

## Introduction

This training course deals with the care & maintenance of stock batteries.

This is vital to ensure batteries are sold in the best possible condition to prevent premature failure, customer complaints and warranty claims.

The object is to instruct you on the processes and procedures for good stock battery care & maintenance.

The stock battery care & maintenance course consists of the following modules:

- Battery self-discharge
- Scheduled battery maintenance & storage conditions
- Stock control process, scheduled recharge & recycling
- Voltage check prior to dispatch/sale
- Voltage checking equipment & settings

Each module has its own training video, downloadable resources and will be followed by a short multiple choice test.

Once you completed all of the course modules there will be a final test to check your understanding and knowledge.

Once passed you will earn a certificate for the completion of this course.

## Module 1 - Battery Self-discharge

A lead acid battery is a living product that will deteriorate over time whilst being stored.

Unless its condition is monitored and maintained at an optimum level it will not be fit for purpose when sold.

When a battery is manufactured and charged for the first time the chemical reaction used to supply electrical energy is started.

Once started this reaction cannot be stopped.

The consequences of this constant chemical reaction are that the battery is always releasing electrical energy and self-discharging.

The rate of battery self-discharge and deterioration over time is dependent on the battery storage conditions whilst at your location.

As the temperature of the battery increases so does the rate of self-discharge.

At 10°C the self-discharge rate is approximately 0.1 Volts per month. This increases to 0.2 Volts per month at 20°C.

Therefore batteries will self-discharge at a faster rate during the warm summer months.

This means that after a few months in storage the battery has deteriorated significantly.

If the level of charge is allowed to fall to 12.40 Volts and below battery internal damage can occur that cannot be reversed by recharging.

It is therefore essential that stock batteries are regularly checked and maintained above 12.50 Volts with charging.

## Module 2 - Scheduled Battery Maintenance & Storage Conditions

Battery voltage checking schedules should be adapted to seasonal conditions to take into consideration variations in ambient temperature and battery self-discharge rates.

The voltage of every stock battery should be checked with a digital multimeter monthly during the winter period and bi weekly during the warm summer months.

Batteries that have self-discharged to 12.50 Volts or below should be recharged immediately before being put back into stock.

To ensure battery quality is maintained prior to sale, batteries should be stored:

- Upright
- Off the floor
- In a cool, dry and well ventilated area
- Away from sources of excessive heat

## Module 3 - Stock Control Process, Scheduling Recharge & Recycling

Batteries should always be stored and picked for dispatch using First In First Out or FIFO stock rotation procedures.

Use the battery recharge label to identify where a battery fits into your FIFO stock rotation system.

The recharge label is located at the back of every battery and features the following information regarding:

- Health & Safety
- Safe disposal
- Manufacturers serial number
- Manufacturers recommended recharging information

For the purpose of this course we are focusing on the manufacturers scheduled recharge information.

This indicates the first recommended recharge date for the battery.

Batteries close to their recommended recharge date should be placed in front of batteries with later dates on the battery pick face.

Stock batteries that have reached their scheduled recharge date should be checked and charged as required.

Once charged the recharge label must be updated.

Populate the recharge date log at the bottom of the recharge label with two crosses that schedule another recommended recharge is due in 6 months.

Stock batteries that have reached their second scheduled recharge date should be checked and charged as required.

Once charged, the recharge label must be updated.

Populate the date log at the bottom of the recharge label with a unique mark that indicates the batteries scheduled sell by date in 3 months.

If the battery has not been sold before it reaches the indicated scheduled sell by date it must be scrapped and recycled.

For more information on safe battery disposal visit [yuasa.com](http://yuasa.com)

## Module 4 - Voltage Check Prior to Dispatch / Sale

Battery voltage is the force used to push current through the starter circuit to the starter motor.

Assuming that the battery is fully charged before installation the high Open Circuit Voltage (OCV) will enable the battery to repeatedly supply sufficient cranking power to start the engine and achieve approximately 100% of its starting capacity.

If a battery is sold at or below 12.50 Volts it has a low OCV and a reduced ability to force current through the starter circuit.

This results in a reduction in the number of engine starts the battery can provide.

The battery will therefore not be able to supply full engine starting capacity.

The battery must therefore be recharged using a suitable smart charger.

Failure to do so will increase the risk of internal damage, loss of performance, premature failure and increased warranty claims.

## Module 5 - Voltage Checking Equipment & Settings

As part of your battery care & maintenance process battery voltage must be checked regularly.

It is also best practice to check the voltage before sale.

A multimeter is the ideal piece of equipment for carrying out these checks.

It is important that the correct connections and multimeter settings are used to do this.

Check that the black lead is connected to the COM port, the red to the voltage port and the multimeter is set to the DC Volts setting on the 20 Volt scale.

To measure the battery voltage push the probes through the holes in the battery post covers red to positive and black to negative ensuring a good connection is made.

Allow the display to settle and check the battery voltage.

If the voltage is in excess of 12.50 Volts, the battery is OK for sale.

If not this battery must be recharged in accordance with the previous modules in this course.