 A-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R16 91V	230/2.3	230/2.3	250/2.5	300/3.0
225/45 R17 91W				
205/50 R17 93V	250/2.5	250/2.5	270/2.7	320/3.2



Part Number - 5G0 010 874 A-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 DF-		Golf Wagon				
Part Number - 5G0 010 000 DL-						
	Half load kPa/bar/psi		Full load kPa/bar/psi			
Tire size	Front	Rear	Front	Rear		
195/65 R15	200/2.0/29	200/2.0/29	230/2.3/33	280/2.8/41		
205/55 R16						
225/45 R17						
205/50 R17	220/2.2/32	220/2.2/32	240/2.4/35	290/2.9/42		
225/40 R18						
T125/70 R16 ¹⁾	415/4.2/61					
T125/70 R18 ¹⁾						

¹⁾ Spare tire

Part Number - 5G0 010 000 DQ-		Golf Wagon		
	Half load bar		Full load bar	
Tire size	Front	Rear	Front	Rear
all ¹⁾	2.0	2.0	2.3	2.8
Emergency spare wheel	4.2			

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 GM-		Golf Wagon		
	Half load bar		Full load bar	
Tire size	Front	Rear	Front	Rear
all ¹⁾	2.6	2.6	2.8	3.3
T125/70 R18	4.2			

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



Part Number - 5G0 010 000 GS-		Golf Wagon		
	Half load bar		Full load bar	
Tire size	Front	Rear	Front	Rear
all ¹⁾	2.7	2.7	2.7	3.1
T125/70 R18	4.2			

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 EC-		Golf Wagon				
Part Number - 5G0 010 000 EE-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all ¹⁾	240/2.4/35	240/2.4/35	210/2.1/30	210/2.1/30	240/2.4/35	290/2.9/42

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 ED-		Golf Wagon				
Part Number - 5G0 010 000 EF-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all ¹⁾	240/2.4/35	240/2.4/35	210/2.1/30	210/2.1/30	240/2.4/35	280/2.8/41

¹⁾ Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 5G0 010 000 DR-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	200/2.0	200/2.0	230/2.3	280/2.8
205/55 R16 91V				
205/50 R17 93V				
225/45 R17 91W				
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire



Part Number - 5G0 010 000 DS-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
195/65 R15 91H	200/2.0	200/2.0	230/2.3	280/2.8
205/55 R16 91V				
225/45 R17 91W				
205/50 R17 93V	220/2.2	220/2.2	240/2.4	290/2.9
225/40 R18 92Y				
T125/70 R16 96M ¹⁾	415/4.2			
T125/70 R18 99M ¹⁾				

¹⁾ Spare tire

Part Number - 5G0 010 000 DT-		Golf Wagon				
	Half load kPa/bar		Full load kPa/bar			
Tire size	Front	Rear	Front	Rear		
205/55 R16 91V	200/2.0	200/2.0	230/2.3	280/2.8		
225/45 R17 91W						
205/50 R17 93V	220/2.2	220/2.2	240/2.4	290/2.9		
225/40 R18 92Y						
T125/70 R16 96M 1)	415/4.2					
T125/70 R18 99M 1)						

¹⁾ Spare tire

Part Number - 5G0 010 000 EA-		Golf Wagon				
	Half load kPa/bar		Full load kPa/bar			
Tire size	Front	Rear	Front	Rear		
195/65 R15 91H	210/2.1	210/2.1	230/2.3	280/2.8		
205/55 R16 91V						
225/45 R17 91W						
205/50 R17 93V	230/2.3	230/2.3	250/2.5	300/3.0		
225/40 R18 92Y						
T125/70 R16 96M ¹⁾	415/4.2					
T125/70 R18 99M ¹⁾						

¹⁾ Spare tire



Part Number - 5G0 010 000 EB-		Golf Wagon			
	Half load kPa/bar		Full load kPa/bar		
Tire size	Front	Rear	Front	Rear	
205/55 R16 91V	230/2.3	230/2.3	250/2.5	300/3.0	
225/45 R17 91W					
205/50 R17 93V	250/2.5	250/2.5	270/2.7	320/3.2	
225/40 R18 92Y					
T125/70 R16 96M ¹⁾	415/4.2				
T125/70 R18 99M ¹⁾					

¹⁾ Spare tire

Part Number - 5G0 010 000 EG-		Golf Wagon		
Part Number - 5G0 010 000 EH-				
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/55 R16	240/2.4/35	240/2.4/35	270/2.7/39	320/3.2/46
225/45 R17				
205/50 R17	250/2.5/36	250/2.5/36	280/2.8/41	330/3.3/48
225/40 R18				
T125/70 R16 ¹⁾	415/4.2/61			
T125/70 R18 ¹⁾				

¹⁾ Spare tire

Part Number 5G0 010 000 GJ-		Golf Wagon		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
205/50 R17	260/2.6/38	260/2.6/38	280/2.8/41	330/3.3/48
225/45 R17				
225/40 R18				
235/35 R19				
225/40 R18 M&S	280/2.8/41	280/2.8/41	320/3.2/46	350/3.5/51
T125/70 R18 ¹⁾	415/4.2/61			

¹⁾ Spare tire

Part Number - 5G0 010 000 GL-		Golf Wagon		
	Half load kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear
all ¹⁾	260/2.6/38	260/2.6/38	280/2.8/41	330/3.3/48
T125/70 R18 ²⁾	415/4.2/61			



1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

2) Spare wheel

Part Number - 5G0 010 000 GN-		Golf Wagon				
Part Number - 5G0 010 000 GQ-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire 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	310/3.1/45
T125/70 R18 ²⁾	415/4.2/61					

1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

2) Spare wheel

Part Number - 5G0 010 000 GP-		Golf Wagon				
Part Number - 5G0 010 000 GR-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all 1)	290/2.9/42	290/2.9/42	260/2.6/38	260/2.6/38	290/2.9/42	330/3.3/48
T125/70 R18 2)	415/4.2/61					

1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

2) Spare wheel

Part Number - 5G0 010 000 GT-		Golf Wagon				
Part Number - 5G0 010 000 HA-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all 1)	240/2.4/35	240/2.4/35	210/2.1/30	210/2.1/30	240/2.4/35	280/2.8/41
T125/70 R18 2)	415/4.2/61					

1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

2) Spare wheel



Part Number - 5G0 010 000 GK-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
225/45 R17 91W	260/2.6	260/2.6	280/2.8	330/3.3
225/40 R18 92Y				
235/35 R19 91Y				
T125/70 R18 99M ¹⁾	415/4.2			

¹⁾ Spare tire

Part Number - 5G0 010 000 HB-		Golf Wagon		
	Half load kPa/bar		Full load kPa/bar	
Tire size	Front	Rear	Front	Rear
205/55 R17 95V	240/2.4	240/2.4	270/2.7	310/3.1
225/45 R18 95W				
T125/70 R18 99M ¹⁾	415/4.2			

¹⁾ Spare tire

4.8.7 Tire Pressures, Golf Sportsvan



Note

- ◆ Make sure the tire pressure label is there during the pre-delivery inspection. Order a new sticker from the Electronic Parts Catalog (ETKA) if it is missing.
- ◆ The required tires pressures for the relevant model are on a sticker attached to the inside of fuel filler flap, or on driver side B-pillar.
- ◆ If the tire pressure label is missing, do the following:
- ◆ Get the correct part number for the vehicle in the Parts Catalog
- ◆ With the part number get the corresponding tire pressure from the tire pressure label.
- ◆ Standard pressure: If there are no tire pressures give under a part number, then one standard pressure applies for all approved tire/wheel combinations. ⇒ Wheel and Tire Guide: Rep. Gr. 44 ; Tire Information

Part Number - 510 010 000 N-	Golf Sportsvan					
Part Number - 510 010 000 T-						
Part Number - 510 010 000-						
Part Number - 510 010 000 A-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all ¹⁾	230/2.3/33	230/2.3/33	200/2.0/29	200/2.0/29	230/2.3/33	270/2.7/39



1) Applies to all approved tire/wheel combinations. → Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 510 010 000 P-	Golf Sportsvan					
Part Number - 510 010 000 AA-						
Part Number - 510 010 000 B-						
Part Number - 510 010 000 C-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire size	Front	Rear	Front	Rear	Front	Rear
all 1)	240/2.4/35	240/2.4/35	210/2.1/30	210/2.1/30	240/2.4/35	280/2.8/41

1) Applies to all approved tire/wheel combinations. → Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 510 010 000 Q-	Golf Sportsvan					
Part Number - 510 010 000 AB-						
Part Number - 510 010 000 D-						
Part Number - 510 010 000 E-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire 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	300/3.0/44

1) Applies to all approved tire/wheel combinations. → Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 510 010 000 R-	Golf Sportsvan					
Part Number - 510 010 000 AC-						
Part Number - 510 010 000 F-						
Part Number - 510 010 000 H-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire 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	300/3.0/44

1) Applies to all approved tire/wheel combinations. → Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 510 010 000 G-	Golf Sportsvan					
Part Number - 510 010 000 J-						
	Half load kPa/bar/psi		Half load comfort kPa/bar/psi		Full load kPa/bar/psi	
Tire 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	280/2.8/41



1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 510 010 000 S-		Golf Sportsvan				
Part Number - 510 010 000 AD-						
Part Number - 510 010 000 K-						
Part Number - 510 010 000 L-						
	Half load kPa/bar/psi	Half load comfort kPa/bar/psi		Full load kPa/bar/psi		
Tire 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	310/3.1/45

1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 510 010 000 M-		Golf Sportsvan			
		Half load bar		Full load bar	
Tire size	Front	Rear	Front	Rear	
all ¹⁾	2.2	2.2	2.5	3.0	
Emergency spare wheel	4.2				

1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .

Part Number - 510 010 000 AE-		Golf Sportsvan			
		Half load bar		Full load bar	
Tire size	Front	Rear	Front	Rear	
all ¹⁾	2.1	2.1	2.4	2.8	
Emergency spare wheel	4.2				

1) Applies to all approved tire/wheel combinations. ⇒ Wheel and Tire Guide; Rep. Gr. 44 ; Tire Information .



4.9 Brake and Clutch System, Changing Brake Fluid



WARNING

- ◆ *Brake fluid must never come into contact with fluids containing mineral oils (oil, gas, cleaning solutions). Oils containing minerals damage seals and rubber grommets on brake systems.*
- ◆ *Brake fluid is poisonous. Do not let brake fluid come in contact with the paint due to its corrosive effects.*
- ◆ *Brake fluid is hygroscopic, which means that it absorbs moisture from the air. Always store brake fluid in air-tight containers.*
- ◆ *Wash off any spilled brake fluid with plenty of water.*
- ◆ *Follow all disposal regulations.*



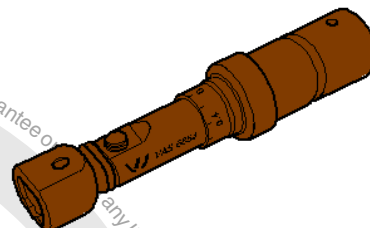
Caution

- *Use only Brake Fluid VW 501 14 - B 000 750- in this vehicle.*

Special tools and workshop equipment required

- ◆ Mini Torque Wrench - VAS6854-

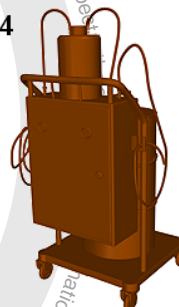
VAS 6854



W00-11474

- ◆ Brake Charger/Bleeder Unit - VAS 5234-

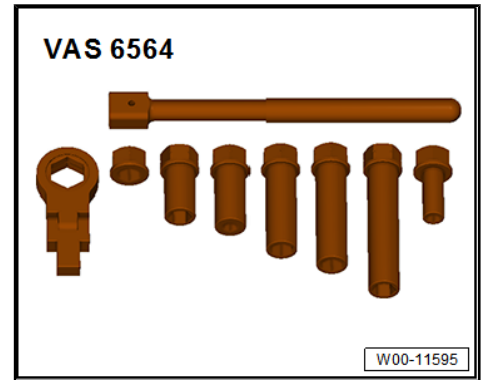
VAS 5234



W00-11277



◆ Brake Bleeding Tool Set - VAS6564-



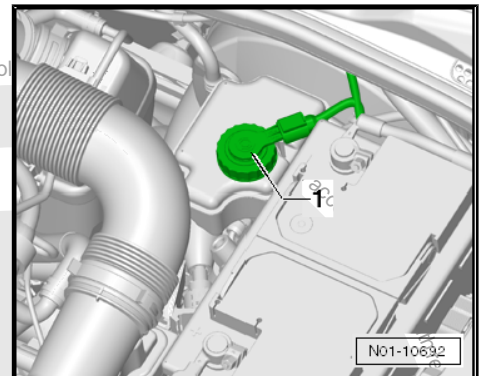
◆ Bleeder Hose - VAG1238B3-

Extract the Brake Fluid



Note

- ◆ *Do not remove the screen inside the brake fluid reservoir.*
- ◆ *After extracting, observe that no further brake fluid runs into the reservoir (the brake fluid level in the reservoir must align with the lower edge of the screen).*
- Remove the cap -1- from the brake fluid reservoir.



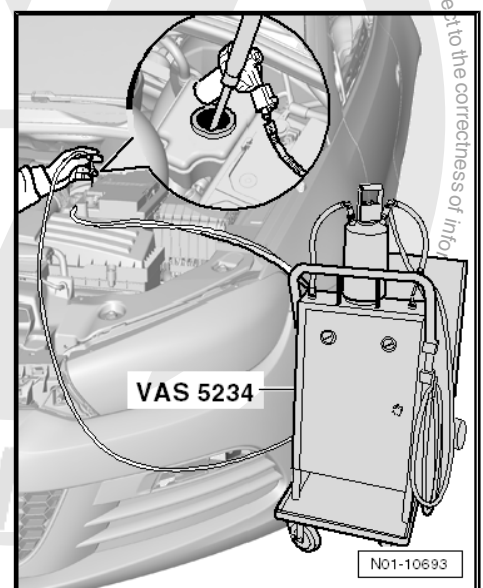
- Use the hose from the Brake Charger/Bleeder Unit - VAS5234- to extract as much brake fluid as possible.

Attach the Brake Charger/Bleeder Unit:



Note

- ◆ *The bleed hose must fit tightly over the bleed screw to prevent air from getting into the brake system.*
- ◆ *The brake fluid level in the reservoir must be high enough so that air cannot get into the brake system.*
- ◆ *For RHD vehicles, begin with the front right.*

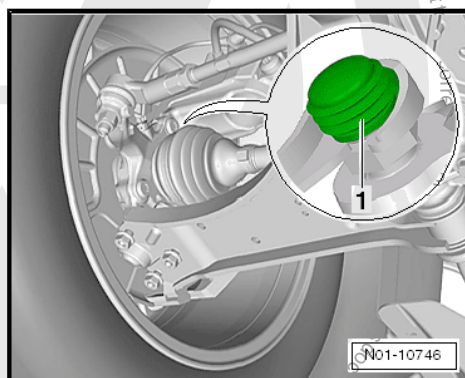
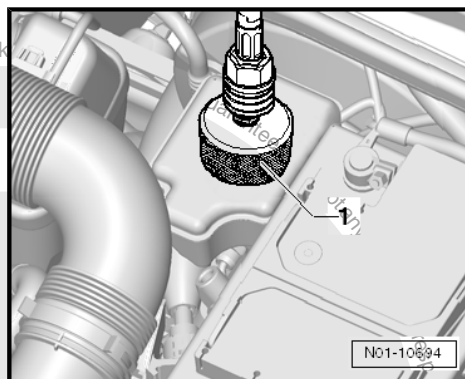




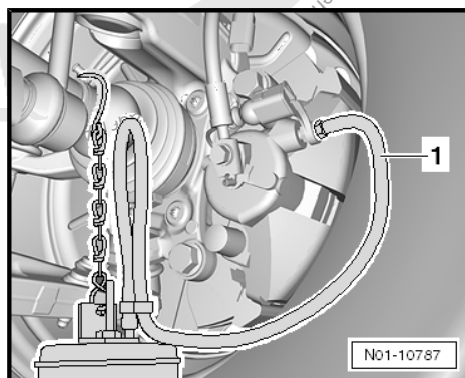
- Attach the adapter -1- to the brake fluid reservoir.
- Connect the hose -2- on the Brake Charger/Bleeder Unit -VAS 5234- to the adapter -1-.
- Adjust the correct pressure on the Brake Charger/Bleeder Unit -VAS 5234-. Refer to the Operating Instructions.

Front Axle

- Remove the cap -1- from the bleed screw on the left front brake caliper.

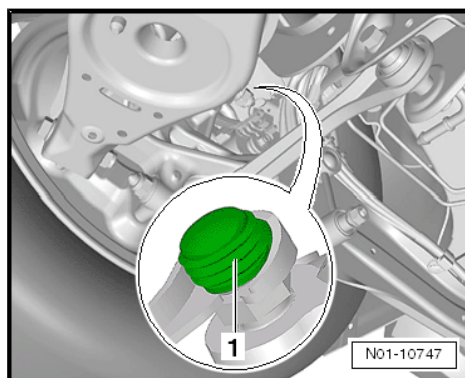


- Connect the collector bottle bleed hose -1- to the left front breather valve.
- Open the breather valve and let the corresponding quantity of brake fluid drain out ➔ [page 72](#) .
- Close the bleed screw. Torque. Refer to ➔ Brake System; Rep. Gr. 47 ; Front Brake Caliper; Overview - Front Brake Caliper .
- Reattach the brake caliper bleeder screw cap.
- Repeat the steps for the front right.



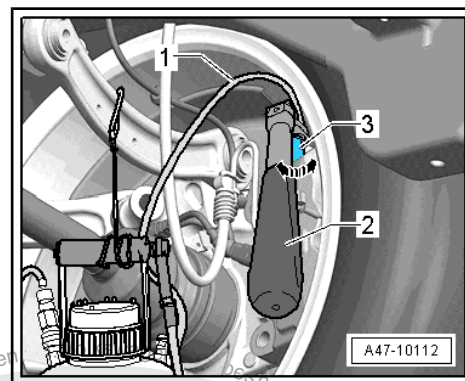
Rear Axle

- Remove both rear wheels to access the breather valve if necessary.
- Remove the cap -1- on the left rear brake caliper breather valve.





- Guide the bleed hose -1- from the Brake Bleeding Tool Set - VAS6564- from the inside of the rim through the socket -3- and connect to the bleed screw.
- Open the breather valve and let the corresponding quantity of brake fluid drain out ➔ [page 72](#) .
- Close the breather valve: torque. Refer to ➔ Brake System; Rep. Gr. 47 ; Overview - Rear Brake Caliper .
- Install the cap on the left rear brake caliper bleed valve.
- Repeat the same procedure on the right rear side of the vehicle.



Bleeding the Clutch Slave Cylinder



Note

Only on vehicles with a manual transmission.

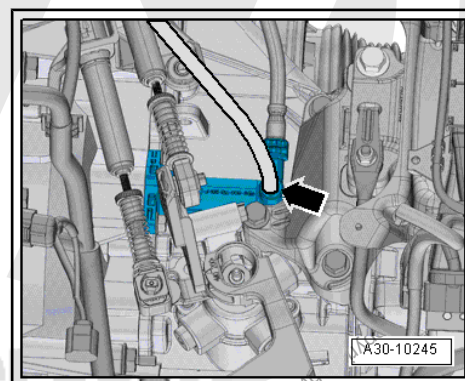
- When the breather valve -arrow- is not accessible, then remove the complete air filter housing.
- Refer to ➔ Engine Mechanical, Fuel Injection and Glow Plug; Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing .

or

- Refer to ➔ Engine Mechanical, Fuel Injection and Ignition; Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the dust cap from the breather valve -arrow-.
- Connect the bleed hose and connect the pressure hose with the collector bottle.

Use the Bleed Hose (670 mm long) - VAG1238/B3- if necessary to bleed.

- Open the breather valve.
- Allow approximately 100 ml brake fluid to escape.
- Close the bleeder valve.
- Push the clutch pedal quickly from stop to stop 10 to 15 times.
- Open the breather valve.
- Allow another 50 ml brake fluid to escape.
- Close the breather valve and install the dust cap.

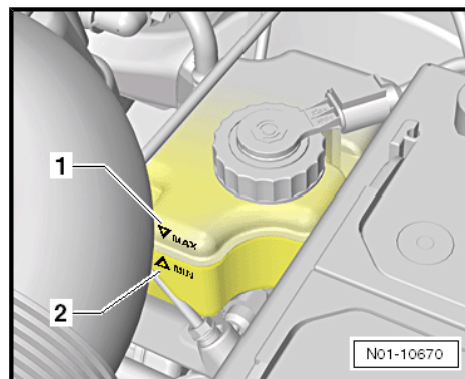


Tightening Specification	Nm
Breather valve	4.5

- After completing the bleeding procedure press the clutch pedal several times.
- Install the air filter housing in reverse order of removal.
- Move filler lever on Brake Charger/Bleeding Unit - VAS5234- to position "B" (see operating instructions).
- Remove the filler hose from the adapter.
- Remove the adapter from the brake fluid reservoir.

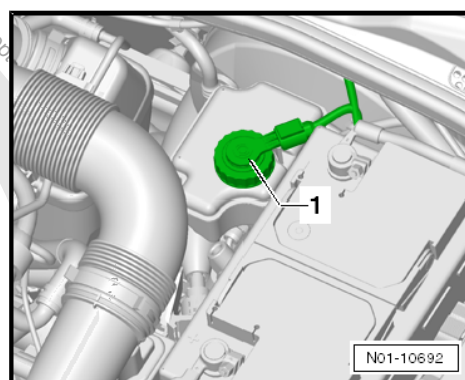


- Check the brake fluid level and fill if necessary. It must be between -1- and -2-.



- Install the brake fluid reservoir cover -1-.
- Install the rear wheel if necessary.
- Perform a function test during the test drive.

Sequence and Brake Fluid Capacity Table



Bleeder valve sequence:	Brake fluid capacity, which must flow out of the bleeder valves:	
Brake caliper		
left front		0.20 liter
right front		0.20 liter
Brake cylinder/brake caliper		
Left rear		0.30 liter
Right rear		0.30 liter
Clutch slave cylinder		0.15 liter
Total quantity for automatic transmission including the extracted quantity from the brake fluid reservoir		approximately 1.00 liters
Total quantity for manual transmission including the extracted quantity from the brake fluid reservoir		approximately 1.15 liters

4.10 Brake System and Shock Absorbers, Visually Inspecting for Leaks and Damage

Check the following components for leaks and damage:

- ◆ Brake master cylinder
- ◆ Brake booster (with ABS: hydraulic unit)
- ◆ Brake pressure regulator
- ◆ Brake caliper
- ◆ Shock absorber (only during inspection)



- ◆ Make sure the dust caps are on the brake fluid bleeder valves.
- Make sure the brake hoses are not twisted.
- Make sure that no brake hose must touch any vehicle components at the maximum steering angle.
- Check brake hoses for porosity and cracks.
- Check brake hoses for chafing.
- Check the brake line connections and fasteners for leaks and corrosion and for proper seating.



WARNING

Correct any malfunctions (repair procedure).

4.11 Front and Rear Brake Rotors, Checking Brake Pad Thickness and Condition

⇒ [“4.11.1 Front Disc Brake Pads”, page 73](#) .

⇒ [“4.11.2 Rear Disc Brake Pads”, page 74](#) .

⇒ [“4.11.3 Brake Rotors, Checking”, page 74](#) .

Special tools and workshop equipment required

- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

V.A.G 1332



WV00-11165

- ◆ Flashlight and mirror

Perform the Following Procedure:

The adapter to loosen/tighten the anti-theft wheel bolts is located in the vehicle tool kit. Refer to

⇒ [“4.51 Wheel Bolts, Tightening to Specification”, page 146](#) .

4.11.1 Front Disc Brake Pads

- To be better be able to evaluate the remaining pad thickness, use a mirror and, if necessary, remove the tire on the side where the break wear indicator is installed.
- Remove the wheel bolt caps if necessary. Refer to
⇒ [“4.51 Wheel Bolts, Tightening to Specification”, page 146](#) .
- Mark the position of wheel in relation to the brake rotor.
- Remove the wheel bolts and then the wheel.



- Measure the thickness of the outer and inner brake pad.

a - Pad Thickness "Without" Backing Plate

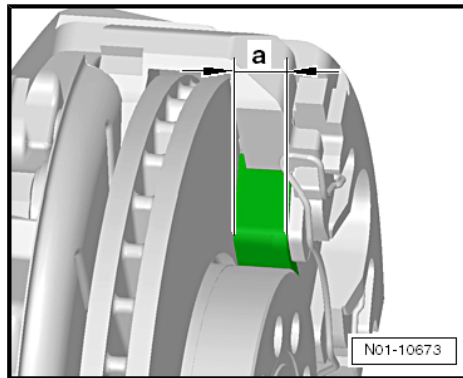
Permissible wear: 2 mm

With pad thickness (without backing plate) of 2 mm, the brake pads have reached their wear limit and must be replaced (repair procedure). Notify customer!



Note

When replacing the disc brake pads, it is absolutely necessary to check brake rotors for wear! Checking and replacing the brake pads, if necessary, is a repair procedure.



- Check the brake rotor for wear:

Procedure

Refer to ➔ Brake System; Rep. Gr. 46 ; Front Brakes; Overview
- Front Brakes .

- Install the wheel in previously marked position.
- Tighten the wheel bolts in diagonal sequence to the tightening specification. Refer to [➔ "4.51 Wheel Bolts, Tightening to Specification", page 146](#) .
- After the procedures have been completed, return the adapter to the vehicle tool kit.
- Pull off wheel bolt caps if necessary.

4.11.2 Rear Disc Brake Pads

- Shine a flashlight through an opening in the wheel rim.
- Check the thickness of outer pad visually.
- Shine a flashlight on the inner pad and hold up a mirror.
- Check thickness of inner pad visually.

a - Inner and Outer Pad Thickness, not Including Backing Plate

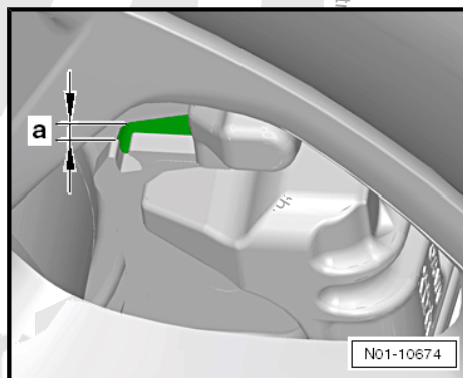
Permissible wear: 2 mm

With pad thickness (without backing plate) of 2 mm, the brake pads have reached their wear limit and must be replaced (repair procedure). Notify customer!



Note

When replacing the disc brake pads, it is absolutely necessary to check brake rotors for wear! Checking and replacing the brake pads, if necessary, is a repair procedure.



- Check the brake rotor for wear:

Procedure

Refer to ➔ Brake System; Rep. Gr. 46 ; Rear Brakes; Overview
- Rear Brakes .

4.11.3 Brake Rotors, Checking

Check all brake rotors for the following:

- ♦ Cracks



- ◆ Scoring
- ◆ Rust (no rust film)
- ◆ Wear on the brake rotor edge



Note

*Inform the customer if any damage is found on the brake rotor.
Replacing a brake rotor is a repair procedure.*

4.12 Brake Fluid Level, Checking

Special tools and workshop equipment required



Please observe the following:

- Brake fluid level is dependent on brake pad wear.
- The Brake Fluid - VW 501 14- with the part number -B 000 750- must be used.



WARNING

- ◆ **Brake fluid must never come into contact with fluids containing mineral oils (oil, gas, cleaning solutions). Oils containing minerals damage seals and rubber grommets on brake systems.**
- ◆ **Brake fluid is poisonous. Do not let brake fluid come in contact with the paint due to its corrosive effects.**
- ◆ **Brake fluid is hygroscopic, which means that it absorbs moisture from the air. Always store brake fluid in air-tight containers.**
- ◆ **Wash off any spilled brake fluid with plenty of water.**
- ◆ **Follow all disposal regulations.**

Brake Fluid Level at the Pre-Delivery Inspection:

- The fluid level must be at the max mark when the vehicle is delivered to the customer.



Note

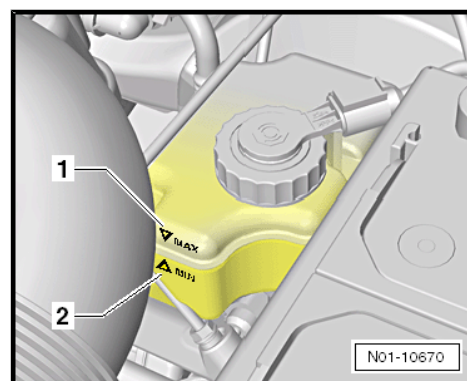
To prevent the brake fluid from overflowing from the reservoir, the level must not be over the max marking -1-.

Brake Fluid Level at Inspection Service:

Brake fluid level must always be evaluated depending on brake pad wear.

During operation of the vehicle, the brakes are automatically readjusted depending on wear of the brake pads. Because of the adjustment, brake fluid level will be slightly lower as a result.

- Recommended brake fluid level when brake pad wear limit is nearly reached:





"At the min mark and slightly above it" -2-, "NO TOPPING OFF REQUIRED".

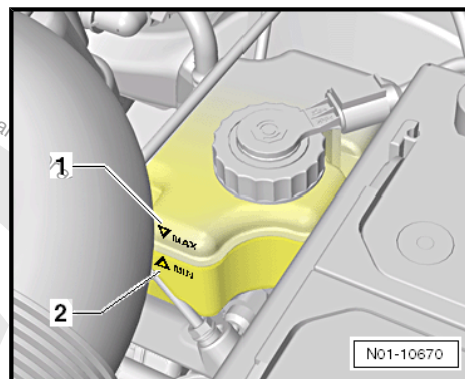
- Recommended brake fluid level when brake pads are new or are far removed from the brake pad wear limit:

"Between the min and max marks".



WARNING

If the fluid level goes below the min mark -2-, check brake system for leaks before adding more brake fluid. Refer to the "repair procedure".



4.13 6-Speed Direct Shift Gearbox (DSG®) Transmission 0D9, Changing Transmission Fluid and Filter

Procedure

Refer to ⇒ DSG Transmission; Rep. Gr. 34 ; Transmission Fluid; Transmission Fluid, Draining and Filling .

Refer to ⇒ DSG Transmission; Rep. Gr. 34 ; Transmission Fluid Circuit; Transmission Fluid Filter, Removing and Installing .

4.14 6-Speed Direct Shift Gearbox (DSG®) Transmission 0DD, Changing Transmission Fluid

Procedure

Refer to ⇒ DSG Transmission; Rep. Gr. 34 ; Transmission Fluid; Transmission Fluid, Draining and Filling .

4.15 Diesel Particulate Filter, Checking



Note

If the displays indicated in the procedure are not shown on the display. Refer to the Vehicle Diagnostic Tester Operating Instructions.

ODIS Service

- Connect the Vehicle Diagnostic Tester . Refer to ⇒ ["3.5 Vehicle Diagnostic Tester"](#) , page 14 .
- Switch on the ignition.
- Perform the vehicle identification.
- Enter the work order data or select "no work order".
- Select "control module".
- Select "engine electronics".
- Select "Guided Functions".
- Select "check particulate filter ash load value".
- Follow the "Guided Functions" instructions.



4.16 Three-Phase Current Drive, Calibrating



Note

- ◆ After deleting the DTC memory it is necessary to recalibrate the three-phase current drive, if there was the error Electric Drive Power and Control Electronics - JX1-.
- ◆ To recalibrate the three-phase current drive a road test (40 km/h more than 5 seconds) must be performed. Refer to [⇒ "4.50 Road Test, Performing \(Driving Behavior, Noises, A/C System, etc.\)", page 146](#).

Refer to ⇒ Electric Drive; Rep. Gr. 93 ; Electro-Drive Drive Motor; Three-Phase Current Drive VX54 Calibrating .

4.17 Power Window Regulators, Checking Position



Note

After disconnecting and reconnecting the battery, the power window one-touch up/down function does not work. Before delivering a new vehicle, the window regulator must be repositioned. The vehicle battery must not be disconnected after positioning.



WARNING

After disconnecting and reconnecting the battery, force limitation of the power window regulators will not function. This can cause serious injuries if, for example, fingers are caught in the window!

Perform the following procedure to position the power window regulator:



Note

The following procedure description is for the left front window. The positioning for the remaining window regulators is performed in the same manner using the respective switch in the driver door.

- Switch on the ignition.
- Close all doors and windows completely.
- Pull the window regulator button upward.
- Hold the button for at least one second in this position.
- Release the button and pull the button upward again.
- Hold the button for at least one second in this position.
- Turn off the ignition.

The one-touch up/one-touch down feature is now ready to be used.



Note

Either a single window regulator position can be restored, or several positions at the same time.

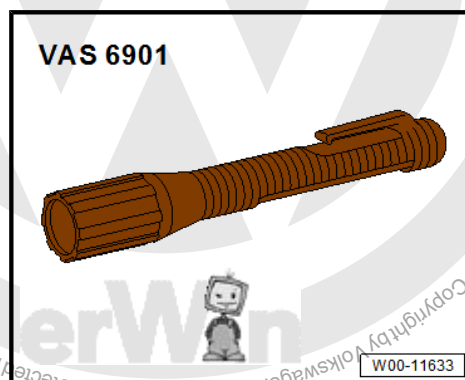
4.18 Natural Gas System, Visually Inspecting Natural Gas Fuel Tank for Corrosion, Performing Leak Test

Special tools and workshop equipment required

- ♦ Gas Leak Detector - VAS6227-

- ♦ Mirror

- ♦ LED Flashlight - VAS6901-



WARNING

For safety reasons, only specially trained personnel may service and perform maintenance work on the natural gas system.

Natural gas is highly flammable and when mixed with air it can ignite.

Keep any sources, which could ignite the natural gas, far away from the natural gas system.

Inhaling natural gas can make the technician drowsy and cause lung damage. At high concentrations, there is the danger of suffocating due to the lack of oxygen.

Natural gas is NOT odorless because an intense odor is added to it during processing.

Test Requirements:

- ♦ All locations on the natural gas system to be tested must be accessible.



- ◆ The malfunction indicator lamp inside the instrument cluster must not illuminate and the engine control module DTC memory must not have stored any natural gas-related entries.

- ◆ Draft-free work space



Note

- ◆ *A draft greater than 1.8 km/h (slow gust) leads to a false measurement result. For this reason make sure the work area is draft-free!*
- ◆ *When working on the natural gas system, make sure the work area is clean and tidy.*

Visual Inspection:

- Remove the air filter housing. Refer to ➤ Engine Mechanical, Fuel Injection Engine (Natural Gas, 4-Valve); Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the underbody trim panel. Refer to ➤ Body Exterior; Rep. Gr. 66 ; Overview - Underbody Trim Panels .
- Check the natural gas system for damage, corrosion and make sure the mounting is secure.
- Perform the complete visual inspection of the natural gas fuel tank using a mirror.



WARNING

If the visual inspection reveals that there is corrosion on the natural gas fuel tank, the corresponding components must be replaced for safety.

The corroded natural gas fuel tank can be under pressure and can cause serious injury.



Note

Replacement is a repair procedure.

Leakage Test:

- Switch on the ignition and start the engine in order to shift the pressure ratios in the natural gas system into the operating status. The engine can be switched off again for the leakage test.



Caution

- ◆ *Stagnant natural gas under pressure can escape from the natural gas containers!*
- ◆ *Natural gas is highly flammable and when mixed with air it can ignite.*
- ◆ *Manually close the fuel tank shut-off valves. Refer to ➤ Fuel Supply System - Natural Gas Engines; Rep. Gr. 20 ; Fuel Tank; Fuel Tank Shut-Off Valves, Closing Mechanically .*

- Using the Natural Gas Leak Detector for Natural Gas Vehicles - VAS6227- , check for leaks at the marked testing positions



-arrows-. Check all threaded connections in the natural gas system.

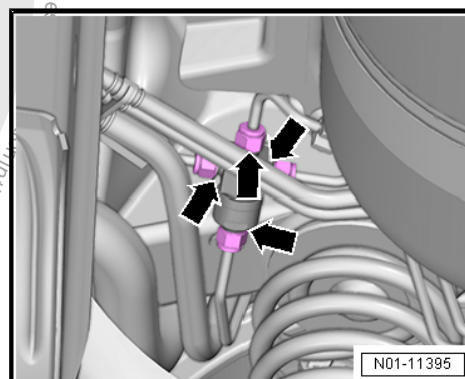
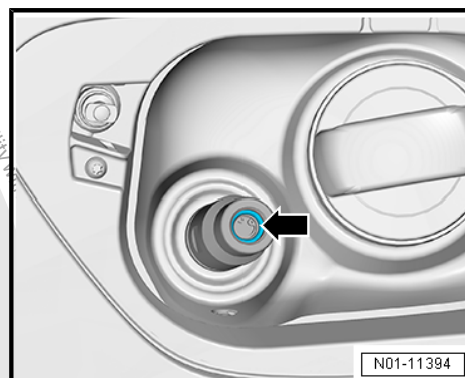
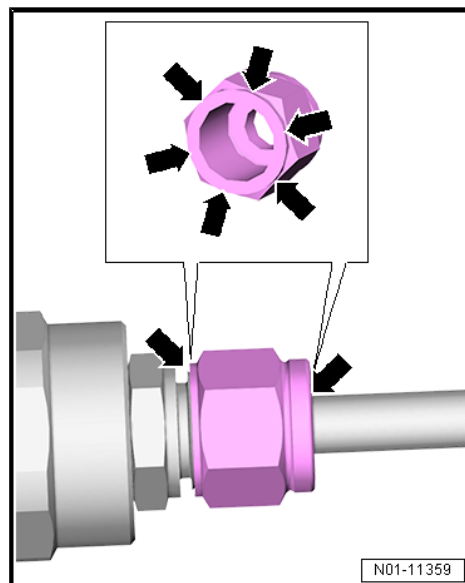
- The probe must be a maximum of 5 mm away from the area/ component to be tested! Measurement is no longer possible at distances greater than 5 mm.



Note

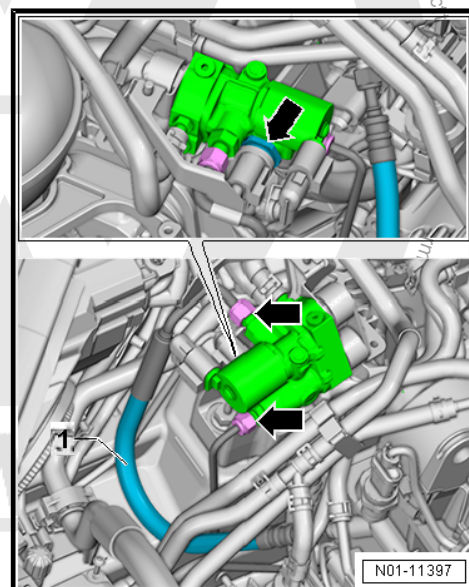
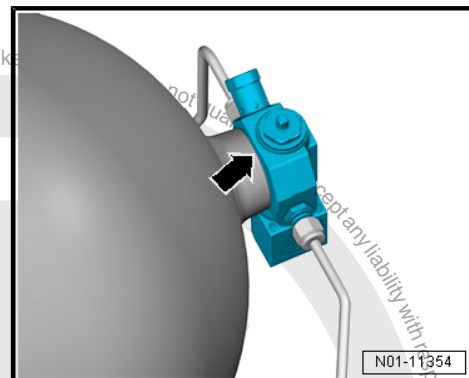
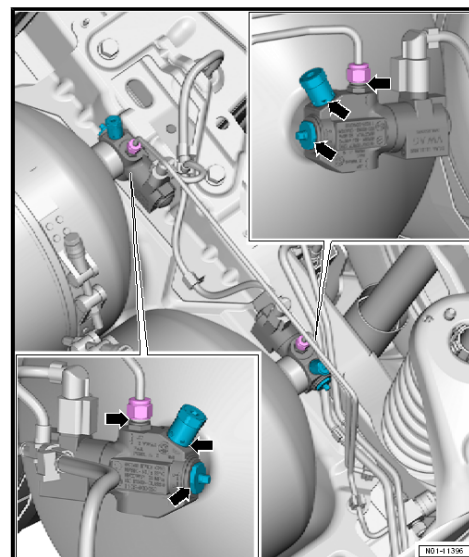
- ♦ The gas leak detector can only detect if there is gas in the surrounding air.
- ♦ The green LED for »OK« will light up on the natural gas leak detector. As soon as a yellow or red LED comes on, a leak detection spray must be used to verify if there actually is a gas leak. When using a leak detection spray, no bubbles must form in the sprayed area within a test time of three minutes. If there is a leak, repair it and then check the natural gas system again.

Test Locations:



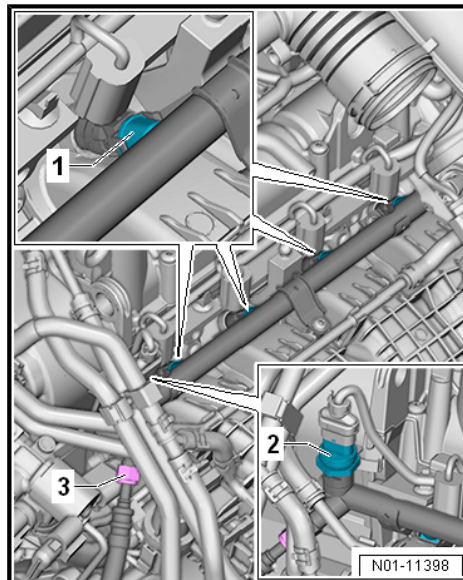


- ◆ Natural gas filler tube area -arrow-.
- ◆ Distribution piece -arrows- on the underbody.
- ◆ Valves for the natural gas fuel tank shut-off, flanges 1 and 2, with all connections, threaded connections and mechanical shut-off valves -arrows-.





- ◆ Electro-mechanical high pressure regulator for the natural gas system and all connections and threaded connections -arrows- Check the low pressure hose -1- condition.
- ◆ Natural gas distributor with natural gas supply valves -1-, the sensor for the natural gas distributor -2-, and connection for the low pressure line -3-.
- Install the air filter housing. Refer to ⇒ Engine Mechanical, Fuel Injection Engine (Natural Gas, 4-Valve); Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Install the underbody trim panel. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Overview - Underbody Trim Paness .



4.19 Natural Gas Tank, Replacing



WARNING

Only trained technicians may service and perform maintenance on the natural gas system.

Natural gas is highly flammable and when mixed with air it can ignite.

Keep any sources, which could ignite the natural gas, far away from the natural gas system.

Inhaling natural gas can make the technician drowsy and cause lung damage. At high concentrations, there is the danger of suffocating due to the lack of oxygen.

Natural gas is NOT odorless because an intense odor is added to it during processing.

Procedure Description:

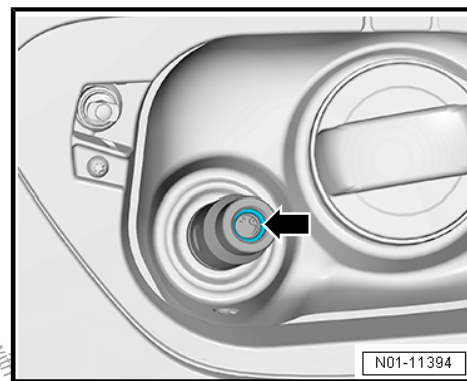
Refer to ⇒ Fuel Supply System - Natural Gas Engines; Rep. Gr. 20 ; Fuel Tank, Removing and Installing .

4.20 Natural Gas Filler Tube and Cap, Checking Condition, Cleaning and Checking the Seal if Necessary

- Open the tank flap and remove the cap from the natural gas filler neck.



- Check the gasket condition -arrow-.
- Check the natural gas filler neck for dirt, damage and surface corrosion. Clean the natural gas filler neck **ONLY** from the outside.
- If it is dirty, use compressed air to remove dirt. This will not damage the filler neck.
- If there is surface corrosion on the natural gas filler neck then remove the surface corrosion from the outside with a lint-free cloth.



4.21 DTC Memory for All Systems, Reading with Vehicle Diagnostic Tester and Correcting Faults According to Repair Procedure

Procedure



Note

If the displays indicated in the procedure are not shown on the display. Refer to the Vehicle Diagnostic Tester .

ODIS Service

- Connect the Vehicle Diagnostic Tester . Refer to ➤ **“3.5 Vehicle Diagnostic Tester ”, page 14** .
- Switch on the ignition.
- Perform the vehicle identification.
- Enter the work order data or select “no work order”.
- Select “control module”.
- Select “DTC memory list”
- Correct any faults according to the repair procedure.



Caution

In every case, the vehicle must be released to the customer with the DTC memory erased.

Static Errors

If one or more static errors are present in the DTC memory, it is recommended that these errors are corrected using the Guided Fault Finding with the consent of the customer.

Sporadic Errors

If only sporadic errors or notes are stored in the DTC memory and the customer has no concerns regarding an electronic vehicle system, delete the DTC memory.



4.22 Overview - Driving School Pedals

⇒ [“4.22.1 Overview - Driving School Pedals, Driver Side, Golf Sedan”, page 84](#)

⇒ [“4.22.2 Overview - Driving School Pedals, Front Passenger Side, Golf Sedan”, page 85](#)

4.22.1 Overview - Driving School Pedals, Driver Side, Golf Sedan

1 - Brake Carrier Push Rod

- ❑ Grease the Brake Carrier Push Rod. Refer to ⇒ [“4.23.4 Brake Transfer Push Rod Joint, Lubricating, Driver Side Driving School Pedals”, page 90](#)

2 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Right Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Right Bearing Area. Refer to ⇒ [“4.23.5 Right Shaft Bearing, Lubricating, Driver Side Driving School Pedals”, page 91](#)

3 - Brake Carrier Slot Lever

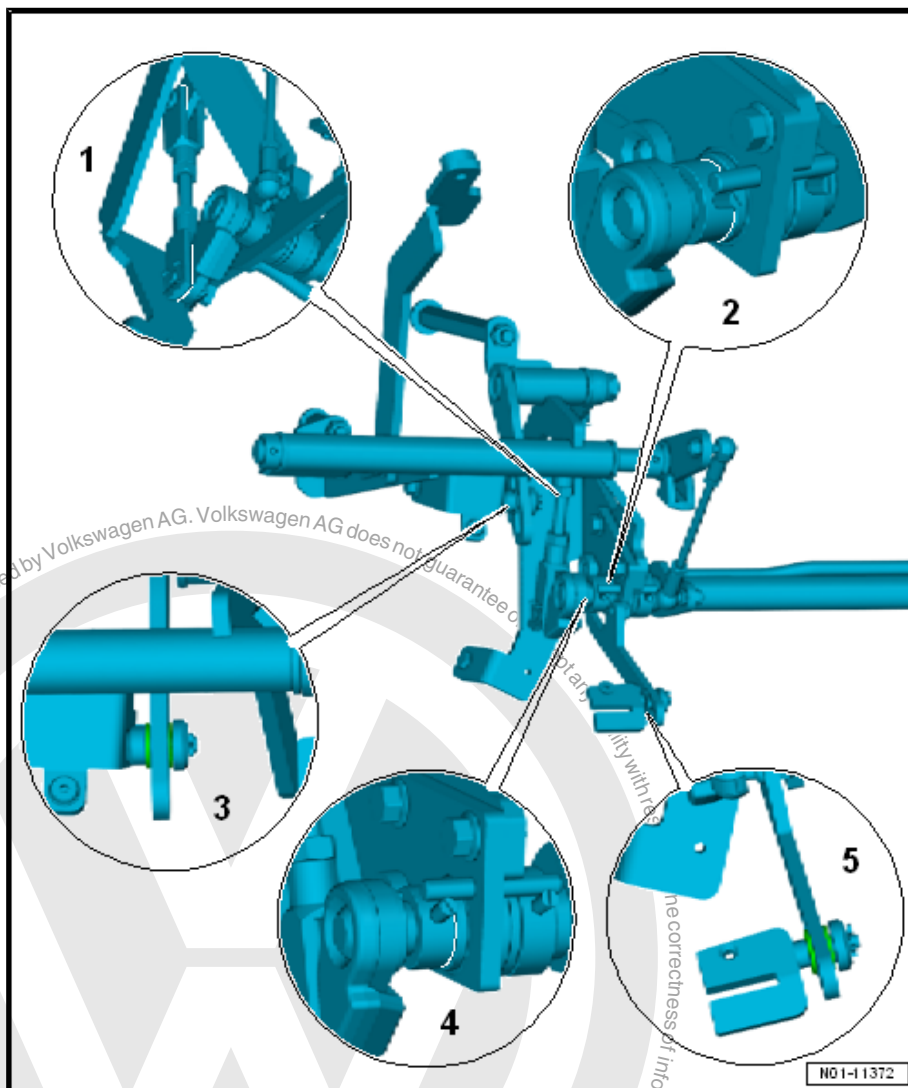
- ❑ Brake Carrier Slot Lever Greasing. Refer to ⇒ [“4.23.2 Brake Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals”, page 89](#)

4 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Left Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Left Bearing Area. Refer to ⇒ [“4.23.6 Left Shaft Bearing, Lubricating, Driver Side Driving School Pedals”, page 91](#)

5 - Accelerator Pedal Carrier Slot Lever

- ❑ Accelerator Pedal Carrier Slot Lever, Greasing. Refer to ⇒ [“4.23.3 Accelerator Pedal Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals”, page 90](#)





4.22.2 Overview - Driving School Pedals, Front Passenger Side, Golf Sedan

1 - Front Passenger Side Pedal System Shaft Mounting Bracket

- ❑ 8 Nm
- ❑ Threaded Connection, Checking For Secure Fit. Refer to
⇒ ["4.24 Driving School Pedals, Checking for Secure Bolt Fit"](#), page 93

2 - Control Equipment Buzzer

- ❑ Control Equipment Buzzer, Adjusting. Refer to
⇒ ["4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer"](#), page 97

3 - Front Passenger Side Wing Nut for Securing the Accelerator Pedal

- ❑ Threaded Connection, Checking For Secure Fit. Refer to
⇒ ["4.24 Driving School Pedals, Checking for Secure Bolt Fit"](#), page 93

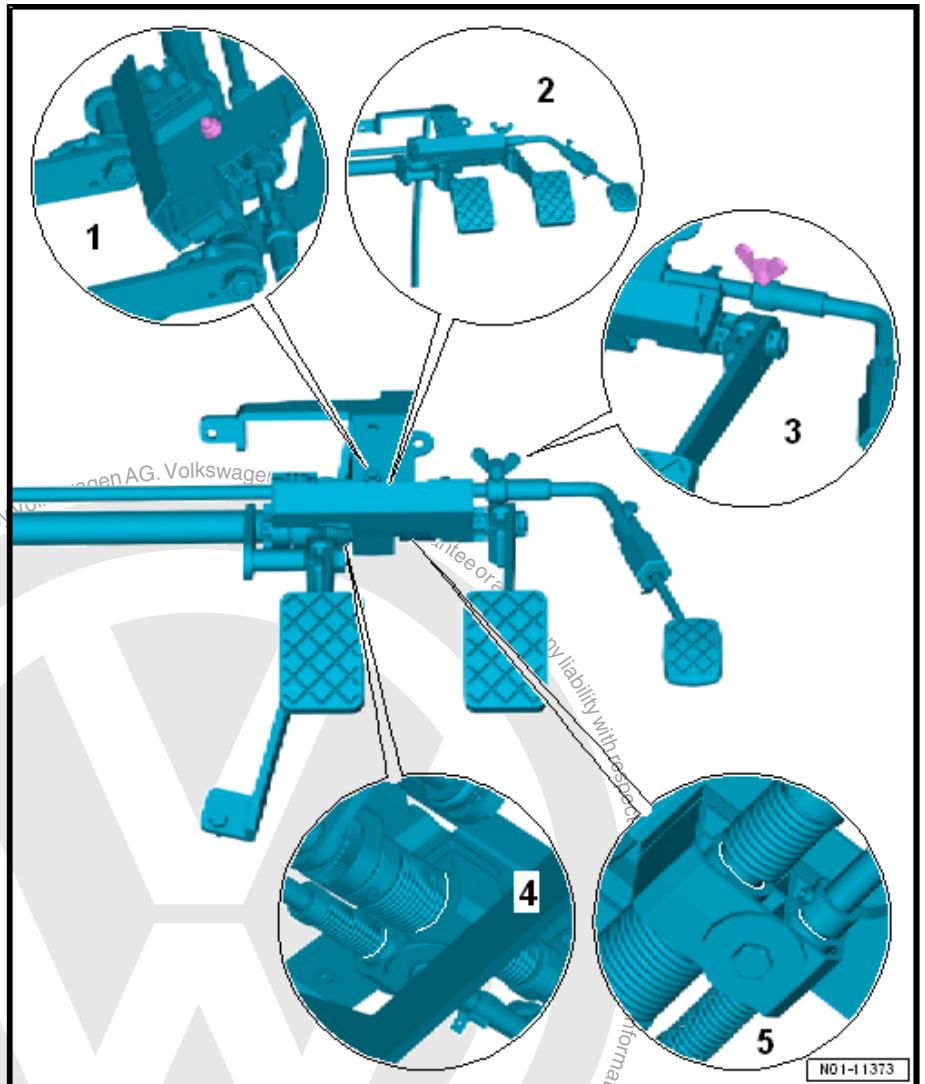
4 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Left Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Left Bearing Area. Refer to

⇒ ["4.23.7 Left Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals"](#), page 92

5 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Right Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Right Bearing Area. Refer to
⇒ ["4.23.8 Right Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals"](#), page 92





4.22.3 Overview - Driving School Pedals, Driver Side, Manual Transmission, Golf Sportsvan

1 - Brake Carrier Slot Lever

- ❑ Brake Carrier Slot Lever Greasing. Refer to ➔ ["4.23.2 Brake Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals"](#), page 89

2 - Brake Carrier Push Rod

- ❑ Grease the Brake Carrier Push Rod. Refer to ➔ ["4.23.4 Brake Transfer Push Rod Joint, Lubricating, Driver Side Driving School Pedals"](#), page 90

3 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Right Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Right Bearing Area. Refer to ➔ ["4.23.5 Right Shaft Bearing, Lubricating, Driver Side Driving School Pedals"](#), page 91

4 - Accelerator Pedal Carrier Slot Lever

- ❑ Accelerator Pedal Carrier Slot Lever, Greasing. Refer to ➔ ["4.23.3 Accelerator Pedal Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals"](#), page 90

5 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Left Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Left Bearing Area. Refer to ➔ ["4.23.6 Left Shaft Bearing, Lubricating, Driver Side Driving School Pedals"](#), page 91

6 - Mounting Bracket for Brake Pedal Carrier

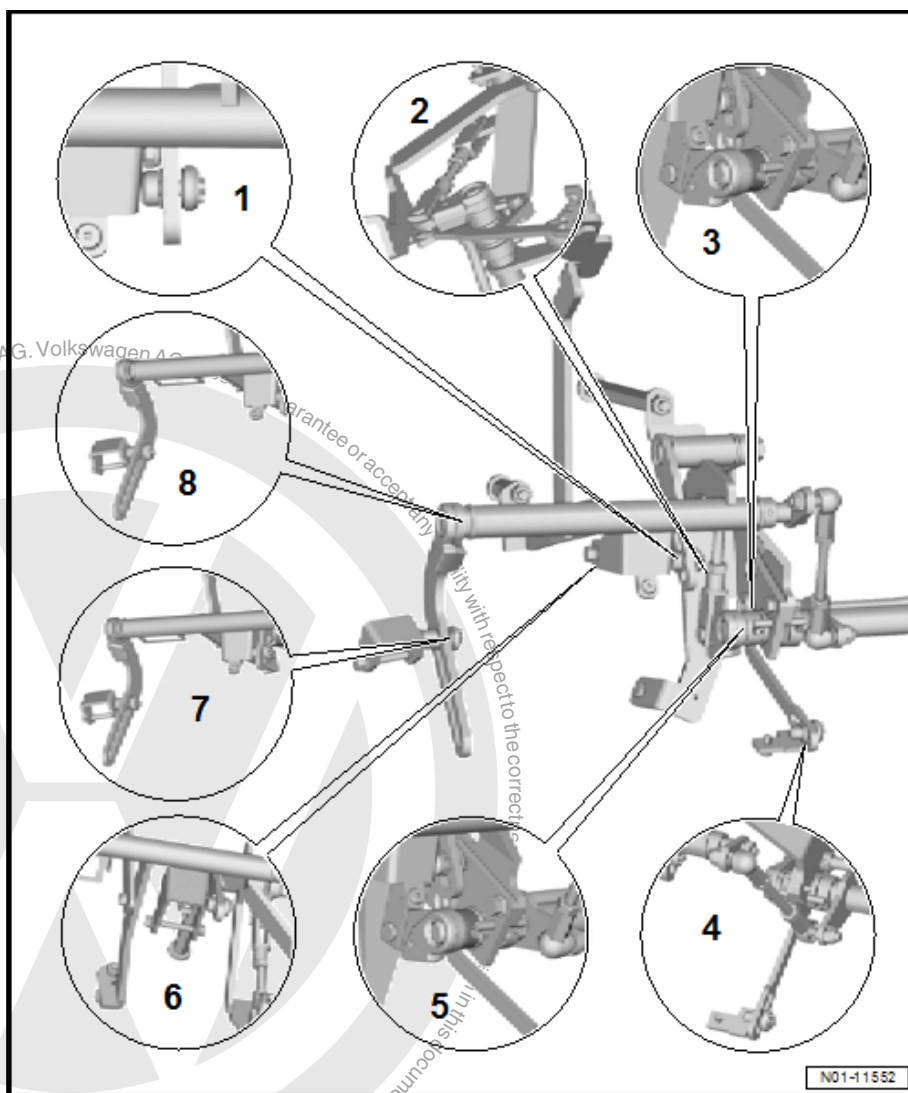
- ❑ Threaded Connection, Checking For Secure Fit. Refer to ➔ ["4.24 Driving School Pedals, Checking for Secure Bolt Fit"](#), page 93
- ❑ 10 Nm

7 - Clutch Pedal Carrier

- ❑ Not for North American market.

