Brake fluid

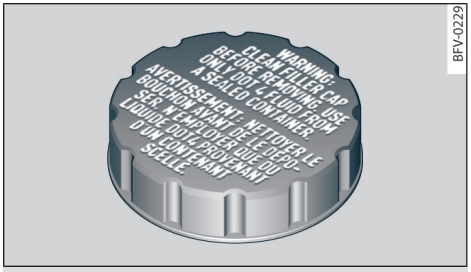

Fig. 148 Front compartment: brake fluid reservoir cover

Observe the safety precautions ⇨ *page 233, General information*.

Checking the brake fluid level

The brake fluid reservoir is located under a protective cover on the driver's side.

- ▸ Park the vehicle on a level surface.
- ▸ Lift the protective cover up ⇨ *page 236*.
- ▸ Read the brake fluid level on the brake fluid reservoir ⇨ *page 236, fig. 146*. The brake fluid level must be between the MIN and MAX markings ⇨ ⚠.
- ▸ Reinstall the protective cover ⇨ *page 236*.

The brake fluid level is monitored automatically.

Messages

The following messages may appear depending on the vehicle equipment:

BRAKE / Brakes: stop vehicle and check brake fluid level

Stop the vehicle and check the brake fluid level. See an authorized Audi dealer or authorized Audi Service Facility for assistance.

Changing the brake fluid

Brake fluid should be changed at regular intervals. Have the brake fluid changed by an authorized Audi dealer or authorized Audi Service Facility. The authorized Audi dealer or authorized Audi Service Facility will inform you of the replacement intervals.

WARNING

- – If the brake fluid level is below the MIN marking, it can impair the braking effect and driving safety, which increase the risk of an accident. Do not continue driving. See an authorized Audi dealer or authorized Audi Service Facility for assistance.
- – If the brake fluid is old, bubbles may form in the brake system during heavy braking. This could impair braking performance and driving safety, which increases the risk of an accident.
- – The brake fluid in your vehicle must meet the standard VW 501 14 and is available at an authorized Audi dealer or authorized Audi Service Facility. If this brake fluid is not available, another high-grade brake fluid of equivalent quality may be used, and it must meet the U.S. Federal Motor Vehicle Standard (FMVSS) 116 DOT 4, Class 6.

Note

- – If the brake fluid level is above the MAX marking, brake fluid may leak out over the edge of the reservoir and result in damage to the vehicle.
- – Do not allow any brake fluid to come into contact with the vehicle paint, because it will corrode the paint.

Electrical system

The following messages may appear depending on the vehicle equipment:

If the / or indicator light turns on, there is a malfunction in the power supply, the battery, or the vehicle electrical system.

/ Electrical system: malfunction! Safely stop vehicle

Do not continue driving and switch the ignition off ⇨ ⚠. See an authorized Audi dealer or authorized Audi Service Facility for assistance.

Electrical system: malfunction! Restart not possible. Please contact Service ▸

If you switch the ignition off, you will not be able to restart the vehicle. Vehicle functions or driving stability may be limited. Drive to an authorized Audi dealer or authorized Audi Service Facility immediately.

Electrical system: malfunction! Please contact Service

Switch off all electrical equipment that is not needed. If necessary, some equipment will be switched off automatically. Vehicle functions or driving stability may be limited. Drive to an authorized Audi dealer or authorized Audi Service Facility immediately.

Electrical system: low battery charge. Battery will be charged while driving

– If this message turns off after a little while, the vehicle battery has been charged enough by the high-voltage battery while driving.
– If the message does not turn off, drive immediately to an authorized Audi dealer or authorized Audi Service Facility to have the malfunction repaired.

WARNING

When there is an electrical system malfunction, vehicle functions may not work and driving stability may be limited, which increases the risk of an accident. Do not continue driving and switch the ignition off. See an authorized Audi dealer or authorized Audi Service Facility for assistance.

