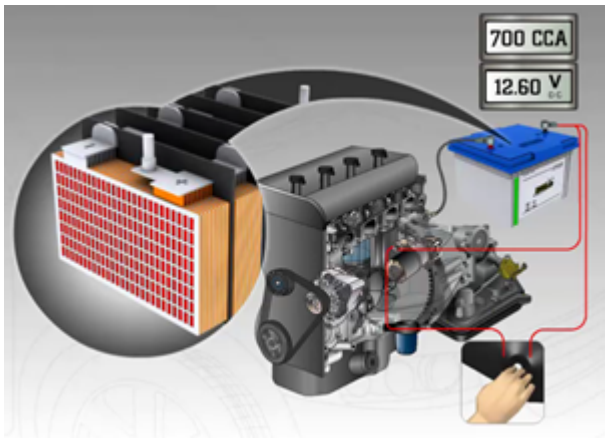
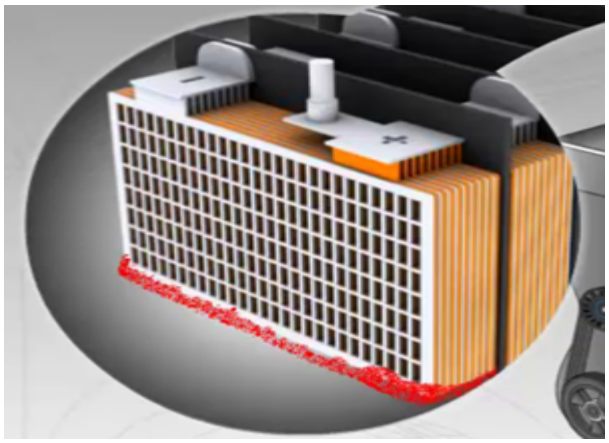
Battery



The battery stores power in alternating lead and lead oxide plates.



Over time, lead paste forms in the battery and the available power is depleted.

Batteries are made up of alternating plates of lead and lead oxide submerged in a bath of sulfuric acid. Each alternating plate is connected so that all the lead oxide plates are connected to each other and all the lead plates are connected to each other.

The lead plates react with the sulfuric acid to create lead sulfate plus free electrons. The free electrons find it easier to travel through the circuits and electrical devices of the vehicle rather than through the sulfuric acid in the battery; this powers the devices. After traveling through the wiring, the electrons combine with the lead oxide plates and the sulfate from the acid to create lead sulfate and water.

A completely discharged battery has only lead sulfate plates, and water in place of the sulfuric acid. By charging the battery, the reaction is reversed. Each time the battery is charged and discharged, a small amount of the active material (either lead paste or lead dioxide paste) that fills the grids on the plates disintegrates, and settles in the bottom of the battery. When the material is heavily depleted, the amount of power that can be stored in the battery declines. If the disintegrated material reaches the level of the plates, that cell of the battery will short circuit, and cease to function, dropping the total available battery voltage even further.