8 - Clutch Pedal Carrier Shaft Bearing

- ❑ Not for North American market.





4.22.4 Overview - Driving School Pedals, Driver Side, Automatic Transmission, Golf Sportsvan

1 - Brake Carrier Slot Lever

- ❑ Brake Carrier Slot Lever Greasing. Refer to
⇒ [“4.23.2 Brake Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals”](#), page 89

2 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Right Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Right Bearing Area. Refer to
⇒ [“4.23.5 Right Shaft Bearing, Lubricating, Driver Side Driving School Pedals”](#), page 91

3 - Accelerator Pedal Carrier Slot Lever

- ❑ Accelerator Pedal Carrier Slot Lever, Greasing. Refer to
⇒ [“4.23.3 Accelerator Pedal Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals”](#), page 90

4 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Left Bearing Area

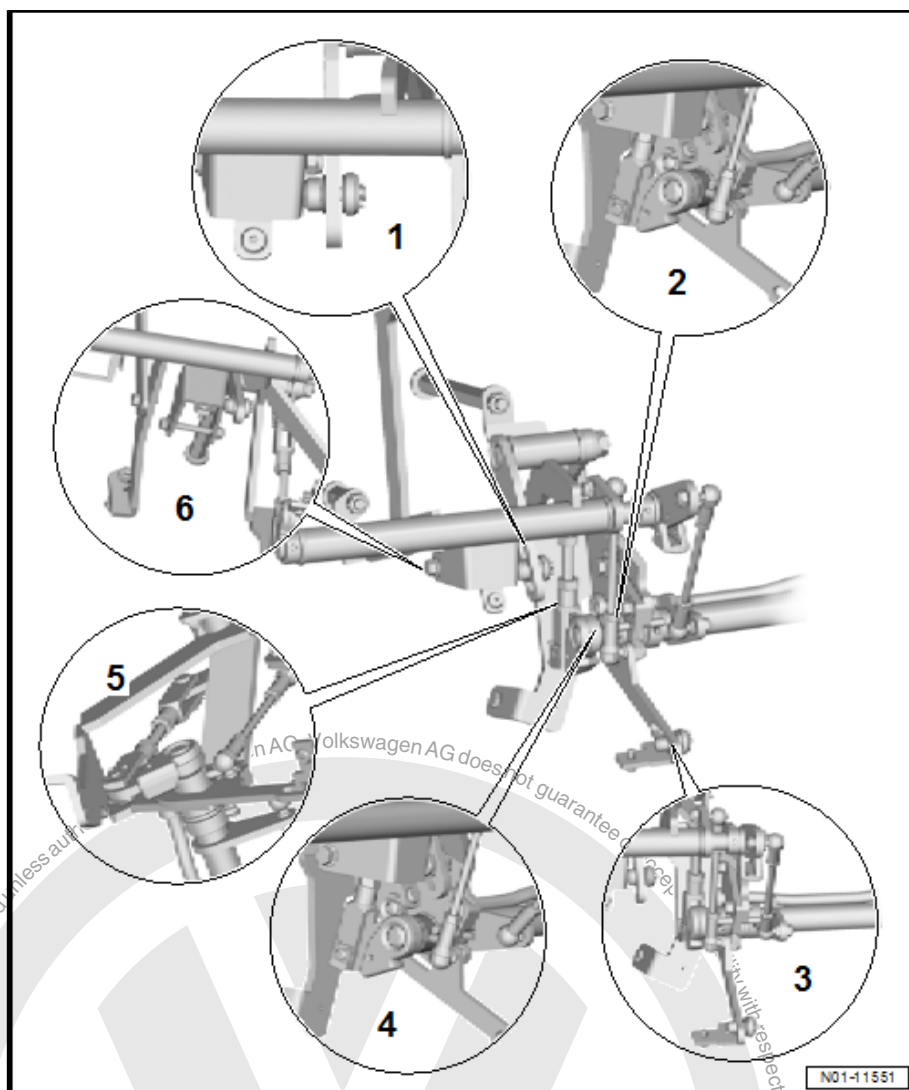
- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Left Bearing Area. Refer to
⇒ [“4.23.6 Left Shaft Bearing, Lubricating, Driver Side Driving School Pedals”](#), page 91

5 - Brake Carrier Push Rod

- ❑ Grease the Brake Carrier Push Rod. Refer to
⇒ [“4.23.4 Brake Transfer Push Rod Joint, Lubricating, Driver Side Driving School Pedals”](#), page 90

6 - Mounting Bracket for Brake Pedal Carrier

- ❑ 10 Nm
- ❑ Threaded Connection, Checking For Secure Fit. Refer to
⇒ [“4.24 Driving School Pedals, Checking For Secure Bolt Fit”](#), page 93





4.22.5 Overview - Driving School Pedals, Front Passenger Side, Golf Sportsvan

1 - Front Passenger Side Pedal System Shaft Mounting Bracket

- ❑ 8 Nm
- ❑ Threaded Connection, Checking For Secure Fit. Refer to
⇒ ["4.24 Driving School Pedals, Checking for Secure Bolt Fit"](#), page 93

2 - Control Equipment Buzzer

- ❑ Control Equipment Buzzer, Adjusting. Refer to
⇒ ["4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer"](#), page 97 .

3 - Front Passenger Side Wing Nut for Securing the Accelerator Pedal

- ❑ Threaded Connection, Checking For Secure Fit. Refer to
⇒ ["4.24 Driving School Pedals, Checking for Secure Bolt Fit"](#), page 93

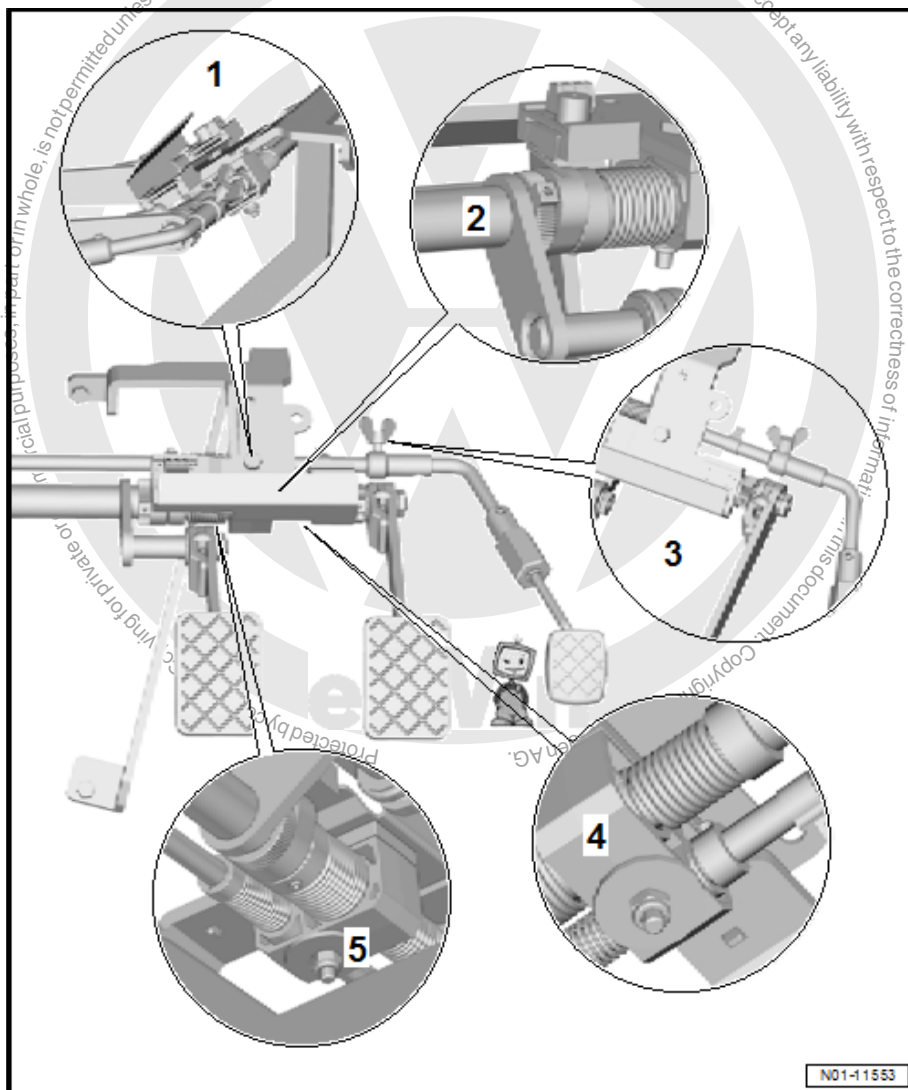
4 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Right Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Right Bearing Area. Refer to

⇒ ["4.23.8 Right Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals"](#), page 92

5 - Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Left Bearing Area

- ❑ Shaft for the Brake and Clutch Pedal Carrier in the Mounting Bracket, Greasing the Left Bearing Area. Refer to
⇒ ["4.23.7 Left Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals"](#), page 92





4.23 Driving School Pedals, Lubricating Components

⇒ [“4.23.1 General Information”, page 89](#)

⇒ [“4.23.2 Brake Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals”, page 89](#)

⇒ [“4.23.3 Accelerator Pedal Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals”, page 90](#)

⇒ [“4.23.4 Brake Transfer Push Rod Joint, Lubricating, Driver Side Driving School Pedals”, page 90](#)

⇒ [“4.23.5 Right Shaft Bearing, Lubricating, Driver Side Driving School Pedals”, page 91](#)

⇒ [“4.23.6 Left Shaft Bearing, Lubricating, Driver Side Driving School Pedals”, page 91](#)

⇒ [“4.23.7 Left Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals”, page 92](#)

⇒ [“4.23.8 Right Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals”, page 92](#)

4.23.1 General Information

This is performed at every service procedure.

Additional information in “Operating Dual Controls” this is located with the vehicle. The Owner's Manual is included with the driving school pedals. The Owner's Manual and the general type approval must always be available in the vehicle.

The procedure for the service work is the same for manual transmission and automatic transmission vehicles.



Caution

The tension on the driving school pedals spring must never be retightened as there is a risk of breakage.

Wipe all of the moveable parts on the sticky driving school pedals using the Universal Towel - VAS6385- or a lint-free, untouched cloth and lubricate them again with the Special Lubricant - G 052 172 A2- .

For defects with the driving school pedals, please contact the Volkswagen dealer center with replacement part requests. Additional information is available on Volkswagen ServiceNet.

Driving School Pedals, Checking for Bolt Secure Fit. Refer to
⇒ [“4.24 Driving School Pedals, Checking for Secure Bolt Fit”, page 93](#) .

Activation timing for the control equipment warning buzzer, adjusting. Refer to

⇒ [“4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer”, page 97](#) .

4.23.2 Brake Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals

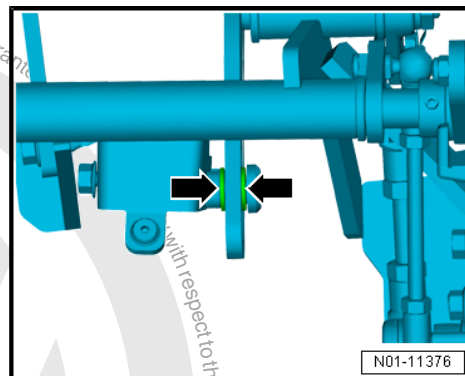
Special tools and workshop equipment required

- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel



Golf Sedan

- Turn off the ignition and remove the key.
- Clean the brake carrier slot lever with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease on both sides of the socket -arrows- using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.



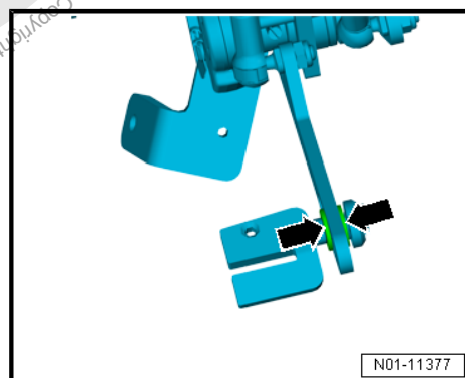
4.23.3 Accelerator Pedal Carrier Slot Lever, Lubricating, Driver Side Driving School Pedals

Special tools and workshop equipment required

- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sedan

- Turn off the ignition and remove the key.
- Clean the accelerator pedal carrier slot lever with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease on both sides of the socket -arrows- using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.



4.23.4 Brake Transfer Push Rod Joint, Lubricating, Driver Side Driving School Pedals

Special tools and workshop equipment required

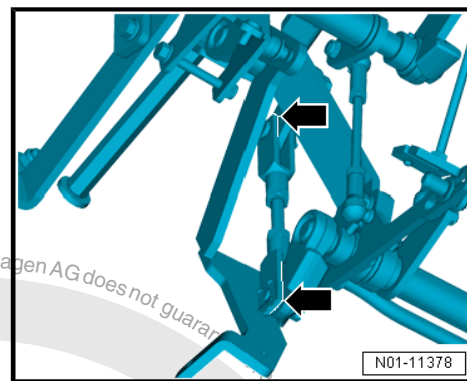
- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sedan

- Turn off the ignition and remove the key.



- Clean the push rod joint with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease the top and bottom -arrows- using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.



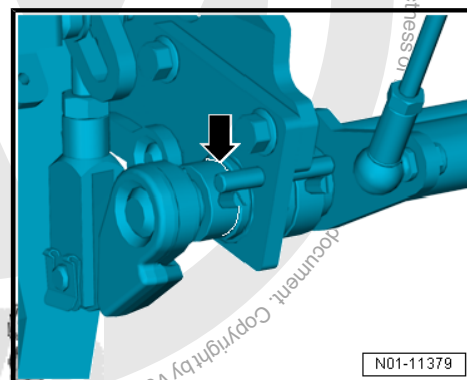
4.23.5 Right Shaft Bearing, Lubricating, Driver Side Driving School Pedals

Special tools and workshop equipment required

- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sedan

- Turn off the ignition and remove the key.
- Clean the shaft bearing -arrow- with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.



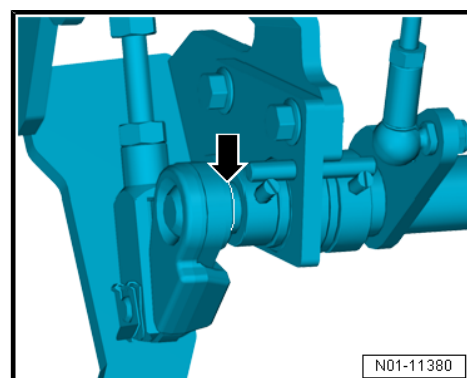
4.23.6 Left Shaft Bearing, Lubricating, Driver Side Driving School Pedals

Special tools and workshop equipment required

- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sedan

- Turn off the ignition and remove the key.
- Clean the shaft bearing -arrow- with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.





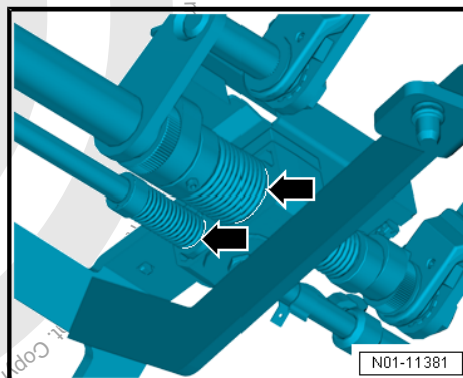
4.23.7 Left Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals

Special tools and workshop equipment required

- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sedan

- Turn off the ignition and remove the key.
- Clean the shaft bearing -arrows- with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.



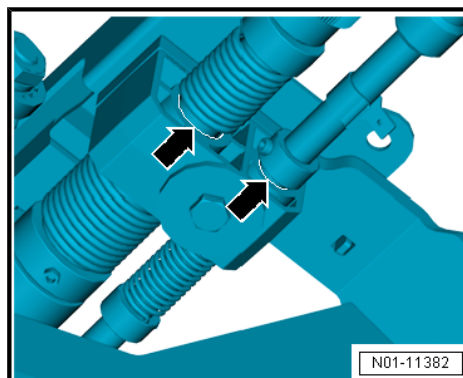
4.23.8 Right Shaft Bearing, Lubricating, Front Passenger Side Driving School Pedals

Special tools and workshop equipment required

- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sedan

- Turn off the ignition and remove the key.
- Clean the shaft bearing -arrows- with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease using Special Lubricant - G 052 172 A2- .



4.23.9 Clutch Pedal Carrier, Lubricating, Driver Side Driving School Pedals

Special tools and workshop equipment required

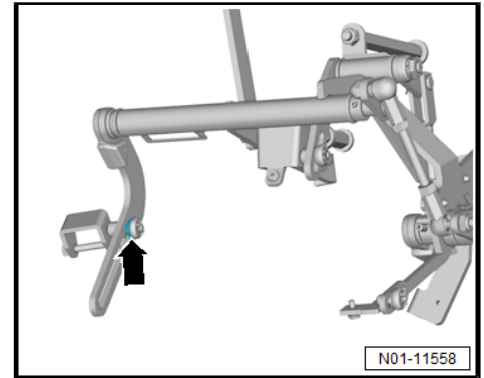
- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sportsvan, Manual Transmission

- Turn off the ignition and remove the key.



- Clean the clutch pedal carrier bracket -arrow- with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.



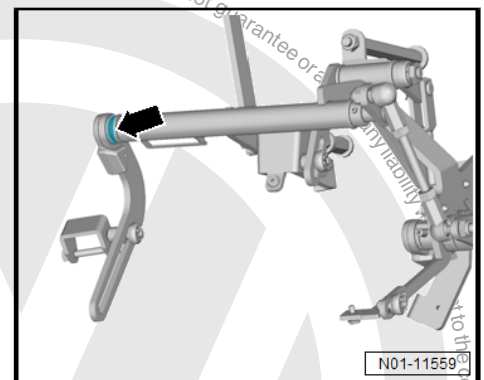
4.23.10 Clutch Pedal Shaft Bearing, Lubricating, Driver Side Driving School Pedals

Special tools and workshop equipment required

- ◆ Universal Towel - VAS6385-
- ◆ Lint-free cleaning towel

Golf Sportsvan, Manual Transmission

- Turn off the ignition and remove the key.
- Clean the clutch pedal carrier shaft bearing -arrow- with the Universal Towel - VAS6385- or a lint-free cleaning cloth and grease using Special Lubricant - G 052 172 A2- .
- Make sure the driving school pedals move freely and are not damaged.
- Check that the clutch and brake pedal are engaged securely.
- Check the accelerator pedal for secure seating.



4.24 Driving School Pedals, Checking for Secure Bolt Fit

⇒ [“4.24.1 General Information”, page 93](#)

⇒ [“4.24.2 Threaded Connection on Brake Carrier, Checking for Secure Fit, Driver Side Driving School Pedals”, page 94](#)

⇒ [“4.24.3 Threaded Connection on Shaft Bearing Mounting Bracket, Checking for Secure Fit, Front Passenger Side Driving School Pedals”, page 94](#)

⇒ [“4.24.4 Right Wing Nut on the Throttle Shaft, Checking for Secure Seating, Front Passenger Side Driving School Pedals”, page 95](#)

4.24.1 General Information

This is performed at every service procedure.

Additional information in “Operating Dual Controls” this is located with the vehicle. The Owner's Manual is part of the dual controls. The Owner's Manual and the general type approval must always be available in the vehicle.

The procedure for the service work is the same for manual transmission or automatic transmission vehicles.



Check all the following specified threaded connections for secure fit, perform a visual inspection of all the driving school pedal threaded connections not mentioned.



Caution

The tension on the driving school pedals spring must never be retightened as there is a risk of breakage.

For defects with the driving school pedals, please contact the Volkswagen dealer center with replacement part requests.

Driving School Pedal Components, Lubricating. Refer to
⇒ [“4.23 Driving School Pedals, Lubricating Components”](#),
[page 89](#) .

Activation Timing for the Control Equipment Warning Buzzer, Adjusting. Refer to
⇒ [“4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer”](#), [page 97](#) .

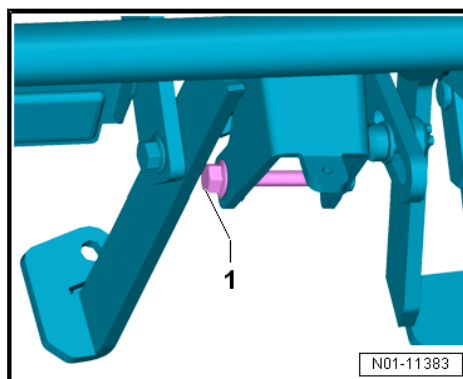
4.24.2 Threaded Connection on Brake Carrier Checking for Secure Fit, Driver Side Driving School Pedals

Golf Sedan

- Turn off the ignition and remove the key.
- Check bolt -1- for secure fit.

Tightening Specifications

Component	Tightening Specification
Bolt -1-	10 Nm



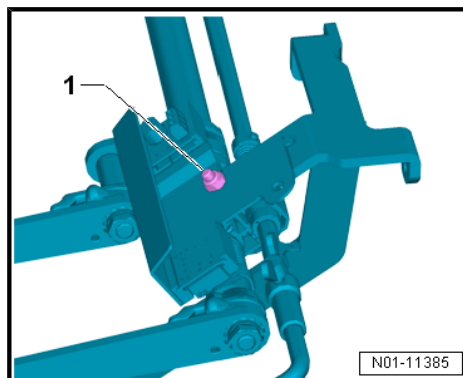
4.24.3 Threaded Connection on Shaft Bearing Mounting Bracket, Checking for Secure Fit, Front Passenger Side Driving School Pedals

Golf Sedan

- Turn off the ignition and remove the key.
- Check bolt -1- for secure fit.

Tightening Specifications

- ◆ Refer to
⇒ [“4.22.2 Overview - Driving School Pedals, Front Passenger Side, Golf Sedan”](#), [page 85](#)

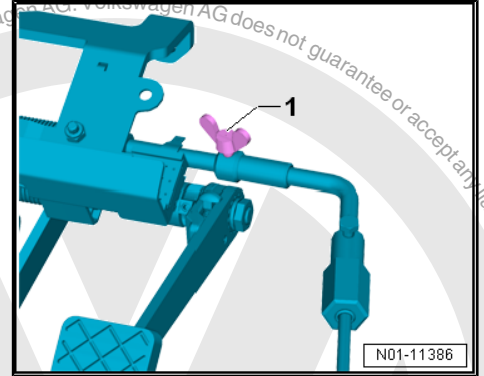




4.24.4 Right Wing Nut on the Throttle Shaft, Checking for Secure Seating, Front Passenger Side Driving School Pedals

Golf Sedan

- Turn off the ignition and remove the key.
- Check the wing nut -1- for secure seating, and tighten hand-tight.



4.25 Overview - Control Equipment Buzzer

⇒ ["4.25.1 Overview - Control Equipment Buzzer, Golf Sedan", page 95](#)

4.25.1 Overview - Control Equipment Buzzer, Golf Sedan



1 - Housing with Switch and Buzzer for Control Equipment

- ❑ Control Equipment Buzzer Adjusting. Refer to ➔ [“4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer”, page 97](#) .

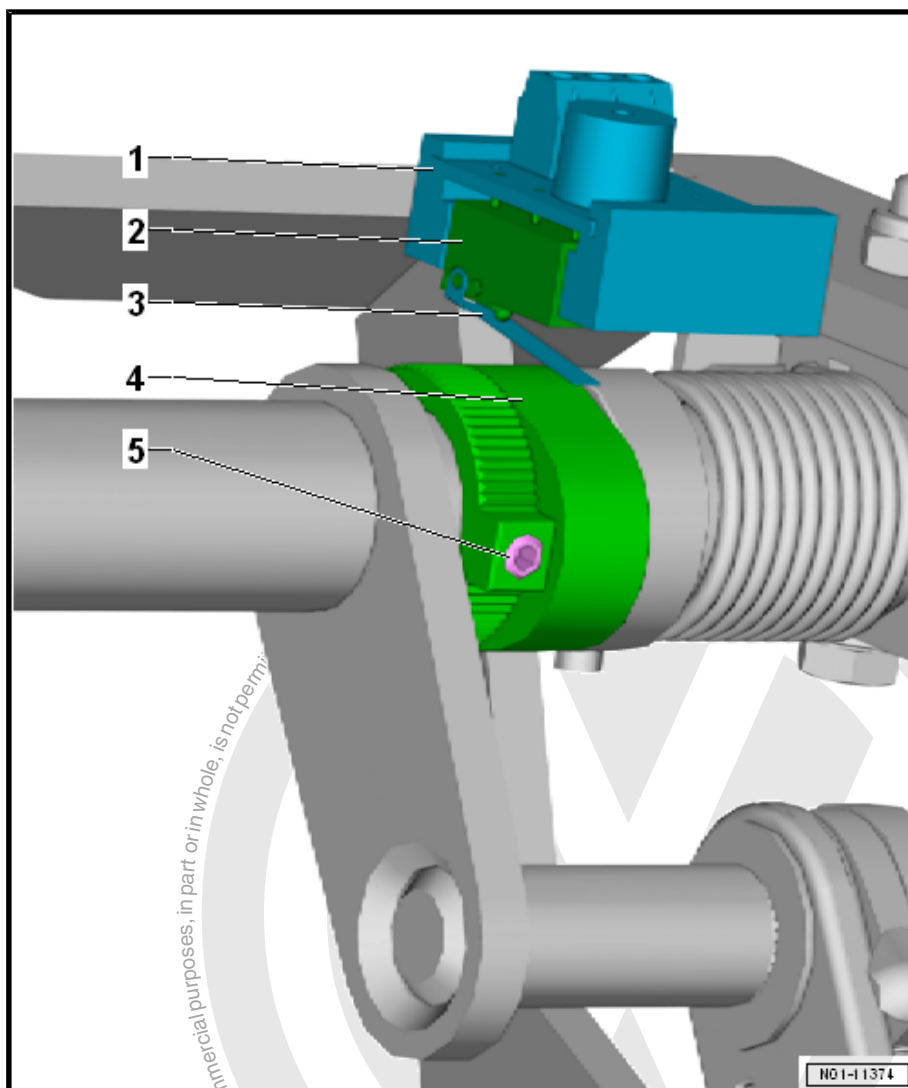
2 - Switch

3 - Vane for Operating the Switch Contacts

4 - Adjustment Eccentric/Lobe

5 - Clamping Screw on Adjustment Eccentric

- ❑ 0.5 Nm





4.25.2 Overview - Control Equipment Buzzer, Golf Sportsvan

1 - Housing with Switch and Buzzer for Control Equipment

- ❑ Control Equipment Buzzer Adjusting
⇒ ["4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer"](#), page 97 .

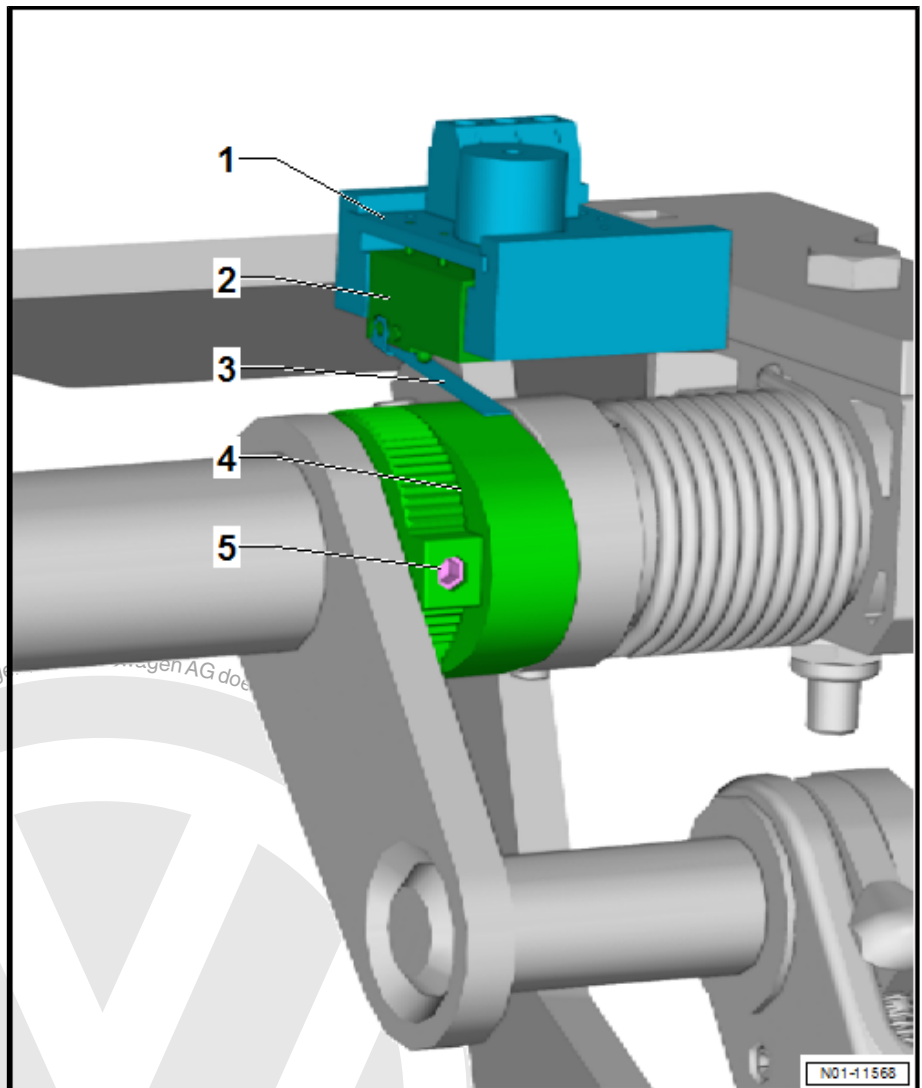
2 - Switch

3 - Vane for operating the switch contacts

4 - Adjustment Eccentric/Lobe

5 - Clamping Screw on Adjustment Eccentric

- ❑ 0.5 Nm



4.26 Driving School Pedals, Adjusting Activation Timing for Control Equipment Warning Buzzer

General Information

This is performed at every service procedure.

Additional information in "Operating Dual Controls" this is located with the vehicle. The Owner's Manual is part of the dual controls. The Owner's Manual and the general type approval must always be available in the vehicle.

The procedure for the service work is the same for manual transmission or automatic transmission vehicles.

For defects with the driving school pedals, please contact the Volkswagen dealer center with replacement part requests.

Driving School Pedal Components, Greasing. Refer to
⇒ ["4.23 Driving School Pedals, Lubricating Components"](#), page 89 .



Checking the for bolt for secure fit. Refer to
⇒ ["4.24 Driving School Pedals, Checking for Secure Bolt Fit",
page 93](#) .

Activation Timing for the Control Equipment Warning Buzzer, Adjusting

The control equipment with buzzer -1- is installed in the front passenger footwell.

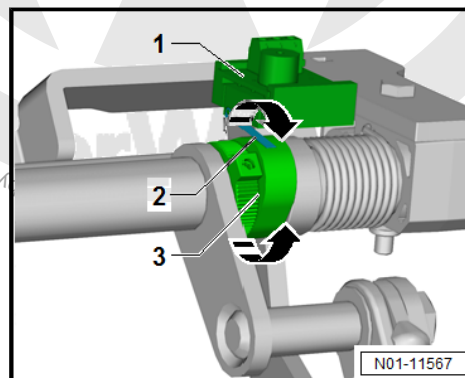
The control equipment with buzzer when switched on gives an audio signal when the pedal system in the front passenger footwell is operated.

There are two switches, one for the brake pedal and one for the clutch pedal. The procedure for adjusting the activation timing is the same for both.

To adjust the activation timing the adjustment eccentric can be turned.

- Turn on the control equipment with buzzer function.
- Loosen the clamping screw until the adjustment eccentric -3- can be turned.
- Operate the pedal by hand approximately 2-3 cm, measured at pedal operation.
- Turn the adjustment eccentric -3- until the buzzer contact -1- is freed over the operating vane -2- and the buzzer sounds.
- Tighten the clamping screw for the adjustment eccentric.
- Check the gear activation timing again.

Target function: when operating the pedals the buzzer must sound at a 2 - 3 mm pedal travel. After releasing the pedal the buzzer must turn off.



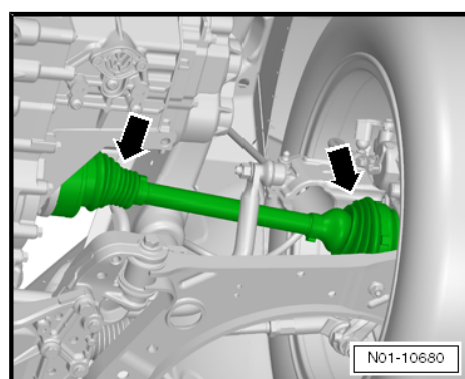
Tightening Specifications

- ◆ Refer to
⇒ ["4.25.1 Overview - Control Equipment Buzzer, Golf Sedan",
page 95](#)

4.27 CV Boots, Visually Inspecting

Perform the Following Procedure:

- Check the outer and inner CV boots -arrows- for leaks and damage.



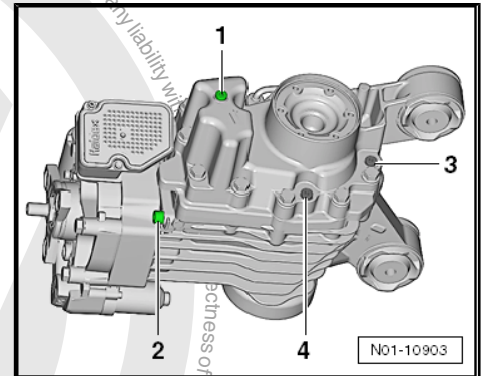


4.28 Haldex Clutch, Changing Oil



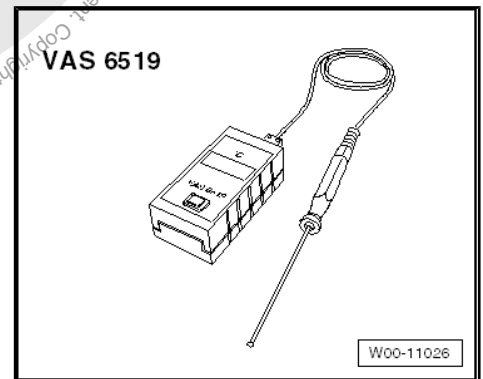
Note

- ◆ On vehicles equipped with a Haldex clutch, the drain and sealing screws of both systems get interchanged due to the integrated housing. This results in avoidable mistakes in maintenance and servicing, which can result in the Haldex clutch or the axle drive failing.
- ◆ The Haldex clutch and axle drive are a single unit with separate oil housings.
- ◆ -1- Plug for filler hole for the Haldex oil.
- ◆ -2- Drain plug for the Haldex oil.
- ◆ -3- Plug for the gear oil filler hole.
- ◆ -4- Gear oil drain plug.

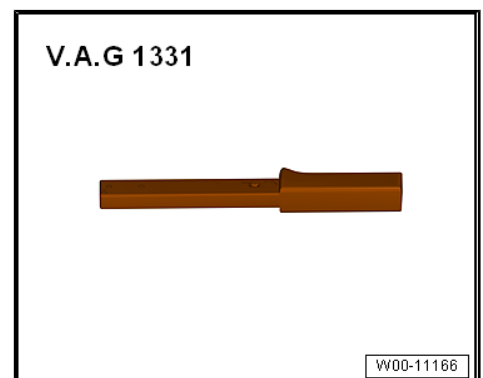


Special tools and workshop equipment required

- ◆ Digital Thermometer - VAS6519-

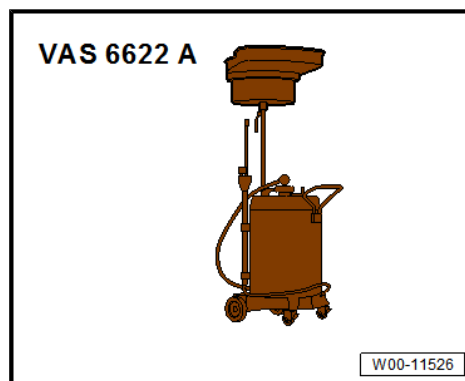


- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

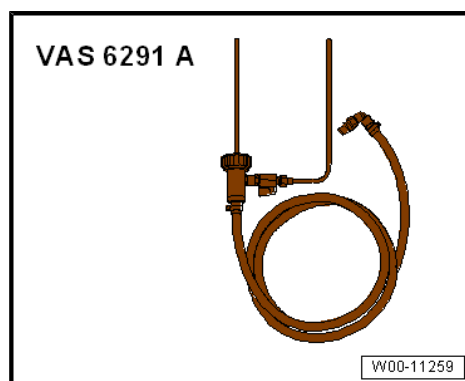




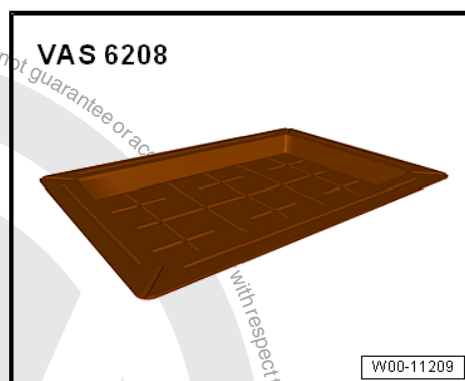
◆ Used Oil Collection and Extraction Unit - SMN372500-



◆ Charging Device For Haldex Coupling 2 - VAS6291A-

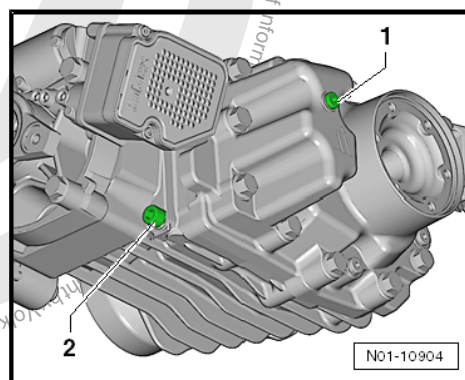


◆ Shop Crane - Drip Tray - VAS6208-



Oil, Draining

- Raise the vehicle with the hoist and position the Used Oil Collection and Extraction Unit - SMN372500- under Haldex clutch.
- Remove the oil drain plug -2- and drain the high performance oil completely.
- Install a new oil drain plug with a new gasket and tighten to the tightening specification. The oil drain plug has a permanent gasket.

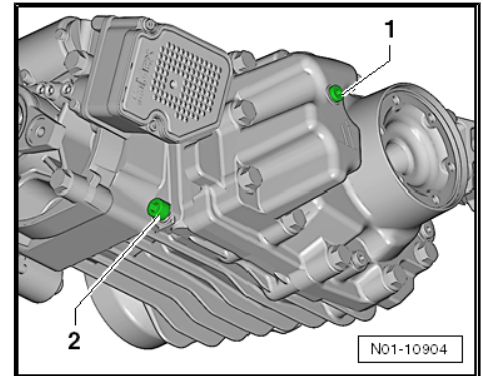


Tightening Specification	Nm
Oil drain plug	30

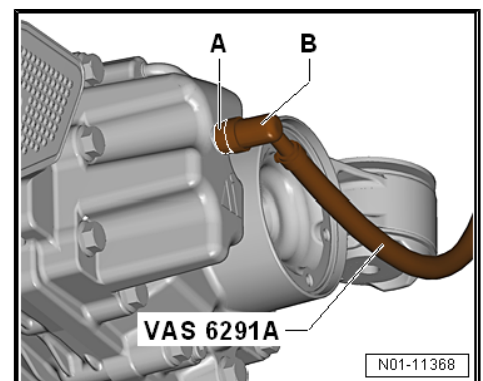


Filling the Oil

- Remove the oil filler plug -1-.



- Disconnect the elbow -B- from adapter -A- and completely install adapter in oil filler opening.
- Position the elbow again and route the hose over driveshaft to prevent it from hanging down.
- Place the Shop Crane - Drip Tray - VAS6208- under the final drive.
- After the hose is routed above left rear wheel and away from vehicle, the vehicle can be drained.

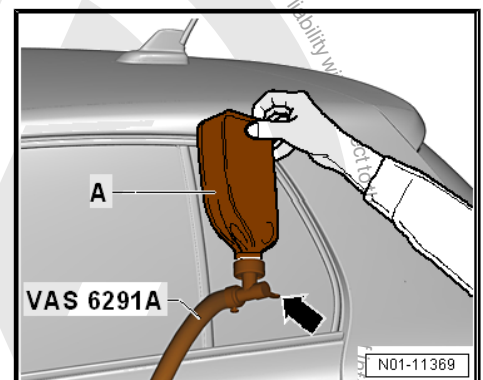


Note

- ♦ The oil temperature when checking the oil level is 20° to 40 ° C (68 to 104 °F).
- ♦ Pay attention to the temperature of the oil container when filling.
- ♦ The oil temperature can be measured using the Digital Thermometer - VAS6519- .

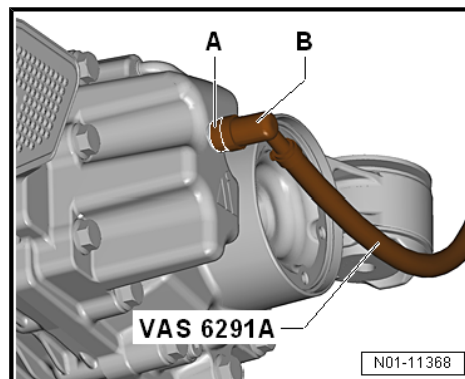
Oil Capacity and Oil Specification. Refer to ➤ page 102 .

- Screw the oil container -A- with the valve closed -arrow- onto Charging Device For Haldex Coupling 2 - VAS6291A- .
- Open the valve -arrow- and hold the oil container as shown in illustration.
- Using the Charging Device For Haldex Coupling 2 - VAS6291A- fill with oil until flows out between the adapter and the transmission housing.
- Remove the Charging Device For Haldex Coupling 2 - VAS6291A- .
- Remove the adapter -A- .

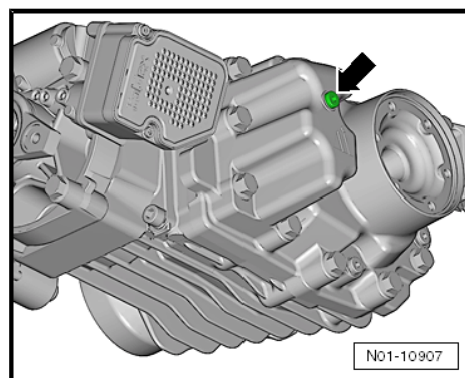




- If necessary let the excess oil flow out until it only drips.
The oil level is correct when the oil drips out of the oil filler hole.



- Install a new oil filter plug -arrow- with a permanent seal and tighten to the tightening specification.



Tightening Specification	Nm
Oil filler plug	15

Check the specified temperature range while checking the oil level, if while filling an oil temperature between 20° to 40 °C (68 to 104 °F) cannot be guaranteed.

The oil temperature can be measured using the Digital Thermometer - VAS6519- .

If the oil temperature is not between 20° to 40 °C (68 to 104 °F), either drive the vehicle to warm it up or let the oil temperature cool down.

Oil Capacities and Oil Specifications	
4MOTION oil capacity	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03 .
Oil specification	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03

4.29 High-Voltage Battery Charge Level, Checking



Note

Only applies to e-Golf.

Checking Charge Level:

The high-voltage battery charge level indicator is located in the right at the bottom of the instrument cluster.

First record the charge level at vehicle delivery:



Note

- ◆ *The high-voltage battery must be completely charged during the pre-delivery inspection.*
- ◆ *During the inspection the high-voltage battery is only completely charged per customer request.*

4.30 High-Voltage Battery Maintenance



Note

Only applies to e-Golf.

Maintenance program for new and used vehicles.

The maintenance of the high-voltage battery consists of determining the state of charge (Refer to [⇒ "4.29 High-Voltage Battery Charge Level, Checking", page 102](#)) and charging depending on this.

When the charge level is within the red area of the charge level indicator, charge the high-voltage battery until the battery charge level indicator shows at least 1/2 charged (charging time approximately 2- 3 hours with 230 V).



4.31 High-Voltage Battery, Charging



Note

- ◆ *The high-voltage battery must be completely charged during the pre-delivery inspection.*
- ◆ *During the inspection the high-voltage battery is only completely charged per customer request.*

4.32 High-Voltage Components and High-Voltage Cables, Visually Inspecting for Damage, Correct Wire Routing and Attachment



WARNING

Electric vehicles have a high-voltage system with very high-voltage. Danger of electrical shock! Check for high-voltage components in the area where work will be performed before starting. Pay attention to the safety precautions. Refer to ⇒ Electric Drive; Rep. Gr. 00 ; Safety Precautions .



WARNING

- ◆ *All work on vehicles with a high-voltage system may be performed only by technicians "certified on electrical systems".*
- ◆ *Contact to the responsible high-voltage technician is something needs clarification.*



Procedure: Visual Inspection

When performing a visual inspection inside the engine compartment, be sure to inspect the electric drive power and control electronics, the high-voltage cables for the battery and the A/C compressor, the high-voltage cables for the electric drive, the high-voltage charging socket in the radiator grill and in the tank cover.

Pay attention to the high-voltage battery and the high-voltage cables for the battery when performing a visual inspection in the underbody area.

When performing the visual inspection, pay attention to the following:

- ◆ The high-voltage components must not show any damage on the outside.
- ◆ The insulation on the high-voltage cables must be intact without any damage.
- ◆ Look for any unusual deformations on the high-voltage cables.



Note

Inform the high-voltage technician if something seems wrong or missing.

4.33 Hybrid Components, Visually Inspecting for Damage of the High-Voltage Components and Wires



WARNING

Hybrid vehicles have a high-voltage system with very high-voltage. Danger of electrical shock! Check for high-voltage components in the area where work will be performed before starting. Pay attention to the safety precautions. Refer to ➔ Electric Drive; Rep. Gr. 00 ; Safety Precautions .



WARNING

- ◆ **All work on vehicles with a high-voltage system may be performed only by technicians "certified on electrical systems".**
- ◆ **Contact to the responsible high-voltage technician is something needs clarification.**

Procedure: Visual Inspection

When performing a visual inspection inside the engine compartment, be sure to inspect the electric drive power and control electronics, the high-voltage cables for the battery and the A/C compressor, the high-voltage cable for the hybrid module and the high-voltage charging socket in the radiator grill.

Pay attention to the hybrid battery and the high-voltage cables for the battery when performing a visual inspection in the underbody area.

When performing the visual inspection, pay attention to the following:



- ◆ The high-voltage components must not show any damage on the outside.
- ◆ The insulation on the high-voltage cables must be intact without any damage.
- ◆ Look for any unusual deformations on the high-voltage cables.



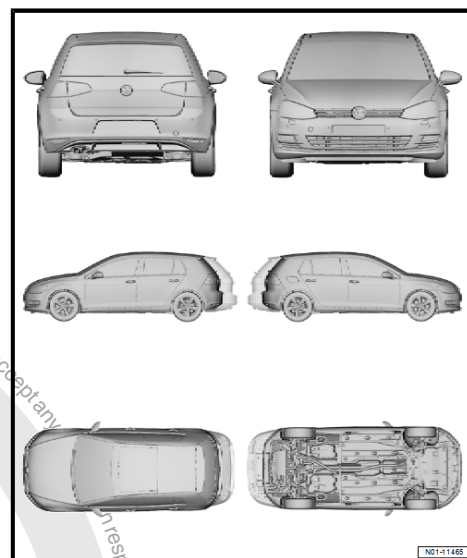
Note

Inform the high-voltage technician if something seems wrong or missing.

4.34 Interior and Exterior Body, Visually Inspecting for Corrosion with Doors and Lids Opened

Test Locations

- ◆ Sunroof frame
- ◆ Inner and outer door frame
- ◆ The area around the trim moldings
- ◆ Windshield roof edge
- ◆ Outer and inner A-pillar
- ◆ Hood
- ◆ Wheel housings
- ◆ Inner and outer rear lid



4.35 Ribbed Belt, Checking Condition

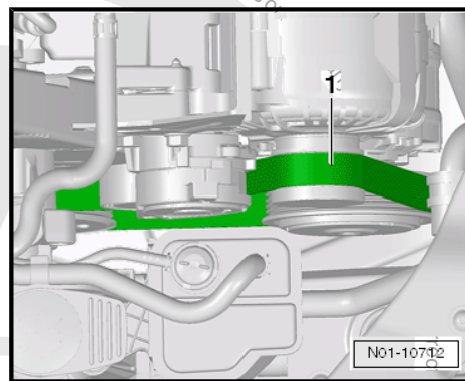
Perform the Following Procedure:

- Turn engine at vibration damper/ belt pulley with socket wrench.