Battery

Battery general information

Because of the complex power supply, all work on batteries such as disconnecting, replacing, etc., should **only** be performed by an authorized Audi dealer or authorized Audi Service Facility ⇨ ⚠.

Batteries with different technologies are installed in your vehicle:

– 12 volt vehicle battery (for example, for basic power supply) ⇨ *page 240, Safety precautions* or ⇨ *page 241, 12 volt vehicle battery*
– High-voltage battery (for example, for electric drive system, climate control) ⇨ *page 105, Introduction*

Not running the vehicle for long periods of time

If the vehicle is left parked for long periods of time, the 12 volt vehicle battery will drain gradually. To ensure that the vehicle can still be started, the electrical equipment will be limited or switched off. Some convenience functions, such as interior lighting or power seat adjustment, may not be available under certain circumstances. The convenience functions will be available again when you establish drive ready mode.

Even when electrical equipment is switched off, the equipment can still drain the battery if the vehicle is not driven for long periods of time. Deep draining results in a chemical reaction that destroys the inside of the battery. To maintain functionality, charge the 12 volt lithium battery approximately every six weeks or connect a battery maintainer suitable for lithium batteries that uses a CC/CV or purely CV function ⇨ *page 242*. Contact an authorized Audi dealer or authorized Audi Service Facility for more information.

Winter operation

Cold weather places an especially high load on the 12 volt vehicle battery. Have the battery checked by an authorized Audi dealer or authorized Audi Service Facility before cold weather begins.

Replacing the battery

Applies to: 12 volt vehicle battery

All work on the battery must **only** be performed by an authorized Audi dealer or authorized Audi Service Facility.

The 12 volt vehicle battery was developed based on the installation location and is equipped with safety features. If a 12 volt vehicle battery must be replaced, ask your authorized Audi dealer or authorized Audi Service Facility about the electromagnetic compatibility, size, and the necessary maintenance, power, and safety standards for the new 12 volt vehicle battery. The battery vent ▶

of the 12 volt vehicle battery must always be on the negative terminal side. The battery vent on the positive terminal side must always be closed.

WARNING

– All work on the battery or electrical system in your vehicle can result in injuries, chemical burns, accidents, or burns. Because of this, all work must be performed **only** by an authorized Audi dealer or authorized Audi Service Facility.
– Always have an authorized Audi dealer or authorized Audi Service Facility replace the 12 volt vehicle battery, because and adaptation must be performed on the vehicle electrical system when the battery is replaced. Only an authorized Audi dealer or authorized Audi Service Facility has the necessary technology to perform the adaption correctly. Otherwise, there could be a loss of safety-related functions among other things, which increases the risk of an accident.

WARNING

California Proposition 65 Warning:
– Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harms. Wash hands after handling.

Note

– Always have an authorized Audi dealer or authorized Audi Service Facility replace the 12 volt vehicle battery, because and adaptation must be performed on the vehicle electrical system when the battery is replaced. Only an authorized Audi dealer or authorized Audi Service Facility has the necessary technology to perform the adaption correctly.
– Using unsuitable batteries may void the vehicle's operating license.

For the sake of the environment

Batteries must be disposed of using methods that will not harm the environment. Do not dispose of them in household trash. They contain harmful substances and recyclable raw materials. Contact an authorized Audi dealer or authorized Audi Service Facility for more information.

Safety precautions

Explanation of warning symbols:

	Observe all warnings - there is a risk for injury!
	Always follow the instructions in the operating manual.
  	High voltage! The voltage in the high-voltage system is high enough to cause fatal injuries. Touching a damaged high-voltage component can result in a fatal electric shock.
	Electrolyte fluid is highly corrosive. Always wear protective gloves and eye protection. **First aid**: if electrolyte fluid enters the eyes, immediately flush with clean water for several minutes. Seek medical attention immediately. Immediately neutralize electrolyte fluid on the skin or clothing using a soap solution and rinse with plenty of water. If electrolyte fluid is accidentally ingested, seek medical attention immediately.
	Always wear eye protection.
	If electrolyte fluid enters the eyes, immediately flush with clean water for several minutes. Seek medical attention immediately.
	Fire, sparks, open flame, and smoking are prohibited. Avoid creation of sparks and short circuits when handling cables and electrical devices.
	The high-voltage battery is flammable. The high-voltage battery must never be exposed to fire, sparks, or open flame. Always handle the high-voltage battery with care to reduce the risk of damage and leaking fluids.

