

August 2020

Keeping Batteries on the Straight & Level

A large number of the batteries we handle on a daily basis are flooded, which means that they are filled with electrolyte. This electrolyte is a mix of sulphuric acid and water, more commonly known as Battery Acid.

By design, each cell in a battery has enough electrolyte in it to cover the top of the plate groups as shown in Figure 1.



Figure 1 Electrolyte levels in a battery

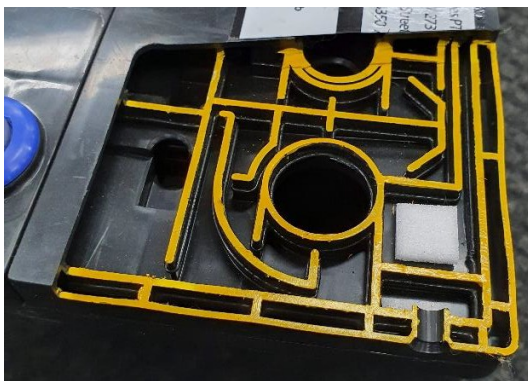


Figure 2 Maintenance Free battery vent manifold

Maintenance Free batteries are often referred to as being 'sealed' however this does not mean that they will not leak acid if tipped over. Maintenance Free batteries contain a vent manifold in the lid, which allows any gas to escape from the case. An example of the vent design is shown in Figure 2.

When handling a Maintenance Free battery, **it is important that it is never tipped more than 45 degrees from horizontal in any direction.** Tipping a battery more 45 degrees can cause the battery acid to enter the vent manifold and move from the one cell to another.

When this occurs, it will result in some cells having too much battery acid in them while others will now not have enough battery acid to function correctly. Underfilled cells can fail prematurely, and overfilled cells are more likely to eject electrolyte up into the venting manifold and out of the battery.

Both of these scenarios would result in a disappointed R&J Batteries Customer, and a potential warranty claim.