Check the ribbed belt -1- for:

- ◆ Sub-surface cracks (cracks, core ruptures, cross sectional breaks)
- ◆ Separation (cover layer, belt cords)
- ◆ Breaks at lower layer
- ◆ Fraying of cords
- ◆ Wear at flanks (material wear, frayed flanks, hardening or glazing of flanks, surface cracks)
- ◆ Oil or grease contamination



Caution

- *The ribbed belt must be replaced if any damage is found.*
- *This will prevent any belt malfunctions.*
- *Replacing the belt is a repair procedure.*

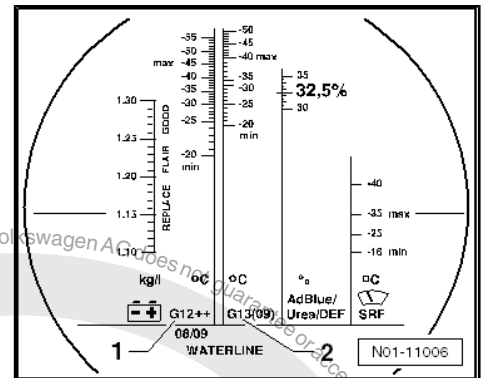


4.36 Cooling System, Checking Freeze Protection and Coolant Level



Note

- ◆ The water used for mixing greatly influences the effectiveness of the coolant. Do to the different water contents which can vary due to country or region, the water quality used is defined. Distilled water fulfills all the requirements. For this reason mix coolant with distilled water when supplementing and refilling the cooling system.
- ◆ Use only coolant additives according to the Parts Catalog. Using other coolant additives can impair the corrosion protection. Loss of coolant can cause considerable damage to the engine.
- ◆ Coolant in the correct mixing ratio prevents freezing and corrosion damage as well as scaling. The boiling temperature is also increased. For these reasons the cooling system must have coolant additive the whole year.
- ◆ Especially in countries with tropical climates or when vehicle is driven under heavy engine load, the coolant improves the engine reliability by its increased boiling point.
- ◆ The Refractometer - T10007A- MUST be used to determine the actual freeze protection value.
- ◆ The freeze protection must be set to minimum -25 °C (-13 °F), for countries with an arctic climate, it must be set to approximately -36 °C (-32.8 °F). The freeze protection can be increased only when a stronger freeze protection is required due to climatic conditions. But only down to -48 °C (-54 °F), otherwise the cooling effect of the coolant will be impaired.
- ◆ The coolant concentration must not be reduced by adding water, even during the warmer season or in warm countries. The freeze protection must be a minimum of -25 °C (-13 °F).
- ◆ Read off the freeze protection value on the scale for each respective refilled coolant additive.
- ◆ The temperature on the Refractometer - T10007A- corresponds to the »crystallization point«. At this temperature, the first flakes of ice begin to form in the coolant.
- ◆ Do not reuse used coolant.
- ◆ Only use water/coolant additive as lubricant for the coolant hoses.

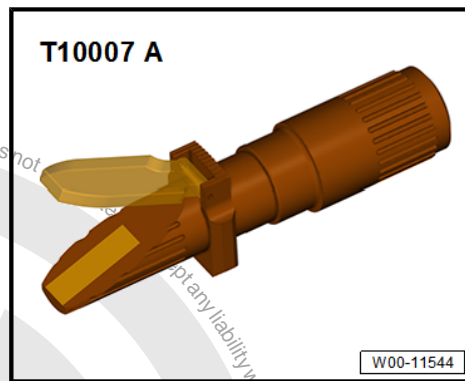


4.36.1 Freeze Protection, Checking and Adding Coolant Additive if Necessary

Special tools and workshop equipment required



◆ Refractometer - T10007A-



Note

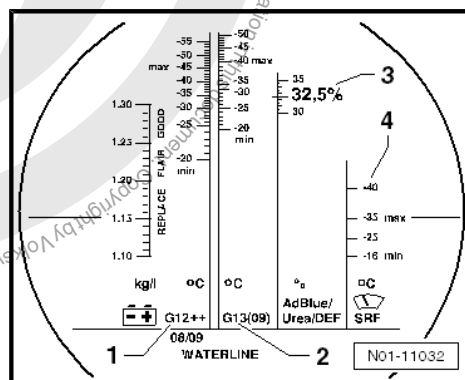
Read the cut-off line to obtain an accurate value for the following tests. Place a drop of water on the glass using a pipette to improve the readability of the cut-off line. The cut-off line can be clearly recognized on the "WATERLINE".

- Check the coolant additive concentration using the Refractometer - T10007A- . (Pay attention to the Owner's Manual).

The refractometer scale -1- is designed for coolant additives G12; G12 Plus, G12 Plus Plus and G11.

The scale -2- only applies to coolant additive G13.

- Drain some of the coolant and add coolant additive if the freeze protection is inadequate. Refer to
⇒ ["4.36.2 Coolant Level, Checking and Filling if Necessary"](#),
[page 108](#) .



Note

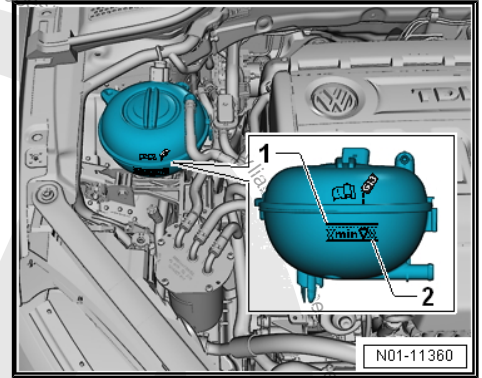
- ◆ *If it cannot clearly determined which coolant additive is in the coolant system, use the scale -2- for coolant additive G13.*
- ◆ *Please follow all waste disposal regulations!*
- Check the concentration of the coolant additive again after the road test.

4.36.2 Coolant Level, Checking and Filling if Necessary

- Check the coolant level in the reservoir when the engine is cold.



- ◆ Pre-delivery inspection: coolant level minimum to the mark -1-.
- ◆ At the pre-delivery inspection a coolant level above the mark -1- is permitted.
- ◆ Extracting the increased coolant level is not necessary because the coolant level can be lowered on new vehicles through the venting process.
- ◆ Inspection: coolant level above "min marking" -2-.
- If coolant level is too low, add the missing amount according to the mixture ratio.



Note

Determine cause of fluid loss, which cannot be attributed to normal use and repair (repair procedure).

4.36.3 Mixture Ratio



Caution

Use only distilled water for mixing coolant additives. By using distilled water the optimum corrosion protection can be reached.

Freeze protection to	Coolant additive ratio	Distilled water
-25 °C (-13 °F)	approximately 40 %	approximately 60 %
-36 °C (-32.8 °F)	approximately 50 %	approximately 50 %

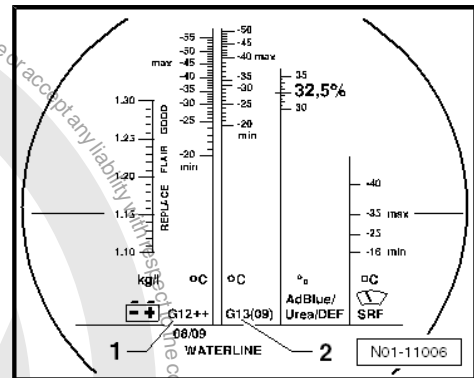


4.37 High-Voltage Cooling System, Check- ing Freeze Protection and Coolant Level



Note

- ◆ The water used for mixing greatly influences the effectiveness of the coolant. Do to the different water contents which can vary due to country or region, the water quality used is defined. Distilled water fulfills all the requirements. For this reason mix coolant with distilled water when supplementing and refilling the cooling system.
- ◆ Use only coolant additives according to the Parts Catalog. Using other coolant additives can impair the corrosion protection. Loss of coolant can cause considerable damage to the engine.
- ◆ Coolant in the correct mixing ratio prevents freezing and corrosion damage as well as scaling. The boiling temperature is also increased. For these reasons the cooling system must have coolant additive the whole year.
- ◆ Especially in countries with tropical climates or when vehicle is driven under heavy engine load, the coolant improves the engine reliability by its increased boiling point.
- ◆ The Refractometer - T10007A- MUST be used to determine the actual freeze protection value.
- ◆ The freeze protection must be set to minimum -25°C (-13°F), for countries with an arctic climate, it must be set to approximately -36°C (-32.8°F). The freeze protection can be increased only when a stronger freeze protection is required due to climatic conditions. But only down to -48°C (-54°F), otherwise the cooling effect of the coolant will be impaired.
- ◆ The coolant concentration must not be reduced by adding water, even during the warmer season or in warm countries. The freeze protection must be a minimum of -25°C (-13°F).
- ◆ Read off the freeze protection value on the scale for each respective refilled coolant additive.
- ◆ The temperature on the Refractometer - T10007A- corresponds to the »crystallization point«. At this temperature, the first flakes of ice begin to form in the coolant.
- ◆ Do not reuse used coolant.
- ◆ Only use water/coolant additive as lubricant for the coolant hoses.



4.37.1 Coolant Level, Checking and Filling if Necessary



WARNING

If the coolant expansion tank is sealed -1-, then it must be re-sealed after checking or filling the coolant.



- Check the coolant level in the reservoir when the engine is cold.

1 - Delivery Inspection

Coolant level at the welded edge -3- of the expansion tank or above:

- No action required, coolant level is OK.

Coolant level below the welded edge -3- to the “MIN mark” -4- of the expansion tank:

- Fill with coolant up to the “MAX marking” -2-.
- Reseal the expansion tank.

Coolant level below the “MIN mark” -4-.

- Perform a leak test. Refer to ⇒ 4-Cylinder Fuel Injection Engine (Hybrid); Rep. Gr. 19 ; Cooling System/Coolant .
- Fill with coolant up to the “MAX marking” -2-.
- Reseal the expansion tank -1-.

2 - First Oil Change Service at 15,000 KM (10,000 miles) or 1 Year

- Check freeze protection. Refer to
⇒ [“4.37.2 Freeze Protection, Checking and Adding Coolant Additive if Necessary”, page 112](#) .

Coolant level above “MIN mark” -4-:

- Fill with coolant up to the “MAX marking” -2-.
- Reseal the expansion tank.

Coolant level below the “MIN mark” -4-:

- Perform a leak test. Refer to ⇒ 4-Cylinder Fuel Injection Engine (Hybrid); Rep. Gr. 19 ; Cooling System/Coolant .
- Fill with coolant up to the “MAX marking” -2-.
- Reseal the expansion tank -1-.

3 - Inspection with Second Oil Change Service at 30,000 KM (20,000 miles) or 2 Years

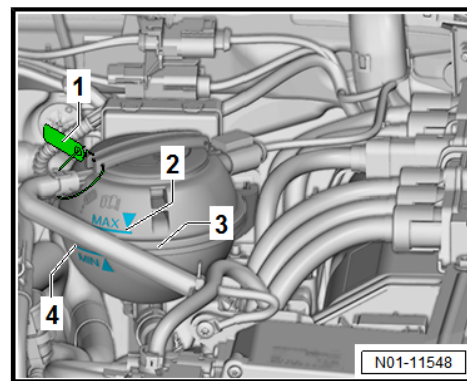
- Check freeze protection. Refer to
⇒ [“4.37.2 Freeze Protection, Checking and Adding Coolant Additive if Necessary”, page 112](#) .

Coolant level exactly at “MAX marking” -2-.

- No action required, coolant level is OK.

Coolant level below the “MAX marking” -2-.

- Perform a leak test. Refer to ⇒ 4-Cylinder Fuel Injection Engine (Hybrid); Rep. Gr. 19 ; Cooling System/Coolant .
- Fill with coolant up to the “MAX marking” -2-.
- Reseal the expansion tank -1-.



Note

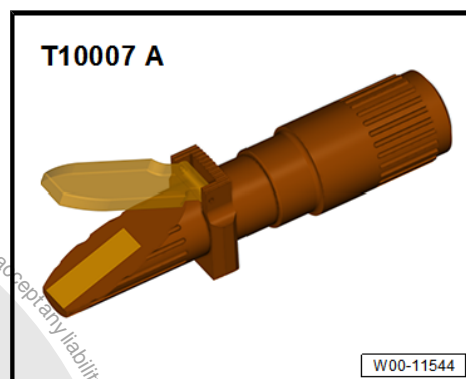
Always perform the inspection procedure with the second oil change service after the first oil change service.



4.37.2 Freeze Protection, Checking and Adding Coolant Additive if Necessary

Special tools and workshop equipment required

- ◆ Refractometer - T10007A-



Note

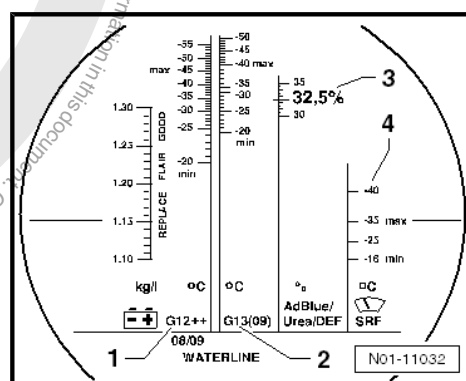
Read the cut-off line to obtain an accurate value for the following tests. Place a drop of water on the glass using a pipette to improve the readability of the cut-off line. The cut-off line can be clearly recognized on the "WATERLINE".

- Check the coolant additive concentration using the Refractometer - T10007A-. (Pay attention to the Owner's Manual).

The refractometer scale -1- is designed for coolant additives G12; G12 Plus; G12 Plus Plus and G11.

The scale -2- only applies to coolant additive G13.

- Drain some of the coolant and add coolant additive if the freeze protection is inadequate. Refer to ["4.37.1 Coolant Level, Checking and Filling if Necessary", page 110](#).



Note

- ◆ If it cannot clearly determined which coolant additive is in the coolant system, use the scale -2- for coolant additive G13.
- ◆ Please follow all waste disposal regulations!
- Check the concentration of the coolant additive again after the road test.

4.37.3 Mixture Ratio



Caution

Use only distilled water for mixing coolant additives. By using distilled water the optimum corrosion protection can be reached.

Freeze protection to	Coolant additive ratio	Distilled water
-25 °C (-13 °F)	approximately 40 %	approximately 60 %



Freeze protection to	Coolant additive ratio	Distilled water
-36 °C (-32.8 °F)	approximately 50 %	approximately 50 %

4.38 Diesel Fuel Filter, Draining Water



Note

Only applies to vehicles with the PR number 1A8.

Procedure Description:



Caution

- ◆ Please make sure no diesel fuel gets on to other components in the engine compartment. Clean it off right away!



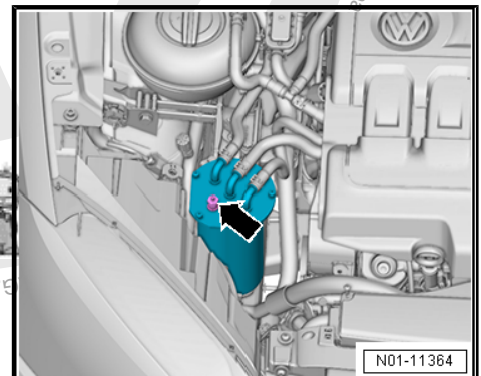
Note

Please follow all waste disposal regulations!

- Place a suitable hose on the banjo bolt -arrow-.
- Start the engine.
- Carefully loosen the banjo bolt -arrow- until water comes out.

The water in the diesel fuel filter is carried out by the system pressure.

- If diesel fuel comes out, close the banjo bolt and remove the hose.
- Tighten the banjo bolt to the tightening specification.



Tightening Specification	Nm
Banjo bolt	8



4.39 Diesel Fuel Filter, Replacing



WARNING

The extremely hot fuel could cause burns.

◆ **In extreme cases, the temperature of the fuel lines or the fuel can reach 100 °C (212 °F). Let the fuel cool before opening line connections because there is a risk of serious burns.**

◆ **Wear safety gloves.**

◆ **Wear protective eyewear.**

The fuel is under extremely high pressure and could cause injuries.

◆ **To reduce the pressure in the fuel system, lay clean cloths around the connection and then open it carefully.**

Special tools and workshop equipment required

◆ Safety Gloves

◆ Protective Eyewear



Note

Follow all disposal regulations.

Removing



Caution

◆ **Please make sure no diesel fuel gets on to other components in the engine compartment. Clean it off right away!**

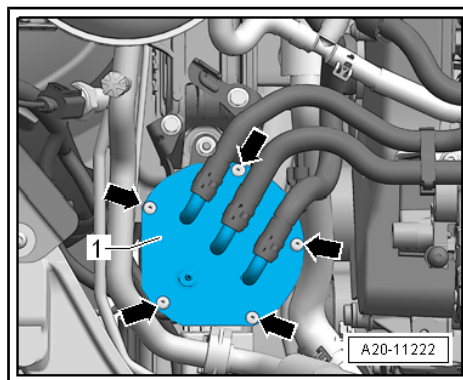
– Turn off the ignition.



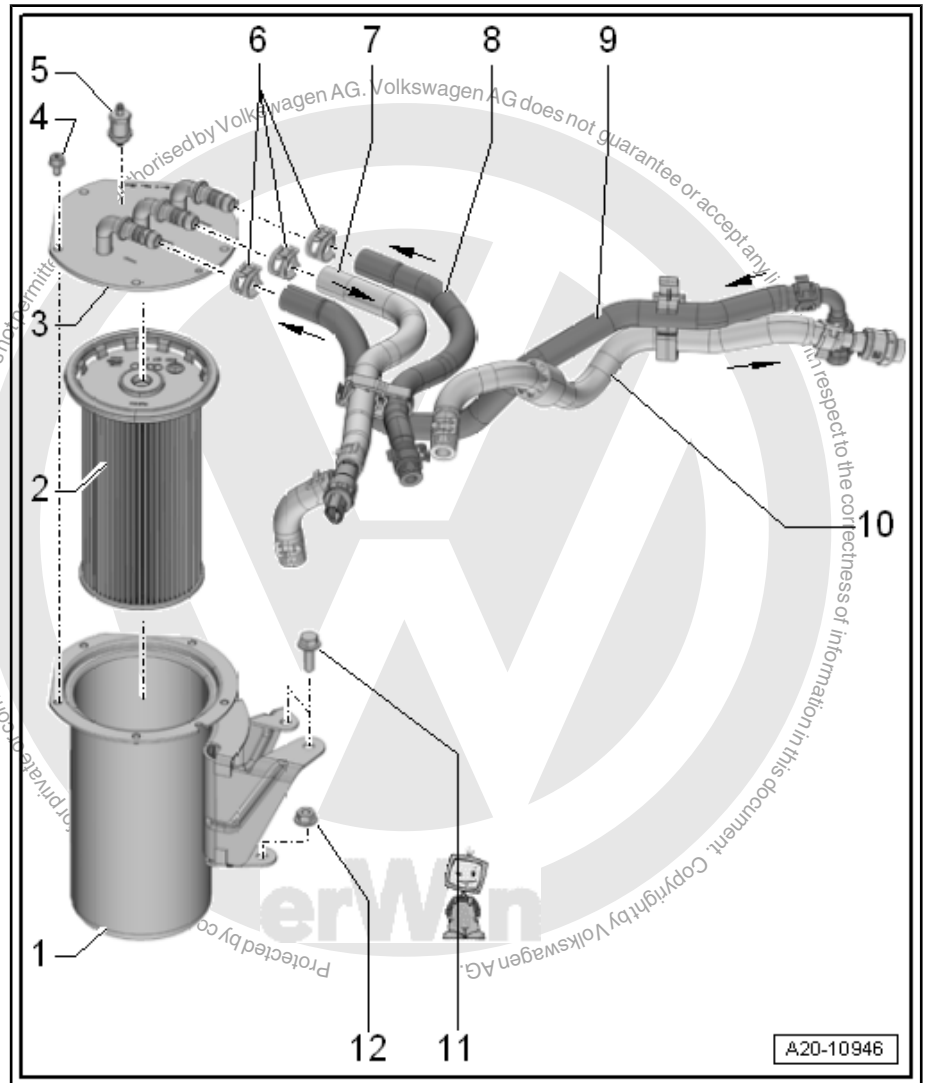
Note

Before opening the system, place a cleaning cloth around the filter housing.

– Remove the bolts -arrows- and lift the filter housing cover -1- with the fuel hoses attached to the side.



– Remove the filter element -2- from the fuel filter housing -1-.



Note

Ignore the remaining illustration callouts!

Installing



Caution

Always coat the new seal with some diesel fuel to prevent any malfunctions.

- Insert the filter element -2- centered into the filter housing -1-.
- Install the filter housing bolts -4- and tighten to specification.

Tightening Specification	Nm
Filter housing bolts	5



Caution

Follow the points below to avoid running the high pressure pump dry (very low tolerances) and to start the engine quickly after replacing the components:

- ◆ *If fuel system components between the fuel tank and high pressure fuel pump are removed or replaced, then the fuel system must be filled/bleed before the first engine start.*

Bleeding the Fuel System:

- The vehicle must be fueled.

ODIS Service
– Connect the Vehicle Diagnostic Tester . Refer to ➤ “3.5 Vehicle Diagnostic Tester ”, page 14 .
– Switch on the ignition.
– Perform the vehicle identification.
– Enter the work order data or select “no work order”.
– Select “control module”.
– Select “engine electronics”.
– Select “Guided Functions”.
– Select “fuel pump activation”.
– Follow the “Guided Functions” instructions.

- Start the engine after bleeding the fuel system.
- Let the engine idle for a few minutes and then turn it off again.
- Check the DTC memory and delete it if necessary.
- Perform a leak test on the fuel system.



Note

If there still is air in the fuel system, the engine may go into the emergency running mode during the road test. In this case turn off the engine and delete the DTC memory. Then continue the road test.

4.40 Air Filter, Cleaning Housing and Replacing Filter Element

➤ [“4.40.1 Air Filter Element, Removing and Installing, 1.4L TSI Engines”, page 117](#) .

➤ [“4.40.2 Air Filter Element, Removing and Installing, 2.0L TSI Engine”, page 119](#) .

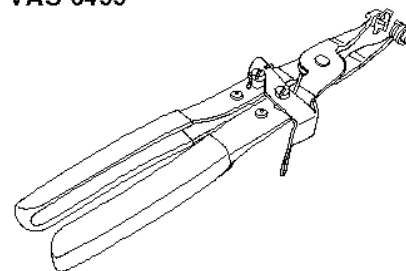
➤ [“4.40.3 Air Filter Element, Removing and Installing, Common Rail Engines ”, page 121](#) .

Special tools and workshop equipment required



◆ Spring Clip Pliers - VAS6499

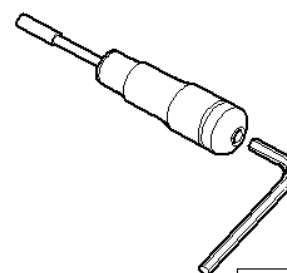
VAS 6499



W00-10700

◆ Torque Screwdriver - VAS6494-

VAS 6494



W00-10833



Note

- ◆ Always use an original air filter insert. Refer to Parts Catalog
- ◆ Use a lubricant (silicone-free) when installing intake hose.
- ◆ When installing air filter insert, ensure it is centered in mount on bottom of air filter.
- ◆ Hose supports and charge air system hoses must be free of oil and grease before installation. Do not use any lubricant containing silicone when installing.
- ◆ Secure all hose connections with hose clamps that match current standard production. Refer to the Parts Catalog

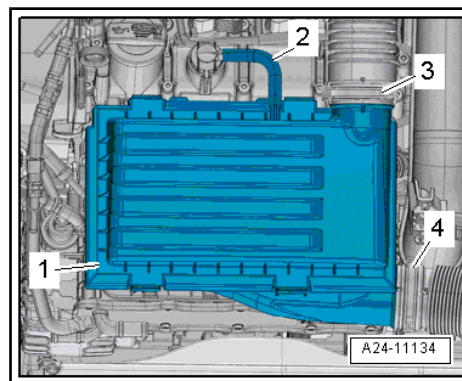
4.40.1 Air Filter Element, Removing and Installing, 1.4L TSI Engines

Removing

- If necessary remove the engine cover “upper”. Refer to [“4.43 Upper Engine Cover, Removing and Installing”, page 127](#).



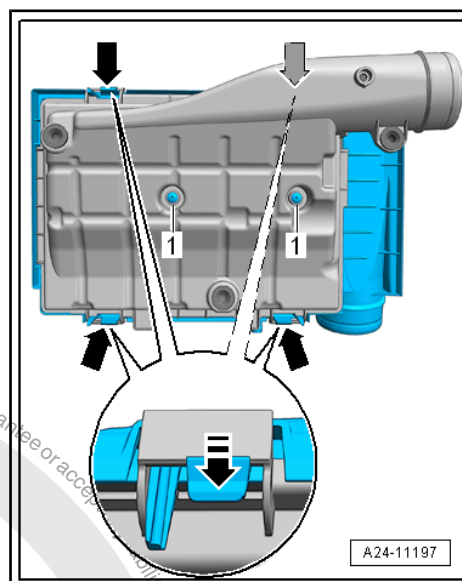
- Remove the air duct hose -2- from the air filter housing upper section -1-.
- Loosen the hose clamps -3 and 4-.
- Pull the air filter housing -1- upward off the ball pins.
- Remove the air ducts from the air filter housing -1-.
- Remove the air filter housing -1- and lay it down turned 180°.



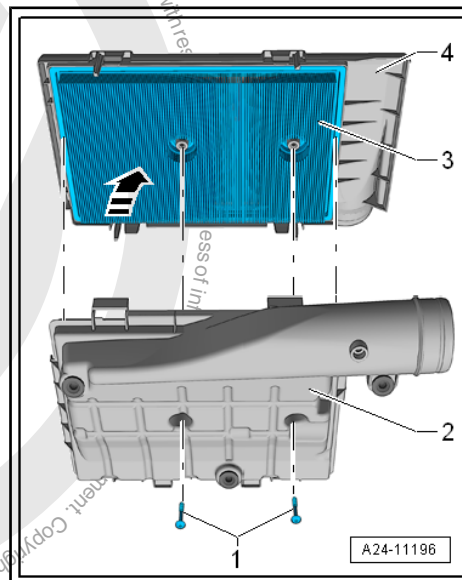
- Remove the screws -1- on the bottom of the air filter.
- Carefully release the mounting tabs -arrows- on the air filter upper section one after the other (danger of breaking).
- Remove the air filter upper section and remove the air filter element.

Installing

- Check the housing, mass airflow sensor and water drains. Make sure they are not dirty or blocked. Refer to [⇒ "4.40.4 Air Filter Housing, Cleaning", page 122](#).

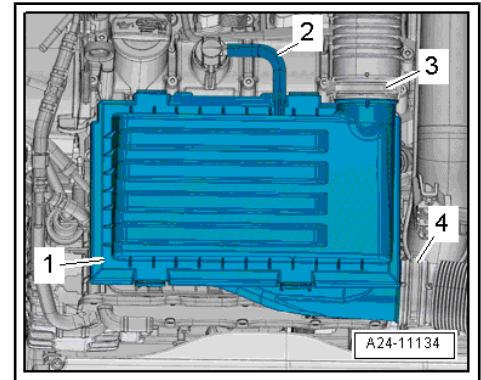


- Insert the air filter element -3- centered into the mount in the air filter upper section -4-.
- Place the air filter lower section -2- on the air filter upper section -4- and tighten the bolts -1-.





- Mount the air ducts on the air filter housing -1-.
- Install the hose clamps -3 and 4-.
- Press the air filter housing -1- centered on the ball pins.
- Attach the air guide hose -2- to the air filter upper section -1-.
- If necessary install the engine cover “upper”. Refer to
⇒ [“4.43 Upper Engine Cover, Removing and Installing”, page 127](#).



Tightening Specification	Nm
Bolts	1.5

4.40.2 Air Filter Element, Removing and Installing, 2.0L TSI Engine

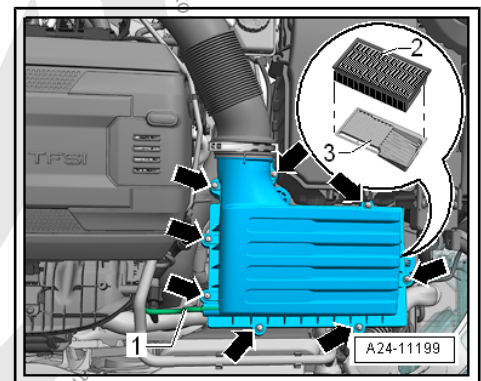
Removing

- Remove the vacuum hose -1- from the air filter upper section.
- Remove the screws -arrows- from the air filter upper section and then lift the air filter upper section with the entire air guide to the side.
- Remove the air filter element -2- and the snow screen -3-.



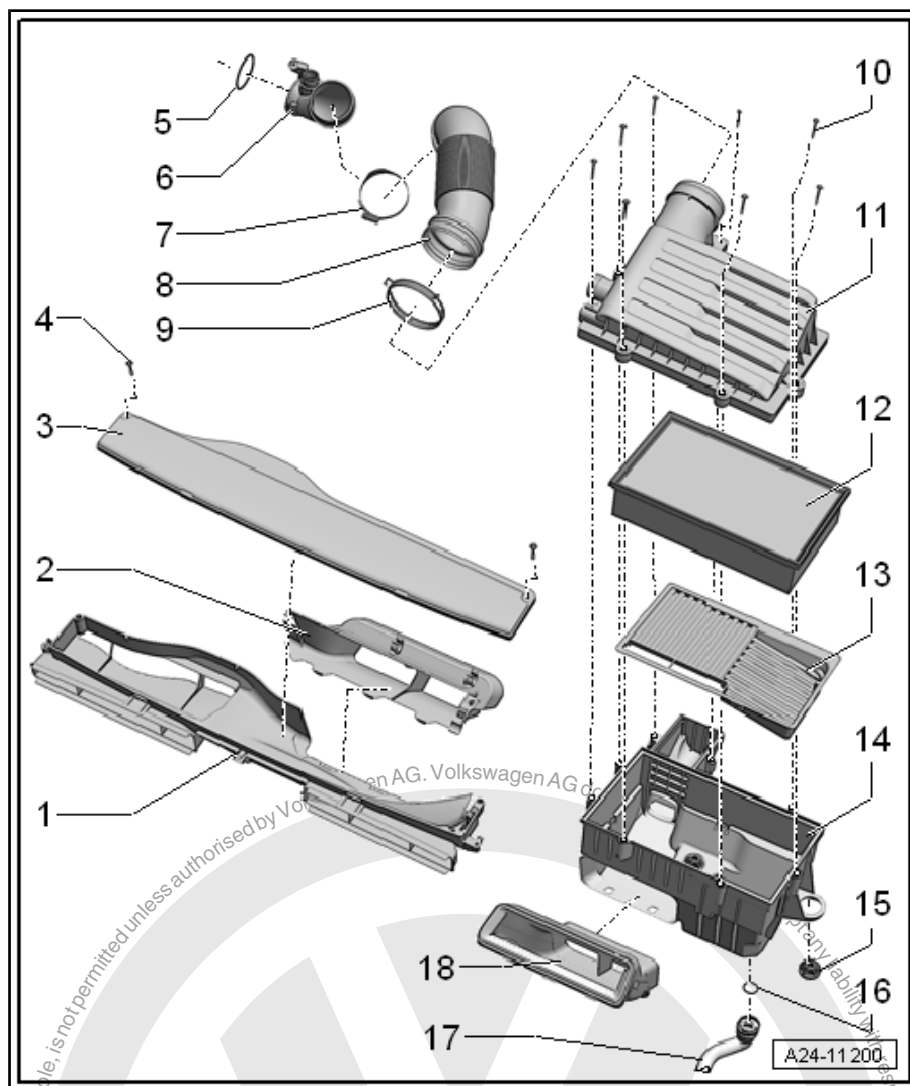
Note

Not all vehicles have a snow screen.



Installing

- Check the housing, mass airflow sensor and water drains. Make sure they are not dirty or blocked. Refer to
⇒ [“4.40.4 Air Filter Housing, Cleaning”, page 122](#).
- Insert the snow screen -13- into the air filter lower section -14-.



- Insert the air filter element -12- centered into the mount in the air filter lower section -14-.
- Carefully place the air filter upper section -11- without great force onto the air filter lower section -14-. Install and tighten the screws -10- to specification.



Note

Ignore the remaining illustration callouts!

Tightening Specification	Nm
Bolts	1.5



4.40.3 Air Filter Element, Removing and Installing, Common Rail Engines

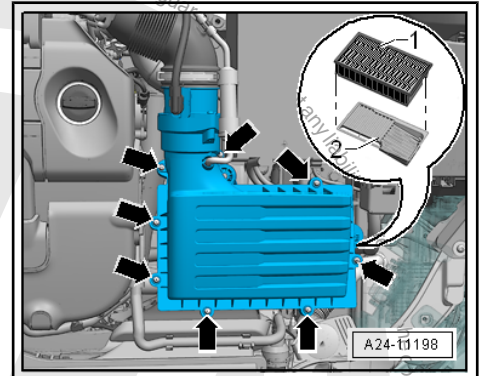
Removing

- Remove the screws -arrows- from the air filter upper section and then lift the air filter upper section with the entire air guide to the side.
- Remove the air filter element -1- and the snow screen -2-.



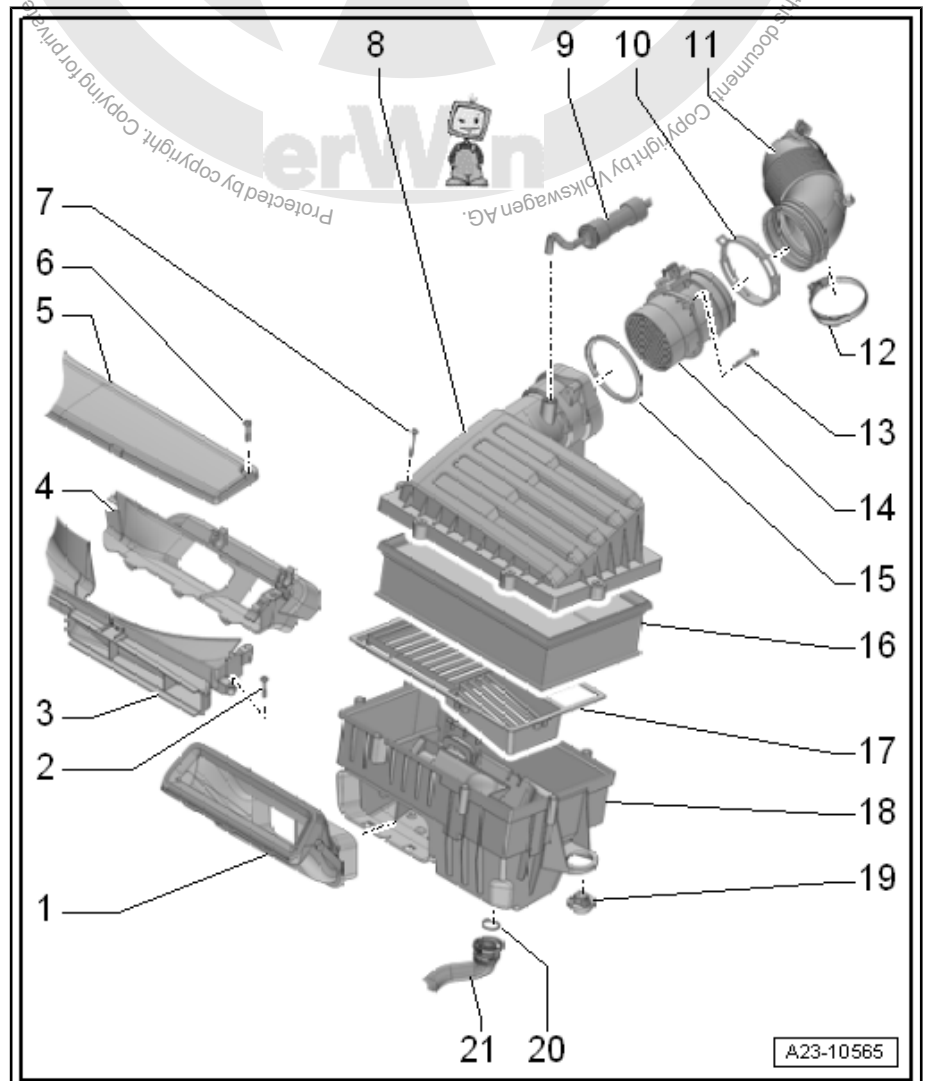
Note

Not all vehicles have a snow screen.



Installing

- Check the housing, mass airflow sensor and water drains. Make sure they are not dirty or blocked. Refer to ["4.40.4 Air Filter Housing, Cleaning", page 122](#).
- Insert the snow screen -17- into the air filter lower section -18-.





- Insert the air filter element -16- centered into the mount in the air filter lower section -18-.
- Carefully place the air filter upper section -8- without great force onto the air filter lower section -18-. Install and tighten the screws -7- to specification.



Note

Ignore the remaining illustration callouts!

Tightening Specification	Nm
Bolts	1.5

4.40.4 Air Filter Housing, Cleaning



Note

- ♦ Heavy dirt accumulation or dampness can cause an incorrect mass air value. This causes lack of performance because a lower injection amount is calculated.
- ♦ Please follow all waste disposal regulations!
- ♦ Cleaning is charged separately.
- Check mass airflow sensor and intake hose (clean air side) for salt residue, dirt and leaves.
- Check drain hose in bottom side of air filter or dirt and adhesion, clean, if necessary.
- Clean air filter housing (upper and lower sections) of salt residue, dirt or leaves, if necessary clean with vacuum.

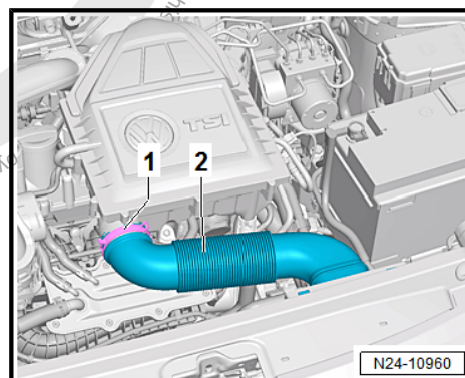


Note

When cleaning air filter housing with compressed air, observe the following: To avoid malfunctions, cover the critical air carrying engine components with a clean cloth.

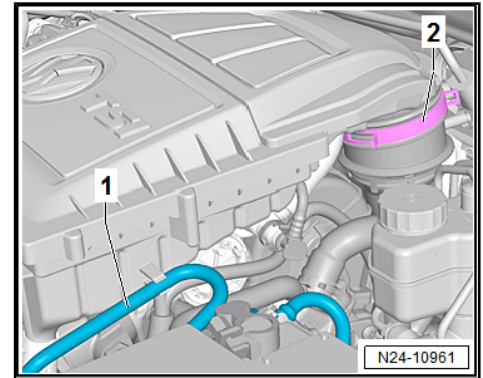
4.40.5 Air Filter Element, Removing and Installing, 1.0L TSI Engines

Removing





- Loosen the spring clamp -1- and remove the air duct hose -2-.
- Unclip the vacuum line -1- from the air filter housing and loosen the spring clamp -2-.



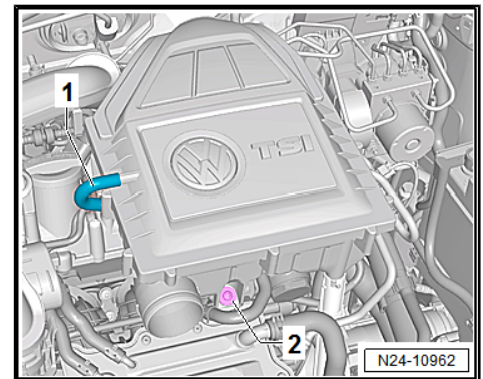
- Carefully remove the air filter housing from the turbocharger intake tube.
- Remove the crankcase ventilation hose -1-.
- Remove the bolt -2- and gently lift the air filter housing.



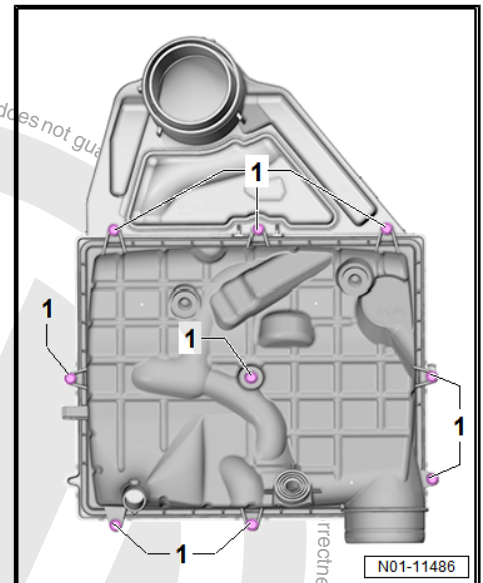
Note

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

- Disconnect the vacuum lines from the bottom of the air filter housing.
- Remove the air filter housing upward.
- Remove the screws -1- on the bottom of the air filter.
- Remove the air filter bottom section and remove the air filter element.

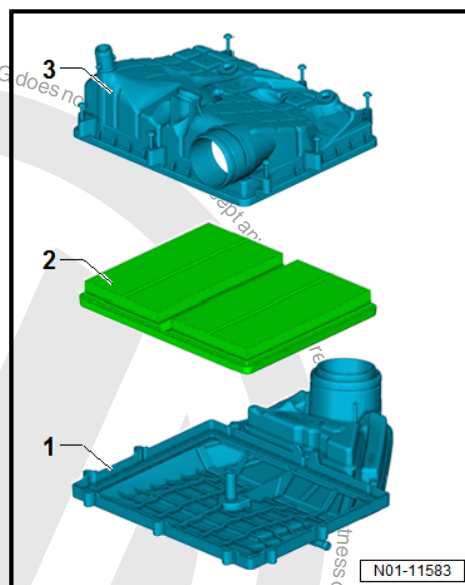


Installing

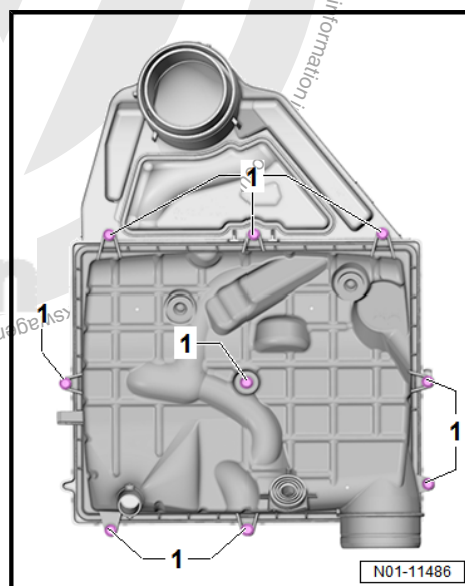




- Check the housing and water drains for dirt and clean them if necessary. Refer to
⇒ [“4.40.4 Air Filter Housing, Cleaning”, page 122](#).
- Insert the air filter element -2- centrally into the mount in the air filter upper section -1-.



- Place the air filter lower section -3- on the air filter upper section -1-.
- Assemble the air filter upper section and the air filter lower section using the screws -1- and tighten to the tightening specification.



Mounting Elements, Replacing

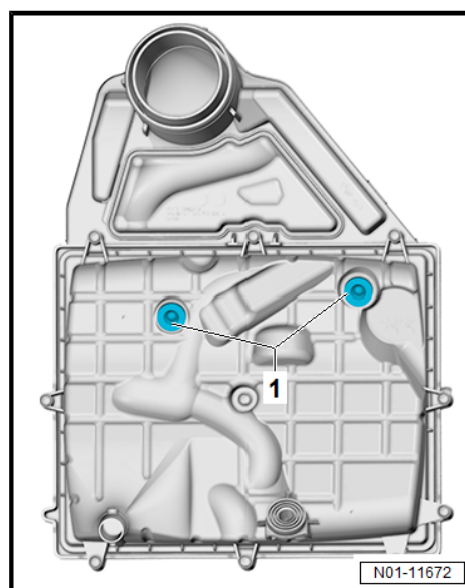
- Remove the mounting elements -1- upward.
- Press the new mounting elements into their guides.



Note

Do not grease or lubricate the mounting elements -1- before installing.

- Continue to install the air filter housing in reverse order of removal.



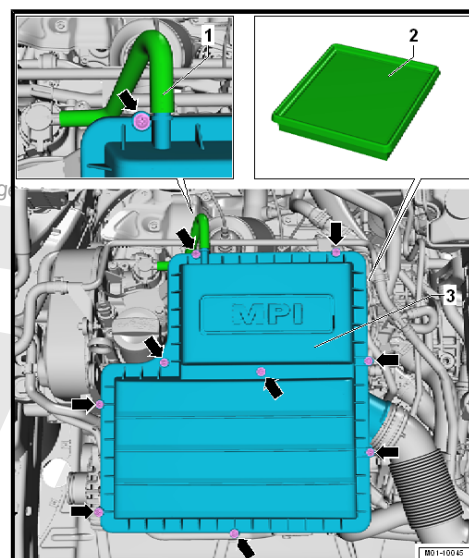


Tightening Specification	Nm
Screws for air filter upper section and air filter lower section -1-	1.5
Air filter housing bolt -2-	5

4.40.6 Air Filter Element, Removing and Installing, 1.6L SRE Engine

Removing

- Remove the air guide hose -1- from the air filter upper section.
- Remove bolts -arrows- from the air filter housing upper section.
- Disengage the air filter upper section -3- with the entire air guide to the side.
- Remove the air filter -2-



Installing

- Check the housing and the water drains for dirt and clean them if necessary.
- Insert the air filter -2- centrally in the mount on the air filter housing lower section.
- Carefully place the air filter upper section -3- without great force onto the air filter lower section. Install and tighten the screws to specification.
- Install the air guide hose -1- on the air filter upper section.

Tightening Specification	Nm
Bolts	2

4.41 Multipurpose Additive for Gasoline, Adding



Note

- ◆ *Only applies to China, Russia, and India.*
- ◆ *Use only additives that meet the standard VW 507 53 A or VW 507 53 B.*
- ◆ *Pay attention to the dosing instructions on the additive tank.*
- ◆ *For maximum effectiveness, recommend to the customer after adding the additive to completely fill up the fuel tank.*
- Add multipurpose additive for gasoline to the regular fuel tank at every service.



China	Russia	India
<ul style="list-style-type: none"> – Use VW 507 53 B for all gasoline engines including CNG, E-85 MultiFuel. 	<ul style="list-style-type: none"> – Use VW 507 53 B for all gasoline engines including CNG, E-85 MultiFuel. – Use VW 507 53 A for all gasoline engines except CNG, E-85 MultiFuel. 	<ul style="list-style-type: none"> – Use VW 507 53 B for all gasoline engines including CNG, E-85 MultiFuel. – Use VW 507 53 A for all gasoline engines except CNG, E-85 MultiFuel.
<ul style="list-style-type: none"> ◆ Multipurpose Additive for Gasoline Engines - G 001 780-M3- 	<ul style="list-style-type: none"> ◆ Multipurpose Additive for Gasoline Engines - G 001 780-M3- ◆ Multipurpose Additive for Gasoline Engines - G 001 770-A2- 	<ul style="list-style-type: none"> ◆ Multipurpose Additive for Gasoline Engines - G 001 780-M3- ◆ Multipurpose Additive for Gasoline Engines - G 001 770-A2-
<ul style="list-style-type: none"> – Follow the dosing instructions on the bottle. 	<ul style="list-style-type: none"> – Follow the dosing instructions on the bottle. 	<ul style="list-style-type: none"> – Follow the dosing instructions on the bottle.

4.42 Engine and Engine Compartment Components, Visually Inspecting for Leaks and Damage (from Above and Below)

- Remove the engine cover, if necessary. Refer to [⇒ “4.43 Upper Engine Cover, Removing and Installing”, page 127](#).
- If necessary remove engine compartment cover -lower- (noise insulation). Refer to [⇒ “4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing”, page 128](#).

Perform the visual inspection as follows:

- Check engine and components in engine compartment for leaks and damage.
- Check the lines, hoses and connections for leaks, abrasions, porosity and cracks on the following systems:
 - ◆ Fuel system
 - ◆ Cooling and heating system
 - ◆ Oil circuit
 - ◆ A/C system
 - ◆ Air intake system
 - ◆ Brake system



Note

- ◆ *Make sure the all malfunctions detected are corrected within a repair procedure.*
- ◆ *Determine the cause of fluid loss, which cannot be attributed to normal use and repair.*



4.43 “Upper” Engine Cover, Removing and Installing

⇒ [“4.43.1 Engine Cover, Removing and Installing, 1.4L TSI Hybrid Engine”, page 127](#) .

⇒ [“4.43.2 Engine Cover, Removing and Installing, 2.0L TSI Engine”, page 127](#)

⇒ [“4.43.3 Engine Cover, Removing and Installing, Common Rail Diesel Engines”, page 127](#) .

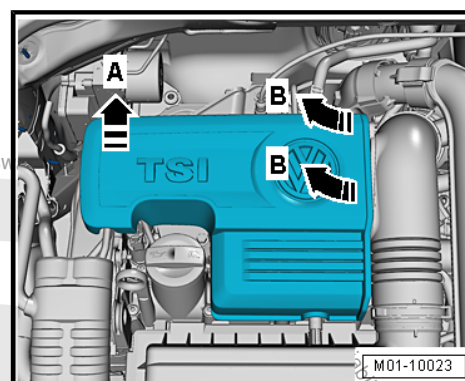
4.43.1 Engine Cover, Removing and Installing, 1.4L TSI Hybrid Engine

Removing

- First remove the engine cover carefully in the direction of the arrow -A- from the retaining pin.
- Then remove the engine cover in the direction of the arrow -B- from the guide.

Installing

- To avoid damage, do not hit the engine cover with fist or a tool.
- Be careful when attaching the engine cover onto the oil filler tube.



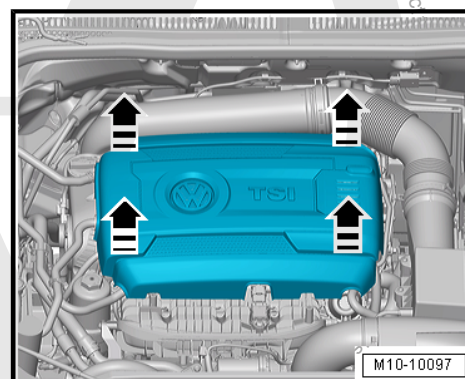
4.43.2 Engine Cover, Removing and Installing, 2.0L TSI Engine

Removing

- Carefully pull the engine cover off of the retaining pins -arrows- one after the other. Do not pull on the engine cover abruptly to remove it or pull on one side.

Installing

- To avoid damage, do not hit the engine cover with fist or a tool.
- Position the engine cover and at the same time pay attention to the oil filler tube and oil dipstick.
- Press the engine cover first in the rubber grommets on the left side and then in the rubber grommets on the right side.



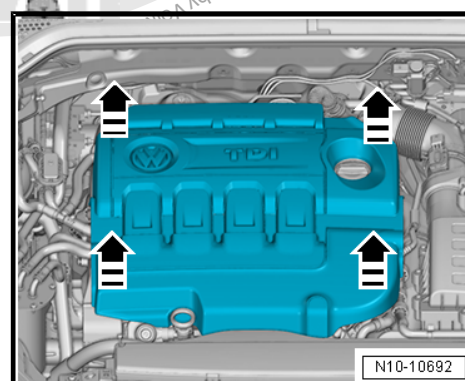
4.43.3 Engine Cover, Removing and Installing, Common Rail Diesel Engines

Removing

- Carefully pull the engine cover off of the retaining pins -arrows- one after the other. Do not pull on the engine cover abruptly to remove it or pull on one side.

Installing

- To avoid damage, do not hit the engine cover with fist or a tool.
- Position the engine cover and at the same time pay attention to the oil filler tube and oil dipstick.
- Press the engine cover first in the rubber grommets on the left side and then in the rubber grommets on the right side.





4.44 "Lower" Engine Compartment Cover (Noise Insulation), Removing and Instal- ling

Procedure

Removing the -lower- engine cover (noise insulation) can be found in the repair manual under:

Refer to ➔ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .

4.45 Engine Oil Level, Checking

Please Observe the Following:

- After turning off the engine, wait at least three minutes for the oil to flow back into the oil pan.
- Pull out the oil dipstick and wipe it with clean cloth. Insert the dipstick and push it all the way down.
- Pull out dipstick again and read oil level.

