

## Jump Starting

If the battery is discharged, the engine can be started with jumper cables and the (12 V) battery of another vehicle.

Proceed as follows:

1. Position the vehicle with the charged battery so that the jumper cables will reach, but never let the vehicles touch. Make sure the jumper cables do not have loose or missing insulation.
2. On both vehicles:
  - Turn off engine and all lights and accessories, except hazard flashers or work lights.
  - Apply parking brake and shift selector lever to position "P".
  - Be sure the battery vent caps are tight. Place a damp cloth over the vent caps, making certain it is clear of all moving parts.
3. First clamp one end of the first jumper cable to the positive (+) terminal on the charged battery and the other end to the positive (+) terminal on the discharged battery. Make sure the cable clamps do not touch any other metal parts.
4. Clamp one end of the second jumper cable to the grounded negative (-) terminal of the discharged battery and the final connection to a grounded heavy metal bracket in the engine compartment or on the engine of the vehicle with the charged battery. Make sure the cables are not on or near pulleys, fans, or other parts that will move when the engine is started.
5. Start engine of the vehicle with the charged battery and run at high idle. Then start engine of the disabled vehicle in the usual manner.
6. After the engine has started, remove jumper cables by reversing the above installation sequence exactly, starting with the jumper cable connected to a heavy metal bracket in the engine compartment of the vehicle with the charged battery. When removing each clamp, make sure that they do not touch any other metal while the other ends are still attached.

## Important!

A discharged battery can freeze at approx.  $-10^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$ ). In that case it must be thawed out before jumper cables are used.

Jumper cable specifications:

- Minimum cable cross-section of  $25\text{ mm}^2$  or approx. 2 AWG
- Maximum length of 3500 mm (11.5 ft).

## Warning!

**Never lean over batteries while jump starting, you might get burned.**

**Battery fluid contains sulfuric acid. Do not allow this fluid to come in contact with eyes, skin, or clothing. In case it does, immediately flush affected area with water, and seek medical help.**

**A battery will also produce hydrogen gas, which is flammable and explosive. Keep flames or sparks away from battery, avoid improper connection of jumper cables, smoking, etc..**