▶

	Always keep children away from battery electrolyte fluid and the battery.
	Applies to: high-voltage battery: Handling the high-voltage battery incorrectly can lead to serious injuries or death. Never remove the cover from the high-voltage battery and never disassemble the high-voltage battery.
	Applies to: high-voltage battery: Handling the high-voltage battery incorrectly can lead to serious injuries or death. The high-voltage battery must only be serviced by qualified and trained technicians. Never make modifications to the high-voltage battery. If the high-voltage battery is open, it must not come into contact with water or other liquids. Liquids may cause short circuits, electric shocks, and burns. Have the high-voltage battery replaced only by an authorized Audi dealer or authorized Audi Service Facility. Audi recommends an authorized Audi dealer or authorized Audi Service Facility, because these locations have trained personnel and the required parts and tools.

	Applies to: 12 volt lithium battery: Have maintenance work performed only by an authorized Audi dealer or authorized Audi Service Facility. Have the 12 volt lithium battery replaced only by an authorized Audi dealer or authorized Audi Service Facility. Audi recommends an authorized Audi dealer or authorized Audi Service Facility, because these locations have trained personnel and the required parts and tools. Never try to replace the 12 volt lithium battery yourself. The 12 volt lithium battery in this vehicle may only be replaced with a 12 volt lithium battery designed by Audi specifically for this vehicle. Using other 12 volt lithium or lead batteries will result in considerable malfunctions or even total failure of the electrical system. Never make modifications to the lithium battery. If the lithium battery is open, it must not come into contact with water or other liquids. Liquids may cause short circuits, electric shocks, and burns.
	A highly explosive mixture of gases can form when charging batteries.

WARNING

All work on the batteries must **only** be performed by an authorized Audi dealer or authorized Audi Service Facility.

– Gases that escape from these batteries can be poisonous or flammable.
– The contents of these batteries can be corrosive. If any battery contents come into contact with the skin, flush the affected area for at least 15 minutes with clean water. Then wash the affected area with soap. Have the affected area examined by a medical professional.

12 volt vehicle battery

The 12 volt vehicle battery is a lithium battery. If the charge level becomes low, it will be automatically separated from the vehicle electrical system. The vehicle cannot be operated if the 12 ▶

volt battery is drained. The electrical system will be deactivated temporarily.

The charged high-voltage battery supplies the 12 volt vehicle battery. If the high-voltage battery drains while the vehicle is parked for a long period of time, the supply to the 12 volt battery will be interrupted and the 12 volt battery will drain as well.

Note the warning messages about this.

To charge the 12 volt battery, read and follow:

– Charging the battery ⇨ *page 242*

If the 12 volt battery is drained in the case of a breakdown, please note:

– Supply the battery with power from external sources (jump starting/starting assistance) ⇨ *page 279*.
– Power should be supplied to the 12 volt battery from an external source for at least 5 minutes. The 12 volt battery will be automatically connected to the vehicle electrical system again.
– Then establish drive ready mode.
– After establishing drive ready mode, the 12 volt battery must be charged for at least 10 minutes using a charger. Then the electrical system will reactivate automatically.

If there is a repeated need for the 12 volt battery to have power supplied from external sources or to be charged while operating under normal operating conditions, this may indicate that the 12 volt battery is damaged.

WARNING

In rare cases, damage to the 12 volt lithium battery or incorrect handling can result in the risk of electrolyte fluid and toxic gases escaping.