Version 1



Note

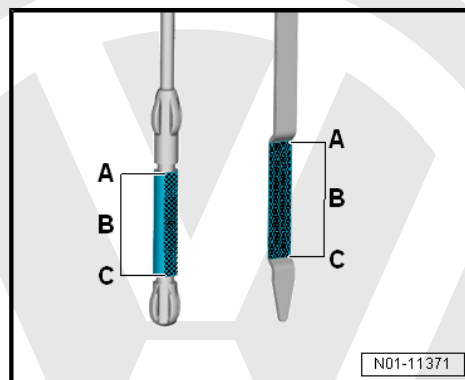
The amount of oil used during an engine oil change from the service table is determined by trial, and is sufficient for the engine operation in all operating conditions. For all services the oil level must be adjusted if necessary if the customer requests it. This makes an additional filling possible to the specified oil change amount to the maximum limit on the dipstick. Due to tolerances and also to oil temperature and flow back time, different fill capacities are possible.

A - Do not add oil.

B - The oil can be filled to the maximum limit -A-.

C - Add oil. The oil level must be at least in the upper half of the measuring range -B-.

- Drain or extract some of the oil if the oil level goes above the maximum limit -A- to prevent damage to the catalytic converter.
- If the oil level is under the minimum mark -C- fill the oil, minimum of 0.5 liters. Refer to ["2.2 Maintenance Tables for Market Designation A"](#), [page 5](#) for the oil specification.



Version 2



Note

The amount of oil used during an engine oil change from the service table is determined by trial, and is sufficient for the engine operation in all operating conditions. For all services the oil level must be adjusted if necessary if the customer requests it. This makes an additional filling possible to the specified oil change amount to the maximum limit on the dipstick. Due to tolerances and also to oil temperature and flow back time, different fill capacities are possible.

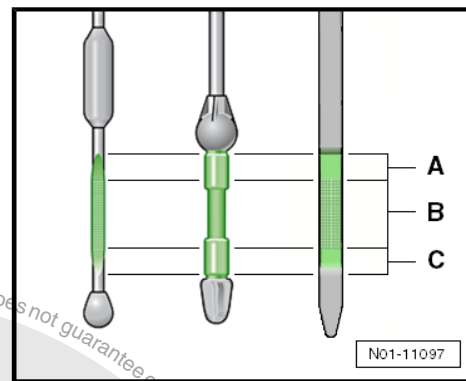


A - Do not add oil.

B - Engine oil can be filled up to the -A- range.

C - Add oil. The oil level must be at least in the upper third of the measuring range -B-.

- Drain or extract some of the oil if the oil level goes above the mark -A- to prevent damage to the catalytic converter.
- Fill the oil until it reaches the -A- marking if the oil level goes below the -C- marking. Engine oil specification. Refer to ["2.2 Maintenance Tables for Market Designation A"](#), page 5 .



4.46 Engine Oil, Draining, Replacing Oil Filter, and Filling

⇒ ["4.46.1 Information for Engines with Turbochargers"](#), page 129 .

⇒ ["4.46.2 Engine Oil, Draining and Replacing Oil Filter, 1.4L TSI Engines"](#), page 130 .

⇒ ["4.46.3 Engine Oil, Draining and Replacing Oil Filter, Common Rail Diesel Engines"](#), page 132 .

⇒ ["4.46.4 Engine Oil, Draining and Replacing Oil Filter, 2.0L TSI Engine"](#), page 135 .

⇒ ["4.46.5 Engine Oil, Draining and Replacing Oil Filter, 2.0L TSI Engine, R Model"](#), page 137 .

⇒ ["4.46.6 Engine Oil, Filling"](#), page 141 .

4.46.1 Information for Engines with Turbochargers

After the engine and oil filters have been replaced, pay attention to the following after the engine has been started for the first time:

- ◆ As long as the oil pressure indicator lamp in the instrument cluster is on, the engine may only run in idle.
- ◆ Do not touch the accelerator pedal!
- ◆ When the warning light extinguishes, the full oil pressure is achieved and the engine can be accelerated.



Caution

Bumping the accelerator pedal can damage the turbocharger or destroy it completely. Since the turbocharger operates at high speeds, the bearing can become destroyed within seconds if it is not lubricated sufficiently.

If any oil leaks are detected, vibrations or unnatural sounds coming from the turbocharger, switch off the engine immediately.



4.46.2 Engine Oil, Draining and Replacing Oil Filter, 1.4L TSI Engines



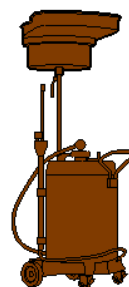
Caution

- ◆ *Overfilling the engine with engine oil damages the catalytic converter. The remaining quantity when extracting is too large.*
- ◆ *Always drain the engine oil. Extracting is not allowed.*

Special tools and workshop equipment required

- ◆ Used Oil Collection and Extraction Unit - SMN372500-

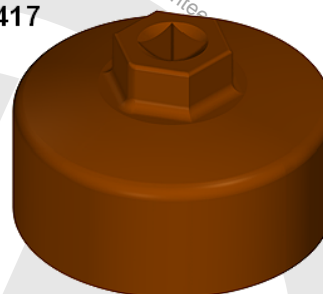
VAS 6622 A



W00-11526

- ◆ Oil Absorbent Towel
- ◆ Wrench - Oil Filter - 3417-

3417



W00-11164

- ◆ Hazet Tension Band - 21711-1-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

V.A.G 1331



W00-11166



Caution

This procedure contains mandatory replaceable parts. Refer to Parts Catalog.

Mandatory Replacement Parts

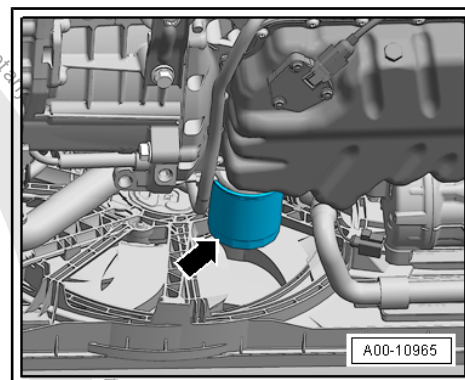
- ◆ Oil Drain Plug with Permanent Seal

Oil Filter, Removing

- Remove the “lower” engine compartment cover (noise insulation). Refer to
⇒ [“4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing”, page 128](#) .
- Loosen the oil filter cartridge -arrow- using the Hazet Tension Band - 2171-1- and the Wrench - Oil Filter - 3417- and then remove the oil filter.

Oil Filter, Installing

- Clean oil filter sealing surface on the engine.
- Coat the rubber seal on the oil filter cartridge with engine oil.
- Install the oil filter cartridge -arrow- using the Wrench - Oil Filter - 3417- and tighten to the tightening specification.



Tightening Specification	Nm
Oil filter	20

Engine Oil, Draining During First Oil Change. Refer to
⇒ [page 131](#) .

Engine Oil, Draining After First Oil Change. Refer to
⇒ [page 132](#) .

Engine Oil, Draining During First Oil Change

- Remove the oil drain plug with permanent seal -1- and dispose.



- Let the engine oil drain.



Note

Please follow all waste disposal regulations!

- Install the new oil drain plug -3- with the new seal -2- hand-tight and then tighten to the specified tightening specification.

Engine Oil, Draining After First Oil Change.

- Remove the oil drain plug -2- and dispose of the seal -3-.



Note

The oil drain plug will be used again after the first oil change.

- Let the engine oil drain.



Note

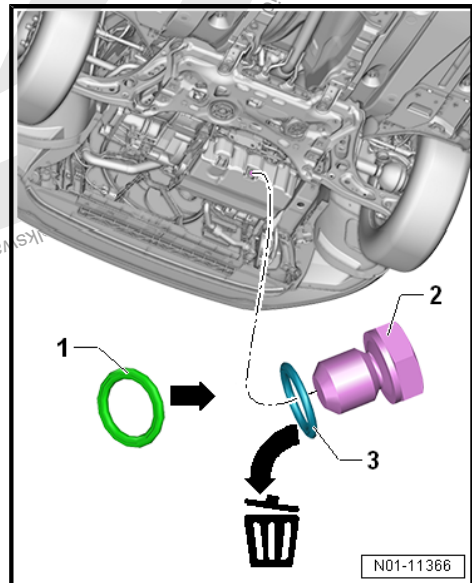
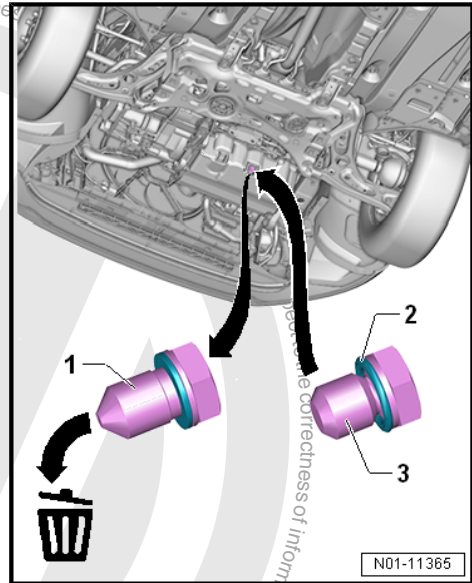
Please follow all waste disposal regulations!

- Install the oil drain plug -2- with a new seal -1- hand tight and then tighten to the specified tightening specification.
- Install the engine compartment cover (noise insulation) "lower". Refer to
⇒ ["4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing", page 128](#) .



WARNING

- ◆ *Do not exceed the tightening specifications.*
- ◆ *A too high of torque may lead to leaks near the oil drain plug or even damage.*



Tightening Specification	Nm
Oil drain plug	30

- Fill the engine oil.

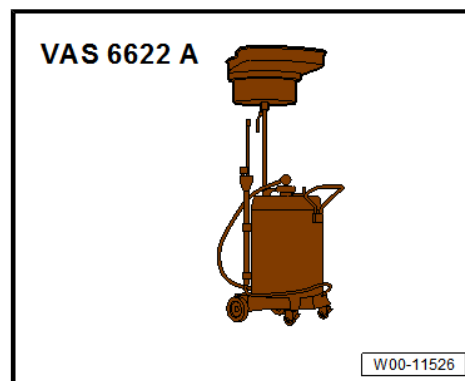
Engine oil capacities. Refer to the ⇒ Fluid Capacity Tables; Rep.
Gr. 03 :

4.46.3 Engine Oil, Draining and Replacing Oil Filter, Common Rail Diesel Engines

Special tools and workshop equipment required




- ◆ Used Oil Collection and Extraction Unit - SMN372500-



- ◆ Socket 32 mm
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



- ◆ Oil Absorbent Towel

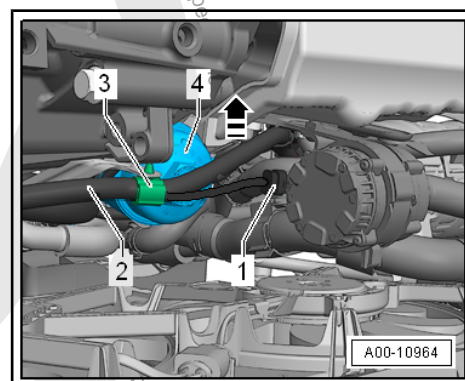


Caution

This procedure contains mandatory replaceable parts. Refer to Parts Catalog.

Mandatory Replacement Parts

- ◆ Oil Filter O-ring
- ◆ Oil Drain Plug with Permanent Seal
- Remove the "lower" engine compartment cover (noise insulation). Refer to ["4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing", page 128](#).
- Disconnect the after-run pump connector -1-.
- Unclip the generator line -2- from the clip -3- and move in the direction of the -arrow-.





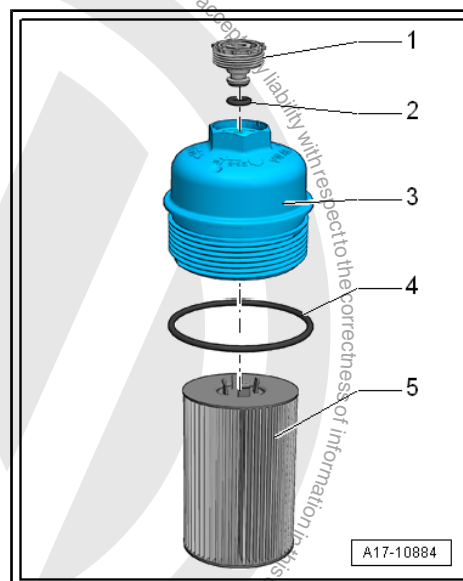
- Remove the oil drain plug -1- in the cap -3- and drain the engine oil.


Oil Filter, Removing

- Remove the cap -3- with Socket 32 mm .

Changing the Oil Filter Element

- Remove the filter element -5-.
- Insert the O-ring -2- into the groove on the oil drain plug cap -1- and tighten to the tightening specification.
- Coat the new O-ring -4- with engine oil and replace the filter element -5-.
- Tighten the cap -3- to the tightening specification using the Socket 32 mm .
- Clip in the generator line and connect the after-run pump connector.
- Clean the lines which are dirty with engine oil using an Oil Absorbent Towel .



Tightening Specification		Nm
Oil filter cap		25
Oil drain plug cap		5

- Remove the oil drain plug
- Let the engine oil drain.



Note

- ♦ *If the engine oil is drained, then the oil drain plug must be replaced. This prevents leaks.*
- ♦ *Please follow all waste disposal regulations!*
- Install the new oil drain plug with the permanent seal hand-tight and then tighten to the tightening specification.
- Install the engine compartment cover (noise insulation) "lower". Refer to
⇒ ["4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing", page 128](#) .



WARNING

- ♦ *Do not exceed the tightening specifications.*
- ♦ *A too high of torque may lead to leaks near the oil drain plug or even damage.*

Tightening Specification	Nm
Oil drain plug	30

- Fill the engine oil.

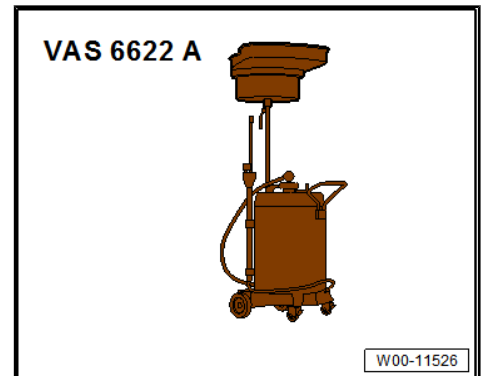
Engine oil capacities. Refer to the ⇒ Fluid Capacity Tables; Rep. Gr. 03 :



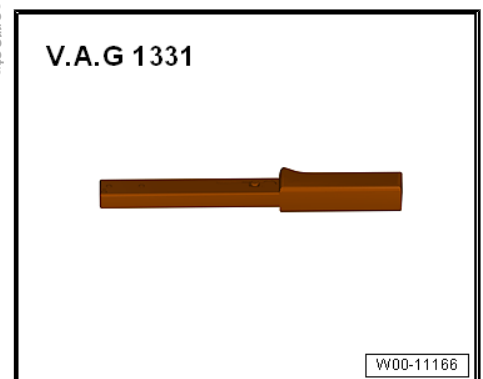
4.46.4 Engine Oil, Draining and Replacing Oil Filter, 2.0L TSI Engine

Special tools and workshop equipment required

- ◆ Used Oil Collection and Extraction Unit - SMN372500-



- ◆ Socket 32 mm
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



- ◆ Oil Absorbent Towel
- ◆ Oil Drain Plug Assembly Tool - T10549-
- ◆ Filling Aid for Engine Oil - VAS6842-



Caution

This procedure contains mandatory replaceable parts. Refer to Parts Catalog.

Mandatory Replacement Parts

- ◆ Oil Drain Plug O-ring

Oil Filter, Removing

- Remove the engine cover. Refer to
⇒ ["4.43 Upper Engine Cover, Removing and Installing", page 127](#).



- Loosen oil filter housing -arrow- with Socket AF 32 .
- Wait a few minutes so that the engine oil can flow back into the oil filter housing.
- Remove oil filter housing -arrow- completely.



Note

Make sure that no engine oil drips onto the engine. Use cloths if necessary.

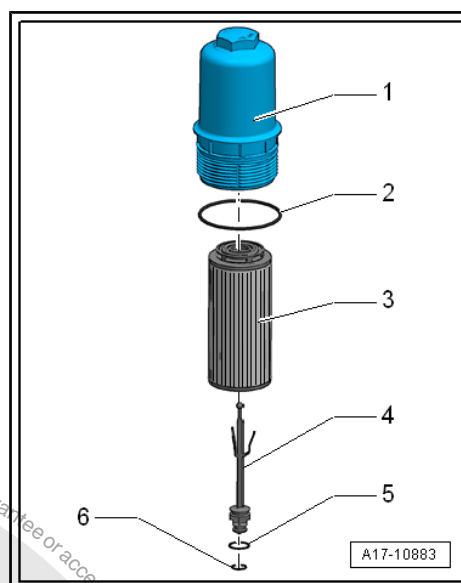
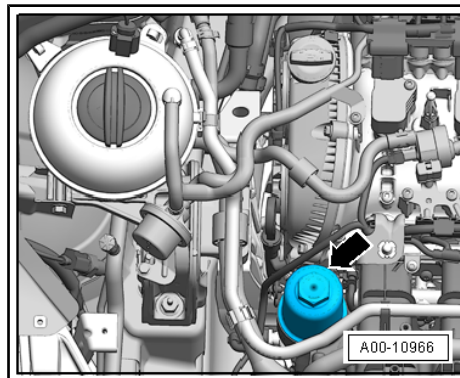
Changing the Oil Filter Element

- Remove the filter.
- Coat the O-ring -2- with engine oil and install it into the groove on the oil filter housing -1-.
- Replace oil filter -3-.

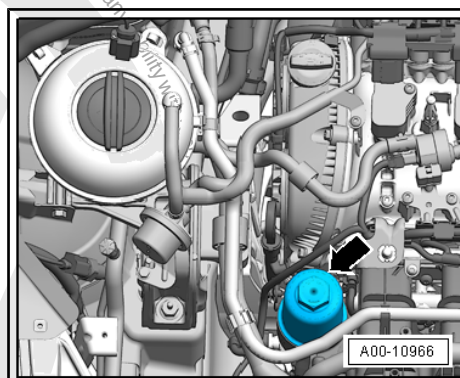


Note

Ignore items -4, 5 and 6-.



- Use Socket AF 32 to tighten oil filter housing -arrow- to specification.



Tightening Specification	Nm
Oil filter housing	25

- Remove the "lower" engine compartment cover (noise insulation). Refer to [⇒ "4.44 Lower Engine Compartment Cover \(Noise Insulation\). Removing and Installing", page 128](#).
- Remove the plug using the Oil Drain Plug Assembly Tool T10549- .
- Let the engine oil drain.



Note

- ◆ *If the oil is drained then the plug must be replaced. This prevents leaks.*
- ◆ *Please follow all waste disposal regulations!*
- Coat the new plug O-ring with engine oil.
- Tighten the new plug all the way using the Oil Drain Plug Assembly Tool - T10549- .
- Install the engine compartment cover (noise insulation) "lower". Refer to
⇒ ["4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing", page 128](#) .
- Fill the engine oil.



Note

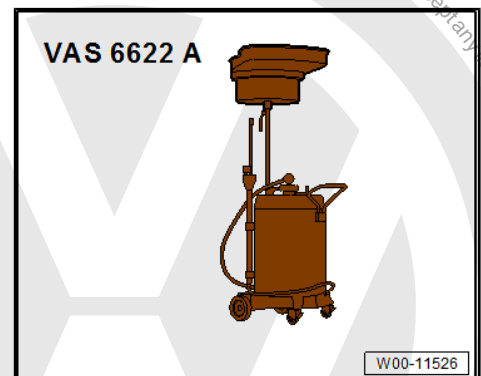
Slowly fill with engine oil. Narrow filler tube with housing structure underneath. The oil drains very slowly. Add engine oil using the Filling Aid for Engine Oil - VAS6842- if necessary.

Engine oil capacities. Refer to the ⇒ Fluid Capacity Tables; Rep. Gr. 03 :

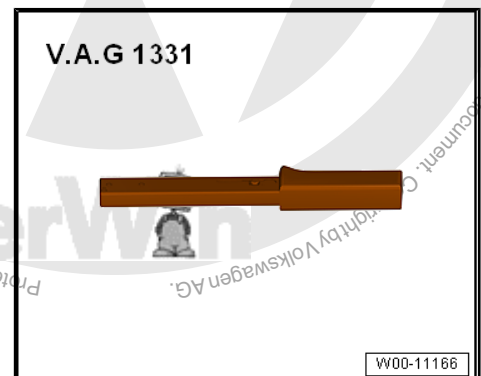
4.46.5 Engine Oil, Draining and Replacing Oil Filter, 2.0L TSI Engine, "R Model"

Special tools and workshop equipment required

- ◆ Used Oil Collection and Extraction Unit - SMN372500-



- ◆ Socket 32 mm
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



- ◆ Oil Absorbent Towel



◆ Filling Aid for Engine Oil - VAS6842-



Caution

This procedure contains mandatory replaceable parts. Refer to Parts Catalog.

Mandatory Replacement Parts

- ◆ Oil Drain Plug with Permanent Seal

Oil Filter, Removing

- Remove the engine cover. Refer to
⇒ [“4.43 Upper Engine Cover, Removing and Installing”, page 127](#) .



- Loosen oil filter housing -arrow- with Socket AF 32 .
- Wait a few minutes so that the engine oil can flow back into the oil filter housing.
- Remove oil filter housing -arrow- completely.



Note

Make sure that no engine oil drips onto the engine. Use cloths if necessary.

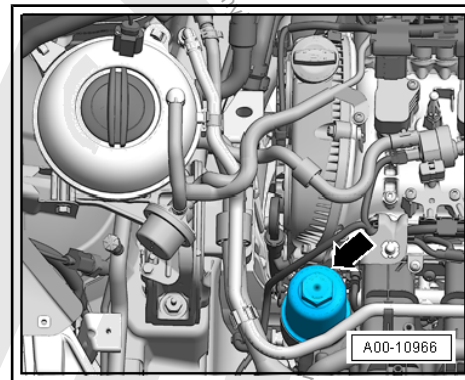
Extracting the Engine Oil

- Guide the oil extraction device from the Used Oil Collection and Extraction Unit SMN372500- over the oil dipstick tube and extract the engine oil.



Note

- ◆ *Use a flexible extracting sensor with the largest diameter available.*
- ◆ *Use the extracting device only until resistance is encountered. Otherwise, the tip can get deflected at the bottom of the oil pan, causing a large amount of used engine oil to remain in the engine.*
- ◆ *Proceed according to the Used Oil Collection and Extraction Unit - SMN372500- Owner's Manual.*



Engine Oil, Draining

- Remove the “lower” engine compartment cover (noise insulation). Refer to [⇒ “4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing”, page 128](#) .
- Remove the oil drain plug with permanent seal and dispose.



Note

Please follow all waste disposal regulations!

- Let the engine oil drain.



Note

- ◆ *If the oil is drained then the plug must be replaced. This prevents leaks.*
- ◆ *Please follow all waste disposal regulations!*
- Install the new plug hand-tight and then tighten to the tightening specification.

Tightening Specification	Nm
Oil drain plug	30

- Install the engine compartment cover (noise insulation) “bottom”. Refer to [⇒ “4.44 Lower Engine Compartment Cover \(Noise Insulation\), Removing and Installing”, page 128](#) .



- Engine Oil, Filling. Refer to
⇒ [“4.46.6 Engine Oil, Filling”, page 141](#) .



Note

Slowly fill with engine oil. Narrow filler tube with housing structure underneath. The oil drains very slowly. Add engine oil using the Filling Aid for Engine Oil - VAS6842- if necessary.

- Then check the oil level and correct if necessary. Refer to
⇒ [“4.45 Engine Oil Level, Checking”, page 128](#) .

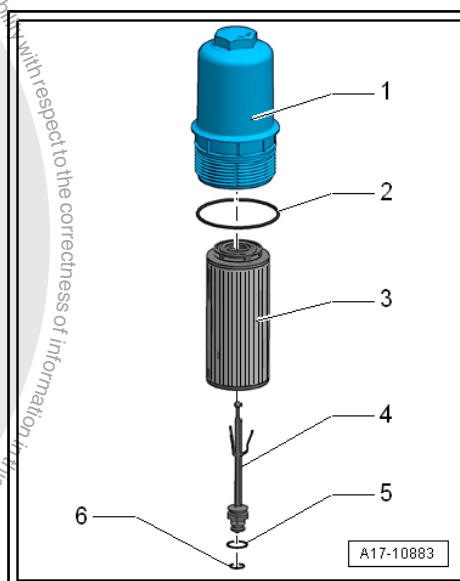
Changing the Oil Filter Element

- Remove the filter.
- Coat the O-ring -2- with engine oil and install it into the groove on the oil filter housing -1-.
- Replace oil filter -3-.

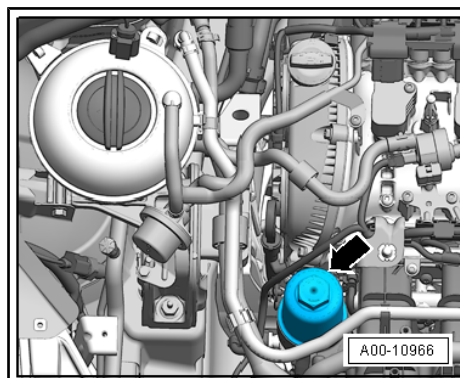


Note

Ignore items -4, 5 and 6-.



- Use Socket AF 32 to tighten oil filter housing -arrow- to specification.



Tightening Specification	Nm
Oil filter housing	25

Engine Oil, Filling

- Fill the engine oil. Refer to
⇒ [“4.46.6 Engine Oil, Filling”, page 141](#)



Note

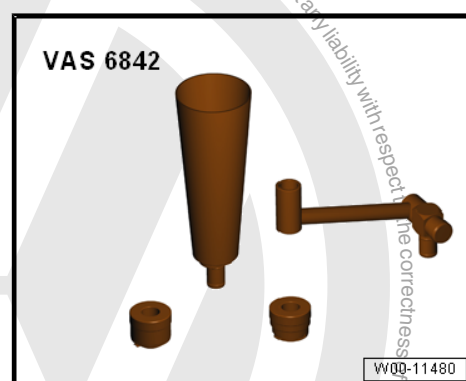
Slowly fill with engine oil. Narrow filler tube with housing structure underneath. The oil drains very slowly. Add engine oil using the Filling Aid for Engine Oil - VAS6842- if necessary.

- Then check the oil level and correct if necessary. Refer to
⇒ [“4.45 Engine Oil Level, Checking”, page 128](#) .
- Install the engine cover. Refer to
⇒ [“4.43.2 Engine Cover, Removing and Installing, 2.0L TSI Engine”, page 127](#) .

4.46.6 Engine Oil, Filling

Special tools and workshop equipment required

- ◆ Filling Aid for Engine Oil - VAS6842-



- Use the Filling Aid for Engine Oil - VAS6842- if necessary to fill the oil.

Engine Oil Capacities and Specifications. Refer to
⇒ [“4.47 Engine Oil, Capacities and Specifications”, page 141](#) .

Engine Oil Level, Checking. Refer to
⇒ [“4.45 Engine Oil Level, Checking”, page 128](#) .

4.47 Engine Oil, Capacities and Specifications

⇒ [“4.47.1 Golf”, page 141](#) .

⇒ [“4.47.2 Golf Wagon”, page 141](#) .

4.47.1 Golf

Refer to the ⇒ Fluid Capacity Tables; Rep. Gr. 03

4.47.2 Golf Wagon

Refer to the ⇒ Fluid Capacity Tables; Rep. Gr. 03

4.47.3 Sportsvan

Sportsvan				
Gasoline Engines		Oil capacity with filter (l)	Volkswagen Engine Oil Standards	
Engine codes	Displacement/output		With flexible service	With fixed service
CHPB	1.4L 110kW	4.0	---	502 00
CHZD	1.0L 85kW	4.0	504 00	502 00
CJZD	1.2L 81kW	4.0	504 00	502 00
CPVB	1.4L 92kW	4.0	---	502 00



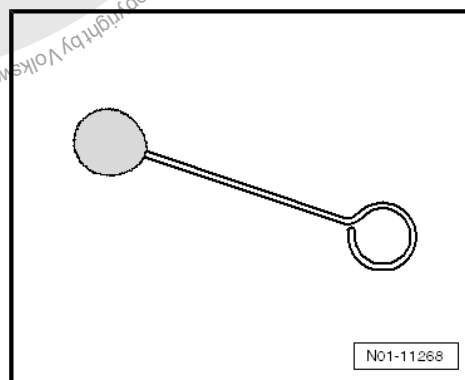
Sportsvan				
Gasoline Engines		Oil capacity with filter (l)	Volkswagen Engine Oil Standards	
Engine codes	Displacement/output		With flexible service	With fixed service
CWVA	1.6L 81kW	4.0	---	502 00
CXSB	1.4L 92kW	4.0	504 00	502 00
CYVA	1.2L 63kW	4.0	504 00	502 00
CYVB	1.2L 81kW	4.0	504 00	502 00
CZCA	1.4L 92kW	4.0	504 00	502 00
CZDA	1.4L 110kW	4.0	---	502 00

Sportsvan				
Diesel Engines		Oil capacity with filter (l)	Volkswagen Engine Oil Standards	
Engine codes	Displacement/output		With flexible service	With fixed service
CRKA	1.6L 66kW	4.6	507 00	507 00
CRKB	1.6L 81kW	4.6	507 00	507 00
CRLB	2.0L 110kW	4.6	507 00	507 00
CRVA	2.0L 81kW	4.6	507 00	507 00
CXXA	1.6L 66kW	4.6	507 00	507 00
CXXB	1.6L 81kW	4.6	507 00	507 00
DBKA	1.6L 110kW	4.6	507 00	507 00

4.48 Panorama Sliding Sunroof, Checking Function, Cleaning and Greasing Guide Rails, Cleaning Wind Deflector

Special tools and workshop equipment required

- ◆ Lint-free cloth or applicator



- ◆ Grease G 060 751 A2
- ◆ Wet and Dry Vacuum - VAS5128-

4.48.1 Checking Function, Cleaning and Greasing Guide Rails

- Check the roof system for damage.
- Check the roof system function, that is, completely open and close the glass panel and shading system (sliding headliner or shade).
- Open the roof system and remove any dirt.



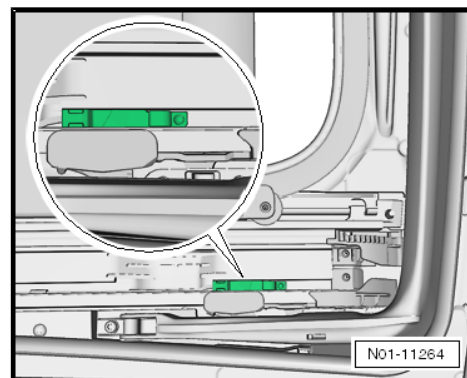
If there are any noises or complaints during the functionality test, perform the repair.

- Open the glass panel all the way.

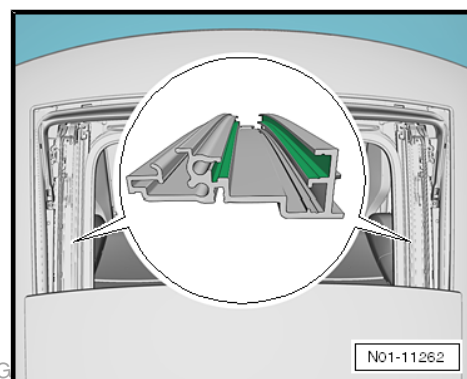


Caution

Do not clean or lubricate the guide -green-. Danger of causing damage.

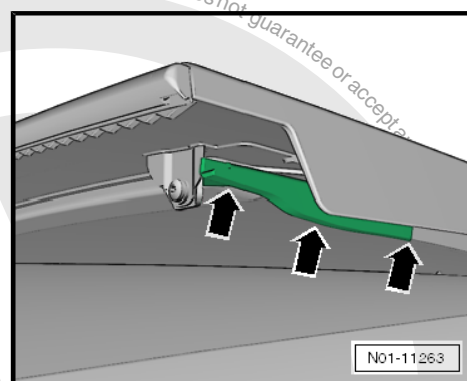


- Clean all parts that are going to be lubricated with a lint-free cloth or applicator and using Wet and Dry Vacuum - VAS5128- beforehand.



- Lubricate the inside and outside of the guide rails on both side -green- with adhesive lubricating paste.
- Lubricate the guide rails -arrows-, approximately the first 10 cm, on both side with adhesive lubricating paste.
- After lubricating the Panorama sliding sunroof open and close it and then remove the excess lubricant.

Be careful not to get any other parts or the passenger compartment dirty.

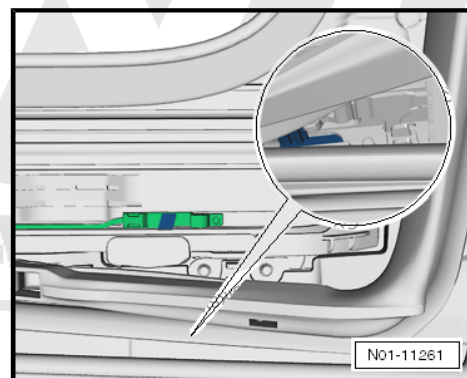


Note

If the locking piece on the rail should get detached while cleaning or lubricating, do not operate the Panorama sliding sunroof! Danger of causing damage.

Locking the Rail:

- Carefully press the guide rail lever -green- downward.
- Using a screwdriver, carefully push the locking piece -blue- on the side over the lever -green-.





4.48.2 Wind Deflector, Cleaning



Note

Only required for a wind deflector with a net.

- Check the wind deflector -1- for dirt. Pay special attention to dirt build-up at the bottom of the wind deflector -arrows-.
- Remove any dirt deposits using, for example, the Wet And Dry Vacuum - VAS5128- .



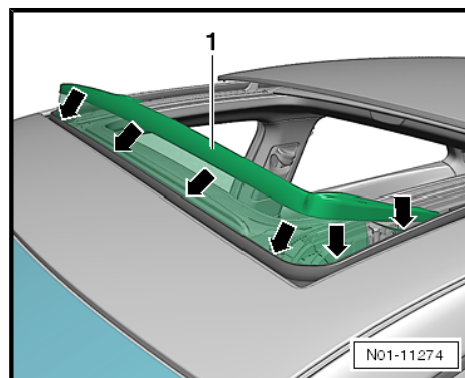
Note

- ♦ *To remove stuck insects and particles from the net and from the air deflector frame, use a sponge and soap suds.*
- ♦ *Mixture ratio: 3 drops of soap to every 1 liter of water*



Caution

No use any standard insect remover or other solvent as these products were not tested and approved.



- Then remove loosen insects and particles with a vacuum and a suitable vacuum tip.



Caution

Use a vacuum tip that would be appropriate for the wind deflector so that the net does not get damaged.

Be careful not to let any dirt fall into the vehicle interior while performing this work.

4.49 Panorama Sliding/Tilting Sunroof with Rear Panorama Roof, Checking Function, Cleaning and Greasing Guide Rails, and Cleaning Wind Deflector

Special tools and workshop equipment required

- ♦ Wet And Dry Vacuum - VAS5128-
- ♦ Grease - G 060 751 A2-
- ♦ Brush

4.49.1 Checking Function, Cleaning and Greasing Guide Rails

- Check the roof system for damage.
- Check the roof system function, that is, completely open and close the glass panel and shading system (sliding headliner or shade).
- Open the roof system and remove any dirt.
- Clean the guide rails under the outer seal -A- -arrows-.





- Thinly coat grease in the sliding area of the entire guide rail -arrows- with a brush.
- After lubricating the Panorama sliding sunroof open and close it and then remove the excess lubricant.

- A- outer seal
- B- wind deflector
- C- inner seal
- D- The arrow points in the drive direction.



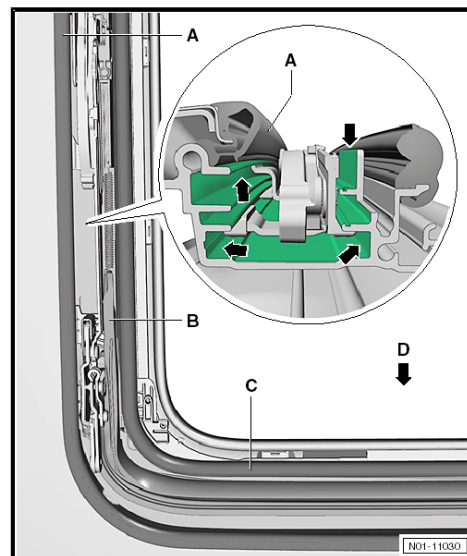
Note

Make sure no other components are contaminated.



Caution

Correct any malfunctions (repair procedure).



4.49.2 Wind Deflector, Cleaning



Note

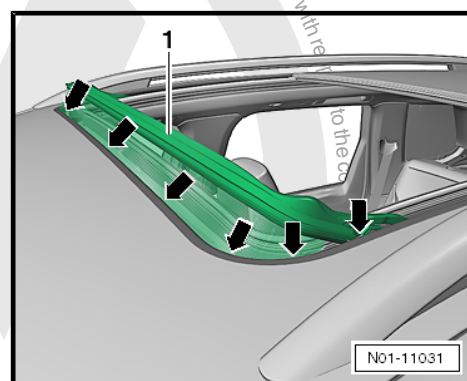
Only required for a wind deflector with a net.

- Check the wind deflector -1- for dirt. Pay special attention to dirt build-up at the bottom of the wind deflector -arrows-.
- Remove any dirt deposits using, for example, the Wet And Dry Vacuum - VAS5128 -.



Note

- ◆ *To remove stuck insects and particles from the net and from the air deflector frame, use a sponge and soapy water.*
- ◆ *Mixture ratio: 3 drops of soap to 1 liter of water*



Caution

No use any standard insect remover or other solvent as these products were not tested and approved.

- Then remove loosen insects and particles with a vacuum and a suitable vacuum tip.



Caution

Use a nozzle that is made for the wind deflector so that the net does not get damaged.

Be careful not to let any dirt fall into the vehicle interior while performing this work.



4.50 Road Test, Performing (Driving Behavior, Noises, A/C System, etc.)

The following checks depend on the vehicle equipment level and the available testing possibilities (city or rural).

During the road test, check the following:



Note

- ◆ *Only applies to the e-Golf!*
- ◆ *Three-phrase current drive: calibrating (40 km/h (25 mph) more than 5 seconds)*
- Engine: performance, stalling, idle, acceleration
- Clutch: starting behavior, pedal force, smell
- Shifting: ease of movement, shift lever position
- Automatic transmission: selector lever position, shift lock or ignition switch key lock, shift behavior, instrument cluster display
- Foot and parking brake: function, free play and effectiveness, pulling to one side, shuddering, squeaking
- ABS function: when braking with activated ABS, the brake pedal must pulse noticeably.
- Steering: function, steering play, steering wheel center position when driving straight ahead.
- Tilting Sunroof: function
- Radio/radio/navigation system: functionality, reception, speed compensated volume (SCV), objectionable noise
- Multifunction indicator: functions
- A/C system: function test. (At low temperatures, test the air conditioning function in the workshop.)
- Vehicle: pulling to one side while driving straight ahead (level road)
- Imbalance: wheels, driveshafts, propshaft
- Wheel bearing: noises
- Engine: warm starting behavior

4.51 Wheel Bolts, Tightening to Specification

- ◆ Center Hubcap, Removing. Refer to [⇒ page 147](#) .
- ◆ Wheel Hubcap, Removing. Refer to [⇒ page 147](#) .
- ◆ Wheel Bolt Caps, Removing. Refer to [⇒ page 147](#) .
- ◆ Anti-Theft Wheel Bolts, Loosening and Tightening. Refer to [⇒ page 148](#) .
- ◆ Wheel Bolts, Tightening. Refer to [⇒ page 148](#) .
- ◆ Center Hubcap, Wheel Bolt Caps and Wheel Hubcap, Installing. Refer to [⇒ page 149](#) .



Center Hubcap, Removing



Caution

On vehicles with alloy wheels, do not pry out center hubcap with screwdriver. Rather, use special tool designed for this purpose (pulling hook in vehicle tool kit).

The pulling hook -1- for removing the caps is located in the vehicle tool kit.

- Insert the pulling hook into one of the center hubcap holes and pull in the direction of the -arrow-.



Wheel Hubcap, Removing

- If the vehicle has wheel hubcaps as shown, loosen the full wheel cover all around, for example, with the wire clip and wheel wrench from the vehicle tool kit -arrow A- and then remove it -arrow B-.

Wheel Bolt Caps, Removing



Caution

On vehicles with alloy wheels, do not pry out the wheel bolt caps with screwdriver. Rather, only use the special tool designed for this purpose (pulling hook in vehicle tool kit).

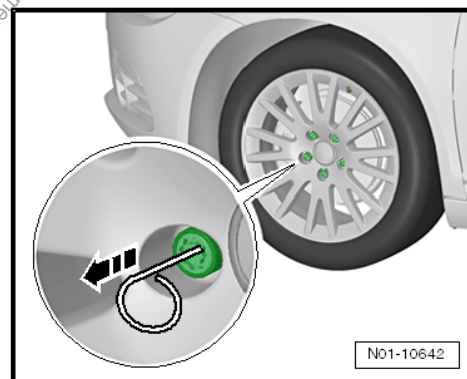
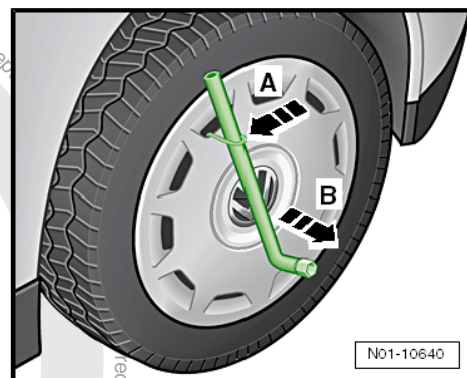


Note

The wheel bolt caps must be removed before the wheel bolts can be loosened or tightened.

The pulling hook for removing the caps is located in the vehicle tool kit.

- Insert the wire clip through opening in the cap.
- Pull off cap using the wire clip.



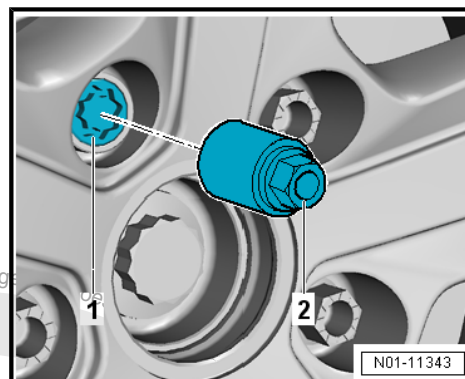


Anti-Theft Wheel Bolts, Loosening and Tightening



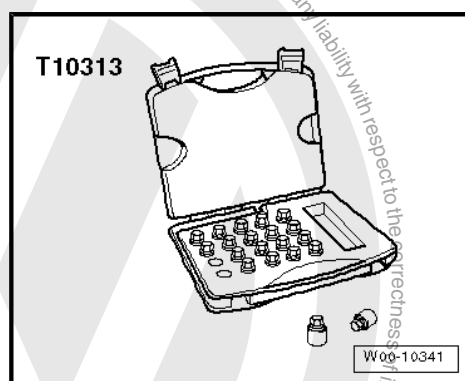
Note

- ◆ A special adapter is required to loosen/tighten anti-theft wheel bolts. It is included in the vehicle tool kit.
- ◆ Do not use an impact wrench to loosen the anti-theft wheel bolts (lockable wheel bolts).
- ◆ If the adapter to loosen/tighten the anti-theft wheel bolts is not present in the vehicle, use the corresponding wheel lock set.



Special tools and workshop equipment required

- ◆ Wheel Lock Set - T10313-



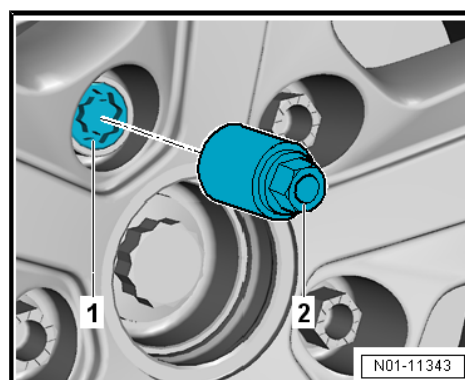
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-



- Slide the adapter -2- on the anti-theft wheel bolt -1-.
- Slide the wheel wrench onto adapter -2- until it stops.

Wheel Bolts, Tightening

- Tighten the wheel bolts diagonally to the tightening specification:



Tightening Specification	Nm
Wheel Bolts	120

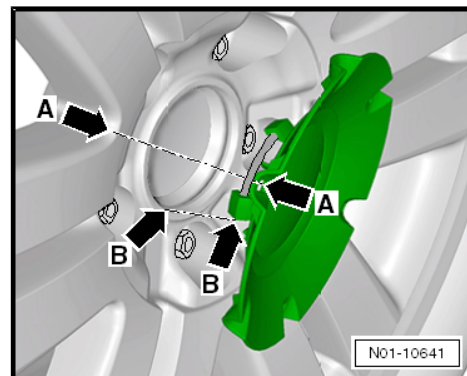


WARNING

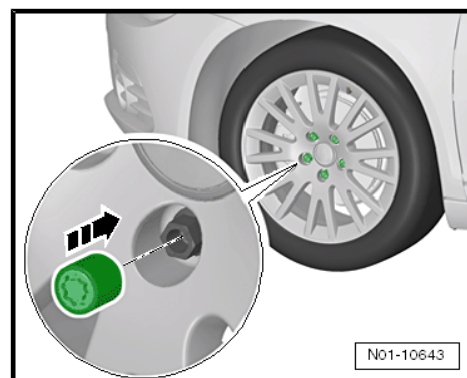
Never use an impact wrench to tighten the wheel bolts!

Center Hubcap, Wheel Bolt Caps and Wheel Hubcap, Installing

- Press the center wheel trim into the opening on the wheel hub. Make sure -A and B- fit exactly onto the rim.



Install the caps on the wheel bolts.

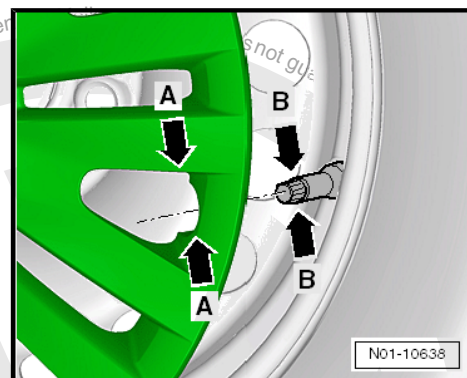


Install the wheel hubcap by inserting the trim evenly into the steel rim. Make sure the valve -B- is seated in the opening -A- for the wheel hubcap.



Note

After the procedures have been completed, place the adapter and pulling hook back in the vehicle tool kit.



4.52 Tire Pressure Monitoring System, Calibrating



Note

- Perform the calibration on the tire pressure monitoring system display only "after" the tire pressures have been adjusted to the correct values.
- If no pressure loss and no tire damage is detected after a tire pressure warning, the erroneous warning can be eliminated by a calibration.



Using the ABS speed sensor, the tire pressure monitoring system compares the RPM, the tire tread circumference and the vibration behavior of the individual wheels. Changed in tire pressure on one or more wheels will show in the instrument cluster and in the infotainment system via the tire pressure monitoring system.

The tire tread circumference changes when:

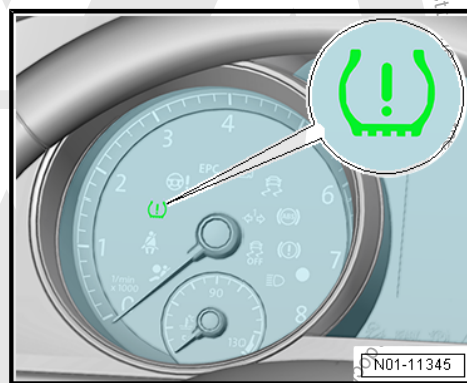
- ◆ The tire pressure is too low.
- ◆ Tires have structural damage.
- ◆ Vehicle is loaded on one side.
- ◆ Wheels of one axle are loaded higher, for example, when towing trailer or driving uphill and downhill.
- ◆ Snow chains are installed.
- ◆ The emergency wheel is installed.
- ◆ One wheel per axle was replaced.

The yellow Tire Pressure Monitoring Display Indicator Lamp is inside the instrument cluster -arrow-.

- ◆ "STEADY LIGHT", in conjunction with a warning tone, indicates "WARNING", a loss of pressure has been recognized, check tire pressure, and perform calibration.

Calibration:

- Switch on the ignition.
- Switch on the Infotainment system.
- Press the **CAR** Infotainment button.
- Select **Setup** on the screen.
- Select **Wheels** on the screen.
- Select **Set** on the screen.
- Select **Confirm** on the screen.



4.53 Tire Repair Kit, Checking



Note

- ◆ The vehicles depended on the equipment are equipped with a tire mobility kit.
- ◆ It contains the tire sealant bottle.

Golf (5G1):

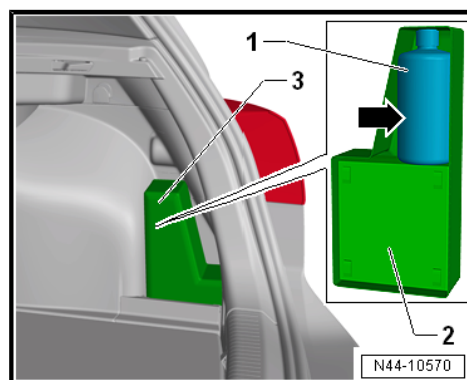
The tire mobility kit is located in the tool bag -3- in the right of the luggage compartment.

The tire mobility kit contains a bottle with tire sealant -1- and a compressor -2-.

The tire sealant in the bottle has a limited shelf-life.

The expiration date -arrow- is written on the bottle -1-.

- Enter the expiration date in the maintenance table.
- Replace the tire sealant after the expiration date is reached. (The tire sealant must not be older than 4 years).





4.54 Windshield Wiper and Washer System and Headlamp Washer System, Checking Function

⇒ "4.54.1 Freeze Protection Fluid Contents, Checking and Filling if Necessary", page 151 .

⇒ "4.54.2 Windshield Wiper/Washer System, Checking Spray Nozzle Adjustment and Adjusting, if Necessary", page 152 .

⇒ "4.54.3 Headlamp Washer System, Checking Washer Nozzle Adjustment", page 154 .

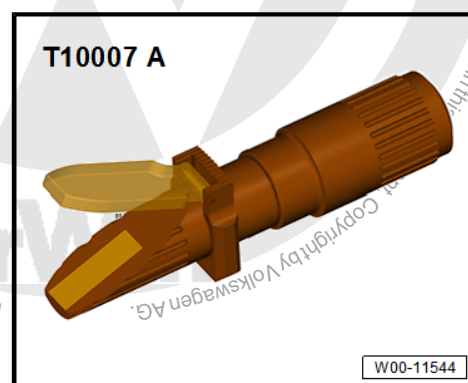
⇒ "4.54.4 Windshield Wiper Blades, Checking Park Position", page 154

⇒ "4.54.5 Rear Wiper Blade, Checking Park Position", page 154 .

4.54.1 Freeze Protection Fluid Contents, Checking and Filling if Necessary

Special tools and workshop equipment required

- ◆ Refractometer - T10007A-



Note

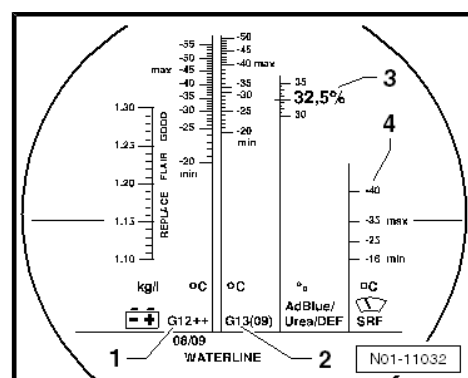
In countries or regions that there is no frost due to climate conditions, the freeze protection does not need to be checked.

Read the cut-off line to obtain an accurate value for the following tests. Place a drop of water on the glass using a pipette to improve the readability of the cut-off line. The cut-off line can be clearly recognized on the "WATERLINE".

- Check the concentration of anti-freeze additive using a Refractometer - T10007A- .

The refractometer scale -4- applies to the freeze protection for the windshield wiper/washer system.

Mixture Ratio:





Freeze protection to	Original washer fluid. Refer to Parts Catalog.	Water
-17°/-18 °C (1.4°/-0.4 °F)	1 part	3 part
-22°/-23 °C (-7.6°/-9.4 °F)	1 part	2 part
-37°/-38 °C (-34.6°/-36.4 °F)	1 part	1 part

- Fill the windshield wiper/washer system fluids (only at customer request).

Only use original washer fluid year-round to fill the windshield wiper/washer system. Refer to the Parts Catalog.

Depending on the time of year a winter product or summer product with higher cleaning function should be used.

Ready to use windshield washer fluid (Ready Mix) does not need to be thinned with water.



