Vehicle battery

BATTERY WARNING SYMBOLS

On the battery label, the warning signs are as follows:



No smoking, no naked flames, no sparks. The battery may emit explosive gas.



Keep away from children to prevent the risk of injury.



Shield eyes with suitable eye protection to reduce the risk of injury from acid splashes.



Battery acid is extremely corrosive and toxic.



Explosive gas may cause explosion or fire.

BATTERY CARE

WARNINGS

Do not allow the battery electrolyte (fluid) come into contact with your skin or eyes. It is both corrosive and toxic, and the resulting injuries can be severe. If any electrolyte does come into contact with your skin or eyes, immediately rinse the affected area with clean, cold water. Immediate medical advice will be required.

If battery electrolyte comes into contact with your skin and/or clothes you should remove the affected clothing and flush the skin with copious amount of water. Seek medical assistance immediately.

If battery electrolyte comes into contact with your eyes, flush with copious amounts of clean cold water. Seek medical assistance immediately and continue to flush with water.

If swallowed, battery electrolyte can be fatal. Seek medical assistance immediately.

WARNINGS

Do not connect any 12 volt equipment directly to the battery terminals. Doing so may cause a spark, which can result in an explosion.

The cell plugs and vent pipe must be in place at all times when the battery is connected to the vehicle. Ensure that the vent pipe is clear of obstructions and not kinked. Failure to do so may cause a pressure build up in the battery, which can result in an explosion.

Do not expose the battery to a naked flame or spark as the battery produces explosive, flammable gas.

Never jump start (boost) or charge, a frozen battery. Doing so can result in an explosion.

Remove all metal jewellery before working on, or near the battery, and never allow metal objects or vehicle components to come into contact with the battery terminals. Metal objects can cause a spark and/or short circuit, which can result in an explosion.

Do not allow the battery posts or terminals to come into contact with your skin. They contain lead and lead compounds which are toxic. Always wash your hands thoroughly after handling the battery.

CAUTIONS

Do not allow battery electrolyte to come into contact with fabric or painted surfaces. Battery electrolyte is both corrosive and toxic and can damage a wide range of materials. If battery electrolyte comes into contact with any surface, wash it down immediately with copious amounts of clean water.

Vehicle battery

Your vehicle is fitted with a low maintenance battery.

In hot climates more frequent checks of the battery electrolyte level and condition are required. If necessary, the battery cells can be topped up using distilled water.

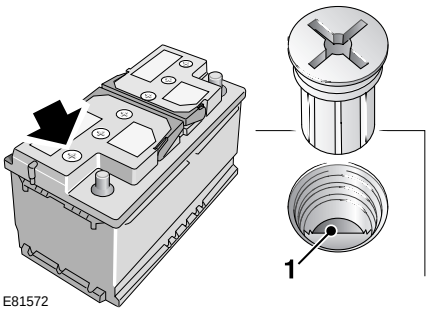
The exterior of the battery should be wiped clean occasionally to remove any dirt or grease.

If a new battery is to be fitted, it must be the same type as the original. The use of unapproved batteries is not recommended and could invalidate the vehicle warranty.

We recommend that the battery charge is checked frequently if the vehicle is used mostly for short distance trips or if it is not used for long periods of time.

Note: *The service life of the battery is dependent on its condition of charge. It must always be sufficiently charged for the battery to last an optimum length of time.*

Check and replenish battery electrolyte



Unscrew the six cell plugs and store carefully.

Check that the surface of the liquid (electrolyte) is level with the plastic level indicator **1**. If necessary, top up with distilled water, but never overfill. Refit the six cell plugs.

Note: *In normal climates this check must be carried out at least once a year. During hot weather or in hot climates the electrolyte level must be checked at least every three months.*

Note: *If light is required to inspect the electrolyte level, use only a small electric flashlight, never a naked flame.*

USING BOOSTER CABLES

WARNINGS

During normal operation batteries emit explosive hydrogen gas - ensure sparks and naked flames are kept away from the engine compartment.

Make sure both batteries are of the same voltage (12 volts), and that the booster cables have insulated clamps and are approved for use with 12 volt batteries.