– Avoid inhaling the gases or allowing electrolyte fluid to come into contact with the skin.
– Keep people away and on the upwind side.
– Only charge the 12 volt battery in well-ventilated areas.

Charging the 12 volt vehicle battery

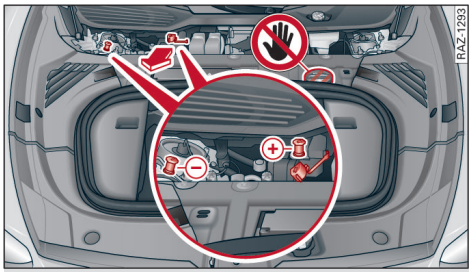

Fig. 149 Front compartment: connectors for a charger or jump start cables

Observe the safety precautions ⇨ *page 233, General information*, ⇨ ⚠ *in Battery general information on page 240* and ⇨ ⚠ and ⇨ (!).

Requirement: only use chargers with a **maximum charging current of 14.8 volts** ⇨ (!). The battery cables remain connected.

The charging cable connections are located in the front compartment under a protective cover. The ground point (−) is always located on the vehicle body.

▸ Switch off the ignition and all electrical equipment.
▸ Open the hood ⇨ *page 234*.
▸ Lift the protective cover up ⇨ *page 236*.
▸ Remove the cover forward from the positive terminal ⇨ *fig. 149*.
▸ Clamp the charger terminal clamps to the jump start pins according to the instructions. (Hex head bolt under a cover (+), ground point on the vehicle body (−)).
▸ Insert the power cable for the charger into the socket and switch the charger on.
▸ At the end of the charging process, switch the charger off and pull the power cable out of the socket.
▸ Remove the charger terminal clamps.
▸ Slide the cover back onto the positive terminal.
▸ Reinstall the protective cover ⇨ *page 236*.
▸ Close the hood ⇨ *page 234*.

WARNING

– Never connect a charging cable or jump start cable directly to the 12 volt vehicle ▶

battery. Only use the connections in the front compartment ⇨ *page 242*.
– A highly explosive mixture of gases can form when charging batteries. Only charge the battery in well-ventilated areas.
– Do not connect or disconnect the charging cable while charging because this increases the risk of an explosion.
– Using boosters or unapproved chargers can cause the booster to catch fire and increase the risk of injury.

Note

Using boosters or unapproved chargers can result in irreversible battery damage. This can cause irritating gases to escape. Significant damage to the vehicle and chemical burns could result, or the booster that is used can catch fire.
– Do not use any boosters.
– Only use chargers that are approved by the device manufacturer for LiFePO4 batteries with integrated protective electronics.
– Never exceed the following maximum values:
– Charging voltage maximum 14.8 volts (even in the event of a fault with the battery disconnected; no voltage spikes are permitted).
– Charging current maximum 90 A

Tips

Read all of the manufacturer's instructions for the charger before charging the battery.

Windshield washer system

Fig. 150 Front compartment: washer fluid reservoir cover

Observe the safety precautions ⇨ *page 233, General information*.

The washer fluid reservoir contains the washer fluid ⇨ *fig. 150*, ⇨ *page 236*. The reservoir capacity can be found in ⇨ *page 294*.

To reduce the risk of lime scale deposits on the spray nozzles, use clean water with low amounts of calcium. Always add window cleaner to the water. When the outside temperatures are cold, an anti-freezing agent should be added to the water so that it does not freeze.

Messages

The following messages may appear depending on the vehicle equipment:

Please add washer fluid

Fill the washer fluid with the ignition switched off.

Note

– The concentration of anti-freezing agent must be adjusted to the vehicle operating conditions and the climate. A concentration that is too high can lead to vehicle damage.
– Never add radiator anti-freeze or other additives to the washer fluid.
– Do not use a glass cleaner that contains paint solvents, because this could damage the paint.