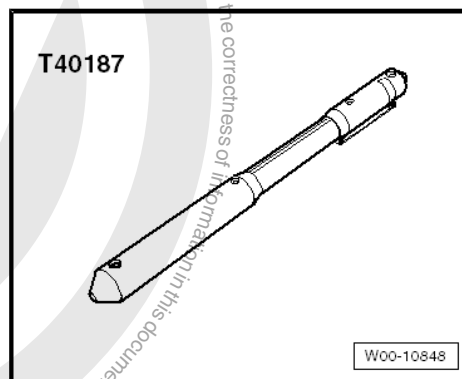
Note

- ◆ *Original washer fluid prevents the spray nozzles, receiver/dryer, and connecting hoses from freezing. Refer to the Parts Catalog.*
- ◆ *Vehicles with spray nozzles must be filled with original washer fluid as this fluid has a low viscosity at negative temperatures. The complicated spray jet system could otherwise become blocked due to crystallized washer fluid that can affect the fan pattern of the spray. Original washer fluid assures that the spray nozzles remain functional even at low temperatures.*
- ◆ *Use original washer fluid also in warm periods of the year. Refer to the Parts Catalog. The powerful cleanser removes wax and oil from the window glass without a problem.*
- ◆ *Freeze protection in the windshield wiper/washer system must be guaranteed to approximately -25 °C (-13 °F) (approximately -35 °C (-31 °F) in countries with an arctic climate).*

4.54.2 Windshield Wiper/Washer System, Checking Spray Nozzle Adjustment and Adjusting, if Necessary

Special tools and workshop equipment required

- ◆ Washer Jet Setting Tool - T40187-





Note

In cases where contamination in spray jet results in an uneven spray pattern, remove the spray jet and rinse it with water in the opposite direction of the spray flow. Subsequently blowing through in the opposite direction of the spray flow with compressed air is permitted. Do not use any objects to clean the spray nozzles!

Windshield Spray Nozzle Adjustment:

The washer nozzles are preset. Small height adjustments can be made.

- If both spray fields are not at same height, adjust spray direction upward or downward as follows:

1 - Cowl Panel Plate in Front of Windshield

2 - Adjuster TORX® size 8

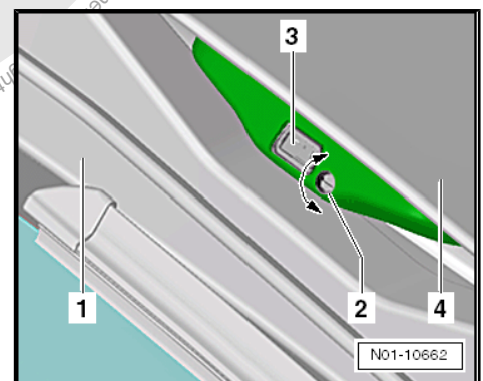
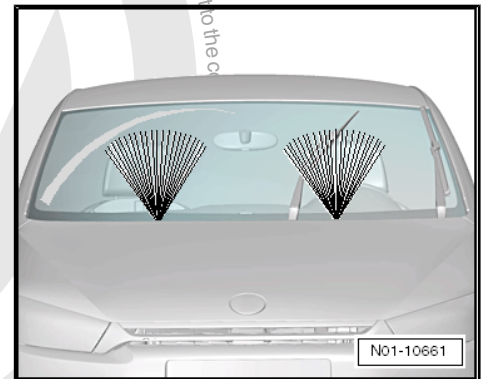
3 - Spray Nozzle

4 - Hood

- Adjust the spray nozzle -3- by turning at the adjuster -2- with a TORX® screwdriver.

◆ “Clockwise” lower adjustment.

◆ “Counter-clockwise” higher adjustment.



Rear Window Spray Nozzle Adjustment Version 1 (Point Spray Nozzle)

- Adjust the spray nozzle using the Washer Jet Setting Tool - T40187- so that the fluid sprays onto the upper third of the rear window as illustrated.

a - Approximately 115 mm

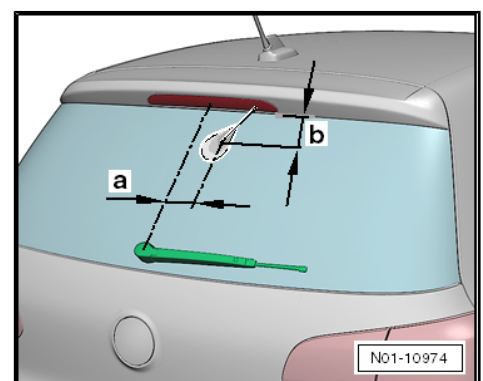
b - Approximately 54 mm

Rear Window Spray Nozzle Adjustment Version 2 (Fan-Type Nozzle).



Note

If the vehicle is equipped with a spray nozzle on the rear window, then it cannot be adjusted.





4.54.3 Headlamp Washer System, Checking Washer Nozzle Adjustment



Caution

The washer nozzles can be checked for functionality, but they cannot be adjusted.

Spray Jet Adjustment, Checking

- Turn on the low beam.
- Operate the windshield washer.

Headlamps are washed, if windshield wiper lever is held at least 1.5 seconds in “wiping position”

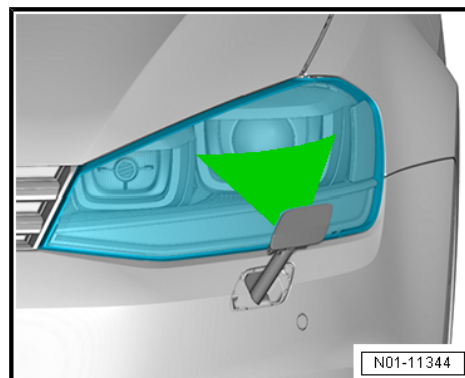
The spray must hit on the center of the headlamp glass.

If the spray pattern differs from the specification, perform a repair procedure.



Note

The test diagram is also for vehicles with Halogen headlamps.



4.54.4 Windshield Wiper Blades, Checking Park Position

Procedure

Refer to ➤ Electrical Equipment; Rep. Gr. 92 ; Windshield Wiper System; Windshield Wiper Arm, Adjusting .



Note

- ♦ *Adjusting the wiper blades is a repair procedure.*
- ♦ *The repair procedure is invoiced separately.*

4.54.5 Rear Wiper Blade, Checking Park Position

Procedure

Refer to ➤ Electrical Equipment; Rep. Gr. 92 ; Rear Window Wiper System; Wiper Arm, Adjusting .



Note

- ♦ *Adjusting the wiper blades is a repair procedure.*
- ♦ *The repair procedure is invoiced separately.*

4.55 Windshield Wiper Protectors, Removing



Note

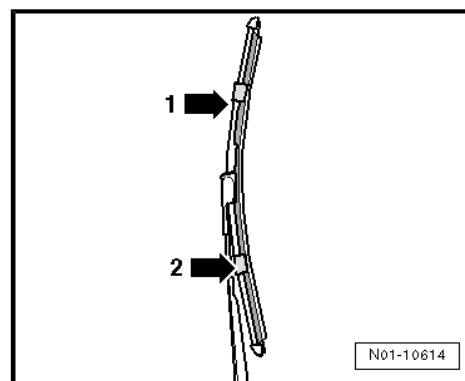
There are three versions of windshield wiper protectors.



1. Version with wiper blade with a protective strip and two fasteners

- ◆ Characteristics: protective strips with the two fasteners
-arrows 1 + 2-

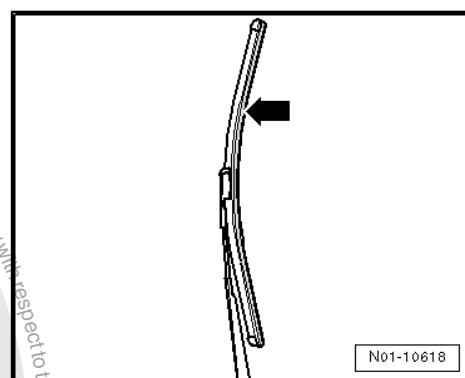
Windshield Wiper Protectors, Removing, Version 1. Refer to
⇒ ["4.55.1 Windshield Wiper Protectors, Removing, Version 1", page 155](#).



2. Version with wiper blade with protective strip to slide on

- ◆ Characteristics: protective strip -arrow- is slid onto the wiper blade

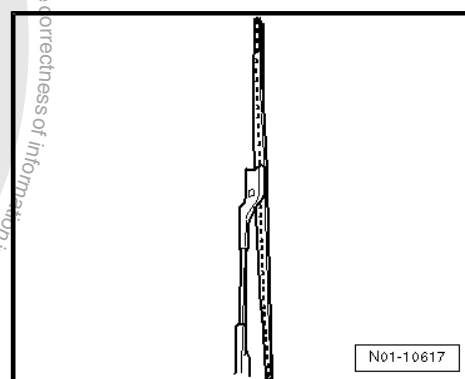
Windshield Wiper Protectors, Removing, Version 2. Refer to
⇒ ["4.55.2 Windshield Wiper Protectors, Removing, Version 2", page 156](#).



3. Transport wiper blade version

- ◆ Characteristics: Does not have a wind deflector and must be exchanged for the standard wiper blade.

Windshield Wiper Protectors, Replacing Version 3 "Transport Wiper Blade". Refer to
⇒ ["4.55.3 Windshield Wiper Protectors, Replacing Version 3 Transport Wiper Blade", page 157](#).



4.55.1 Windshield Wiper Protectors, Removing, Version 1

- With the hood closed, switch the ignition on and off briefly.
- Within 10 seconds after switching off the ignition, move the windshield wiper lever downward to the one-touch wiping notch.

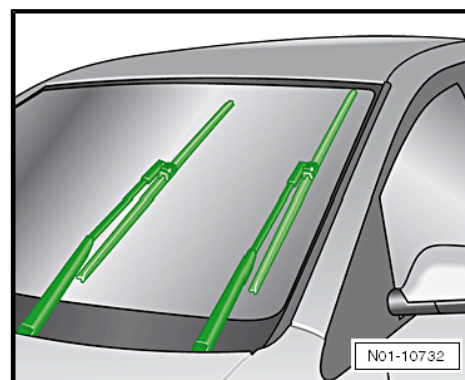
The wipers move into the service position.

- Fold the wiper away from the windshield.



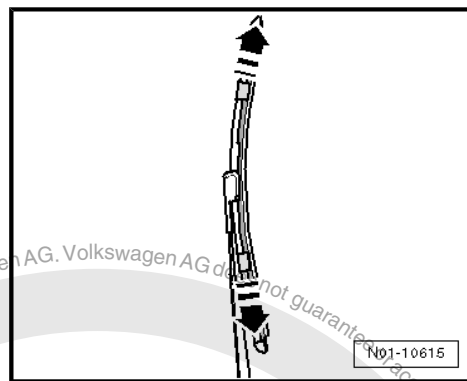
Caution

Do not hold the wiper by the wiper blade to prevent damaging it.

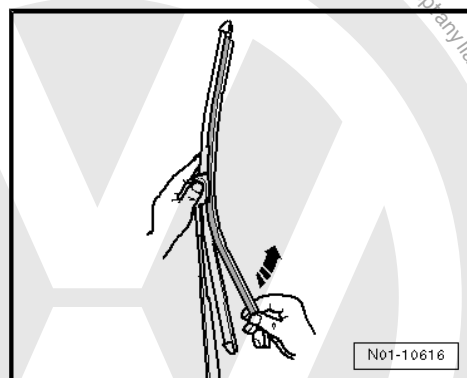




- Remove the upper and lower fasteners -arrows-.



- Remove the protective strip from the bottom upward off of the wiper blade as illustrated.
- Place the wiper arm carefully on the windshield.
- Now move the windshield wipers back into the park position by switching the ignition on and tapping the wiper lever briefly. Switch the ignition off.

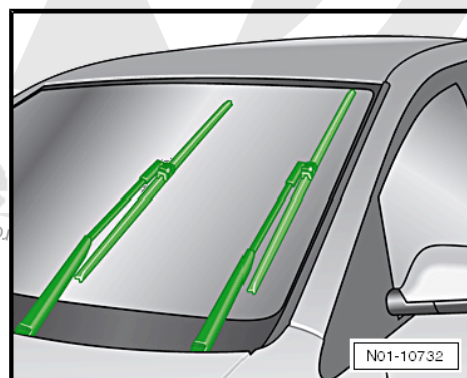


4.55.2 Windshield Wiper Protectors, Removing, Version 2

- With the hood closed, switch the ignition on and off briefly.
- Within 10 seconds after switching off the ignition, move the windshield wiper lever downward to the one-touch wiping notch.

The wipers move into the service position.

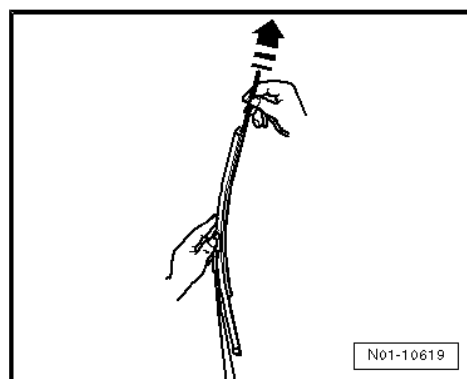
- Fold the wiper away from the windshield.



Caution

Do not hold the wiper by the wiper blade to prevent damaging it.

- Pull the protective strip upward off of the wiper blade as illustrated.
- Place the wiper arm carefully on the windshield.
- Now move the windshield wipers back into the park position by switching the ignition on and tapping the wiper lever briefly. Switch the ignition off.



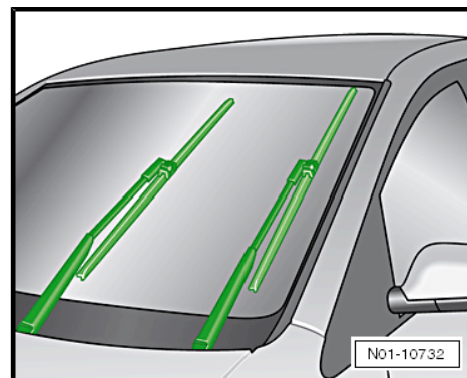


4.55.3 Windshield Wiper Protectors, Replacing Version 3 "Transport Wiper Blade"

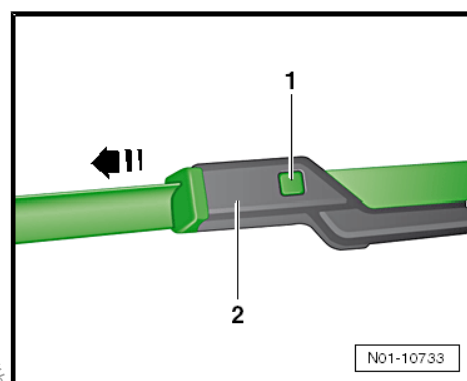
- With the hood closed, switch the ignition on and off briefly.
- Within 10 seconds after switching off the ignition, move the windshield wiper lever downward to the one-touch wiping notch.

The wipers move into the service position.

- Fold the wiper away from the windshield.



- Depending on the version, turn the wiper blade so that the lip faces up and then remove it. Press the lock -1- in the retainer -2- and loosen the wiper blade on the linkage -3- and then remove the wiper blade.
- Install the wiper blade. Make sure the lock audibly engages or turn the wiper blade so that the lip faces downward.



Caution

Do not hold the wiper by the wiper blade to prevent damaging it.

- Place the wiper arm carefully on the windshield.
- Now move the windshield wipers back into the park position by switching the ignition on and tapping the wiper lever briefly. Switch the ignition off.

4.56 Headlamp Adjustment, Checking, Halogen Headlamp

⇒ ["4.56.1 Checking and Adjusting Conditions", page 157](#) .

⇒ ["4.56.2 Headlamp Adjustment, Checking \(SAE\)", page 158](#) .

⇒ ["4.56.3 Halogen Headlamps, Adjusting", page 159](#) .



Note

- ◆ The use of additional weight is discontinued.
- ◆ For that reason, different angle dimension settings are used on the headlamp adjusting unit.
- ◆ When using the maintenance tables, the adjustment values are also shown in the vehicle-specific maintenance list.
- ◆ In the US and Canadian markets, headlamps with SAE approval are used in vehicles.
- ◆ Adjusting the headlamps is invoiced separately.

4.56.1 Checking and Adjusting Conditions

- Tire pressure OK
- Cover lenses must not be damaged or dirty.



- Reflectors and bulbs OK
- Move vehicle back and forth for a few meters or bounce the front and rear of vehicle several times up and down to settle the springs.
- The vehicle and the headlamp adjusting unit must be on level ground.
- Vehicle and headlamp adjusting unit must be aligned.
- Angle dimension must be set.
- Pay attention to the Headlamp Adjusting Unit Owner's Manual.


4.56.2 Headlamp Adjustment, Checking (SAE)

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-



Note

- ◆ *The designation VOL/VOR is visible on the headlamp from the exterior.*
- ◆ *The sideways adjustment is sealed on SAE headlamps.*
- ◆ *For certain markets, no manual headlamp range control is offered with halogen headlamps.*
- Check the headlamp height adjustment by setting to the maximum level and observing the light.
- Then set the thumbwheel for the headlamp range control to the  position, if equipped.

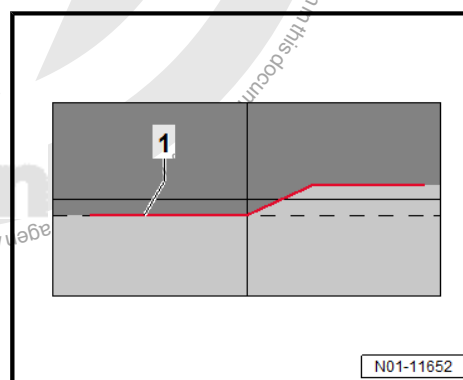
The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.

Angle Dimension for SAE VOL Halogen Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.9 %
1/2 to 1	0.7 %

VOL: visual optical aim left -1-

- Check if the left level cut-off line contacts the dividing line -1- on the headlamp adjusting unit test surface.



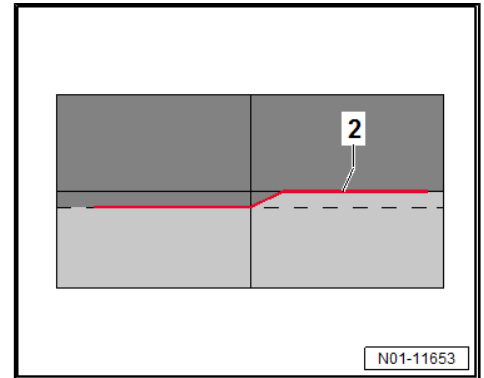


Angle Dimension for SAE VOR Halogen Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.2 %
1/2 to 1	0.0 %

VOR: visual optical aim right -2-

- Check if the right level cut-off line contacts the dividing line -2- on the headlamp adjusting unit test surface.



4.56.3 Halogen Headlamps, Adjusting

Overview Halogen Headlamps Golf

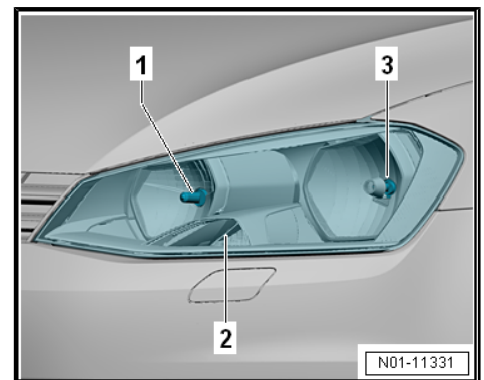
- 1 - Left Daytime Running Lamp Bulb - L174- or Right Daytime Running Lamp Bulb - L175- and Left High Beam Headlamp Bulb - M30- or Right High Beam Headlamp Bulb - M32- or Left Position Lamp Bulb - M1- , Right Position Lamp Bulb - M3-
- 2 - Left Front Turn Signal Bulb - M5- or Right Front Turn Signal Bulb - M7-
- 3 - Left Low Beam Headlamp Bulb - M29- and Right Low Beam Headlamp Bulb - M31-



Note

Adjusting the headlamps is invoiced separately.

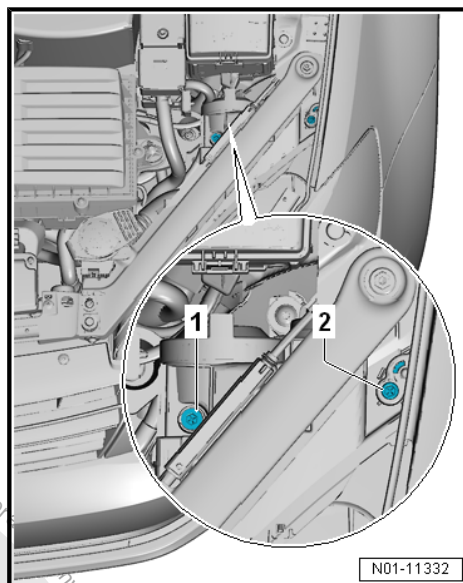
Left Headlamp, Adjusting:





Adjusting screws for the right headlamp are a mirror image.

- ◆ Adjusting screw (inner hex socket) for height adjustment of low beam cut-off line -1-.
- ◆ Adjusting screw (inner hex socket) for lateral adjustment of low beam cut-off line -2- (sealed on NAR vehicles)
- First turn adjustment screw -1- to adjust height of cut-off line.
- Then the lateral adjustment must be checked and, if necessary, correct using the adjusting screw -2-.



4.56.4 Headlamp Adjustment, Checking (ECE)


Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-



Note

For certain markets, no manual headlamp range control is offered with halogen headlamps.

- Check the headlamp height adjustment by setting to the maximum level and observing the light.
- Then set the thumbwheel for the headlamp range control to the  position, if equipped.

The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.

Angle dimension for halogen headlamp (ECE)

Fuel gauge level	Angle dimension
0 to 1/2	1.2 %
1/2 to 1	1.0 %

Check the following:

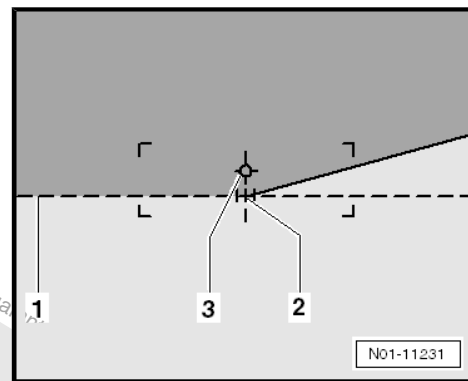


- With the low beam switched on, check whether the horizontal cut-off line contacts the test surface dividing line -1- and
- If the bend point -2- runs vertically through the central point -3- between the left horizontal part and the rising part on the right of the cut-off line. The bright core of the light beam must be on the right of the vertical line.



Note

After adjusting the low beam according to the instructions, the center of the high beam light beam must lie on the center mark -3-.



4.57 Headlamp Adjustment, Checking, HID Headlamp without Dynamic Light Assist

⇒ [“4.57.1 Checking and Adjusting Conditions”, page 161](#) .

⇒ [“4.57.2 Headlamp Adjustment, Checking \(SAE\)”, page 162](#) .

⇒ [“4.57.3 HID Headlamps without Dynamic Light Assist, Adjusting”, page 163](#) .



Note

- ◆ The use of additional weight is discontinued.
- ◆ For that reason, different angle dimension settings are used on the headlamp adjusting unit.
- ◆ When using the maintenance tables, the adjustment values are also shown in the vehicle-specific maintenance list.
- ◆ In the US and Canadian markets, headlamps with SAE approval are used in vehicles.
- ◆ Adjusting the headlamps is invoiced separately.

4.57.1 Checking and Adjusting Conditions

- Tire pressure OK
- The headlamp glass must not be damaged or dirty.
- Reflectors and light sources OK
- Initialization phase of the headlamp range control must be completed. ¹⁾
- Move vehicle back and forth for a few meters or bounce the front and rear of vehicle several times up and down to settle the springs.
- The vehicle and the headlamp adjusting unit must be on level ground.
- Vehicle or headlamp adjusting unit must be aligned.
- Angle dimension must be set.
- The DTC memory must be erased.
- The headlamp adjusting unit if equipped must be located in the correct adjustment mode.
- Pay attention to the Headlamp Adjusting Unit Owner's Manual.

¹⁾ A referencing operation occurs for the headlamp range control stepper motors in the dimming direction during the initialization



phase. The headlamp range control initialization occurs after the vehicle engine start or terminal 15 connection is established.

4.57.2 Headlamp Adjustment, Checking (SAE)

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-
- ◆ Vehicle Diagnostic Tester



Note

- ◆ The designation VOL/VOR is visible on the headlamp from the exterior.
- ◆ The sideways adjustment is sealed on SAE headlamps.

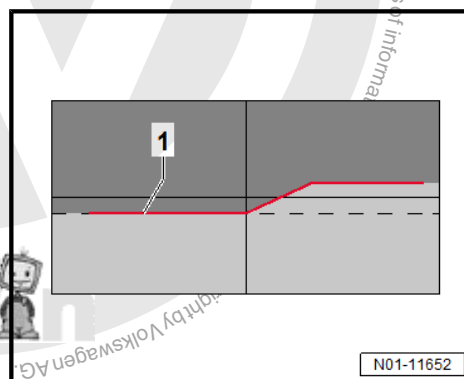
The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.

Angle Dimension for SAE VOL HID Headlamp, LED Headlamp and Dynamic Light Assist Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.7 %
1/2 to 1	0.7 %

VOL: visual optical aim left -1-

- Check if the left level cut-off line contacts the dividing line -1- on the headlamp adjusting unit test surface.



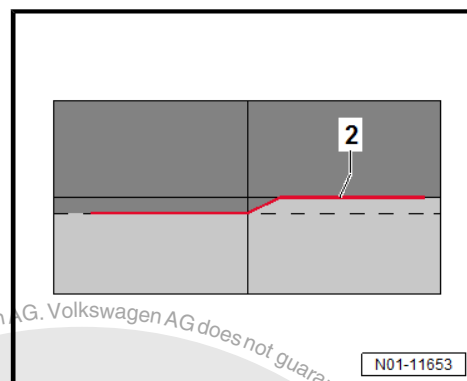
Angle Dimension for SAE VOR HID Headlamp, LED Headlamp and Dynamic Light Assist Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.0 %
1/2 to 1	0.0 %



VOR: visual optical aim right -2-

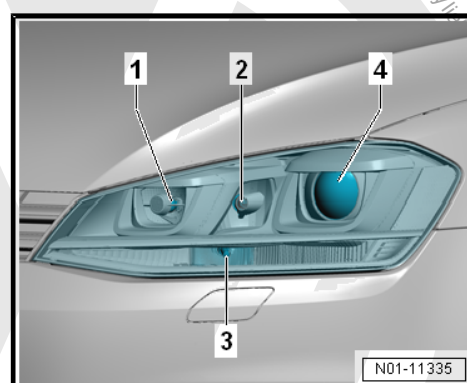
- Check if the right level cut-off line contacts the dividing line -2- on the headlamp adjusting unit test surface.



4.57.3 HID Headlamps without “Dynamic Light Assist”, Adjusting

Overview for HID headlamp without “Dynamic Light Assist” Golf

- 1 - Left Daytime Running Lamp Bulb - L174- or Right Daytime Running Lamp Bulb - L175-
- 2 - Left Cornering Lamp Bulb - L148- or Right Cornering Lamp Bulb - L149-
- 3 - Left Front Turn Signal Bulb - M5- or Right Front Turn Signal Bulb - M7-
- 4 - Left Hid Headlamp Bulb - L13- or Right Hid Headlamp Bulb - L14-



Note

Adjusting the headlamps is invoiced separately.

Headlamp Range Control, Performing Basic Setting

ODIS Service	
–	Connect the Vehicle Diagnostic Tester . Refer to ➤ 3.5 Vehicle Diagnostic Tester , page 14 .
–	Switch on the ignition.
–	Perform the vehicle identification.
–	Enter the work order data or select “no work order”.
–	Select “control module”.
–	Select “headlamp range control”.
–	Select “Guided Functions”.
–	Select “basic setting”.
–	Follow the “Guided Functions” instructions.



Left Headlamp, Adjusting:

- 1 - Lateral adjustment
 - 2 - Height Adjustment
- Turn the adjusting screw for height adjustment -2- until the correct setting is achieved.



Note

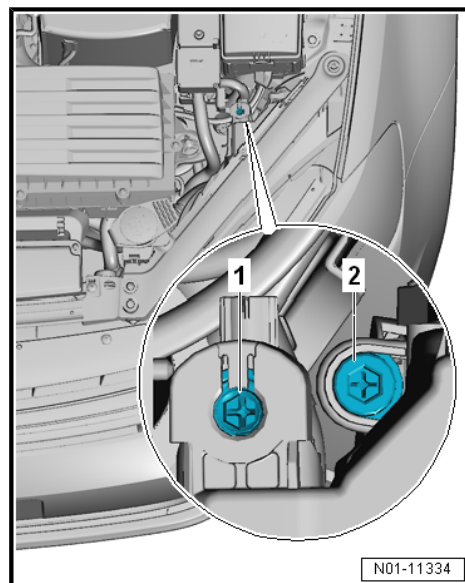
In some markets the adjusting screw for the side adjustment -1- is sealed. Lateral adjustment is not permitted.

- Turn the lateral adjustment adjusting screw -1- until the correct setting is achieved.



Note

- ◆ *Adjusting the right headlamp is identical and in the same sequence.*
- ◆ *Adjustment screws for right headlamp are arranged symmetrically.*



4.57.4 Headlamp Adjustment, Checking (ECE)

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-
- ◆ Vehicle Diagnostic Tester

The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.

Angle dimension for ECE HID headlamp, LED headlamp and Dynamic light assist headlamp

Fuel gauge level	Angle dimension
0 to 1/2	1.0 %
1/2 to 1	1.0 %

Test diagram for low beam

Check the following:

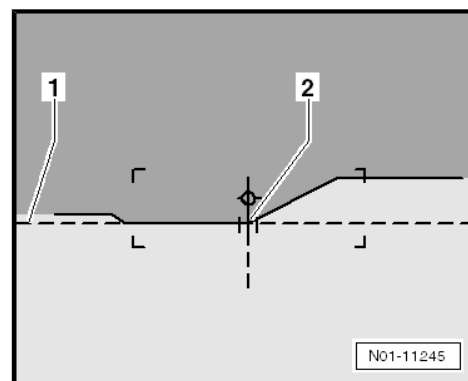


- The lowest part of the horizontal cut-off line must touch the test surface dividing line -1- when the low beams are on.
- The bend point -2- between the left horizontal part and the part of the cut-off line rising to the right should run vertically through central point.



Note

To make it easier to determine the bend point -2-, cover and uncover the left half of headlamp (as seen in driving direction), alternating a few times. Then check the low beam again.



4.58 Headlamp Adjustment, Checking, HID Headlamp with Dynamic Light Assist



Note

- ◆ *The use of additional weight is discontinued.*
- ◆ *For that reason, different angle dimension settings are used on the headlamp adjusting unit.*
- ◆ *When using the maintenance tables, the adjustment values are also shown in the vehicle-specific maintenance list.*
- ◆ *In the US and Canadian markets, headlamps with SAE approval are used in vehicles.*
- ◆ *Adjusting the headlamps is invoiced separately.*

⇒ ["4.58.1 Checking and Adjusting Conditions", page 165](#) .

⇒ ["4.58.2 Headlamp Adjustment, Checking \(SAE\)", page 166](#) .

⇒ ["4.58.3 HID Headlamps with Dynamic Light Assist, Adjusting", page 169](#) .

4.58.1 Checking and Adjusting Conditions

- Tire pressure OK
- The headlamp glass must not be damaged or dirty.
- Reflectors and light sources OK
- Initialization phase of the headlamp range control must be completed. ¹⁾
- Move vehicle back and forth for a few meters or bounce the front and rear of vehicle several times up and down to settle the springs.
- The vehicle and the headlamp adjusting unit must be on level ground.
- Vehicle or headlamp adjusting unit must be aligned.
- Angle dimension must be set.
- The DTC memory must be erased.
- The headlamp adjusting unit if equipped must be located in the correct adjustment mode.
- Pay attention to the Headlamp Adjusting Unit Owner's Manual.

¹⁾ A referencing operation occurs for the headlamp range control stepper motors in the dimming direction during the initialization



phase. The headlamp range control initialization occurs after the vehicle engine start or terminal 15 connection is established!

4.58.2 Headlamp Adjustment, Checking (SAE)

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-
- ◆ Vehicle Diagnostic Tester



Note

- ◆ The designation VOL/VOR is visible on the headlamp from the exterior.
- ◆ The sideways adjustment is sealed on SAE headlamps.

The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.

Angle Dimension for SAE VOL HID Headlamp, LED Headlamp and Dynamic Light Assist Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.7%
1/2 to 1	0.7 %

Test Diagram for Dynamic High Beams



Note

- ◆ For the test diagram for dynamic high beam it is necessary to move the headlamp into the basic setting using Vehicle Diagnostic Tester .
- ◆ The basic setting can be performed only with the Vehicle Diagnostic Tester and controls the dynamic light assist high beams.
- ◆ Be especially careful to align the adjusting device on the headlamp adjusting unit correctly. Only when this has been done can the headlamps be adjusted so that they do not blind on-coming traffic.
- ◆ The low beam adjustment can also be checked on vehicles with dynamic light assist. Refer to Test Illustration for Low Beam ➔ [page 167](#)
- ◆ DLA: "Dynamic Light Assist", dynamic high beam control.



Check the Following:

- With the high beams switched on check whether the horizontal cut-off line of the dividing line -1- contacts the test surface.
- Check whether the bend point -2- between the right horizontal part and the rising part on the left of the cut-off line runs vertically through the central point -3-. The bright core of the light beam must be on the left of the vertical line.



Note

The adjustment display only applies to the left headlamp. The adjustment display for the right headlamp is a mirror image.

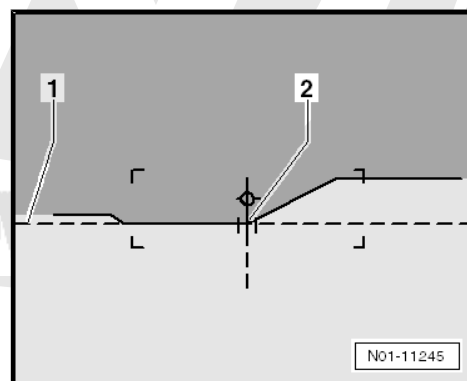
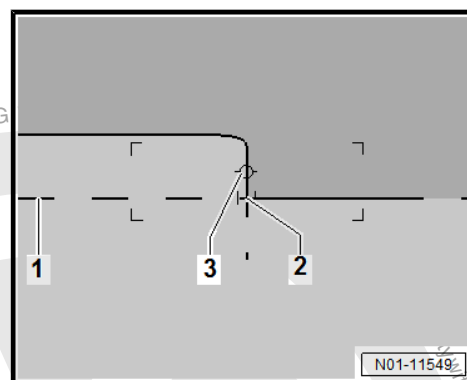
Test Illustration for Low Beam

The low beams can be on when performing the check. Checking the dynamic high beams as described above is preferred.

The Vehicle Diagnostic Tester is not needed to check the low beams.

The headlamp adjustment can only be performed using the check diagram for the dynamic high beam. The control module will control the check program for the dynamic light assist high beam.

- The lowest part of the horizontal cut-off line must touch the test surface dividing line -1- when the low beams are on.
- The bend point -2- between the left horizontal part and the part of the cut-off line rising to the right should run vertically through central point.



Angle Dimension for SAE VOR HID Headlamp, LED Headlamp and Dynamic Light Assist Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.0 %
1/2 to 1	0.0 %



Test Diagram for Dynamic High Beams



Note

- ♦ For the test diagram for dynamic high beam it is necessary to move the headlamp into the basic setting using Vehicle Diagnostic Tester.
- ♦ The basic setting can be performed only with the Vehicle Diagnostic Tester and controls the dynamic light assist high beams.
- ♦ Be especially careful to align the adjusting device on the headlamp adjusting unit correctly. Only when this has been done can the headlamps be adjusted so that they do not blind on-coming traffic.
- ♦ The low beam adjustment can also be checked on vehicles with dynamic light assist. Refer to Test Illustration for Low Beam ➔ [page 168](#)
- ♦ DLA: "Dynamic Light Assist", dynamic high beam control.

Check the following:

- With the high beams switched on check whether the horizontal cut-off line of the dividing line -1- contacts the test surface.
- Check whether the bend point -2- between the right horizontal part and the rising part on the left of the cut-off line runs vertically through the central point -3-. The bright core of the light beam must be on the left of the vertical line.



Note

The adjustment display only applies to the left headlamp. The adjustment display for the right headlamp is a mirror image.

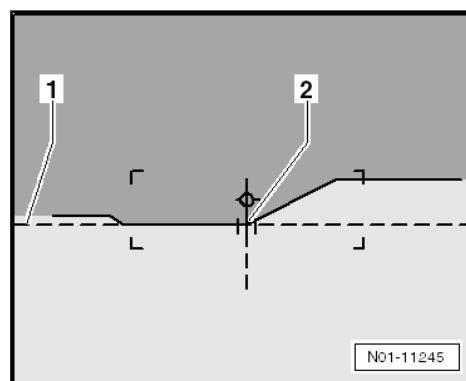
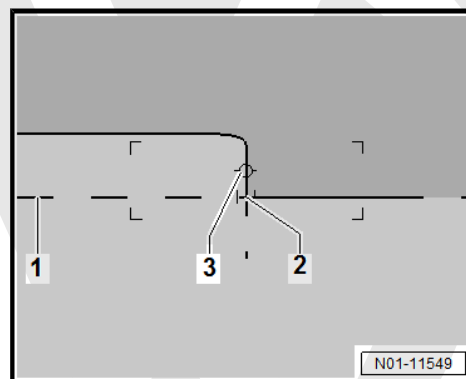
Test Illustration for Low Beam

The low beams can be on when performing the check. Checking the dynamic high beams as described above is preferred.

The Vehicle Diagnostic Tester is not needed to check the low beams.

The headlamp adjustment can only be performed using the check diagram for the dynamic high beam. The control module will control the check program for the dynamic light assist high beam.

- The lowest part of the horizontal cut-off line must touch the test surface dividing line -1- when the low beams are on.
- The bend point -2- between the left horizontal part and the part of the cut-off line rising to the right should run vertically through central point.





4.58.3 HID Headlamps with “Dynamic Light Assist”, Adjusting



Note

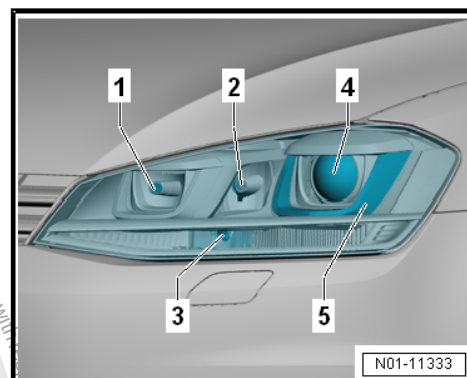
Adjusting the headlamps is invoiced separately.

Identification:

Production control number 8IP means the vehicle has Dynamic Light Assist.

Overview for HID headlamp and “Dynamic Light Assist” Golf

- 1 - Left Position Lamp Bulb - M1- or Right Position Lamp Bulb - M3- as LEDs
- 2 - Left Cornering Lamp Bulb - L148- or Right Cornering Lamp Bulb - L149-
- 3 - Left Front Turn Signal Bulb - M5- or Right Front Turn Signal Bulb - M7-
- 4 - Left Hid Headlamp Bulb - L13- or Right Hid Headlamp Bulb - L14-
- 5 - Left Daytime Running Lamp and Position Lamp LED Module - L176- or Right Daytime Running Lamp and Position Lamp LED Module - L177-



Headlamp Range Control, Performing Basic Setting

ODIS Service	
-	Connect the Vehicle Diagnostic Tester . Refer to ⇒ “3.5 Vehicle Diagnostic Tester” , page 14 .
-	Switch on the ignition.
-	Perform the vehicle identification.
-	Enter the work order data or select “no work order”.
-	Select “control module”.
-	Select “headlamp range control”.
-	Select “Guided Functions”.
-	Select “basic setting”.
-	Follow the “Guided Functions” instructions.



Left Headlamp, Adjusting:

- 1 - Lateral adjustment
 - 2 - Height Adjustment
- Turn the adjusting screw for height adjustment -2- until the correct setting is achieved.



Note

In some markets the adjusting screw for the side adjustment -1- is sealed. Lateral adjustment is not permitted.

- Turn the adjustment screw for lateral adjustment -1- until the correct setting is achieved.

Left Headlamp, Re-Checking:



Caution

Re-checking the headlamp is performed using the low beam test diagram.

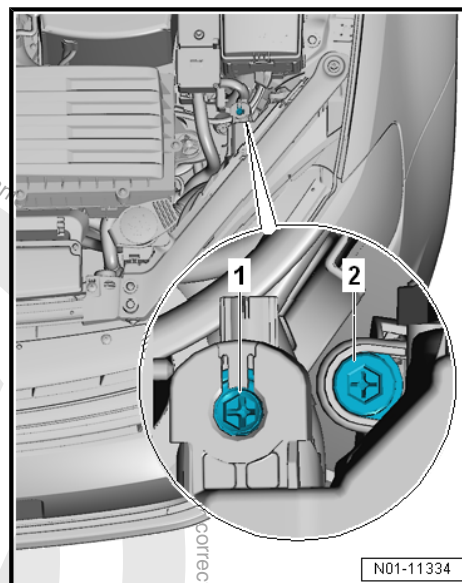
The headlamp cannot be adjusted laterally butting the check. Adjusting the height is permissible.

- Check the headlamp adjustment.
- If necessary adjust the headlamp height adjustment.



Note

- ◆ *Adjusting the right headlamp is identical and in the same sequence.*
- ◆ *Adjustment screws for right headlamp are arranged symmetrically.*



4.58.4 Headlamp Adjustment, Checking (ECE)

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-
- ◆ Vehicle Diagnostic Tester

The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.

Angle dimension for ECE HID headlamp, LED headlamp and Dynamic light assist headlamp

Fuel gauge level	Angle dimension
0 to 1/2	1.0 %
1/2 to 1	1.0 %



Test diagram for dynamic high beams

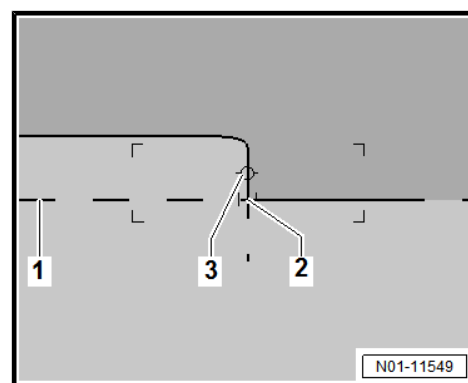


Note

- ◆ For the test diagram for dynamic high beam it is necessary to move the headlamp into the basic setting using Vehicle Diagnostic Tester .
- ◆ The basic setting can be performed only with the Vehicle Diagnostic Tester and controls the dynamic light assist high beams.
- ◆ Be especially careful to align the adjusting device on the headlamp adjusting unit correctly. Only when this has been done can the headlamps be adjusted so that they do not blind on-coming traffic.
- ◆ The low beam adjustment can also be checked on vehicles with dynamic light assist. ➔ [page 171](#)
- ◆ DLA: "Dynamic Light Assist", dynamic high beam control.

Check the following:

- With the high beams switched on check whether the horizontal cut-off line of the dividing line -1- contacts the test surface.
- Check whether the bend point -2- between the right horizontal part and the rising part on the left of the cut-off line runs vertically through the central point -3-. The bright core of the light beam must be on the left of the vertical line.



Note

The adjustment display only applies to the left headlamp. The adjustment display for the right headlamp is a mirror image.

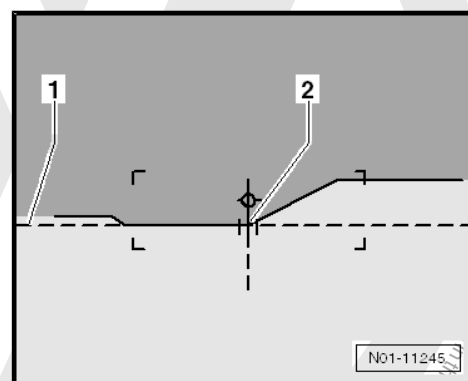
Test illustration for low beam

The low beams can be on when performing the check. Checking the dynamic high beams as described above is preferred.

The Vehicle Diagnostic Tester is not needed to check the low beams.

The headlamp adjustment can only be performed using the check diagram for the dynamic high beam. The control module will control the check program for the dynamic light assist high beam.

- The lowest part of the horizontal cut-off line must touch the test surface dividing line -1- when the low beams are on.
- The bend point -2- between the left horizontal part and the part of the cut-off line rising to the right should run vertically through central point.





4.59 Headlamp Adjustment, Checking, LED Headlamps

⇒ ["4.59.1 Checking and Adjusting Conditions", page 172](#) .

⇒ ["4.59.3 Headlamp Adjustment, Checking \(SAE\)", page 173](#) .

⇒ ["4.59.4 LED Headlamps: Adjusting", page 174](#) .



Note

- ◆ *The use of additional weight is discontinued.*
- ◆ *For that reason, different angle dimension settings are used on the headlamp adjusting unit.*
- ◆ *When using the maintenance tables, the adjustment values are also shown in the vehicle-specific maintenance list.*
- ◆ *In the US and Canadian markets, headlamps with SAE approval are used in vehicles.*
- ◆ *Adjusting the headlamps is invoiced separately.*

4.59.1 Checking and Adjusting Conditions

- Tire pressure OK
- The headlamp glass must not be damaged or dirty.
- Reflectors and light sources OK
- Initialization phase of the headlamp range control must be completed. ¹⁾
- Move vehicle back and forth for a few meters or bounce the front and rear of vehicle several times up and down to settle the springs.
- The vehicle and the headlamp adjusting unit must be on level ground.
- Vehicle or headlamp adjusting unit must be aligned.
- Angle dimension must be set.
- The DTC memory must be erased.
- The headlamp adjusting unit if equipped must be located in the correct adjustment mode.
- Pay attention to the Headlamp Adjusting Unit Owner's Manual.

¹⁾ A referencing operation occurs for the headlamp range control stepper motors in the dimming direction during the initialization phase. The headlamp range control initialization occurs after the vehicle engine start or terminal 15 connection is established.

4.59.2 Headlamp Adjustment, Checking (ECE)

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-
- ◆ Vehicle Diagnostic Tester

The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.



Angle dimension for ECE HID headlamp, LED headlamp and Dynamic light assist headlamp

Fuel gauge level	Angle dimension
0 to 1/2	1.0 %
1/2 to 1	1.0 %

Test Diagram for Low Beam

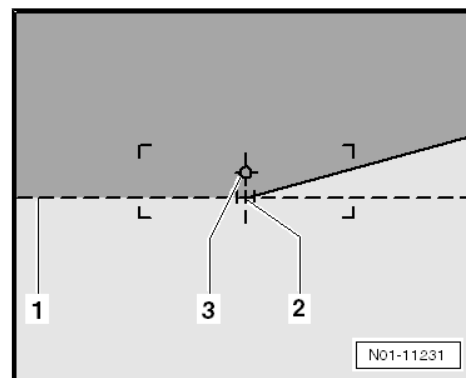
Check the following:

- The lowest part of the horizontal cut-off line must touch the test surface dividing line -1- when the low beams are on.
- The bend point -2- between the left horizontal part and the part of the cut-off line rising to the right should run vertically through central point.



Note

- ◆ To make it easier to determine the bend point -2-, cover and uncover the left half of headlamp (as seen in driving direction), alternating a few times. Then check the low beam again.
- ◆ After adjusting the low beam according to the instructions, the center of the high beam light beam must lie on the center mark -3-.



4.59.3 Headlamp Adjustment, Checking (SAE)

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-
- ◆ Vehicle Diagnostic Tester



Note

- ◆ The designation VOL/VOR is visible on the headlamp from the exterior.
- ◆ The sideways adjustment is sealed on SAE headlamps.

The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.

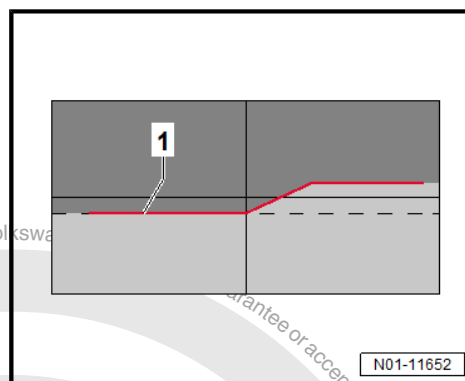
Angle Dimension for SAE VOL HID Headlamp, LED Headlamp and Dynamic Light Assist Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.7 %
1/2 to 1	0.7 %



VOL: visual optical aim left -1-

- Check if the left level cut-off line contacts the dividing line -1- on the headlamp adjusting unit test surface.

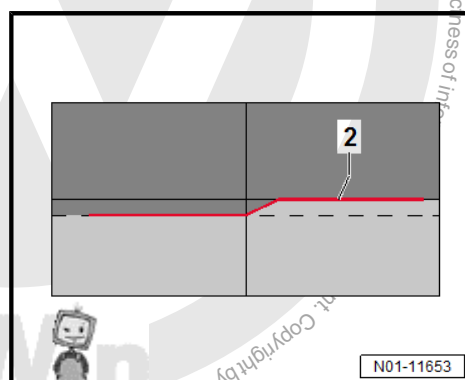


Angle Dimension for SAE VOR HID Headlamp, LED Headlamp and Dynamic Light Assist Headlamp

Fuel gauge level	Angle dimension
0 to 1/2	0.0 %
1/2 to 1	0.0 %

VOR: visual optical aim right -2-

- Check if the right level cut-off line contacts the dividing line -2- on the headlamp adjusting unit test surface.



4.59.4 LED Headlamps: Adjusting

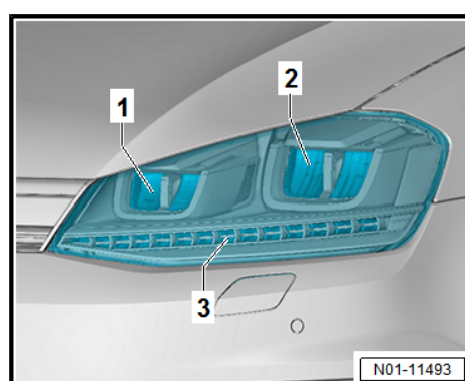
Overview LED Headlamp, e-Golf

- 1 - High Beam Headlamp Reflector
- 2 - Low Beam Reflector
- 3 - Left Front Turn Signal Bulb - M5- or Right Front Turn Signal Bulb - M7- LED version, cannot be replaced separately



Note

Adjusting the headlamps is invoiced separately.



Headlamp Range Control, Performing Basic Setting

ODIS Service
– Connect the Vehicle Diagnostic Tester . Refer to ➤ “3.5 Vehicle Diagnostic Tester” , page 14 .
– Switch on the ignition.
– Perform the vehicle identification.
– Enter the work order data or select “no work order”.
– Select “control module”.
– Select “headlamp range control”.



ODIS Service
– Select “Guided Functions”.
– Select “basic setting”.
– Follow the “Guided Functions” instructions.

Left Headlamp, Adjusting:

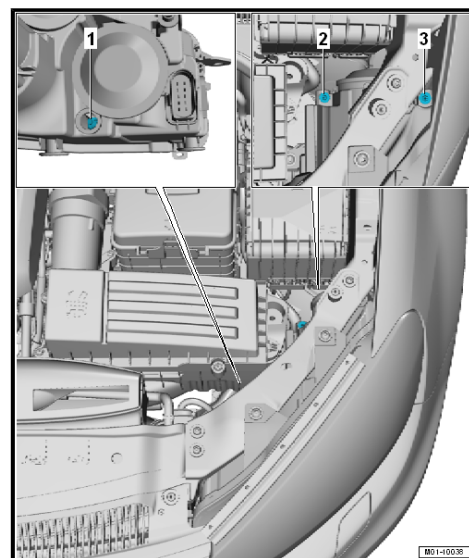
- 1 - Adjusting screw (outer hex head) to the high beam height adjustment -1-.
 - 2 - Adjusting screw (inner hex socket) for height adjustment of low beam cut-off line -2-.
 - 3 - Adjusting screw (inner hex socket) for lateral adjustment of low beam cut-off line -3- (sealed on NAR vehicles)
- Turn the adjusting screw for height adjustment -2- until the correct setting is achieved.



Note

In some markets the lateral adjustment adjusting screw -3- is sealed. Lateral adjustment is not permitted.

- Turn the adjustment screw for lateral adjustment -3- until the correct setting is achieved.



Note

- ◆ *Adjusting the right headlamp is identical and in the same sequence.*
- ◆ *Adjustment screws for right headlamp are arranged symmetrically.*

High Beam Separate Height Adjustment

It may be necessary, to correct the height adjustment of the high beam in relation to the low beam.

If the high beam is adjusted too high/too low to the low beam, a separate adjustment of the high beam reflector (independently of the low beam reflector) can be performed using the adjusting screw -1-.

Under normal circumstances this is already adjusted correctly at the factory.

