

SB, OPTIMA Batteries testing, 2021-03

SYMPTOM/DESCRIPTION

Some of our clients experience problems with the OPTIMA batteries we include in some of our Light Compaction machines.

There are two different OPTIMA batteries we use:

- 38Ah 12V YT R2,7 included in LG204, LG300 and LG400 Reversible compaction plates
- 48Ah 12V YT R3,7 included in LG504 and LH804 Reversible compaction plates and in the LP9505 Trench compactor.

The OPTIMA batteries are AGM batteries (Absorbent Glass Matt separators) built in a spiral structure that hold electrolyte like a sponge to eliminate acid spilling. The lead used is 99.99% pure, which provides lower internal resistance and quicker recharging. These features give up to 15 times more vibration resistance and up to 3 times the life of a traditional flooded battery.

Unfortunately the storage time for these batteries is long and as a result, some of them spend months on our shelves before they are installed in our Light Compaction machines.

Additionally our machines may stay in sales companies and distributor warehouses anywhere between 6 and 12 months before being sold to the end user. Given that, it sometimes happens that our products arrive to the client with batteries low on charge. There were several cases in North European countries where the machines couldn't be started in cold weather. In some cases, salesmen, distributors and clients alike, were unable to recharge these OPTIMA batteries.

AFFECTED UNITS

LG204, LG300, LG400 and LG504 with EI. Started motors, LH804 and LP9505 Trench compactor.

CORRECTIVE ACTION

A deeply discharged OPTIMA, at less than 10.5 Volts will not test or recharge properly if treated as a regular flooded battery or gel battery.

This Service Bulletin describes how to check the OPTIMA batteries. These measures should be taken by the sales and distribution companies in order to control the OPTIMA batteries condition (at least prior to the sale of a machine).

Every technical department of a sales or distribution company has one or another kind of multimeter, a device to check voltage, current and resistance of an electrical component or equipment. There's a simpler way to do that.

What we in the assembly factory do is basically a check of the voltage and current of the OPTIMA batteries with a device called NBT 200 Battery & System Analyzer (figure 1). The Operating Manual of NBT 200 can be found on the world wide web.

It is not mandatory to use that particular one. Any other brand of device or tester of the kind could be applied.

The Operating Manual of NBT 200 tester describes the steps and actions to be performed in order to find the voltage and current the battery supply at the moment. This device simplifies the answer to the user in a set of three light signals, green, yellow and red. These signals might be present in the following combinations:

- A green light on only, indicates that the battery is in a perfect condition
- Both green and yellow lights on, indicates that the battery is in good condition, but charging is recommended
- Both yellow and red lights on, indicates that the battery is low on charge and must be charged and tested again
- A red light on only, indicates that the battery is at the end of its life and should be replaced.



Figure 1: NBT 200 Battery & System Analyzer.

PARTS INFORMATION

No part is to be replaced or removed.

WARRANTY INFORMATION

The normal warranty policy applies.

Revision History

Rev.	Date	Order id.	Description
A	2021-03	SB-6477	Created