Do not connect positive (**+**) terminals to negative (**-**) terminals.

Do not attempt to start the vehicle if the electrolyte in the battery is suspected of being frozen.

Do not disconnect the discharged battery.

Take care when working near rotating parts of the engine. Ensure cables are kept well clear.

CAUTIONS

Do not use a 24 volt booster start system. These produce excessive voltage and can damage the vehicles electrical system.

Do not push or tow start a vehicle with a discharged battery.

Boosting from another vehicle

If a donor vehicle is to be used, park it so that the battery location is adjacent, but make sure the two vehicles do not touch.

Apply the electric parking brake and ensure that the transmission of both vehicles is set in neutral (Park for vehicles with automatic transmission).

Turn off the starter switch and all electrical equipment in both vehicles.

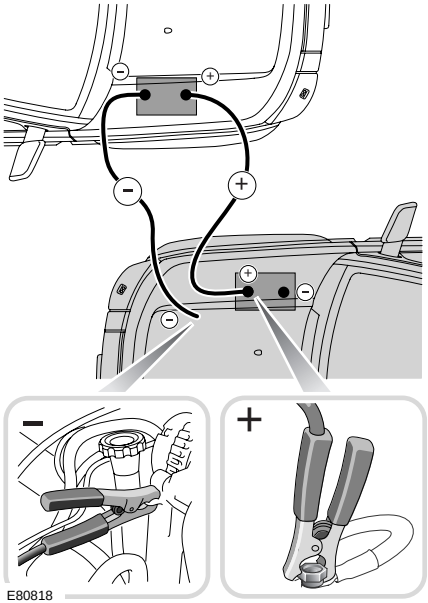
Note: *Before connecting booster cables ensure that the battery connections on the disabled vehicle are correct and that all electrical equipment has been switched off.*

Boosting procedure

WARNINGS

Do not connect the black cable to the negative terminal of the discharged battery. If in doubt, seek qualified assistance.

Ensure that each connection is securely made and that there is no risk of the clips accidentally slipping or being pulled from the connection points/battery terminal - this could cause sparking, which could lead to fire or explosion.



The discharged battery is in the shaded vehicle in the illustration above.

Always make sure the cables are connected in the order shown below:

1. Connect one end of the positive booster cable to the positive (**+**) terminal on the donor vehicle's battery.
2. Connect the other end of the positive booster cable to the positive (**+**) terminal on the disabled vehicle's battery.
3. Connect one end of negative (**-**) booster cable to the negative (**-**) terminal on the donor vehicle's battery.

4. Connect the other end of the negative (-) booster cable to a suitable earth point on the disabled vehicle. The earth point should be at least 0.5m (20 in.) away from the battery and as far as possible from any fuel or brake pipes.
5. Check that the cables are clear of any moving components and that all four connections are secure.
6. Start the vehicle of the donor vehicle and allow it to idle for a few minutes.
7. Start the engine of the disabled vehicle.
8. Allow both vehicles to idle for two minutes.
9. Switch off the donor vehicle.

Disconnecting the cables

WARNINGS

To avoid serious injury, use extreme caution when removing the booster cables as the engine will be running on the previously disabled vehicle. This means that you will be working close to components which are moving at high speed, carry high voltage, or may be hot.

Note: *Do not switch on any electrical circuits on the previously disabled vehicle until after the booster cables have been removed.*

The engine should be running on the previously disabled vehicle and the engine switched off on the donor vehicle. Disconnect the booster cables in the exact reverse order to that used for connection.

CHARGING THE VEHICLE BATTERY

WARNINGS

Ensure that the correct type and rating of charger is used. Using an unsuitable charger may damage the battery and could cause the battery to explode.

WARNINGS

Always charge the battery in a well ventilated area away from any naked flames, sparks or other ignition sources. During charging the battery can produce a highly explosive and flammable gas.

CAUTIONS

The battery must be disconnected and removed from the vehicle before charging. Failure to do so could result in damage to the vehicle's electrical system.

Always follow the instructions supplied with the battery charger. Failure to do so may result in damage to the battery.