Special tools and workshop equipment required

- ◆ Mirror
- Remove the high beam adjustment cap.
- Bring the headlamp into the basic setting with the Vehicle Diagnostic Tester .
- Adjust the angle dimension on the Headlamp Adjusting Unit .
- Turn the low beam height adjustment adjusting screw -2-, until the cut-off line (Refer to Test Diagram for Low Beam ⇒ [page 173](#) -1-) is reached.
- Turn the adjusting screw -3- for the low beam side adjustment until the bend point (Refer to Test Diagram for Low Beam ⇒ [page 173](#)) in -2- runs vertically through the central point -3- between the left horizontal part and the right ascending part



of the cut-off line. The bright core of the light beam must be on the right of the vertical line.

- Switch on the high beam.
- Adjust the angle dimension on the Headlamp Adjusting Unit to "0 %".
- Turn the high beam height adjustment adjusting screw -1-, until the center of the high beam light beam lies on the center mark. Refer to Test Diagram for Low Beam ➤ [page 173](#) -3-.

Assembly of the headlamp is done in the reverse order.

4.60 Headlamp Adjustment, Checking, Fog Lamp

➤ ["4.60.1 Checking and Adjusting Conditions", page 176](#) .

➤ ["4.60.2 Headlamps, Checking Adjustment", page 176](#) .

➤ ["4.60.3 Fog Lamps and Other Auxiliary Headlamps, Adjusting", page 177](#) .



Note

- ◆ *The use of additional weight is discontinued.*
- ◆ *For that reason, different angle dimension settings are used on the headlamp adjusting unit.*
- ◆ *When using the maintenance tables, the adjustment values are also shown in the vehicle-specific maintenance list.*
- ◆ *Adjusting the headlamps is invoiced separately.*

4.60.1 Checking and Adjusting Conditions

- Tire pressure OK
- Cover lenses must not be damaged or dirty.
- Reflectors and bulbs OK
- Move vehicle back and forth for a few meters or bounce the front and rear of vehicle several times up and down to settle the springs.
- The vehicle and the headlamp adjusting unit must be on level ground.
- Vehicle and headlamp adjusting unit must be aligned.
- Angle dimension must be set.
- Pay attention to the Headlamp Adjusting Unit Owner's Manual.

4.60.2 Headlamps, Checking Adjustment

Special tools and workshop equipment required

- ◆ Headlamp Adjusting Unit - VAS5046A-
- ◆ Headlamp Adjusting Unit - VAS5047A-
- ◆ Headlamp Adjuster - VAS5208A-

The adjustment of the angle dimension on headlamp adjusting unit is based on the fuel tank fill level.



Angle Dimension for Fog Lamp

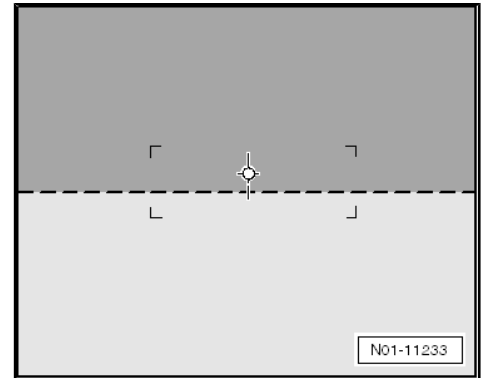
Fuel gauge level	Angle dimension
0 to 1/2	2.0 %
1/2 to 1	2.0 %

Fog Lamps:

- Check whether the upper cut-off line touches the adjustment line and runs horizontally across the entire width of the test screen.

Other Additional Head Lamps

Retrofitted auxiliary headlamps of other systems must be checked and adjusted according to the guidelines applicable to them.



4.60.3 Fog Lamps and Other Auxiliary Headlamps, Adjusting



Note

Adjusting the headlamps is invoiced separately.

Version 1

Right fog lamp in bumper

The adjusting screw on left fog lamp is a mirror image.

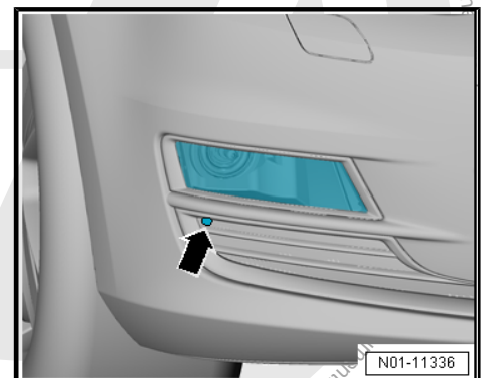
- To adjust light range, turn adjusting screw -arrow-.

Lateral adjustment is not possible.

Version 2

Left fog lamp in bumper

Adjusting screw on right fog light is arranged symmetrically.

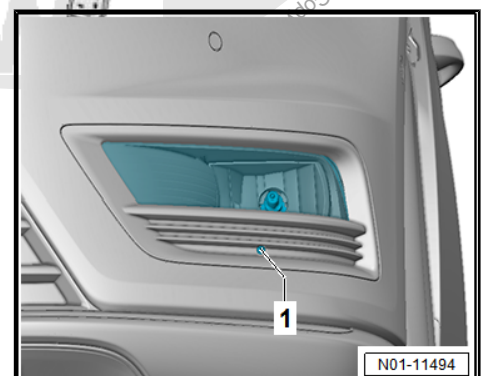


- To adjust the light range, turn adjusting screw -1-.

Version 3

Left fog lamp in bumper

Adjusting screw on right fog light is arranged symmetrically.





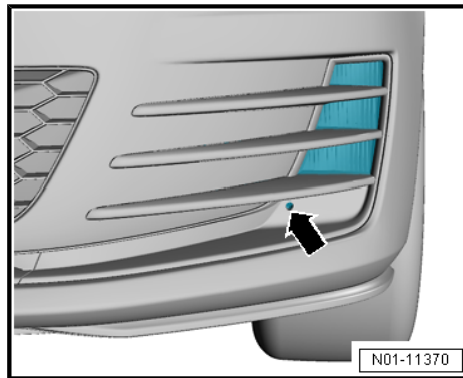
- To adjust light range, turn adjusting screw -arrow-.

Lateral adjustment is not possible.

Version 4

Left fog lamp in bumper

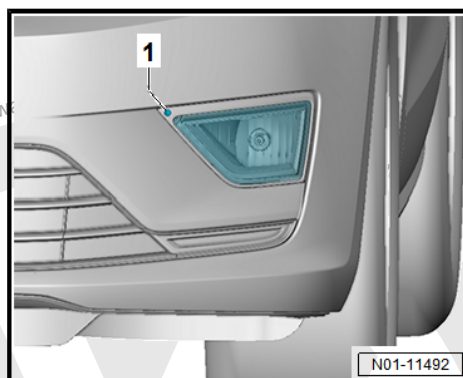
Adjusting screw on right fog light is arranged symmetrically.



- To adjust the light range, turn adjusting screw -1-.

Other Auxiliary Headlamps

Retrofitted auxiliary headlamps of other systems must be checked and adjusted according to the guidelines applicable to them.



4.61 Service Interval Display, Resetting

Service Interval Display, Resetting with Vehicle Diagnostic Tester . Refer to

⇒ [“4.61.1 Service Interval Display, Resetting with Vehicle Diagnostic Tester”](#), page 178 .

Service Interval Display, Resetting without Vehicle Diagnosis Tester . Refer to

⇒ [“4.61.2 Service Interval Display, Resetting without Vehicle Diagnosis Tester”](#), page 179 .

Refer to ⇒ [“2.1.4 Service Interval Display”](#), page 4 for additional Information regarding service interval display.

at

- ◆ The pre-delivery inspection
 - ◆ Every oil change (flexible/fixed) and every inspection
- the service interval display must be reset (adapted)!



Note

The service interval display can also be reset manually.

4.61.1 Service Interval Display, Resetting with Vehicle Diagnostic Tester



Note

If the displays indicated in the procedure are not shown on the display. Refer to the Vehicle Diagnostic Tester Operating Instructions.



ODIS Service
– Connect the Vehicle Diagnostic Tester . Refer to ➤ “3.5 Vehicle Diagnostic Tester” , page 14 .
– Switch on the ignition.
– Perform the vehicle identification.
– Enter the work order data or select “no work order”.
– Select “control module”.
– Select “Instrument Cluster”
– Select “Guided Functions”.
– Select the corresponding service that is to be reset.
– Perform the adaptation according to the “Guided Functions”.

4.61.2 Service Interval Display, Resetting without Vehicle Diagnosis Tester

Resetting the Oil Change Service

Using the button in the instrument cluster:

- With the ignition turned off, hold the -1- button pressed.
- Switch on the ignition.

Wait until “Reset oil change service?” appears in the display.

- Release the button -1-.

The service interval display is now in reset mode.

- Push the button -1- once shortly.

After a brief period, the display switches back to the normal display.

Inspection, Resetting

Using the button in the instrument cluster

- With the ignition turned off, hold the -1- button pressed.
- Switch on the ignition.

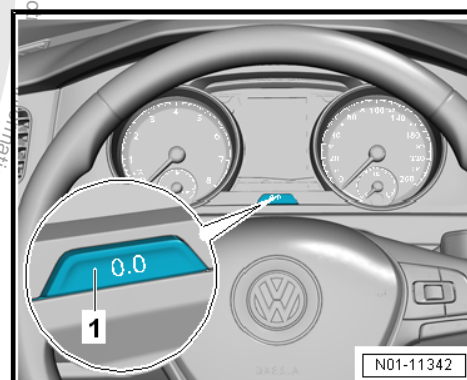
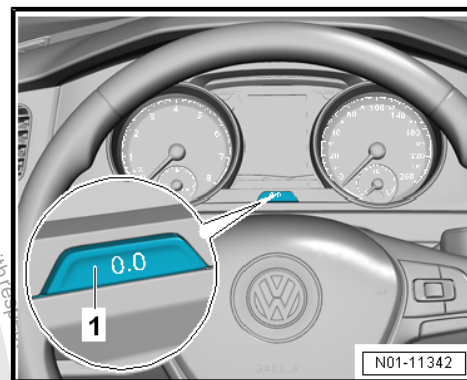
Wait until “Reset inspection service?” appears in the display.

- Release the button -1-.

The service interval display is now in reset mode.

- Push the button -1- once shortly.

After a brief period, the display switches back to the normal display.



4.62 Service Interval Display, Coding



Note

If the displays indicated in the procedure are not shown on the display. Refer to the Vehicle Diagnostic Tester Operating Instructions.



Coding from flexible to fixed intervals.

ODIS Service
- Connect the Vehicle Diagnostic Tester . Refer to ➤ "3.5 Vehicle Diagnostic Tester ", page 14 .
- Switch on the ignition.
- Perform the vehicle identification.
- Enter the work order data or select "no work order".
- Select "control module".
- Select "Instrument Cluster"
- Select "Guided Functions".
- Select "Flexible change / fixed intervals".
- Perform the adaptation according to the "Guided Functions".

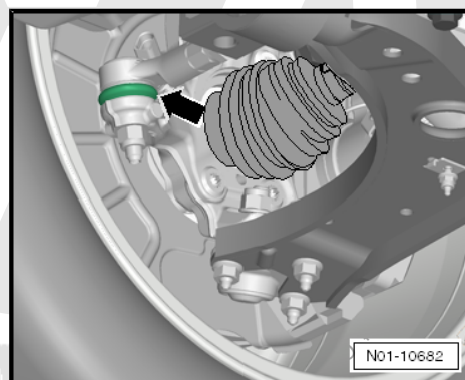
Changing the km maximum values for oil change service (fixed) during the pre-delivery inspection

ODIS Service
- Connect the Vehicle Diagnostic Tester . Refer to ➤ "3.5 Vehicle Diagnostic Tester ", page 14 .
- Switch on the ignition.
- Perform the vehicle identification.
- Enter the work order data or select "no work order".
- Select "control module".
- Select "Instrument Cluster"
- Select "Guided Functions".
- Select "Oil change service (fixed)"
- Follow the "Guided Functions" instructions.
- Reset "-1- Oil change service (fixed)".
- Follow the "Guided Functions" instructions.
The current km maximum values are displayed in the Vehicle Diagnostic Tester .
- Select "no".
- Select the country-specific maximum value until the next oil change service.
- Perform the adaptation according to the "Guided Functions".

4.63 Tie Rod Ends, Checking Play, Attachment and Ball Joint Boots

Perform the Following Procedure:

- With the vehicle raised (wheels off ground), check the play by moving the tie rods and wheels. Play: no play
- Check the attachment.
- Check the tie rod ball joint boots -arrow- for damage and proper seating.





4.64 Dust and Pollen Filter, Cleaning Housing and Replacing Filter

Procedure

Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 87 ; Front Heater and A/C Unit; Dust and Pollen Filter, Removing and Installing .

4.65 Battery Transport Mode, Deactivating



Note

- ◆ *The battery transport mode ensures that the vehicle will start.*
- ◆ *The battery transport mode reduces the discharge of the battery by switching off any electrical equipment.*
- ◆ *All vehicle functions that are not necessary while the vehicle is being transported or that require any power from the battery are switched off when battery transport mode is activated to conserve the battery charge.*
- ◆ *This applies especially to all vehicle functions that could be left on and drain the battery capacity.*
- ◆ *Examples would be the radio or electronically-controlled doors and attachments, as well as the anti-theft alarm system which could be set off inadvertently during transport.*

Procedure:



Note

If the displays indicated in the procedure are not shown on the display. Refer to the Vehicle Diagnostic Tester Operating Instructions.

ODIS Service
– Connect the Vehicle Diagnostic Tester. Refer to ⇒ “3.5 Vehicle Diagnostic Tester”, page 14 .
– Switch on the ignition.
– Perform the vehicle identification.
– Enter the work order data or select “no work order”.
– Select “control module”.
– Select “Data bus diagnostic interface”.
– Select “Guided Functions”.
– Select “switch on/switch off transport mode”.
– Follow the “Guided Functions” instructions.



4.66 Transportation Safeguards, Removing Transportation Blocks



Note

- ♦ *Transportation blocks are installed on the suspension strut piston rod for some vehicle versions.*
- ♦ *Transportation blocks should prevent the vehicle from bouncing when being driven on to an automobile transporter or railroad car and thereby become damaged.*



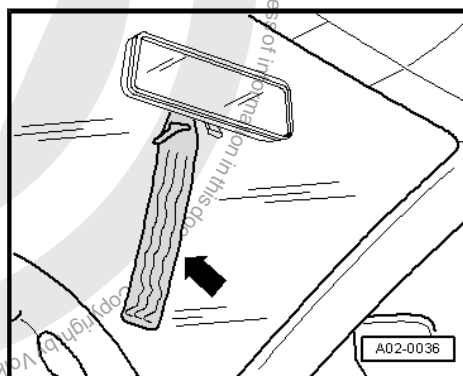
WARNING

The transportation blocks must always be removed before delivering the vehicle! There is a "Warning!" hang tag hanging from the rearview mirror as a reminder.

- Vehicles with transportation blocks in the suspension struts are identified by a hanging tag on the mirror -arrow-.

Transportation Blocks, Removing from Piston Rod

- Relieve the load on the coil springs by lifting the vehicle on the hoist.



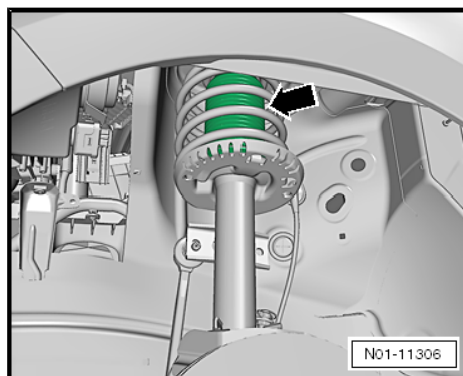
- Slide the suspension strut protective cover -arrow- upward.



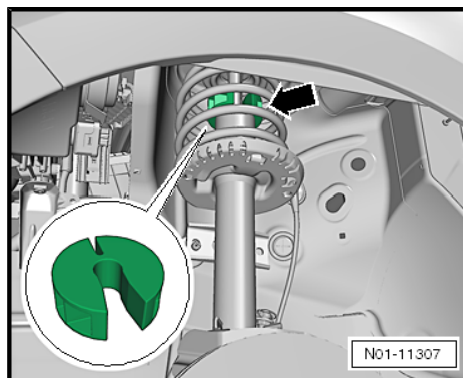
WARNING

There are up to three transportation blocks installed on the front axle on each side!

Using disassembly tools (for example lubricant spray, silicone or similar) is prohibited.

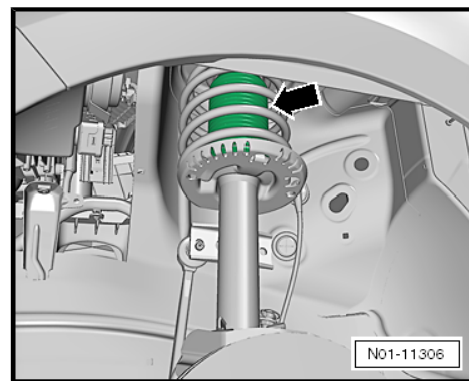


- Press the visible transportation block -arrow- from the piston rod.
- By pressing lightly inward on the circumference of the boot, feel for the other transportation blocks and slide them downward on the piston rod in the direction of the shock absorber cap using the folds in the boot.
- Push the remaining transportation blocks from the piston rod.





- Then check the boot -arrow- for dents on the circumference, and if necessary, press out the dents.
- To press the dents out, push the boot upward, reach inside the boot by hand and press out the dents.
- Check if the boot is locked on the axial bearing.
- ◆ Correct position: The boot can be turned on the bearing rotational axis.
- ◆ Otherwise pull the entire circumference of the boot from the axial bearing by one notch.
- ◆ The components should then be able to turn.



4.67 Clock and Date, Adjusting

Clock with Button in the Instrument Cluster

Use the button -1- inside the instrument cluster to set the clock.

- Push the button -1- and hold pressed, until the text “Time” appears in the display.
- Release the button -1-.

The time appears in the display and the hour setting is marked.

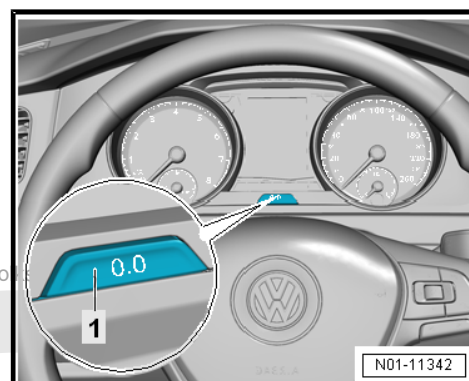
- Push the button -1- until the desired hour is displayed.

Hold the button down to quickly flip through.

Once adjusting the hour is successful, wait until the minute is marked.

- Push the button -1- until the desired minute is displayed.

Hold the button down to quickly flip through.



Adjust the Time and Date in the Infotainment System

- Switch on the ignition.
- Switch on the Infotainment system.
- Press the **CAR** Infotainment button.
- Select **Setup** on the screen.
- Scroll through the menu until **Service** appears on the screen.
- Press **Time and Date** on the screen.
- Press **Time** on the screen to adjust the current time.
- Press **Date** on the screen to adjust the current date.



4.68 Underbody, Visually Inspecting Underbody Protection, Underbody Trim Panels, Wire Routing and Plugs for Damage



Caution

- *When visually inspecting, pay attention to the underbody, wheel housings and side sills!*
- ◆ *Make sure especially that all the lines are secure in their mountings, and all plugs are present and that there is no damage to the underbody.*
- ◆ *Correct any malfunctions (repair procedure). This can help prevent corrosion and rust.*

4.69 Front Axle Differential Lock, Changing Oil

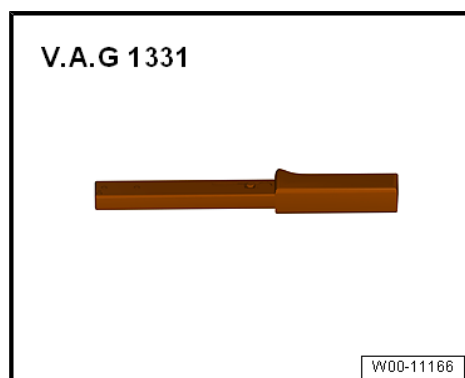
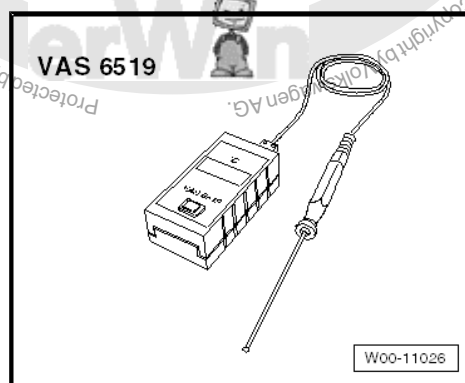


Note

- ◆ *In the Golf GTI "Performance" front axle-differential lock there is a multi-disk clutch similar to the Haldex clutch.*
- ◆ *The front axle-differential lock is filled with High-Performance Haldex Clutch Oil .*
- ◆ *Front Axle Differential Lock, Changing Oil, "R-Models". Refer to ["4.69.1 Front Axle Differential Lock, Changing Oil, R Model", page 188](#) .*

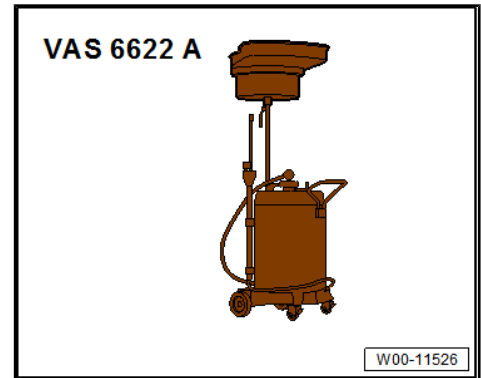
Special tools and workshop equipment required

- ◆ Digital Thermometer - VAS6519-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

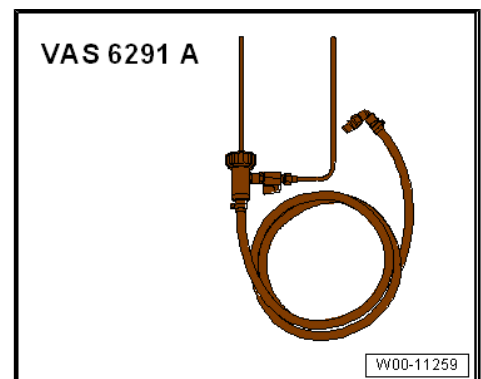




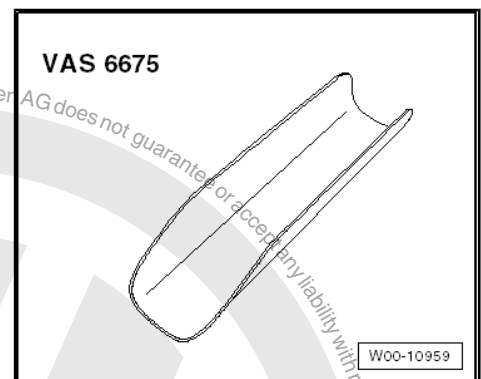
◆ Used Oil Collection and Extraction Unit - SMN372500-



◆ Charging Device For Haldex Coupling 2 - VAS6291A-



◆ Flexible Funnel - VAS6675-



Caution

This procedure contains mandatory replaceable parts. Refer to Parts Catalog.

Mandatory Replacement Parts

◆ Front Axle-Differential Lock Oil Drain Plug

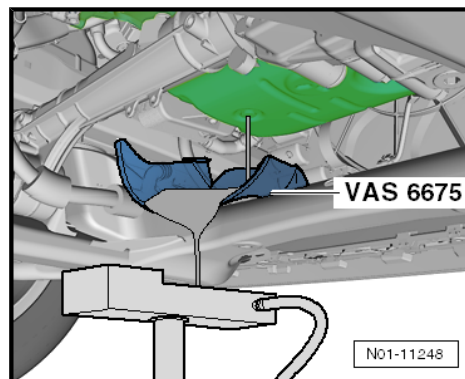
Oil, draining

- Raise vehicle with lift and position Used Oil Collection and Extraction Unit - SMN372500- under the front axle-differential lock.
- Use the Flexible Funnel - VAS6675- to drain the oil.

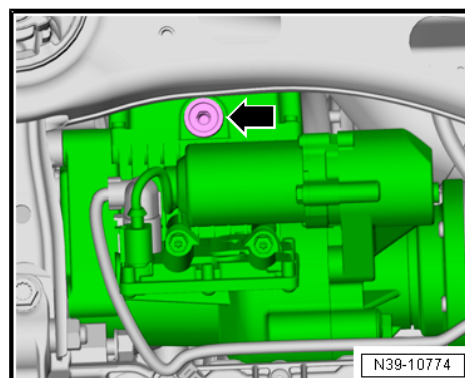


- Position the Flexible Funnel - VAS6675- so that the subframe does not come in contact with oil.

The illustration shows an example of the use of the Flexible Funnel - VAS6675- .



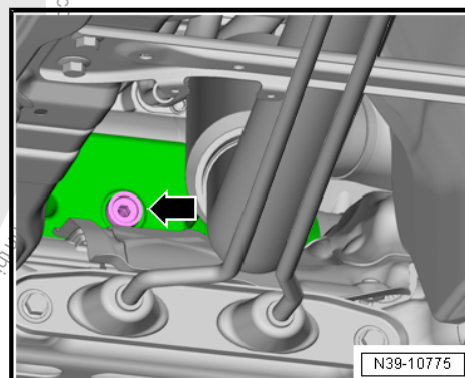
- Remove the front axle-differential lock oil drain plug -arrow- and completely drain the High-Performance Haldex Clutch Oil .
- Install the new oil drain plug -arrow- and tighten to the tightening specification.



Tightening Specification	Nm
Oil drain plug	14 ±3

Filling the Oil

- Clean the front axle-differential lock in the area of the oil filler plug -arrow-.
- Remove the oil filler plug -arrow-.
- Remove the elbow from the Charging Device For Haldex Coupling 2 - VAS6291A- .





- Insert the Charging Device For Haldex Coupling 2 - VAS6291A- hose -A- in the oil fill hole -arrow-.

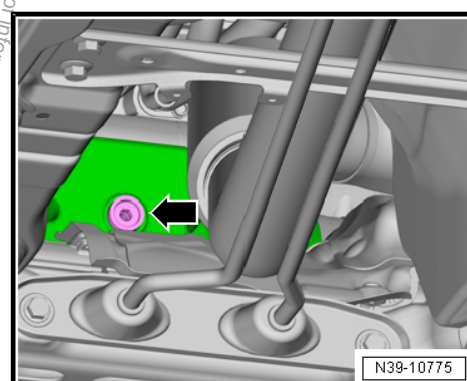
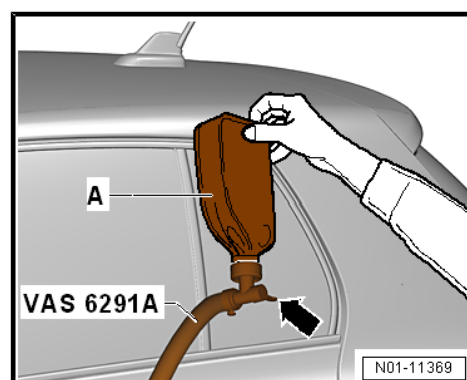
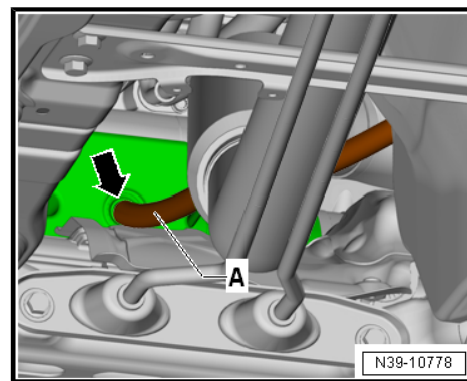


Note

- ◆ The oil temperature when checking the oil level is 20 to 40 °C (68 to 104 °F).
- ◆ Pay attention to the temperature of the oil container when filling.
- ◆ The oil temperature can be measured using the Digital Thermometer - VAS6519- .

Oil Capacities, Oil Specifications. Refer to ➔ Fluid Capacity Tables; Rep. Gr. 03 .

- Screw the oil container -A- with the valve closed -arrow- onto Charging Device For Haldex Coupling 2 - VAS6291A- .
- Open the valve -arrow- and hold the oil container as illustrated above the level of the oil fill hole.
- with the Charging Device For Haldex Coupling 2 - VAS6291A- fill with oil until flows out between the hose and the transmission housing.
- Bring the oil container under the level of the oil fill hole.
- Allow excess oil to in the oil container to flow back and close the Charging Device For Haldex Coupling 2 - VAS6291A- valve.
- Remove the hose and remove the Charging Device For Haldex Coupling 2 - VAS6291A- .
- If necessary let the excess oil flow out until it only drips.
- Connect the elbow that was removed earlier with the Charging Device For Haldex Coupling 2 - VAS6291A- and secure with a hose clamp.
- The oil level is correct up to the lower edge of the oil fill hole.
- Install the new oil filler plug -arrow- and tighten to the tightening specification.



Tightening Specification	Nm
Oil filler plug	14 ±3

Check the specified temperature range while checking the oil level, if while filling an oil temperature between 20 °C to 40 °C cannot be guaranteed.



The oil temperature can be measured using the Digital Thermometer - VAS6519- .

If the oil temperature is not between 20 to 40 °C (68 to 104 °F), either drive the vehicle to warm it up or let the oil temperature cool down.

Oil Capacities and Oil Specifications	
Front axle-differential lock oil capacity GTI	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03 .
Oil specification	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03 .

4.69.1 Front Axle Differential Lock, Changing Oil, "R Model"

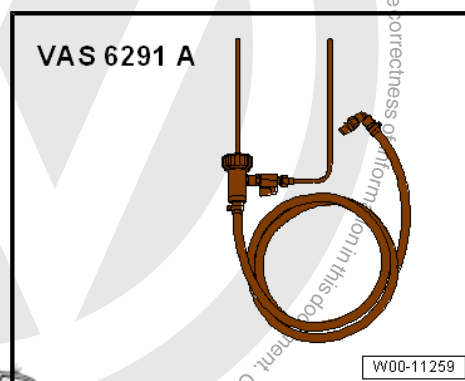


Note

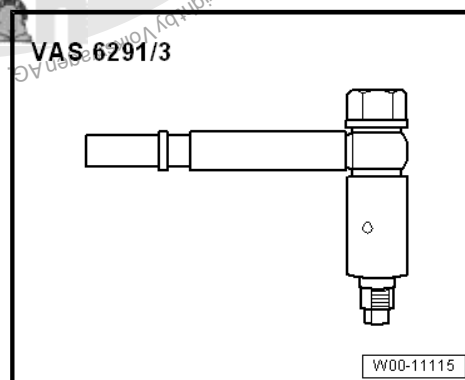
*The front axle oil in the bevel box must only be drained for repair.
An oil change is not possible.*

Special tools and workshop equipment required

- ◆ Charging Device For Haldex Coupling 2 - VAS6291A-



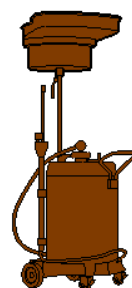
- ◆ Charging Device For Haldex Coupling 2 - Adapter 3 - VAS6291/3-





- ◆ Used Oil Collection and Extraction Unit - SMN372500-

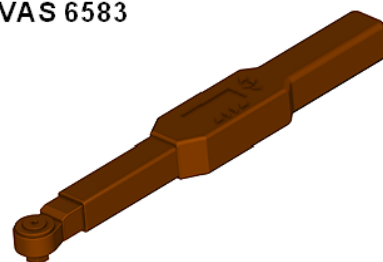
VAS 6622 A



W00-11526

- ◆ Electronic Torque Wrench 3-60Nm - VAS6583-

VAS 6583



W00-11263

- ◆ Protective Eyewear
- ◆ Acid-Resistant Safety Gloves



Caution

This procedure contains mandatory replaceable parts. Refer to Parts Catalog.

Mandatory Replacement Parts

- ◆ Gear Oil Drain Plug
- ◆ Gear Oil Filler Plug

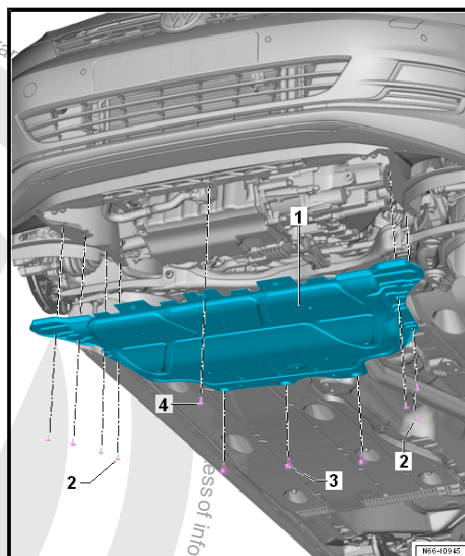
Conditions

- Vehicle on a four pillar hoist or over a pit. so that it is absolutely horizontal.
- Selector lever in "P"
- Parking brake button depressed to close the electro-mechanical parking brake.
- Engine switched off.



Draining the Gear Oil

- Remove the noise insulation. Refer to ➤ Body Exterior; Rep. Gr. 66 ; Overview - Noise Insulation .



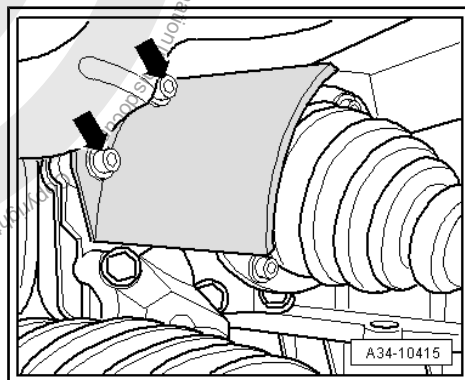
- Remove the driveshaft heat shield -arrows-. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40 ; Driveshaft .
- Place the Used Oil Collection and Extraction Unit -SMN372500- under the transmission.



WARNING

There is a risk of burns due to hot gear oil.

- ◆ *Wear protective eyewear.*
- ◆ *Wear acid-resistant safety gloves.*

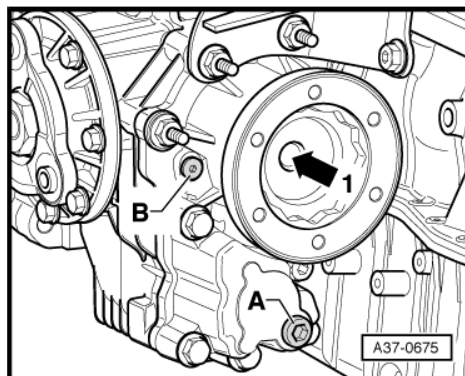


- Remove the oil drain plug -A-.
- Let the gear oil drain out.
- Tighten the oil drain plug -A-.
- Remove the fluid filler plug -B-.



Note

Ignore -item 1-.

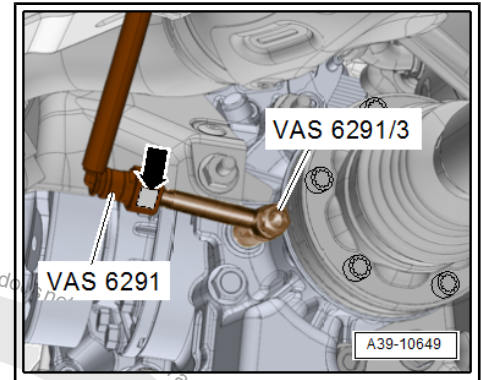


- If the gear oil level is too low, fill the bevel box gear oil. Refer to the Parts Catalog for correct gear oil.



Filling the Gear Oil

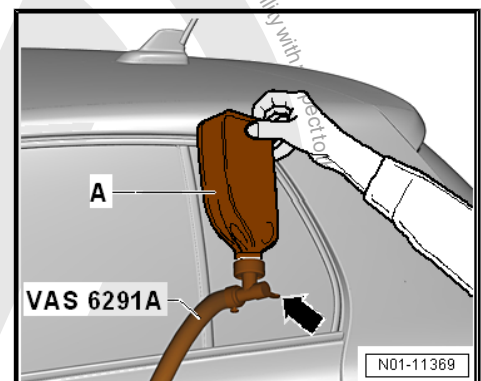
- All safety precautions and test conditions must be followed.
- Route the Charging Device For Haldex Coupling 2 - VAS6291A- hose upward.
- Install the Charging Device For Haldex Coupling 2 - Adapter 3 - VAS6291/3- all the way.
- Lock the filling device hose with the Charging Device For Haldex Coupling 2 - Adapter 3 - VAS6291/3-



Note

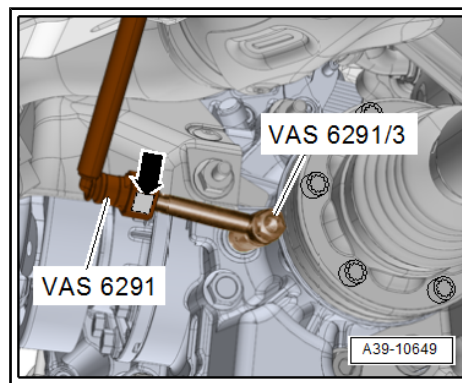
The hose must not hang down.

- Check, if the valve -arrow- is closed.
- Install the oil container -A- on the Charging Device For Haldex Coupling 2 - VAS6291A- .
- Open the valve -arrow- and lift the oil container as shown.





- When gear oil flows out of the Charging Device For Haldex Coupling 2 - Adapter 3 - VAS6291/3- the gear oil level is OK.
- Store the oil container so that the excess oil flows back into the oil container.
- If no more oil flows out push the catch and remove the filling device.
- Remove the Charging Device For Haldex Coupling 2 - Adapter 3 - VAS6291/3- .
- Install the used fluid filler plug and loosely tighten.
- Start the engine, select a gear and let the transmission turn for approximately two minutes.
- Turn off the engine and remove the fluid filler plug.
- Check the gear oil level. If required, fill the gear oil again to the lower edge of the filler hole.
- Specified value: gear oil level up to the lower edge of the filler opening



Assembly

The assembly is done in reverse sequence while observing the following:



Note

Replace the bolt for the gear oil filler hole and drain hole. Refer to the Parts Catalog.

Tightening Specification	Nm
Gear oil drain plug ➔ page 190	<ul style="list-style-type: none">◆ Replace after removal◆ Oily threads: 11 Nm◆ Dry thread: 20 Nm
Gear oil filler plug	<ul style="list-style-type: none">◆ Replace after removal◆ Oily threads: 11 Nm◆ Dry thread: 20 Nm
Heat shield nut	20 Nm

4.70 e-Golf Warning Label, Checking

➔ ["4.70.1 Warning Label, Version 1", page 192](#)

➔ ["4.70.2 Warning Label, Version 2", page 195](#)

4.70.1 Warning Label, Version 1

There is a warning label on all high-voltage components.

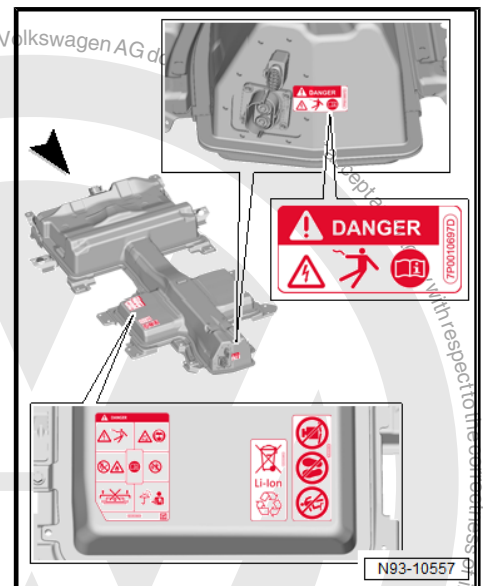
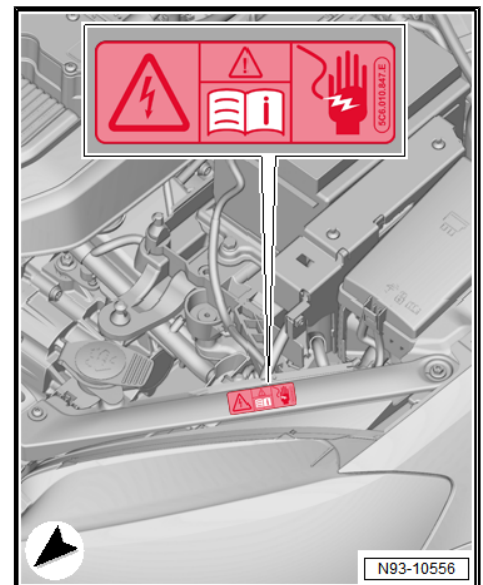
When performing maintenance work, make sure that this warning label is not damaged or dirtied and is present on all high-voltage components.

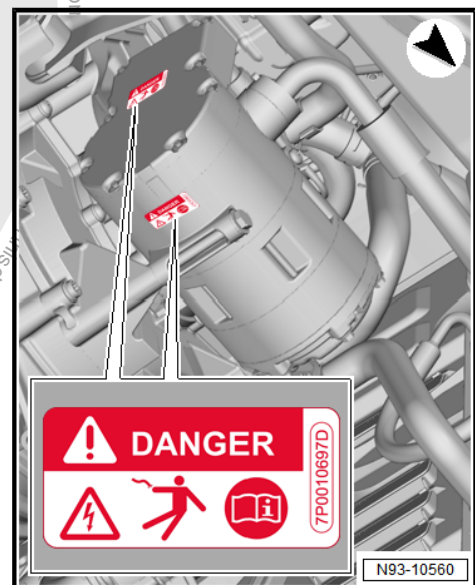
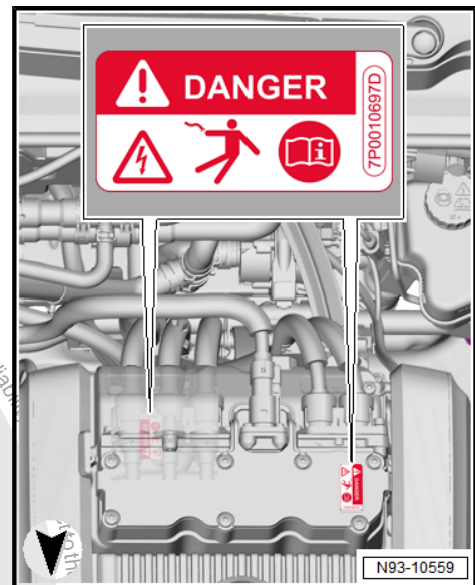
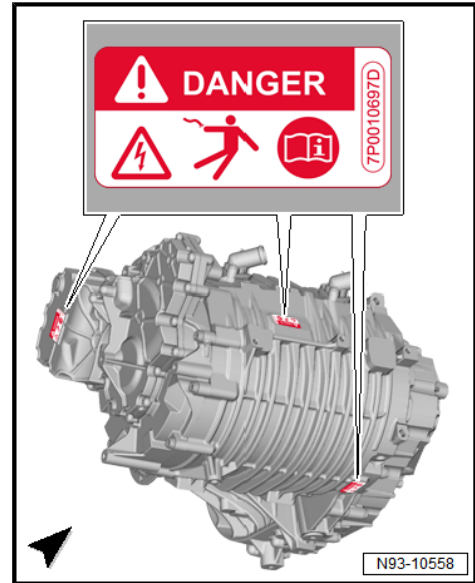


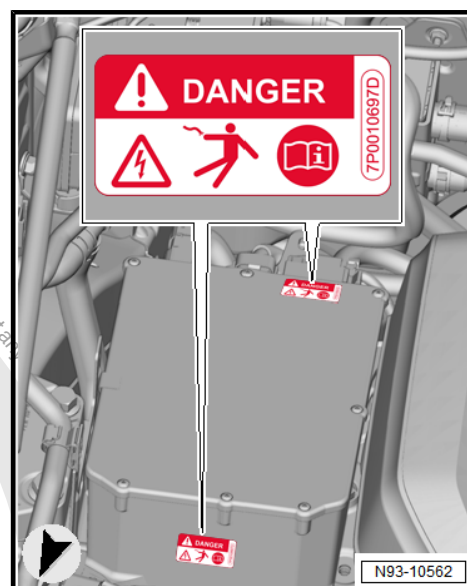
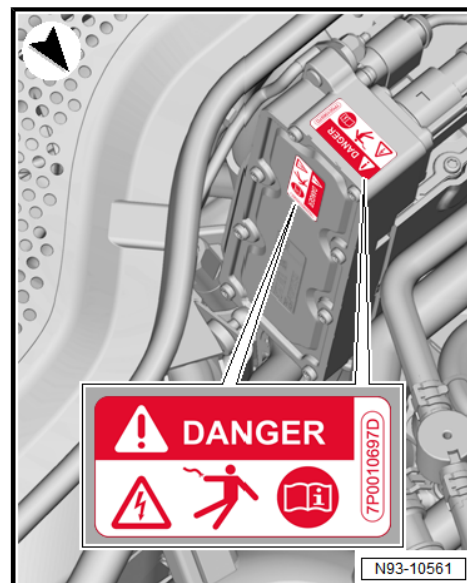
Note

- ◆ For all inspections only the warning labels in the visible areas are checked.
- ◆ Replace any high-voltage component warning labels that are missing.

Warning labels are on the following assembly groups.







- ◆ Left Front Lock Carrier
- ◆ High-Voltage Battery 1 - AX2-
- ◆ Three-Phrase Current Drive - VX54-
- ◆ Electric Drive Power and Control Electronics - JX1-
- ◆ Electrical A/C Compressor - V470-
- ◆ High-Voltage Heater (PTC) - Z115-
- ◆ High-Voltage Battery Charger 1 - AX4-

470.2 Warning Label, Version 2

There is a warning label on all high-voltage components.

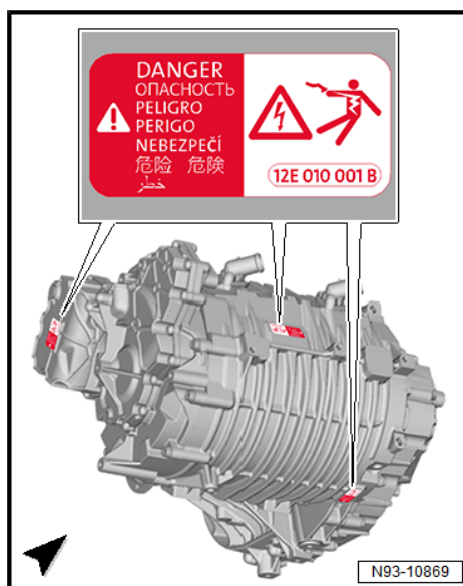
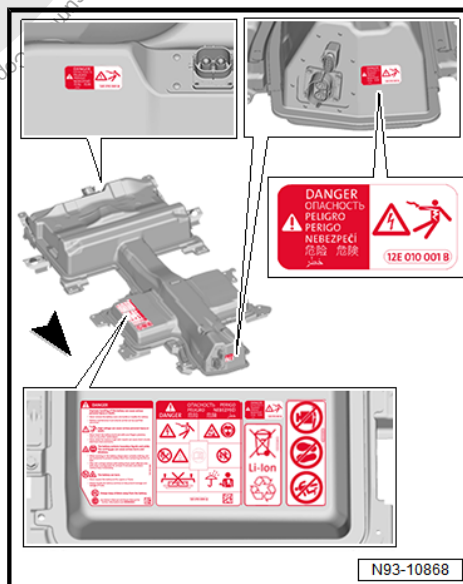
When performing maintenance work, make sure that this warning label is not damaged or dirtied and is present on all high-voltage components.

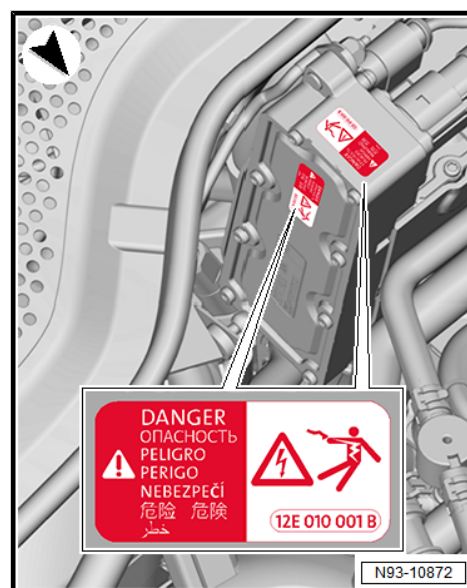
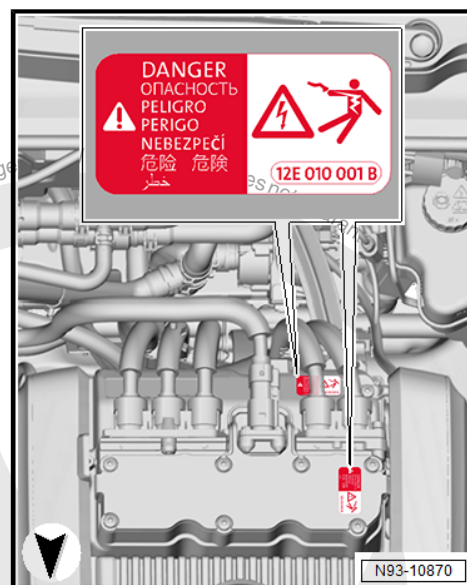


Note

- ◆ For all inspections only the warning labels in the visible areas are checked.
- ◆ Replace any high-voltage component warning labels that are missing.

Warning labels are on the following assembly groups.







- ◆ Left Front Lock Carrier
- ◆ High-Voltage Battery 1 - AX2-
- ◆ Three-Phrase Current Drive - VX54-
- ◆ Electric Drive Power and Control Electronics - JX1-
- ◆ Electrical A/C Compressor - V470-
- ◆ High-Voltage Heater (PTC) - Z115-
- ◆ High-Voltage Battery Charger 1 - AX4-



4.71 Warning Label, Checking, Golf GTE

There is a warning label on all high-voltage components.

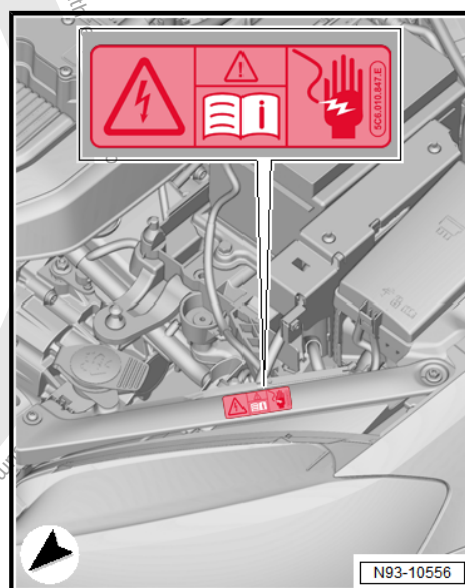
When performing maintenance work, make sure that this warning label is not damaged or dirtied and is present on all high-voltage components.

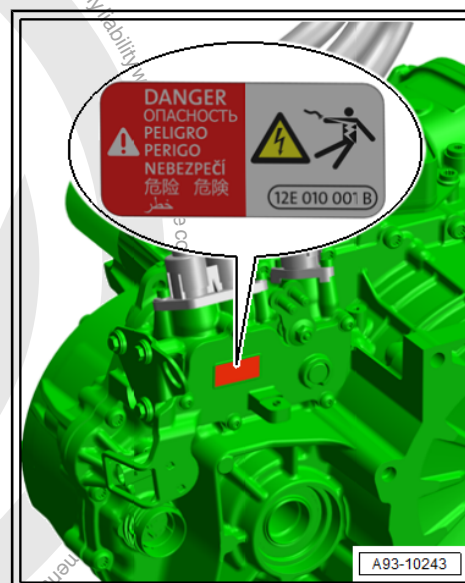
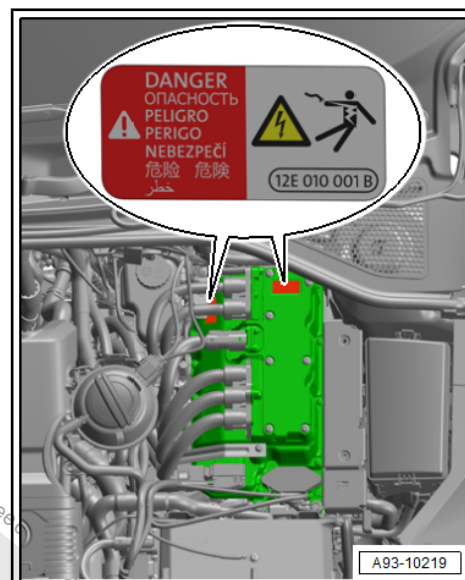
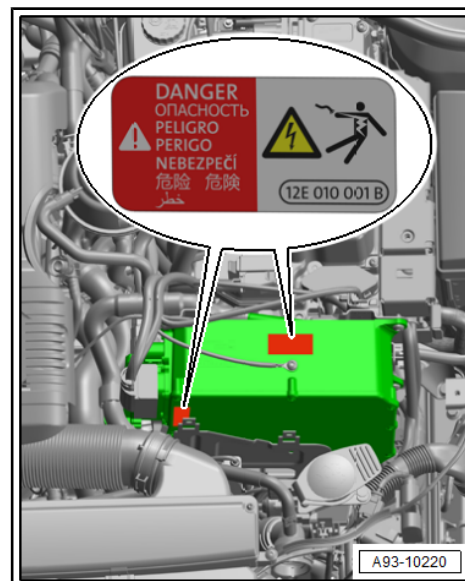


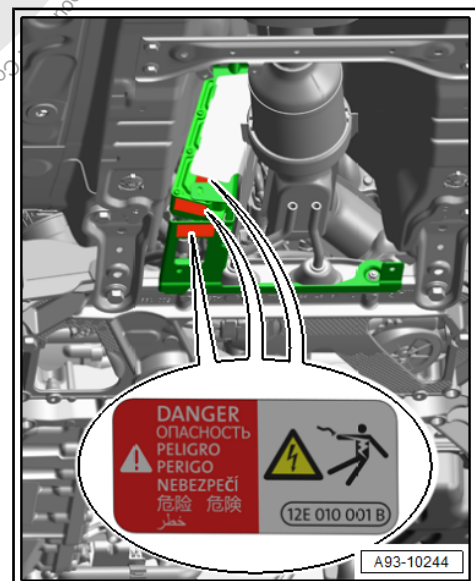
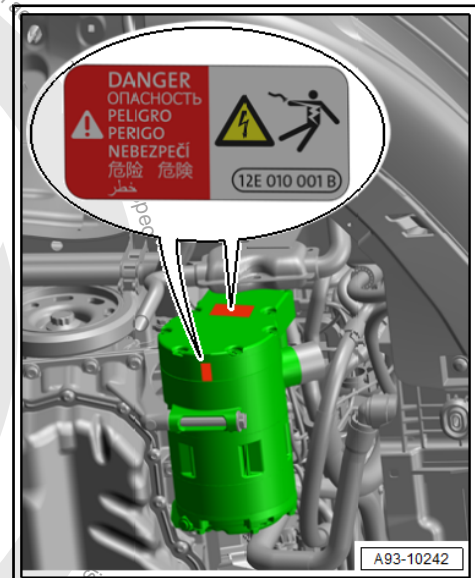
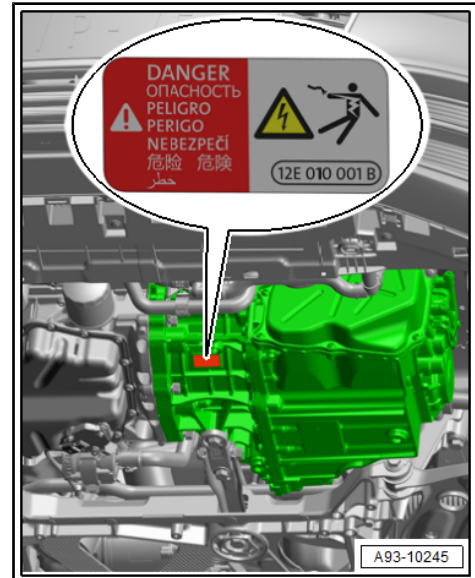
Note

- ◆ For all oil change services or inspections only the warning label in the visible areas are checked.
- ◆ Replace any high-voltage component warning labels that are missing.

Warning labels are on the following assembly groups.

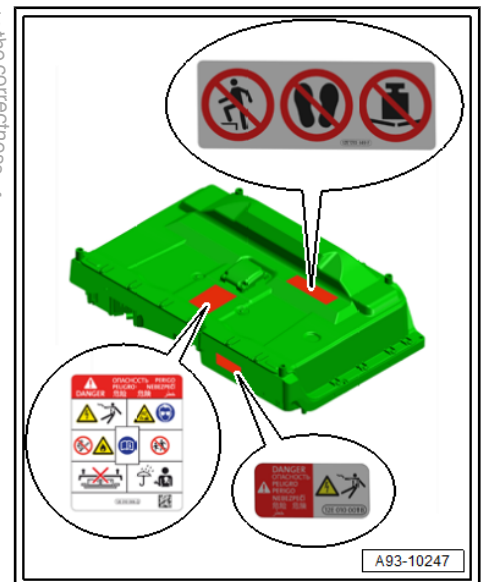
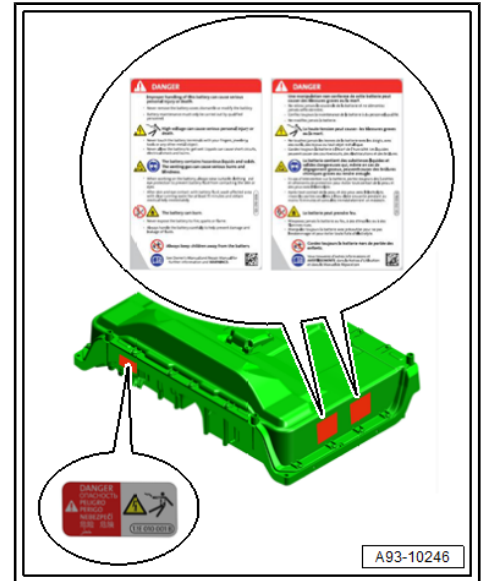








- ◆ Left Front Lock Carrier
- ◆ High-Voltage Battery Charger 1 - AX4-
- ◆ Electric Drive Power and Control Electronics - JX1-
- ◆ Three-Phase Current Drive - VX54- - side
- ◆ Three-Phase Current Drive - VX54- - below
- ◆ Electrical A/C Compressor - V470-
- ◆ High-Voltage Heater (PTC) - Z115-
- ◆ High-Voltage Battery 1 - AX2- - side
- ◆ High-Voltage Battery 1 - AX2- - top



4.72 Camshaft Drive Toothed Belt, Replacing, Diesel Engines

TDI CR engines:

- Refer to ⇒ Engine Mechanical, Fuel Injection and Ignition; Rep. Gr. 15 ; Toothed Belt Drive; Toothed Belt Removing, Installing .



4.73 Camshaft Drive Toothed Belt, Checking

⇒ ["4.73.1 Toothed Belt Condition, Checking, 1.4L TSI Engines", page 202](#) .



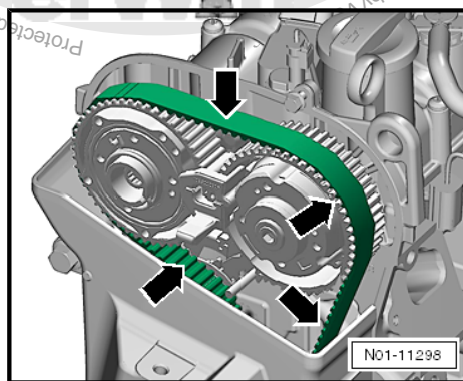
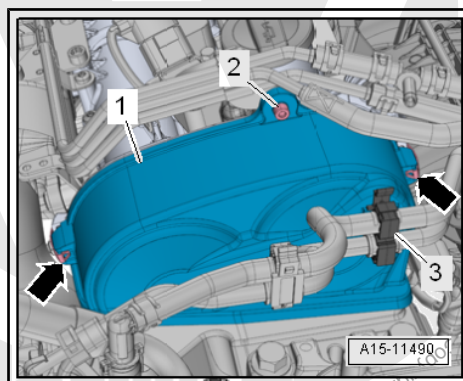
Note

- ◆ Only applies to gasoline engines that do not have a specified toothed belt replacement interval.
- ◆ For engines without a specified toothed belt replacement interval. Refer to ["2.2 Maintenance Tables for Market Designation A", page 5](#) .

4.73.1 Toothed Belt Condition, Checking, 1.4L TSI Engines

Procedure

- Free up the hoses from bracket -3-.
 - Remove the bolt -2-.
 - Loosen the clamps -arrows-, and remove the upper toothed belt guard -1-.
-
- Turn the crankshaft at the crankshaft belt pulley bolt in the direction of engine rotation and then check the entire toothed belt for the following conditions:
 - ◆ Cracks, cross-sectional breaks, tears (on side of cover) -arrow-
 - ◆ Lateral movement
 - ◆ Fraying of cords
 - ◆ Tears (in tooth base) -arrow-
 - ◆ Separation (toothed belt body, belt cords)
 - ◆ Surface cracks (plastic shroud)
 - ◆ Oil or grease contamination



Note

It is essential to replace toothed belt if malfunctions are found. This will prevent any belt malfunctions. Replacing the toothed belt is a repair procedure.

Assembly is done in the reverse order.

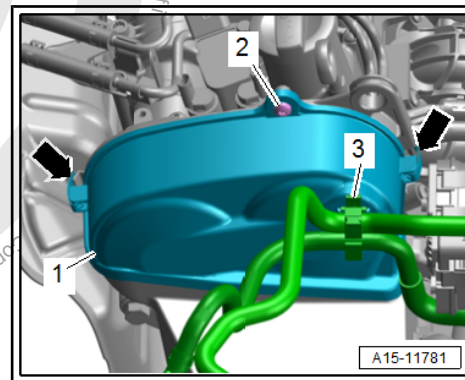
Tightening Specification	Nm
Bolt for the toothed belt guard	8



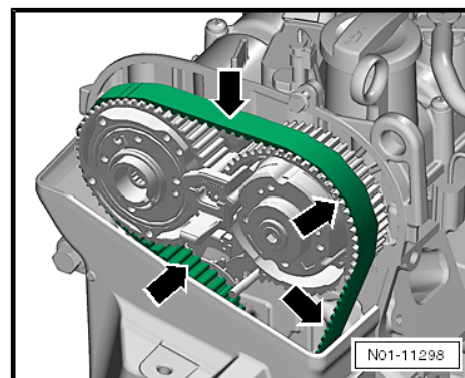
4.73.2 Toothed Belt Condition, Checking, 1.0L TSI Engines

Removing the Upper Toothed Belt Cover and Checking the Toothed Belt

- Remove the air filter housing. Refer to ⇒ Engine Mechanical; Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the air duct pipe. Refer to ⇒ Engine Mechanical; Rep. Gr. 21 ; Charge Air System .
- Release the guide -3- and remove the hoses.
- Release the retainers -arrows-.
- Remove the bolt -2- and remove the cover -1-.



- Turn the crankshaft at the crankshaft belt pulley bolt in the direction of engine rotation and then check the entire toothed belt for the following conditions:
 - ◆ Cranks, cross-sectional breaks, tears (on side of cover) -arrow-
 - ◆ Lateral movement
 - ◆ Fraying of cords
 - ◆ Tears (in tooth base) -arrow-
 - ◆ Separation (toothed belt body, belt cords)
 - ◆ Surface cracks (plastic shroud)
 - ◆ Oil or grease contamination



Note

It is essential to replace toothed belt if malfunctions are found. This will prevent any belt malfunctions. Replacing the toothed belt is a repair procedure.

Assembly is done in the reverse order.

Tightening Specification	Nm
Bolt for the toothed belt guard	8



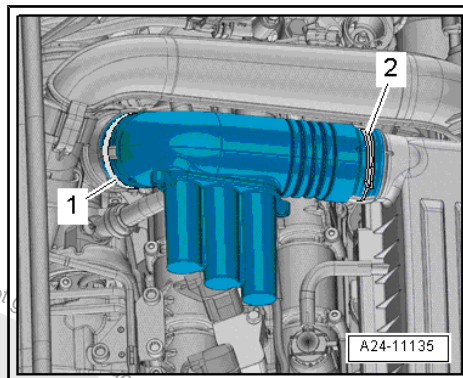
4.74 Coolant Pump Toothed Belt, Checking

⇒ ["4.74.1 Toothed Belt Condition, Checking, 1.4L TSI Engines", page 204](#) .

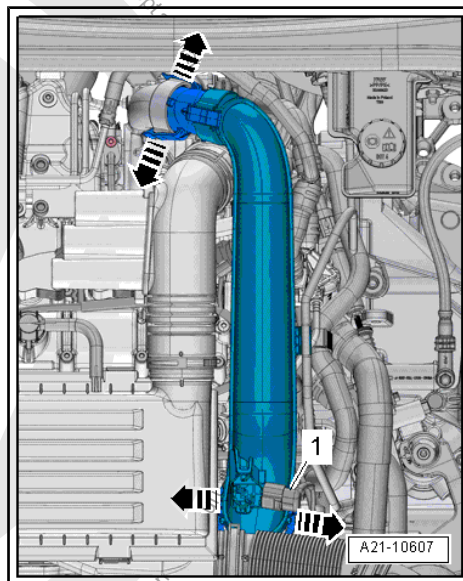
4.74.1 Toothed Belt Condition, Checking, 1.4L TSI Engines

Procedure

- Loosen the hose clamps -1 and 2- and remove the air duct pipe.
- Free up air guide hoses from the air duct pipe.



- Disconnect the connector -1-.
- Release the catches -arrows-, and remove the air duct pipe.

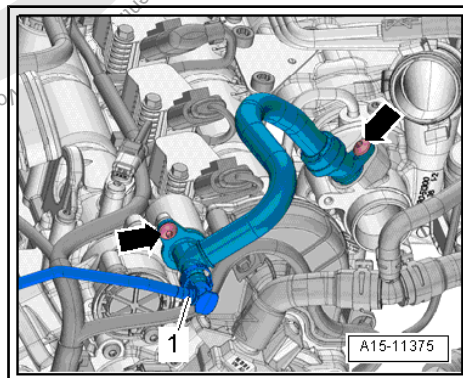


- Push the release button, and remove the EVAP canister hose -1-.
- Remove the bolts -arrows- and remove the crankcase ventilation hose.



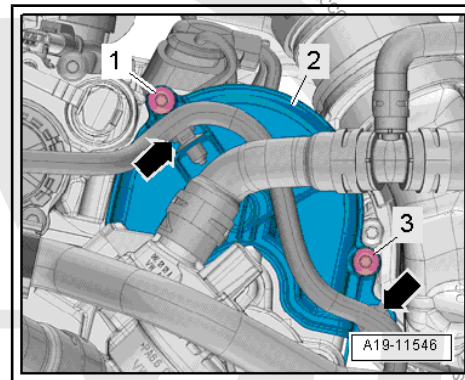
Note

- ♦ If an O-ring or both O-rings are damaged replace the crankcase ventilation hose.
- ♦ Coat the new O-rings with engine oil before installing.

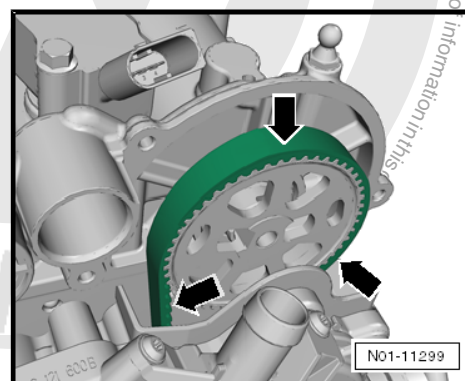




- Free up the wiring harness -arrows-.
- Remove bolts -1 and 3- and the toothed belt guard -2- for the coolant pump tooth belt.



- Turn the crankshaft at the crankshaft belt pulley bolt in the direction of engine rotation and then check the entire toothed belt for the following conditions:
 - ◆ Cranks, cross-sectional breaks, tears (on side of cover) -arrow-
 - ◆ Lateral movement
 - ◆ Fraying of cords
 - ◆ Tears (in tooth base) -arrow-
 - ◆ Separation (toothed belt body, belt cords)
 - ◆ Surface cracks (plastic shroud)
 - ◆ Oil or grease contamination



Note

It is essential to replace toothed belt if malfunctions are found. This will prevent any belt malfunctions. Replacing the toothed belt is a repair procedure.

Assembly is done in the reverse order.

Tightening Specification	Nm
Bolt for the toothed belt guard	8
Bolt for the crankcase ventilation	9

4.74.2 Toothed Belt Condition, Checking, 1.0L TSI Engines

Removing the Toothed Belt Cover and Checking the Toothed Belt

- Remove the air filter housing. Refer to ⇒ Engine Mechanical; Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the air duct pipe. Refer to ⇒ Engine Mechanical; Rep. Gr. 21 ; Charge Air System .

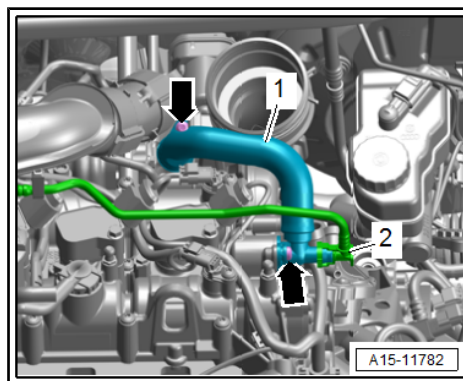


- Push the release buttons and remove the EVAP canister hose -2-.
- Remove the bolts -arrows- and remove the crankcase ventilation hose -1-.

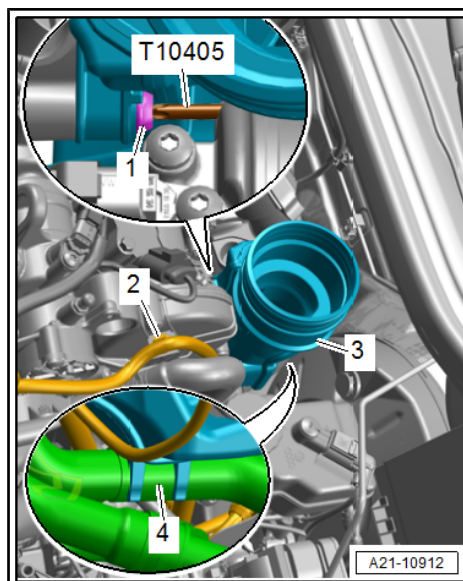


Note

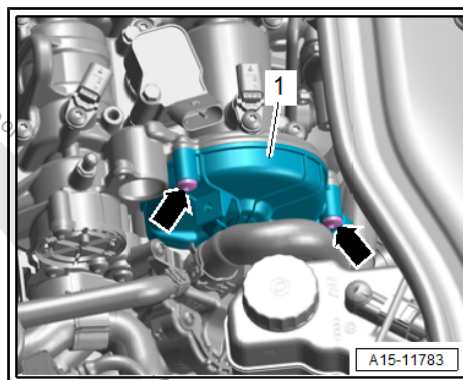
- ◆ If an O-ring or both O-rings are damaged replace the crankcase ventilation hose.
- ◆ Coat the new O-rings with engine oil before installing.



- Free up the wiring harness -2- and the coolant hose -4- and push them to the side.
- Remove the bolt -1- using the Socket - T30 - T10405- .
- Remove the connection -3- from the turbocharger to the left and push it toward the rear.



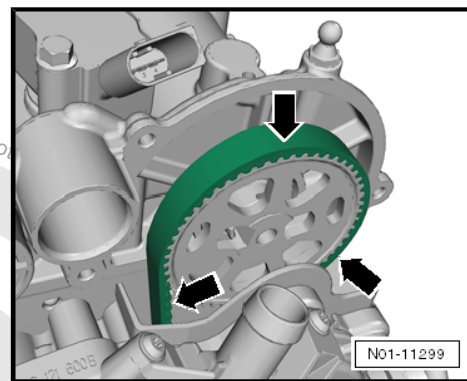
- Remove the bolts -arrows- and remove the toothed belt guard -1- for the coolant pump toothed belt.





- Turn the crankshaft at the crankshaft belt pulley bolt in the direction of engine rotation and then check the entire toothed belt for the following conditions:

- ◆ Cracks, cross-sectional breaks, tears (on side of cover) -arrow-
- ◆ Lateral movement
- ◆ Fraying of cords
- ◆ Tears (in tooth base) -arrow-
- ◆ Separation (toothed belt body, belt cords)
- ◆ Surface cracks (plastic shroud)
- ◆ Oil or grease contamination



Note

It is essential to replace toothed belt if malfunctions are found. This will prevent any belt malfunctions. Replacing the toothed belt is a repair procedure.

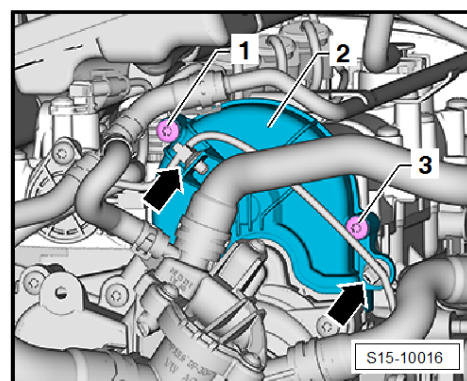
Assembly is done in the reverse order.

Tightening Specification	Nm
Bolt for the toothed belt guard	8
Bolt for the crankcase ventilation	8

4.74.3 Toothed Belt Condition, Checking, 1.6L SRE Engines

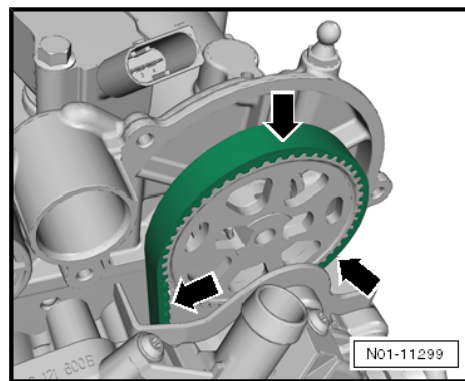
Procedure

- Free up the wiring harness -arrows-.
- Remove the bolts -1 and 3- and remove the toothed belt guard -2- for the coolant pump toothed belt.





- Turn the crankshaft at the crankshaft belt pulley bolt in the direction of engine rotation and then check the entire toothed belt for the following conditions:
- ◆ Cranks, cross-sectional breaks, tears (on side of cover) -arrow-
- ◆ Lateral movement
- ◆ Fraying of cords
- ◆ Tears (in tooth base) -arrow-
- ◆ Separation (toothed belt body, belt cords)
- ◆ Surface cracks (plastic shroud)
- ◆ Oil or grease contamination



Note

It is essential to replace toothed belt if malfunctions are found. This will prevent any belt malfunctions. Replacing the toothed belt is a repair procedure.

Assembly is done in the reverse order.

Tightening Specification	Nm
Bolt for the toothed belt guard	8

4.75 Spark Plugs, Replacing

⇒ ["4.75.1 Spark Plugs, Replacing, 1.4L TSI Engines", page 209](#).

⇒ ["4.75.2 Spark Plugs, Replacing, 2.0L TSI Engine", page 211](#).

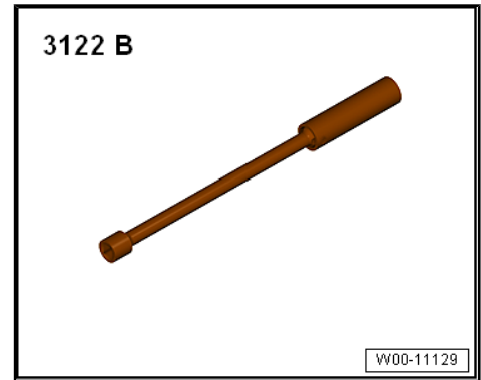
Special tools and workshop equipment required

- ◆ Puller - T10530-

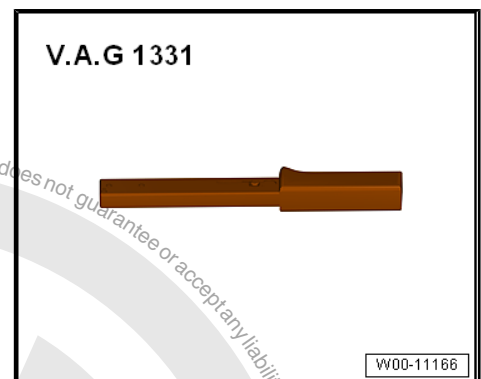




- ◆ Spark Plug Removal Tool - 3122B-



- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

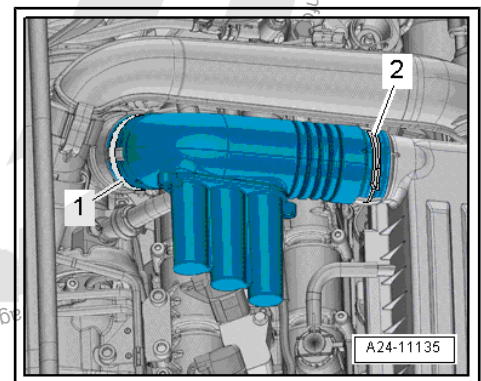


- ◆ Silicone Grease . Refer to Parts Catalog.

4.75.1 Spark Plugs, Replacing, 1.4L TSI Engines

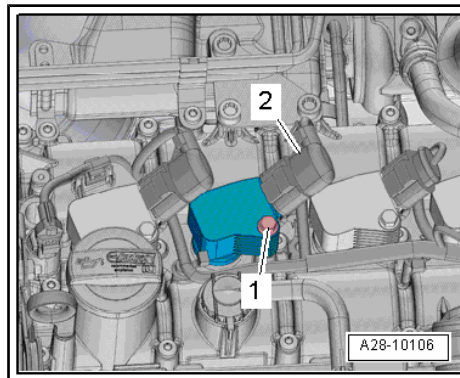
Removing

- If necessary remove the engine cover "upper". Refer to ["4.43 Upper Engine Cover, Removing and Installing", page 127](#) .
- Loosen the hose clamps -1- and -2- and remove the air duct pipe.

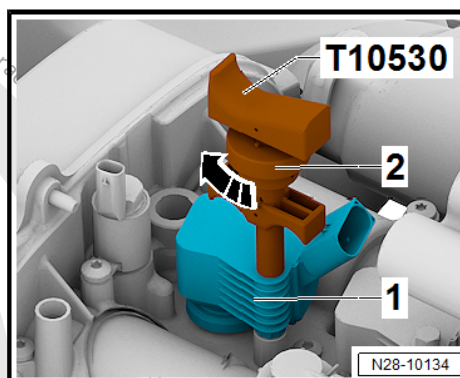




- Disconnect the connector -2-.
- Remove the bolt -1-.



- Push the Puller - T10530- until stop in the ignition coil opening -1-.
- Tighten the knurled nut -2- in the direction of the -arrow-.



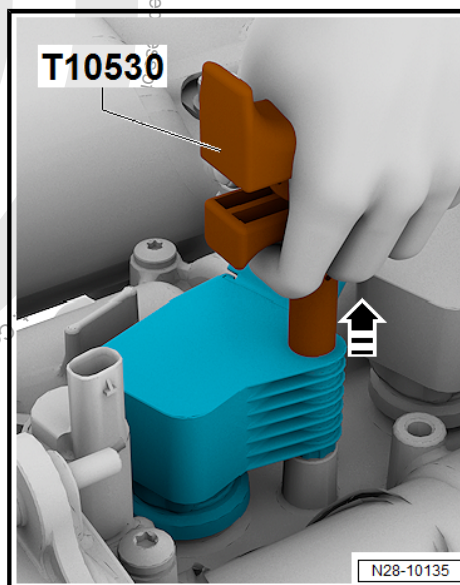
- Pull the ignition coil on the Puller - T10530- in the direction of the -arrow- out of the cylinder head cover.

Repeat the procedure for all ignition coils with power output stage.



Note

- ♦ Note the installed position of ignition coils with power output stage.
- ♦ Make sure to not kink or damage the lines.
- Remove spark plugs using Spark Plug Removal Tool - 3122B- .



Installing

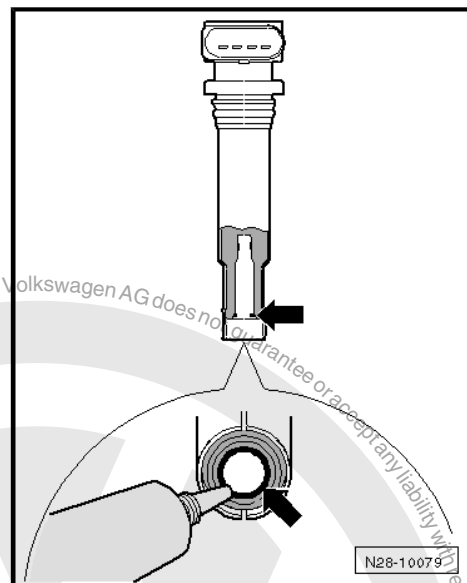


Note

- ♦ Lubricate the ignition coils with power output stage with Silicone Grease whenever installing new spark plugs. Refer to the Parts Catalog.
- ♦ The correct silicone paste is shown on the Parts Catalog with the ignition coils and/or the spark plugs.

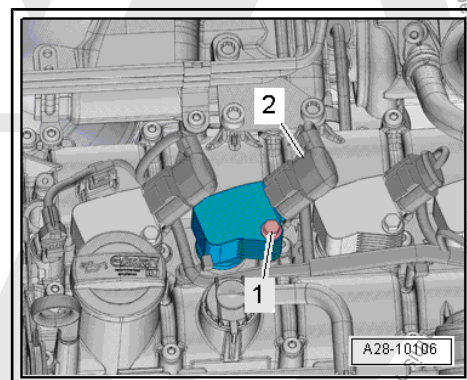


- Install the new spark plugs using the Spark Plug Removal Tool - VAS3122B- and tighten to the specification. Refer to [⇒ page 211](#) .
- Apply a thin bead of Silicone Grease all around the sealing hose on the ignition coil with power output stage -arrow-.
- Align all ignition coils with the power output stage one after the other and insert them loosely into the spark plug shaft.
- Press the ignition coils with power output stage evenly by hand onto spark plugs (do not use a striking tool).

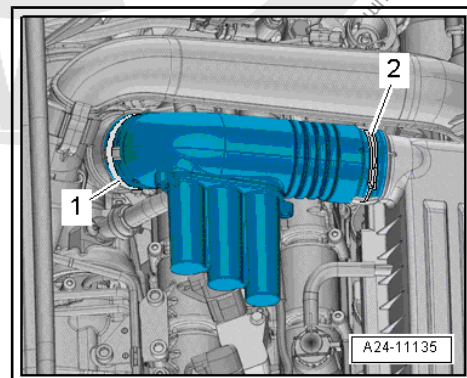


- Tighten the ignition coil with power output stage bolt -1- to the tightening specification. Refer to [⇒ page 211](#) .
- Connect the connector -2-.

Repeat the procedure for all ignition coils with power output stage.



- Install the air duct pipe.



- Install the hose clamps -1- and -2-.
- If necessary install the engine cover "upper". Refer to [⇒ "4.43 Upper Engine Cover, Removing and Installing", page 127](#) .

Tightening Specification	Nm
Spark plugs in cylinder head	22
Ignition coil with power output stage bolts.	8

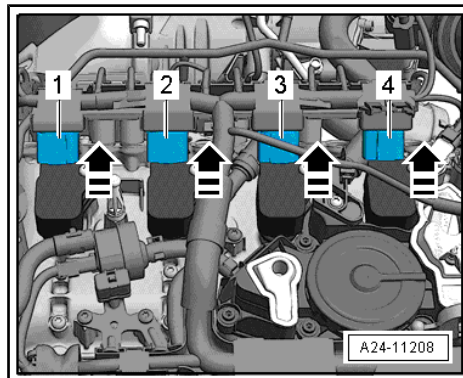
4.75.2 Spark Plugs, Replacing, 2.0L TSI Engine

Removing

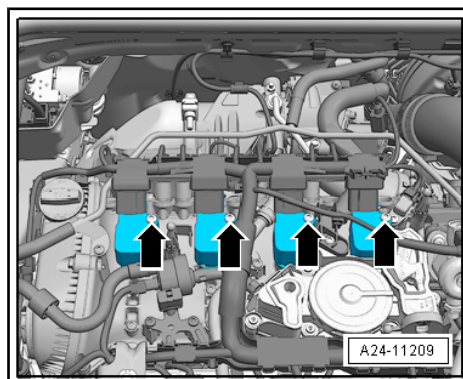
- Remove the engine cover. Refer to [⇒ "4.43 Upper Engine Cover, Removing and Installing", page 127](#) .



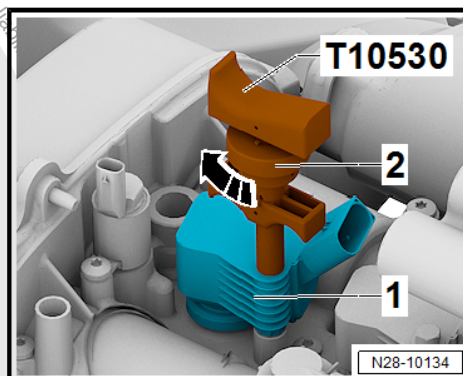
- Disengage the connectors -1- through -4- and at the same time remove all of the plugs from the ignition coils with the power output stage.



- Remove the ignition coils with the power output stage bolts -arrows-.



- Push the Puller - T10530- until stop in the ignition coil opening -1-.
- Tighten the knurled nut -2- in the direction of the -arrow-.





- Pull the ignition coil on the Puller - T10530- in the direction of the -arrow- out of the cylinder head cover.

Repeat the procedure for all ignition coils with power output stage.



Note

- ◆ *Note the installed position of ignition coils with power output stages.*
- ◆ *Make sure to not kink or damage the lines.*

Remove spark plugs using Spark Plug Removal Tool - 3122B- .

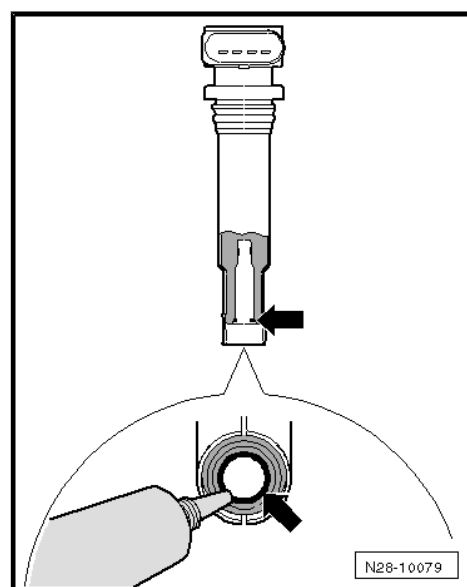
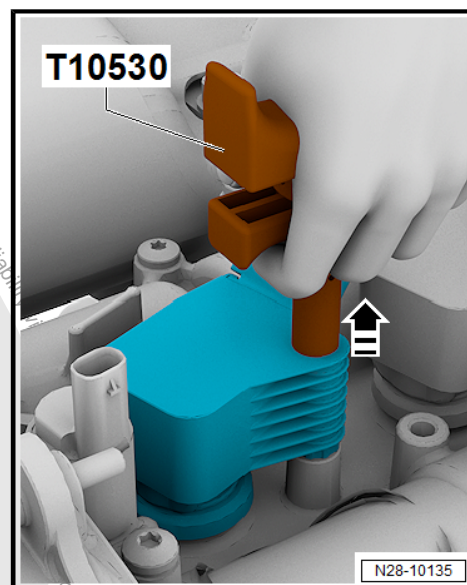
Installing



Note

- ◆ *Lubricate the ignition coils with power output stage with Silicone Grease whenever installing new spark plugs. Refer to the Parts Catalog.*
- ◆ *The correct silicone paste is shown on the Parts Catalog with the ignition coils and/or the spark plugs.*

- Install the new spark plugs using the Spark Plug Removal Tool - VAS3122B- and tighten to the specification. Refer to [⇒ page 213](#) .
- Apply a thin bead of Silicone Grease all around the sealing hose on the ignition coil with power output stage -arrow-.
- Align all ignition coils with the power output stage one after the other and insert them loosely into the spark plug shaft.
- Press the ignition coil with power output stage evenly by hand onto spark plugs (do not use a hammer).
- Tighten the ignition coil with power output stage bolts to the tightening specification. Refer to [⇒ page 213](#) .
- Connect the connector at the same time.
- Install the engine cover. Refer to [⇒ "4.43 Upper Engine Cover, Removing and Installing", page 127](#) .



Tightening Specification	Nm
Spark plugs in cylinder head	30
Ignition coil with power output stage bolts.	10

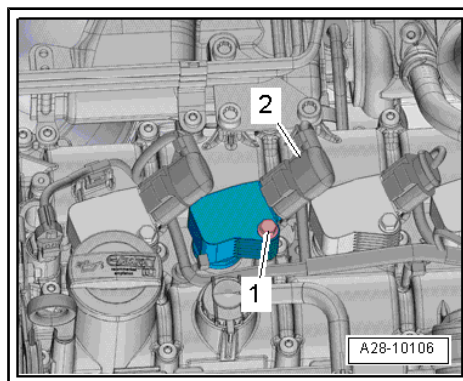
4.75.3 Spark Plugs, Replacing, 1.0L TSI Engine

Removing

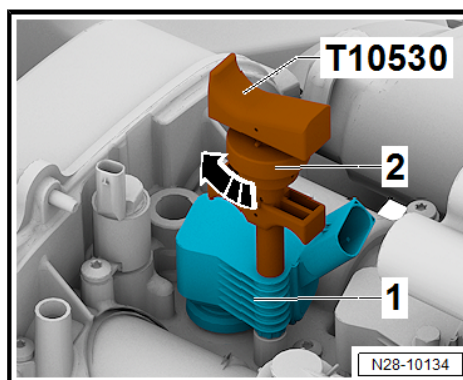
- Remove the air filter housing. Refer to [⇒ Engine Mechanical; Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing](#) .



- Remove the air duct pipe. Refer to ⇒ Engine Mechanical; Rep. Gr. 21 ; Charge Air System .
- Disconnect the connector -2-.
- Remove the bolt -1-.



- Push the Puller - T10530- until stop in the ignition coil opening -1-.
- Tighten the knurled nut -2- in the -direction of the arrow-.



- Pull the ignition coil on the Puller - T10530- in the -direction of the arrow- out of the cylinder head cover.
- Repeat the procedure for all ignition coils with power output stage.



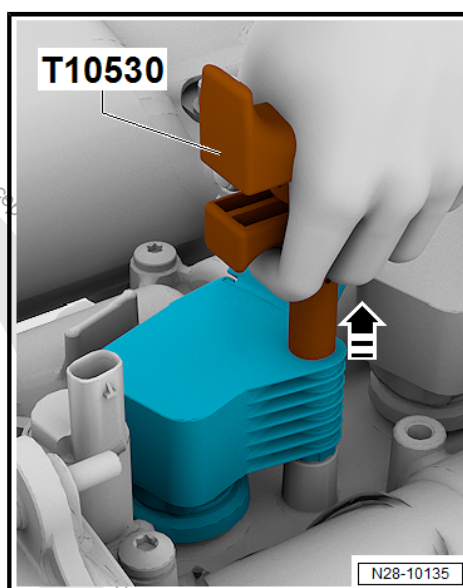
Note

- ♦ *Note the installed position of ignition coils with power output stage.*
- ♦ *Make sure to not kink or damage the lines.*
- Remove spark plugs using Spark Plug Removal Tool - 3122B- .



Note

Please follow all waste disposal regulations!



Installing

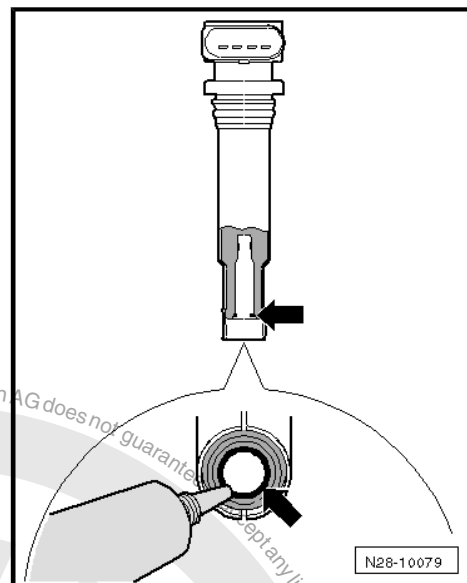


Note

- ♦ *Lubricate the ignition coils with power output stage with Silicone Grease whenever installing new spark plugs. Refer to the Parts Catalog.*
- ♦ *The correct silicone paste is shown on the Parts Catalog with the ignition coils and/or the spark plugs.*



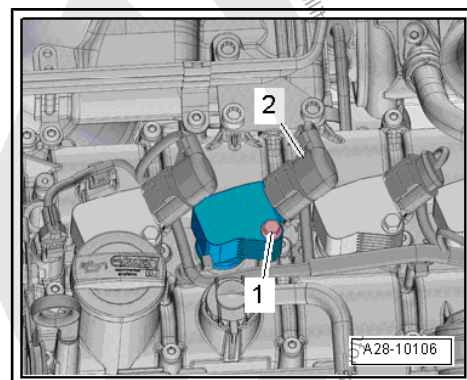
- Install the new spark plugs using the Spark Plug Removal Tool - VAS3122B- and tighten to the specification. Refer to ➔ [page 215](#) .
- Apply a thin bead of Silicone Grease all around the sealing hose on the ignition coil with power output stage -arrow-.
- Align all ignition coils with the power output stage one after the other and insert them loosely into the spark plug shaft.
- Press the ignition coils with power output stage evenly by hand onto spark plugs (do not use a striking tool).



- Tighten the ignition coil with power output stage bolt -1- to the tightening specification. Refer to ➔ [page 215](#) .
- Connect the connector -2-.

Repeat the procedure for all ignition coils with power output stage.

- Further assembly occurs in reverse order.

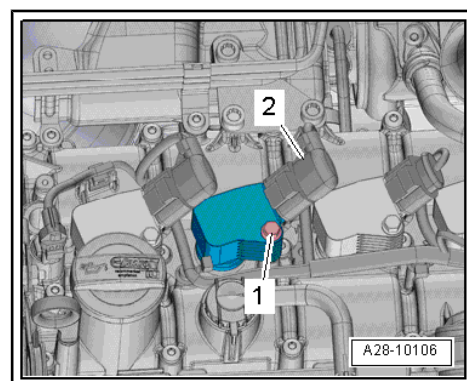


Tightening Specification	Nm
Spark plugs in cylinder head	25
Ignition coil with power output stage bolts.	8

4.75.4 Spark Plugs, Replacing, 1.6L SRE Engine

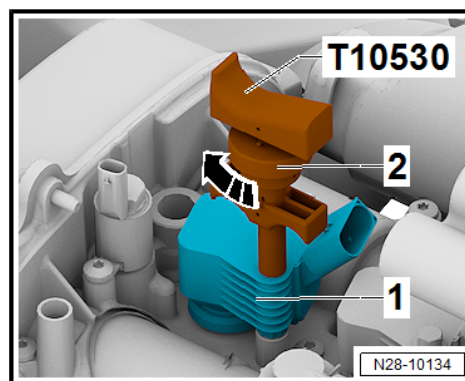
Removing

- Remove the air filter housing. Refer to ➔ Engine Mechanical, Fuel Injection and Ignition; Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Disconnect the connector -2-.
- Remove the bolt -1-.





- Push the Puller - T10530- until stop in the ignition coil opening -1-.
- Tighten the knurled nut -2- in the -direction of the arrow-.



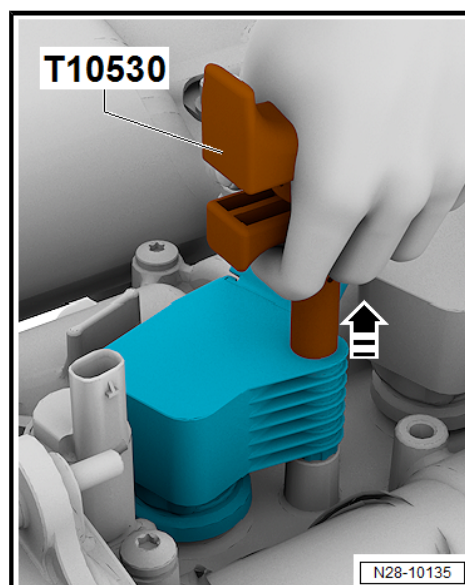
- Pull the ignition coil on the Puller - T10530- in the -direction of the arrow- out of the cylinder head cover.

Repeat the procedure for all ignition coils with power output stage.



Note

- ◆ *Note the installed position of ignition coils with power output stage.*
- ◆ *Make sure to not kink or damage the lines.*
- Remove spark plugs using Spark Plug Removal Tool - 3122B- .

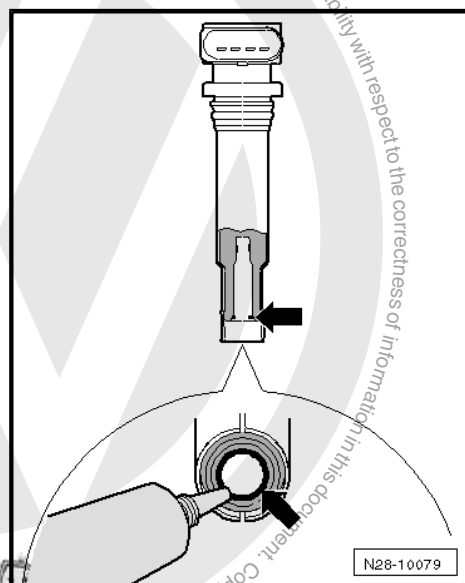


Installing



Note

- ◆ *Lubricate the ignition coils with power output stage with Silicone Grease whenever installing new spark plugs. Refer to the Parts Catalog.*
- ◆ *The correct silicone paste is shown on the Parts Catalog with the ignition coils and/or the spark plugs.*
- Install the new spark plugs using the Spark Plug Removal Tool - VAS3122B- and tighten to the specification. Refer to [⇒ page 211](#) .
- Apply a thin bead of Silicone Grease all around the sealing hose on the ignition coil with power output stage -arrow-.
- Align all ignition coils with the power output stage one after the other and insert them loosely into the spark plug shaft.
- Press the ignition coils with power output stage evenly by hand onto spark plugs (do not use a striking tool).

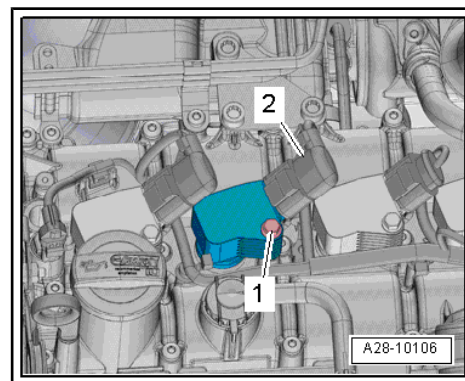




- Tighten the ignition coil with power output stage bolt -1- to the tightening specification. Refer to ➔ [page 211](#) .
- Connect the connector -2-.

Repeat the procedure for all ignition coils with power output stage.

- Install the air filter housing. Refer to ➔ Engine Mechanical, Fuel Injection and Ignition; Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .

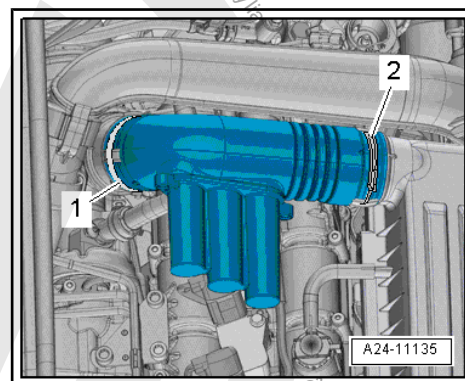


Tightening Specification	Nm
Spark plugs in cylinder head	22
Ignition coil with power output stage bolts.	8

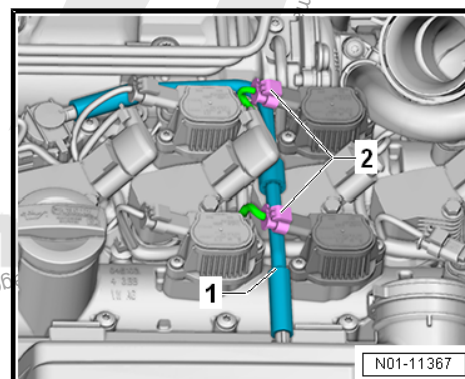
4.75.5 Spark Plugs, Replacing, 1.4L TSI Engine, Engine Codes CPTA and CZEA

Removing

- Loosen the hose clamps -1- and -2- and remove the air duct pipe.

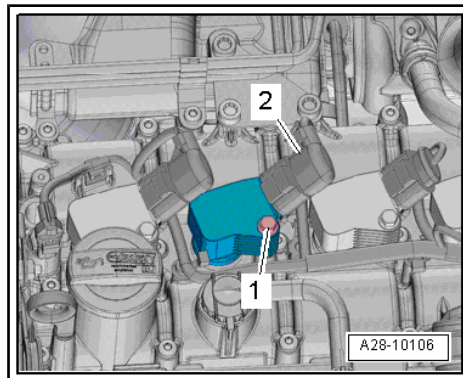


- Disconnect the connector -2- and remove the air guide hose -1-.

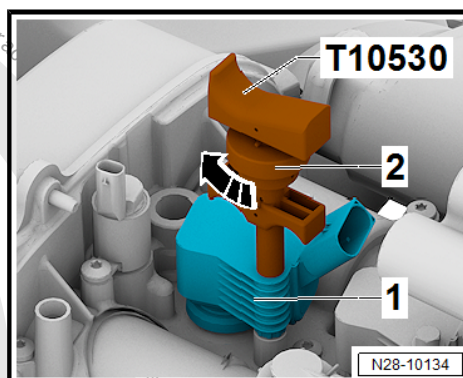




- Disconnect the connector -2-.
- Remove the bolt -1-.



- Push the Puller - T10530- until stop in the ignition coil opening -1-.
- Tighten the knurled nut -2- in the -direction of the arrow-.



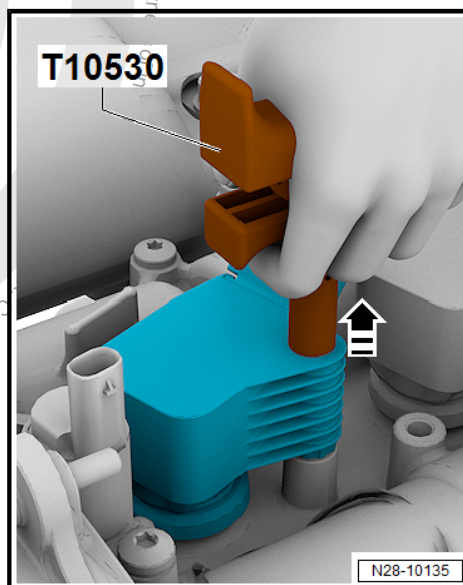
- Pull the ignition coil on the Puller - T10530- in the -direction of the arrow- out of the cylinder head cover.

Repeat the procedure for all ignition coils with power output stage.



Note

- ♦ Note the installed position of ignition coils with power output stages.
- ♦ Make sure to not kink or damage the lines.
- Remove spark plugs using Spark Plug Removal Tool - 3122B- .



Installing

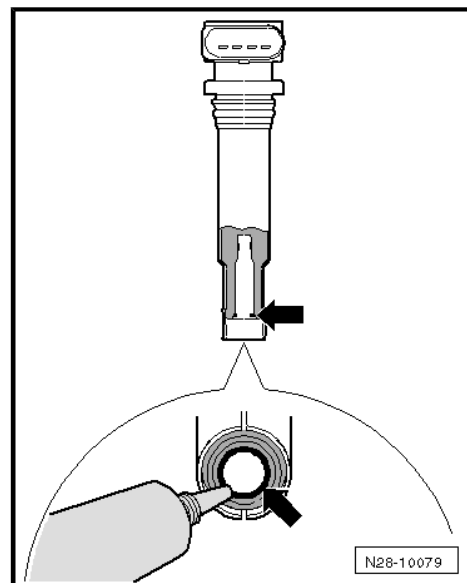


Note

- ♦ Lubricate the ignition coils with power output stage with Silicone Grease whenever installing new spark plugs. Refer to the Parts Catalog.
- ♦ The correct silicone paste is shown on the Parts Catalog with the ignition coils and/or the spark plugs.

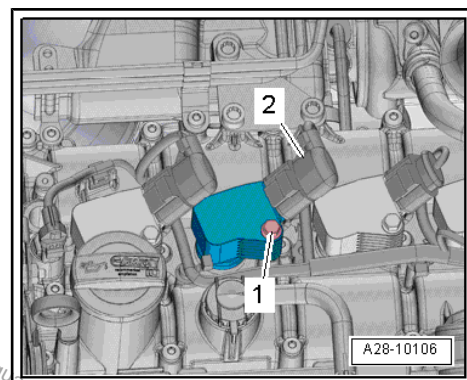


- Install the new spark plugs using the Spark Plug Removal Tool - VAS3122B- and tighten to the specification. Refer to ➔ [page 220](#) .
- Apply a thin bead of Silicone Grease all around the sealing hose on the ignition coil with power output stage -arrow-.
- Align all ignition coils with the power output stage one after the other and insert them loosely into the spark plug shaft.
- Press the ignition coils with power output stage evenly by hand onto spark plugs (do not use a striking tool).

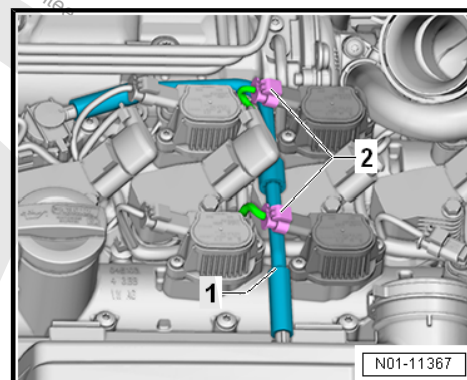


- Tighten the ignition coil with power output stage bolt -1- to the tightening specification. Refer to ➔ [page 220](#) .
- Connect the connector -2-.