Always heed the following precautions:

- Before charging, disconnect and remove the battery from the vehicle. Charging the battery with the cables connected may damage the vehicle's electrical system.
- The battery charger leads must be securely clamped to the battery terminals before switching on the battery charger. Do not move the leads after the charger is switched on.
- Switch off the battery charger before disconnecting the leads from the battery terminals.

  After charging, leave the battery for one hour before reconnecting it. This will minimise the risk of fire or explosion.

Note: *Be aware that a battery will take longer to charge in a cold environment.*

1. Disconnect the battery and remove it from the vehicle.
2. Connect the battery charger in accordance with the charger manufacturer's instructions.
3. Once the charge is complete switch off the power to the charger.

4. Disconnect the charger leads from the battery.
5. Allow the battery to stand for an hour before connecting to the vehicle. This will allow any explosive gases to dissipate and reduce the risk of explosion.

Battery warning indicator



The red warning indicator lamp in the instrument pack illuminates as a bulb check when the starter switch is turned to position **II** and extinguishes once the engine is running. If it remains on, or illuminates while driving, a fault with the battery charging system is indicated. Seek qualified assistance urgently.

CHANGING THE VEHICLE BATTERY

WARNINGS

Always remove the starter key before disconnecting the battery. Failure to do this may cause a failure of the airbag SRS.

Use caution when lifting the battery out of, or into, the vehicle. It is heavy and may cause injury when lifting or dropped.

Do not tilt the battery more than 45 degrees as it may cause damage and may cause the electrolyte to leak out. Battery electrolyte is highly corrosive and toxic.

If the battery leads are connected to the wrong terminals, the electrical system may be damaged.

CAUTIONS

Do not rest the battery on any part of the vehicle as it may cause damage due to its weight.

Do not run the engine with the battery disconnected. Doing so may damage the charging system.

1. Ensure that all electrical circuits are switched off, all windows are closed and the alarm is disarmed.
2. Remove the remote control from the vehicle and wait two minutes to allow the systems to power do fully.
3. Undo the negative clamp and lift the cable and clamp clear of the battery terminal.
4. Undo the positive clamp and lift the cable and clamp clear of the battery terminal.
5. Undo the battery clamp and lift the battery clear of the vehicle.

Effects of battery disconnection

Disconnecting the battery can affect a number of vehicle systems, especially if there is insufficient battery power prior to disconnection. For example, the alarm system may trigger depending on its state when the battery was disconnected. If the alarm does sound, use the remote control in the normal way to disarm the security system. The windows may need resetting to enable the one-shot feature to operate correctly. See **ELECTRIC WINDOWS** (page 108).

Battery replacement

Ensure that the battery sits with its terminal posts towards the rear of the vehicle, and that the clamping plate is secure. Tighten the clamping plate nuts until the clamping plate is free from movement (do not over tighten).

Replacement batteries

WARNINGS

Fit only a battery of the correct type and rating. Fitting an incorrect battery may result in a fire or damage to the electrical system. If you are in any doubt when fitting a battery, seek qualified assistance.

Petrol vehicles	H7 75 amp/hr
Diesel vehicles	H8 90 amp/hr

Battery disposal

Recycle used batteries. However, batteries are hazardous and must be disposed of correctly.

Note: *Used batteries must be disposed of correctly as they contain a number of harmful substances. Seek advice on disposal from your Dealer/Authorised Repairer or your local authority.*

REFITTING THE VEHICLE BATTERY

WARNINGS

Remove all metal jewellery before working on, or near, the battery, and never allow metal objects or vehicle components to come into contact with battery terminals. Metal objects can cause a spark and/or short circuit, which can result in an explosion.

CAUTIONS

Ensure that when fitting a battery to the vehicle, the terminals and battery clamps are clean and lightly coated with petroleum jelly. This will ensure good electrical connections are made and help prevent corrosion.

Always follow the battery manufacturer's instructions. Failure to do so may result in damage to the vehicle and/or the electrical system.

A new battery should be supplied with plastic terminal covers. Leave the covers in place when fitting the battery. Remove them one at a time to fit the battery cable clamps.

Refitting is an exact reversal of the removal procedure. If you are in any doubt about fitting a battery, seek qualified assistance before attempting to fit the battery.