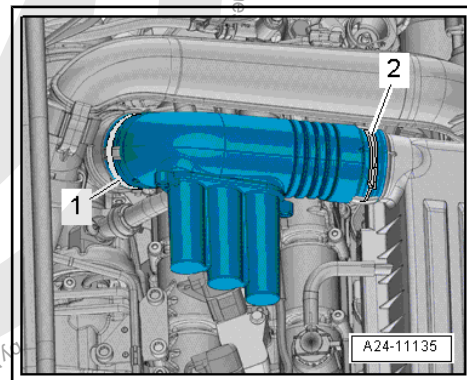
Repeat the procedure for all ignition coils with power output stage.



- Insert the air guide pipe -1- and connect the connector -2-.



- Install the hose clamps -1- and -2-.





Tightening Specification	Nm
Spark plugs in cylinder head	22
Ignition coil with power output stage bolts.	8





5 Emissions Test

This chapter contains information on the following:

Emissions testing for gasoline engines. Refer to
⇒ [“5.1 Emissions Testing, Gasoline Engines”, page 221](#) .

Emissions testing for diesel engines. Refer to
⇒ [“5.2 Emissions Testing, Diesel Engines”, page 229](#) .



Note

- ◆ *Observe the country-specific regulations.*
- ◆ *The emissions test described in the following was created according to legal requirements applicable in Germany.*

Emissions test intervals:

Vehicles with regulated catalytic converter or vehicles with Diesel engine:

- ◆ Three years after initial registration and then every two years.
- ◆ Vehicles for commercial passenger transportation, for example, taxis: every 12 months

5.1 Emissions Testing, Gasoline Engines

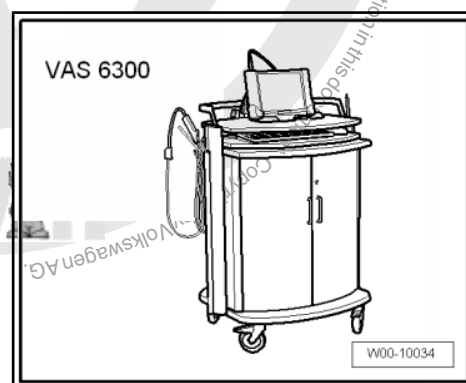


Note

- ◆ *The following description refers to vehicles that are equipped with a regulated catalytic converter with “OBD”.*
- ◆ *OBD monitors all components and partial systems that influence the emissions quality.*

Special tools and workshop equipment required

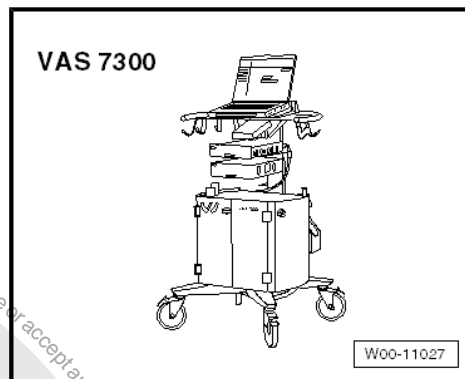
- ◆ Emissions Testing Station - VAS6300-



- ◆ Vehicle Diagnostic Tester - Adapter 16 - VAS5052/16-1-
- ◆ AU-Station (Interface) XXL - VAS7300-



◆ Emissions Testing Station (Remote Control) XXL - VAS7300-



- ◆ Diagnosis Interface - Cable with Pull Relief - VAS5055/2-
- ◆ Remote Diagnosis Head - VAS5054 A-
- ◆ Diagnosis Interface - VAS5055-



Note

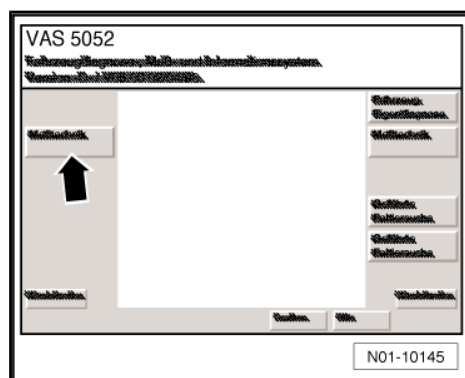
- ◆ *An emissions test is only possible when all units of Emissions Testing Station are connected properly according to operating instructions and are connected to each other.*
- ◆ *All procedures being performed are displayed on the Emissions Testing Station.*

Test Prerequisites:

- All of the test conditions and data required for the emissions test are on the emissions testing data sheet for the corresponding engine.
- Paper printout of the emissions test data sheet must be available for reading the bar code.
- Automatic transmission: selector lever in "P" or "N" position.
- Manual transmission: gearshift lever in neutral.
- Hand brake applied
- Perform emissions testing according to instructions on the display.

Start Screen:

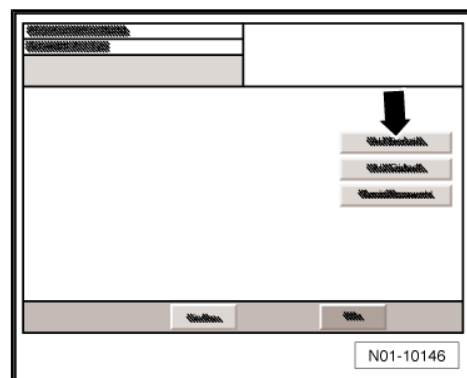
- Select the button "Emissions testing" -arrow-.



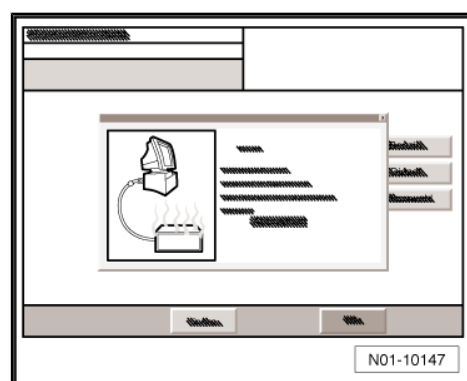


An overview for selecting the respective emissions test type appears.

- Select “Emissions testing, gasoline” -arrow-.



Display for the warm-up time appears.





- Continue the emissions test according to the instructions on the display.
- When the selection for the emissions test specified value appears, select the corresponding “Selection for emissions test specified value” -arrow-.
- ◆ Either for a first-time emissions test “standard default values”,
- ◆ or, if an already performed emissions test is to be performed again “last vehicle”.
- Select “Continue” on the display, see -Item 1-.

Vehicle Data Input:

The vehicle data input menu appears.

- Enter the following data:
- ◆ License plate number
- ◆ Key number
- ◆ Vehicle Identification Number (VIN)
- ◆ Fuel type
- ◆ Odometer reading

The following vehicle data can be found in the certificate of registration part 1:

- ◆ License plate: “for example, WOB-HH 1234”
- ◆ Emissions key number. “Field 14.1 (Code for field 14)”
- ◆ Vehicle manufacturer: “Field 2,”, “Field 2.1 (Code for field 2)”
- ◆ VIN: “Field E”
- ◆ Type and version “field D2 (type only)”, “Field 2.2 (Code for field D.2)”



Note

- ◆ *More functions can be called up via the Go To button.*
- ◆ *Testing can be canceled with the Go To button.*

- Select “with OBD” -arrow-.

Emissions Test Specified Data Input:

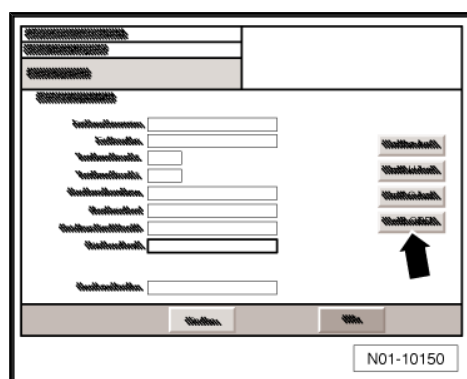
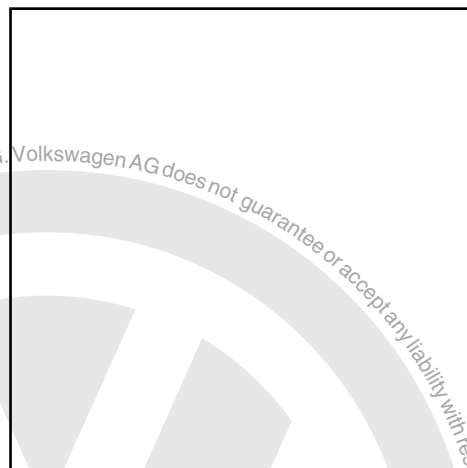


Note

- ◆ *If the specified values are not available as a bar code, they must be entered manually.*
- ◆ *For all test conditions and data required for the emissions test, refer to ⇒ Data sheets for exhaust emission test for the corresponding engine.*

Manual Emissions Test Specified Data Input:

- Follow the instructions on the display for manual data input.





- Enter the indicated values on the emissions testing data sheet “test values for the emissions test” on the display in the following sequence:

- 1 - Test RPM (Idle Speed)
- 2 - Warm-Up Time for Catalytic Converter
- 3 - Engine Temperature
- 4 - Increased Idle Speed
- 5 - CO Content at Increased Idle
- 6 - Oxygen in Increased Idle
- 7 - Idle Speed
- 8 - Select the upstream oxygen sensor type, either “snap sensor” or “broadband sensor” -item 1-.
- 9 - Heated Oxygen Sensor Value

- All data has been entered correctly, then press the Continue button -arrow-.

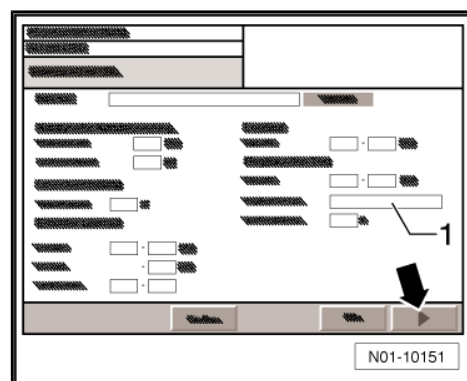


Emissions test specified data input as bar code:

- If the emissions test specified data is available as a bar code, scan in the bar code of emissions testing data sheet using bar code reader.

Screen containing all required data appears on the display.

- Press the button -arrow- to continue.



Visual inspection:

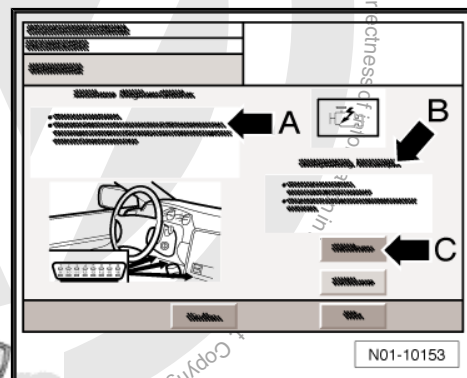
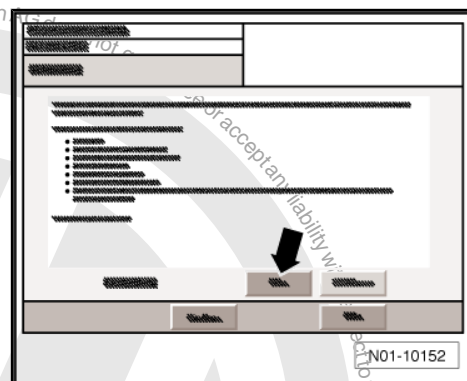
- Follow the instructions on the display.
- Visually inspect all emissions-related components.
- Check the exhaust system for completeness, leaks and damage.
- If visual inspection is OK, press “OK” button -arrow-.



Note

Testing is started by pressing the NOT OK button.

In the visual inspection display, it is requested that the Data Link Connector (DLC) be attached -arrow A-, and that the MIL be checked -arrow B-.

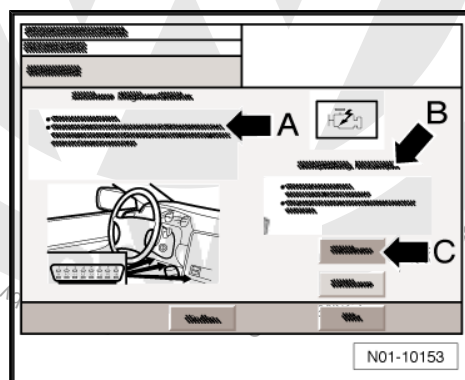




- Follow the instructions on the display.
- Turn the ignition off.
- Connect the diagnostic cable connector to the EOBD connection.



- Turn on the ignition.
- Visually inspect the malfunction indicator lamp.
- When the lamp turns on, press the button "Lamp ON" -arrow C-.

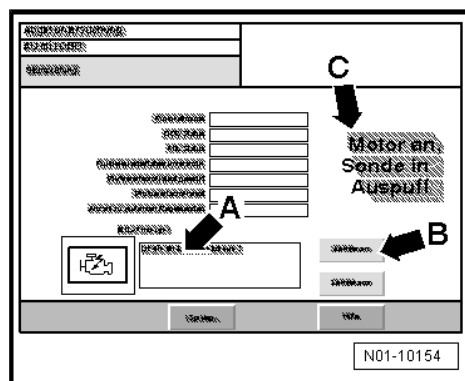


- Follow instructions on the display, see -arrow C- and -arrow A-.
- ◆ Start the engine.
- ◆ Perform a visual inspection of the malfunction indicator lamp.
- Guide the exhaust probe into the tail pipe.



Note

The emissions test procedure is only continued if the test probe is positioned in the exhaust pipe.





The program automatically advances to the test-readiness check.

Here it is examined whether all of the control module supported test readiness tests have been run through.



Note

- ◆ If all the display values are set to zero, then a upstream oxygen sensor test was not performed.
- ◆ If not all display values are set to zero, a upstream oxygen sensor test will be performed later.

- Confirm the malfunction indicator lamp -arrow B-.

Catalytic Converter Conditioning:

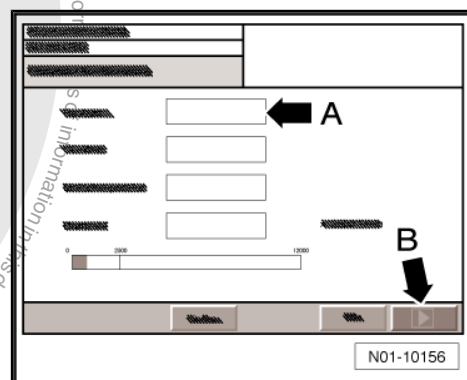
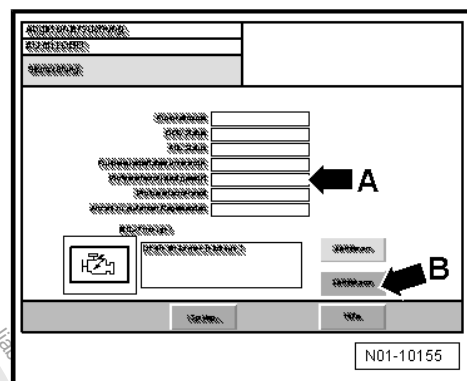
The program automatically advances to the warm-up phase of the catalytic converter.

Follow the instructions on the display.

Measurement begins when engine speed has reached the necessary level.

- Maintain the engine speed in the required RPM range.

The remaining time for performing the warming up phase is indicated -arrow A -.



Warm-up time:

It advances program automatically to display for measuring the engine temperature.

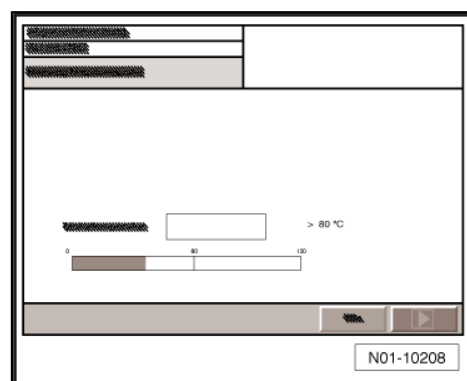
- Follow the instructions on the display.



Note

This display only appears if the engine temperature has not yet reached 80 °C.

- Bring the engine up to the required temperature.





Measurement at Increased Idle Speed:

The program automatically advances to the display for the measurement at increased idle speed.

- Follow the instructions on the display.

Measurement begins when engine speed has reached the necessary level.



Note

- ♦ Using the button, the measurement can be skipped this means that the emissions test will not be passed.
- ♦ Using the button, the measured values are reset and the test can be repeated.

- Maintain the engine speed in the required RPM range.

The remaining time for performing the measurement is indicated -arrow A -.

Idle Speed and CO Content Measurement:

The program automatically advances to the display for measuring the idle speed and CO content.

Measurement begins when engine speed has reached the necessary level.

The remaining time for performing the measurement is indicated -arrow A -.

Upstream oxygen sensor test:



Note

The upstream oxygen sensor is only performed when all indicator values are "NOT" set to zero during the pre-test.

It advances program automatically to display for upstream oxygen sensor test.



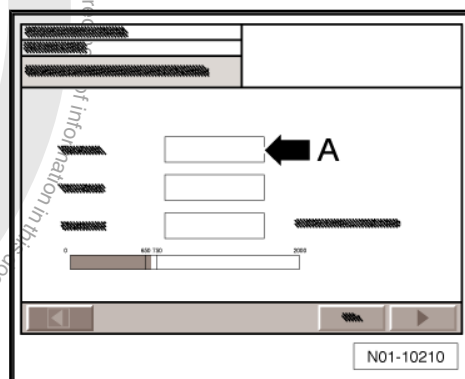
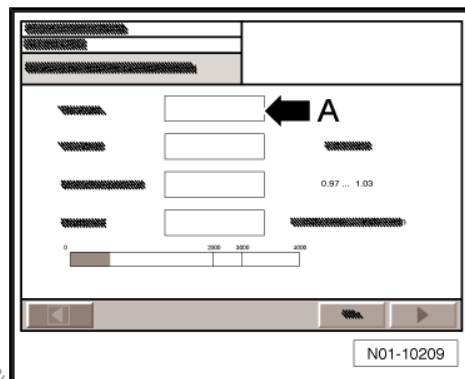
Note

The upstream oxygen sensor test is performed individually for each oxygen sensor.

Measurement begins when engine speed has reached the necessary level.

- Maintain the engine speed in the required RPM range.

The remaining time for performing the measurement is indicated -arrow A -.





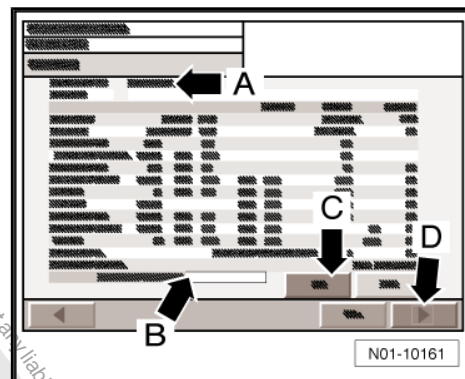
Evaluation:

After the emissions test is completed, the log is displayed on the screen.


The test result is displayed.

At this point, explanations regarding the emissions test can be entered -arrow A-. They are then transferred into the test log.

- If the emissions test was passed, select "Grant emissions test certificate" on the drop-down menu -arrow B- and the date.
- Confirm with "Yes" -arrow C -.



After confirmation, the two "INSPECTION CERTIFICATES" are printed out automatically.

- If another test certificate is required, press button -arrow A- "Print".
- Follow the instructions on the display.
- Remove the exhaust probe from the tail pipe.
- Press the  button -arrow B-

The emissions test is ended and a new emissions test may now be performed.

5.2 Emissions Testing, Diesel Engines



Caution

- **Observe the "NOTES FOR SAFETY, PROTECTION OF EQUIPMENT AND VEHICLE COMPONENTS" in VAS6300 owner's manual.**



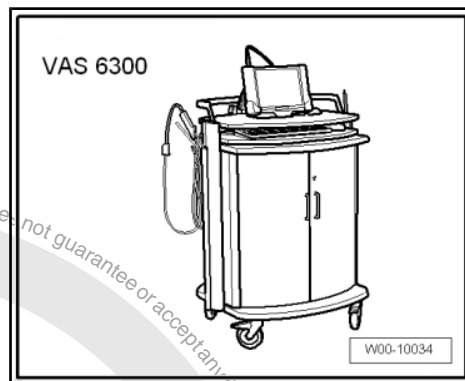
Note

- ◆ *The following description is based on vehicles that are equipped with "On Board Diagnostics", OBD.*
- ◆ *OBD monitors all components and partial systems that influence the emissions quality.*

Special tools and workshop equipment required



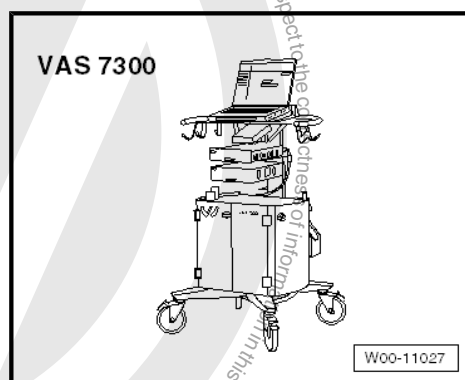
◆ Emissions Testing Station - VAS6300-



◆ Vehicle Diagnostic Tester - Adapter 16 - VAS5052/16-1-

◆ AU-Station (Interface) XXL - VAS7300-

◆ Emissions Testing Station (Remote Control) XXL - VAS7300-



◆ Diagnosis Interface - Cable with Pull Relief - VAS5055/2-

◆ Remote Diagnosis Head - VAS5054 A-

◆ Diagnosis Interface - VAS5055-



Note

- ◆ *An emissions test is only possible when all units of Emissions Testing Station are connected properly according to operating instructions and are connected to each other.*
- ◆ *All procedures being performed are displayed on the Emissions Testing Station .*

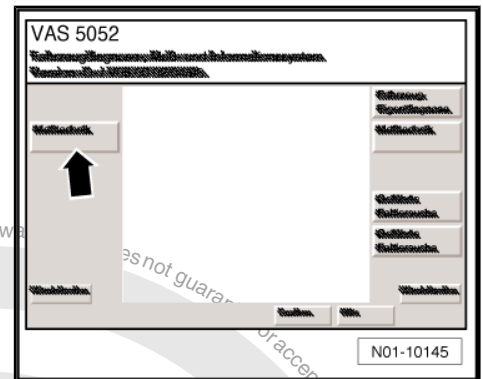
Test Prerequisites:

- All of the test conditions and data required for the emissions test are on the emissions testing data sheet for the corresponding engine.
- If a barcode input of emissions testing specification data is going to be performed, the emissions testing data sheet must be present as a paper print out.
- Automatic transmission: selector lever in "P" or "N" position.
- Manual transmission: gearshift lever in neutral.
- Hand brake applied
- Perform emissions testing according to instructions on the display.



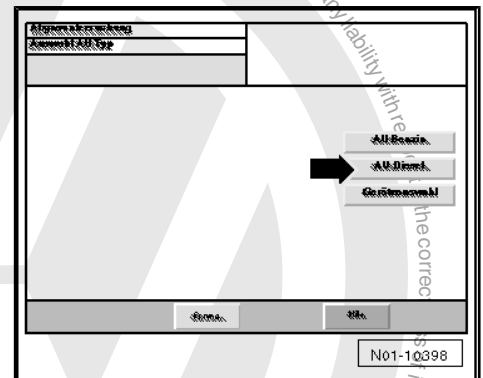
Start Screen:

- Select -emissions testing- “arrow” on display.

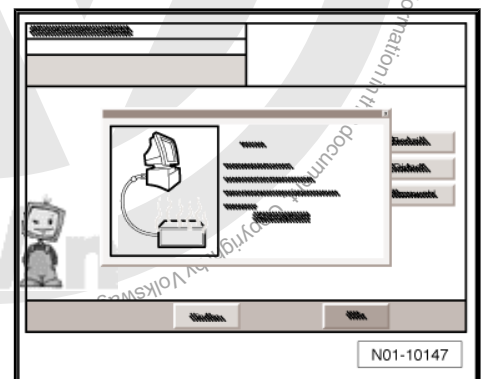


An overview for selecting the respective emissions test type appears.

- Select “Emissions testing, diesel” -arrow-.



Display for the warm-up time appears.





- Continue the emissions test according to the instructions on the display.
- When the selection for the emissions test specified value appears, select the corresponding “Selection for emissions test specified value” -arrow-.
- ◆ At a first emissions test, select “standard default values”,
- ◆ Or, if an emissions test that has already been performed is to be performed again “last vehicle”.
- Select “continue” -Item 1- on the display.

Vehicle Data Input:

The vehicle data input menu appears.

- Enter the following data:
- ◆ License plate number
- ◆ Key number
- ◆ Vehicle Identification Number (VIN)
- ◆ Fuel type
- ◆ Odometer reading

The following vehicle data can be found in the certificate of registration part 1:

- ◆ License plate: “for example, WOB-HH 1234”
- ◆ Emissions key number. “Field 14.1 (Code for field 14)”
- ◆ Vehicle manufacturer: “Field 2”, “Field 2.1 (Code for field 2)”
- ◆ VIN: “Field E”
- ◆ Type and version “field D2 (type only)”, “Field 2.2 (Code for field D.2)”



Note

- ◆ Use the **GO TO** button to start other functions.
- ◆ Use the **GO TO** button to cancel the emissions test.



- Select “Diesel OBD” -arrow-.

Emissions Test Specified Data Input:

Specification data may be entered differently:

- ◆ 1. Manually
- ◆ 2. Via barcode input from emissions testing data sheet
- ◆ 3. through ELSA Web service



Note

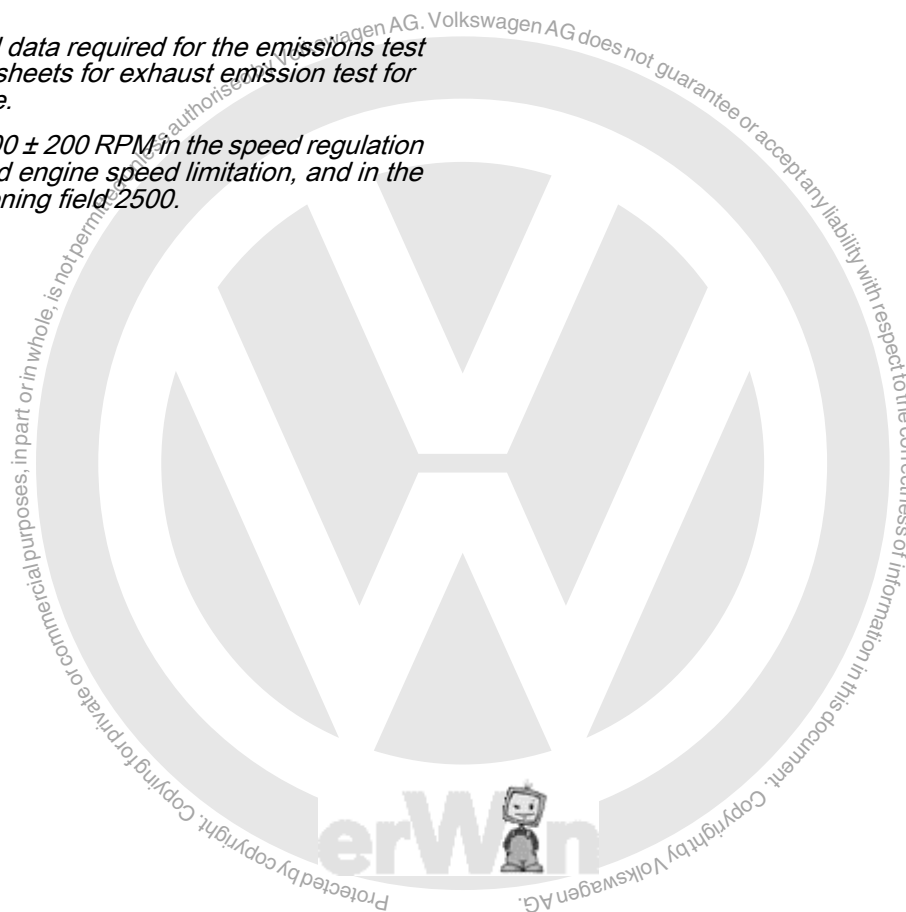
- ◆ If there is no **ESP** for deactivating the engine speed limitation is available, the measurement of the speed regulation can also be performed using the speed limited by the control module. For this the emissions test specified data entry be done manually.
- ◆ In order to be able to use ELSA web service, the Vehicle Diagnostic Tester used for the emissions test must be integrated in the workshop network.
- ◆ When using ELSA Web service, the vehicle specification data is automatically transferred via the network into the appropriate form.

Manual Emissions Test Specified Data Input:



Note

- ◆ All test requirements and data required for the emissions test can be found on ⇒ Data sheets for exhaust emission test for the corresponding engine.
- ◆ Input the values Wert 2500 ± 200 RPM in the speed regulation field on a non-deactivated engine speed limitation, and in the speed (RPM) for conditioning field 2500.





- Follow the instructions on the display for manual data input.
- Enter the indicated values on the emissions testing data sheet “test values for the emissions test” on the display in the following sequence:

- 1 - Speed for Conditioning
- 2 - Number of Throttle Bursts for Conditioning
- 3 - Engine Oil Temperature (Minimum Value)
- 4 - Select Method for Measuring Engine Oil Temperature
- 5 - Idle Speed
- 6 - Speed Regulation
- 7 - Speed Regulation Measured Time (1 second)
- 8 - Emissions Value (Arithmetical Mean)
- 9 - Select Sensor Type (Sensor Number)
- 10 - Select Measuring Mode
- 11 - Measurement Time Amount

- Press the button -arrow- once all the data has been entered correctly.

Emissions test specified data input as bar code:

- If the emissions test specified data is available as a bar code, scan in the bar code of emissions testing data sheet using bar code reader.

The display -1- with all the required data appears on the screen.

- Press the button -arrow- to continue the procedure.

Visual inspection:

- Follow the instructions on the display.
- Visually inspect all emissions-related components.
- Check the exhaust system for completeness, leaks and damage.
- If visual inspection is OK, press “OK” button -arrow-.



Note

Testing is started by pressing the NOT OK button.

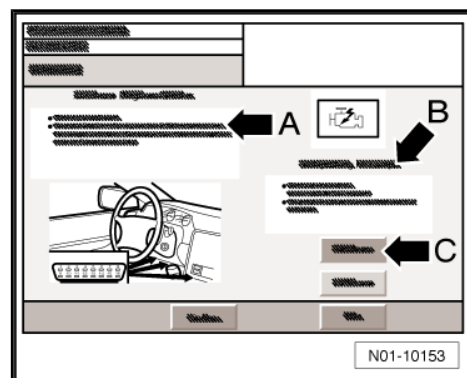
Diagnostic Connector, Connecting

- Ignition is switched off.



In the visual inspection display, it is requested that the Data Link Connector (DLC) be connected -arrow A-, and that the malfunction indicator lamp be checked -arrow B-.

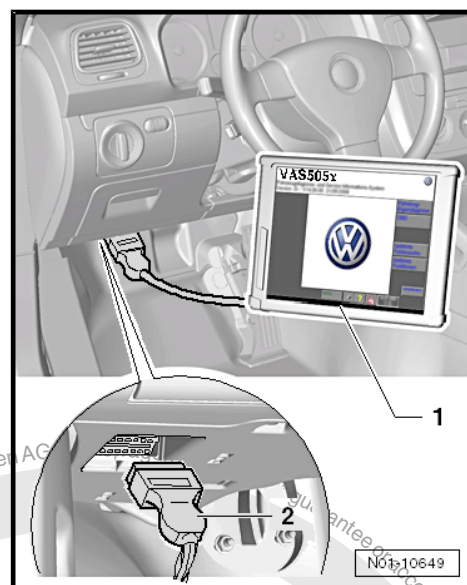
- Follow the instructions on the display.



- Connect the diagnostic cable connector to the EOBD connection.

Visual Inspection of Malfunction Indicator Lamp with Engine Off:

- Turn on the ignition.
- Visually inspect the malfunction indicator lamp.



- When the lamp turns on, press the button “Lamp ON” -arrow C-.

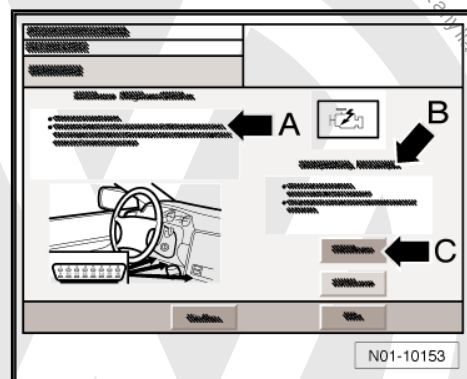


Note

If the malfunction indicator lamp does not come on during the visual inspection, the result of the emissions is “failed”.

Visual Inspection of Malfunction Indicator Lamp with Engine Running:

- Start the engine and confirm the engine is running via “Yes” on the display.
- Visually inspect the malfunction indicator lamp. The lamp must no longer turn on or blink.





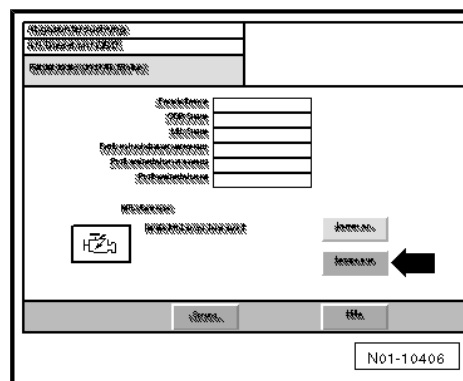
- Confirm the malfunction indicator lamp -arrow B- condition.

The program automatically advances to the test-readiness check.


Here it is examined whether all of the control module supported test readiness tests have been run through.

Conditioning:

During the conditioning phase, the engine and any emissions control system are brought to operating temperature via throttle bursts and are thus prepared for the emissions test.



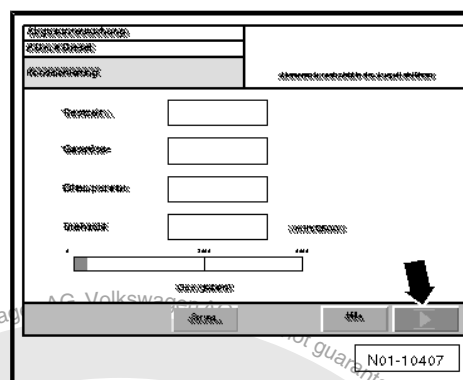
- Follow the instructions on the display.
- Maintain the engine speed in the required RPM range.

If no further conditioning is required, press the  button -arrow- to advance to the next measurement.

Reading engine temperature:

The engine temperature is read out from the engine control module via the diagnostic connector.

After reaching the required engine temperature, the program automatically advances to the display for measuring the idle speed.





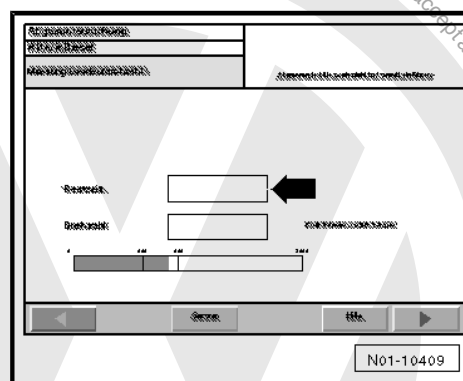
Idle speed measurement:

- Follow the instructions on the display.

Measurement begins when engine speed has reached the necessary level.

Note

- ◆ Do not insert the exhaust probe into the tail pipe yet.
- ◆ Use the  button to bypass the measurement, that is, it failed the Emissions Test.
- ◆ Use the  button to reset the measured values and then repeat the test.



- Maintain the engine speed in the required RPM range.

The remaining time for performing the measurement is displayed -arrow-.

Speed Regulation Measurement:



The program automatically advances to the display for measuring the speed regulation.

Measurement begins when engine speed has reached the necessary level.

- Press the accelerator pedal until the measurement is completed. To do so, press the accelerator pedal downward immediately.




Note

- ◆ If the engine speed limitation is set, then deactivate it for the emissions test:
- ◆ Turn on the ignition and then press the **ESP** button until the corresponding symbol in the instrument cluster blinks.
- ◆ If there is no **ESP** for deactivating the engine speed limitation is available, the measurement of the speed regulation can also be performed using the speed limited by the control module.

The remaining time for performing the measurement is displayed -arrow-.



Note

- ◆ Do not insert the exhaust probe into the tail pipe yet.
- ◆ Use the  button to bypass the measurement, that is, it failed the Emissions Test.

Fresh Air Comparison:

A fresh air comparison is performed before free acceleration. The exhaust probe must never be in the tail pipe for this. Otherwise, measurement errors or error messages may result during the following measurements.

- After completing the fresh air comparison, insert the exhaust probe into the tail pipe.

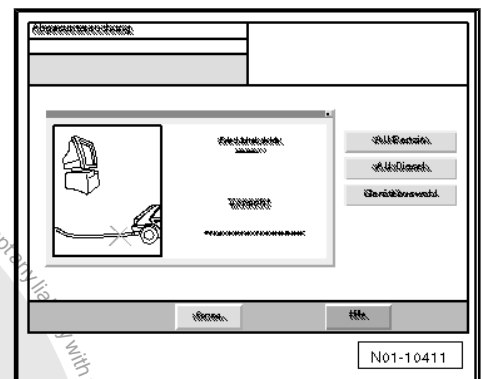
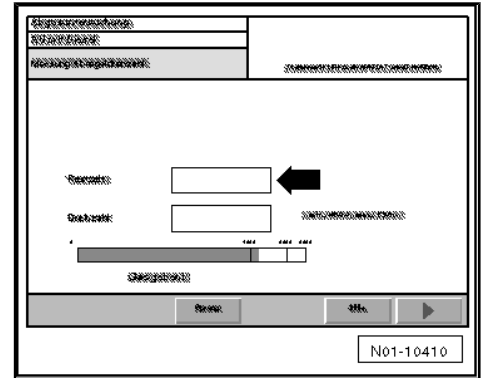
Free Acceleration:

The program automatically advances to the display for “Free acceleration”.

During “free acceleration”, the engine is accelerated without load as quickly as possible to the speed regulation.

The “free acceleration” test consists of a minimum of four individual accelerations.

Free Acceleration - Phase 1:






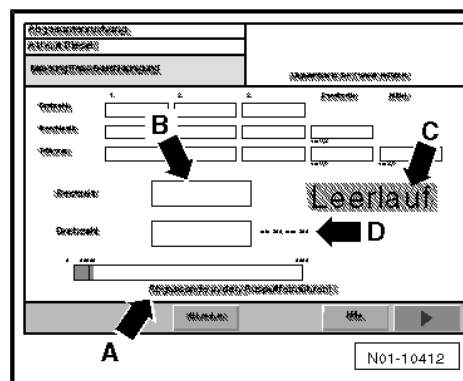
- Follow the instructions on the display -arrow A- and -arrow C-.
- Hold idle speed in the specified RPM range -arrow D-.

The remaining time for completing the measurement is displayed -arrow B-.



Note

- ◆ The exhaust probe must be in the tail pipe.
- ◆ If the speed deviates from the speed range entered, the measurement begins again.
- ◆ Use the  button to bypass the measurement, that is, it failed the Emissions Test.



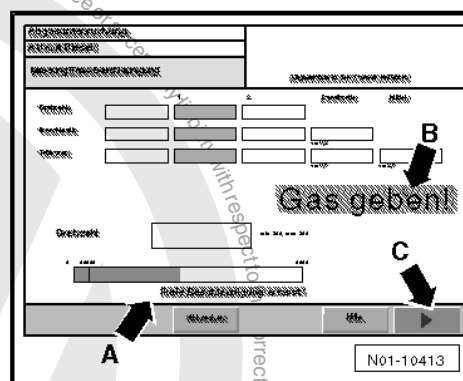
Free Acceleration - Phase 2:

- Follow the instructions on the display -arrow B-.
- When prompted to accelerate, press the accelerator pedal all the way down and hold until the prompt to idle appears on the display.

Free Acceleration - Phase 3:

- Take the foot off the accelerator pedal as soon as the prompt for idle is shown on the display -arrow B- and let engine run at idle.

The measurement result as well as information about the previously performed "free acceleration" appears on the display -arrow A-. If the tested values are not OK, information on what caused the "Free Acceleration" to fail can be obtained here.



Note

- ◆ A white field colored field indicates that the measured value is within the tolerance range.
- ◆ A red field colored field indicates that the measured value is outside the tolerance.
- ◆ A yellow colored field indicates that the measured value is outside the tolerance range. The operator can evaluate it.



Other individual accelerations:



- Follow the instructions on the display -arrow B-.

The next individual acceleration begins again with phase 1 of "Free Acceleration".

So many "free accelerations" can be performed until:

- ◆ three "Free Accelerations" behind each other have passed and the bandwidth of the acceleration is OK.
- ◆ all the values are OK except the acceleration range; and the  button -arrow C- is pressed to continue the test sequence. (The assessment of whether the value is OK is performed by the technician in this case.)
- ◆ the values are not OK and the measurement is ended/skipped by pressing the  -arrow C-.

If all measured values are OK after three consecutive throttle bursts, this means all fields are highlighted in white, indicating emissions test has passed.

Evaluation:

After the emissions test is completed, the log is displayed on the screen.

The test result is displayed.

At this point, explanations regarding the emissions test can be entered -arrow A-. They are then transferred into the test log.



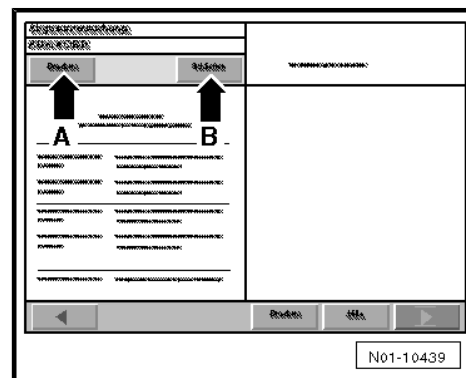
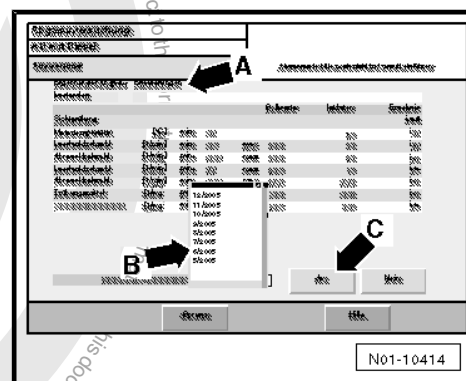
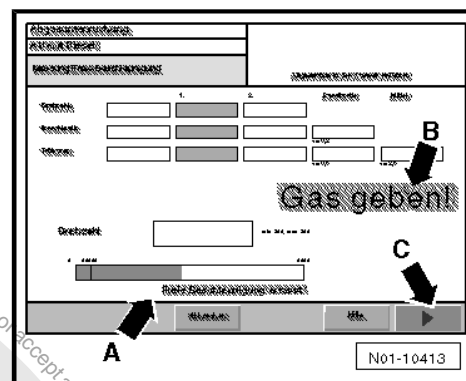
Note

- ◆ If the emissions test with engine speed limitation is performed, enter in the test report the following explanation.
- ◆ "The measurement of the speed regulation is performed with the automatic engine speed limitation of 2500 RPM."


- If the emissions test was passed, select grant emissions test certificate and the date in drop down menu -arrow B-.
- Then confirm with "Yes" -arrow C-.

The emissions test log is shown in the display and can be printed as many times as desired in the "print preview" menu via the "Print" button -arrow A-.

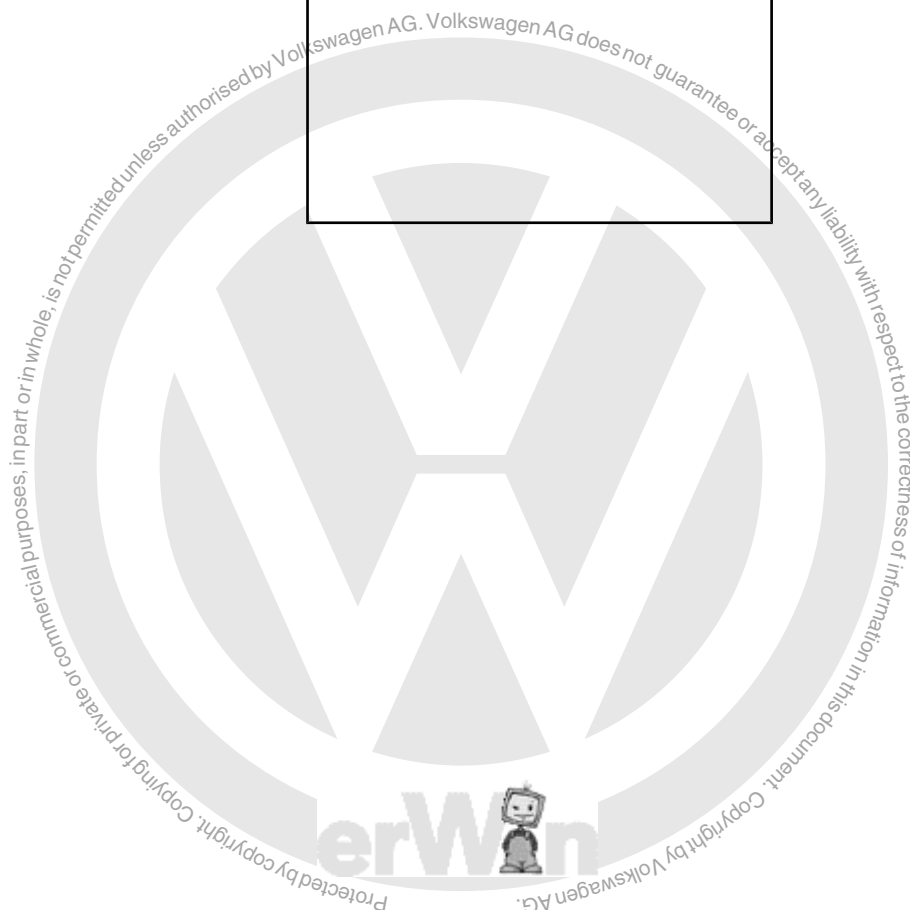
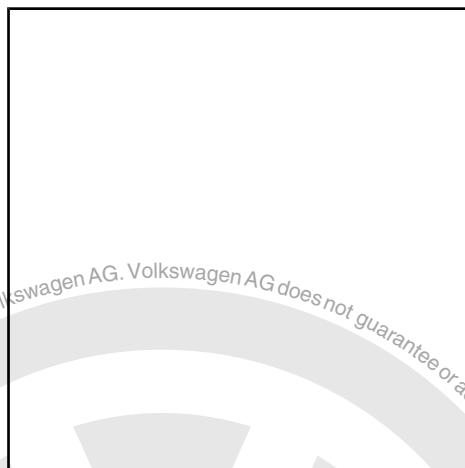
- Using "Close" button -arrow B-, the "Print Preview" menu is closed.
- Follow the instructions on the display.
- Remove the exhaust probe from the tail pipe.





- Press the  button -arrow B-.

The emissions test is completed. A new emissions test can be performed.





6 Glossary

These descriptions only apply to "Maintenance". They are not intended to be generally applicable!

Term	Description
ABS	ABS: the ABS is a regulation device in the brake system, that prevents the wheels from locking up while braking. Thereby, directional stability and steering ability are retained.
Automatic Transmission Fluid	Automatic Transmission Fluid: Gear oil for automatic transmissions.
AUS 32	Is the abbreviation for the English term "Aqueous Urea Solution" with 32.5 % urea, see AdBlue® ➔ page 241
Autogas ➔ page 241	Autogas, also known as propane, butane and their mixtures, which, at room temperature, remain a liquid under relatively low pressure (therefore also called low pressure gas) and serve as a fuel for gasoline engines. The mix gas is also called LPG.
AdBlue®	Is a created name. This fluid is also called "NOx reducing agent AUS 32", "AUS 32" or for the USA, "Diesel Exhaust Fluid". AdBlue® is a clear water/urea solution, is used for treating exhaust gas and to reduce nitrogen oxide and particles. AdBlue® is a registered trademark of the Automobile Manufacturers Association (VDA) in the USA, Germany, the European Union and other countries. The AdBlue urea solution is not mixed with diesel fuel but rather it has its own tank in the vehicle.
ATF level	"Fill height" of ATF in transmission.
CO	Carbon monoxide: results by incomplete combustion of fuels containing carbon
Common Rail "CR"	English term; refers to a shared high-pressure fuel injection line "Rail", that supplies fuel to all cylinders of a respective cylinder bank.
Diesel Exhaust Fluid	Name in the USA, for NOx reducing agent AUS 32 or AdBlue®
DIN	Deutsches Institut für Normung e.V. (German Institute for Standards)
DS	Direct shift
DSG®	Direct shift transmission
DWA	Anti-Theft Alarm System
ET-No.	Part number abbreviation
EN	Euro-Norm
EOBD	Euro On Board Diagnostic (OBD)
ESP	Electronic stabilization program (it prevents the vehicle from sliding by applying the brakes through the electronic engine management).
FAME	Fatty Acid Methyl Ester
FSI	Fuel Stratified Injection; concerns the fuel injection
IGG	Instandhaltung genau genommen (Maintenance)
LongLife Service	The LongLife service makes it possible to have extremely long inspection and oil change intervals, depending on individual driving habits and operating conditions. A special engine oil is required for LongLife Service.
LED	Light Emitting Diode
LPG ➔ page 241	LPG (Liquified Petroleum Gas), also known as propane, butane and their mixtures, which remain a liquid under relatively low pressure (therefore also called low pressure gas) at room temperature and serve as fuel for gasoline engines in vehicles. The mixed gas is also called Autogas.
MIL	Malfunction Indicator Light; American term for the Malfunction Indicator Lamp -K83-
MPI	Multi Point Injection



Term	Description
USA and Canada	within North America
NO _x reduction agent AUS 32	For urea-water solution complying to DIN ISO 22241-1, see also AdBlue® ⇒ page 241
NO _x reducing agent AUS 32	For urea-water solution complying to DIN ISO 22241-1, see also AdBlue® ⇒ page 241
OBD	On Board Diagnostic: OBD monitors all components which influence the emission quality
OBD-II	American On Board Diagnostic (OBD)
PD	PD unit on diesel engines
PR number	Abbreviation for the production control number They identify special equipment, differences for specific countries among other things
PM	English: particulate matter; soot particle value of Diesel engine emissions
QG0	Vehicles that are "not" equipped at the factory with the components for LongLife service. Time and distance dependent intervals (fixed intervals) apply for maintenance.
QG1	Vehicles equipped at the factory with active LongLife service. That means vehicles have a flexible service interval display and are equipped with the following components: <ul style="list-style-type: none"> ◆ Flexible service interval display inside the instrument cluster ◆ Engine oil level sensor ◆ Brake pad wear indicator
QG2	LongLife service is not activated at the factory. This means, vehicles have a fixed service interval display (time and distance dependent maintenance intervals) and are equipped with the following components: <ul style="list-style-type: none"> ◆ Fixed service interval display in instrument cluster ◆ Engine oil level sensor ◆ Brake pad wear indicator
QG3	LongLife service is not activated at the factory. This means, vehicles have a fixed service interval display (time and distance dependent maintenance intervals) and are equipped with the following components: <ul style="list-style-type: none"> ◆ Fixed service interval display in instrument cluster ◆ Brake pad wear indicator
®	registered trademark
Readiness code	8-bit binary code, that displays if all exhaust gas relevant diagnosis was performed by the electronic engine management
RON	Research octane number: Measurement for the knock resistance of gasoline
DPF	Parcticulate filter
TPM, TPI	Tire pressure monitoring system, tire pressure monitoring system display
SAE	(Society of Automotive Engineers) Society that creates proposals / guidelines for how regulations can be transcribed (for example standards)
SCR	The Selective Catalytic Reduction (SCR) drastically reduces the amount of nitric oxide in the exhaust gas and uses a urea solution to change it into water vapor and nitrogen. A special urea solution, AdBlue®, is injected into the exhaust gas system by a special catalytic converter.
SD	Normally aspirated Diesel engine
SDI	Normally aspirated Diesel engine with direct injection
SRE	Multi-Port Fuel Injection
TFSI	Turbo (Fuel Stratified Injection) concerns the fuel injection
TSI	From MY 2008, the designation TFSI is discontinued and is replaced by TSI. Within the designation TSI, there is a separation as TSI-Turbocharger and TSI-Twincharger. <ul style="list-style-type: none"> TSI turbocharger: charging only with turbocharger TSI twincharger: charging with turbocharger and compressor
TGI	Charging with turbocharger and natural gas injection



Term	Description
TDI	Turbo Diesel engine with direct injection
VEP	Distributor injection pump
ULEV	Ultra Low Emission Vehicles
LongLife maintenance schedule	LongLife maintenance schedule
ASM	Assembly



Cautions & Warnings

Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Volkswagen retailer or other qualified shop. We especially urge you to consult an authorized Volkswagen retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Volkswagen.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Volkswagen is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Volkswagen retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.
- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.
- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.



Cautions & Warnings

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly; do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Volkswagen specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.
- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Volkswagen Service technicians should test, disassemble or service the airbag system.

Cautions & Warnings

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Volkswagen Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

I have read and I understand these Cautions and Warnings.

