

Voss Equipment Attributes Decreased Labor as Key Component to Xtender Success



BACKGROUND

For over 80 years, Voss Equipment has been serving the Chicago area's material handling businesses. From day one, they have partnered with Yale Equipment and other industry-leading manufacturers to provide their customers with high-quality forklifts, railcar movers, industrial vehicles and more. As a truly "family owned" company, the success of their customers and employees is their top priority. In February of 2018, Voss Equipment purchased the Xtender Battery Regenerator from Flight Systems Industrial Products to automate the process of testing and reconditioning forklift batteries.

THE PROBLEM

As is common with many forklift dealerships, the process of load testing, recording battery cell voltages, and generating comprehensive reports is time consuming. It also limits the amount of battery service work that could be done. The previous solution for Voss Equipment was to utilize a load bank and constant current charger to try to "bring back" sulfated batteries that just weren't holding up in the field. This process was time intensive and the results were not meeting the high standard of quality that Voss is dedicated to providing their customers. They needed to find a solution to tackle a wide range of battery voltages and limit the labor required to meet their battery needs in service, rental fleet and used equipment.

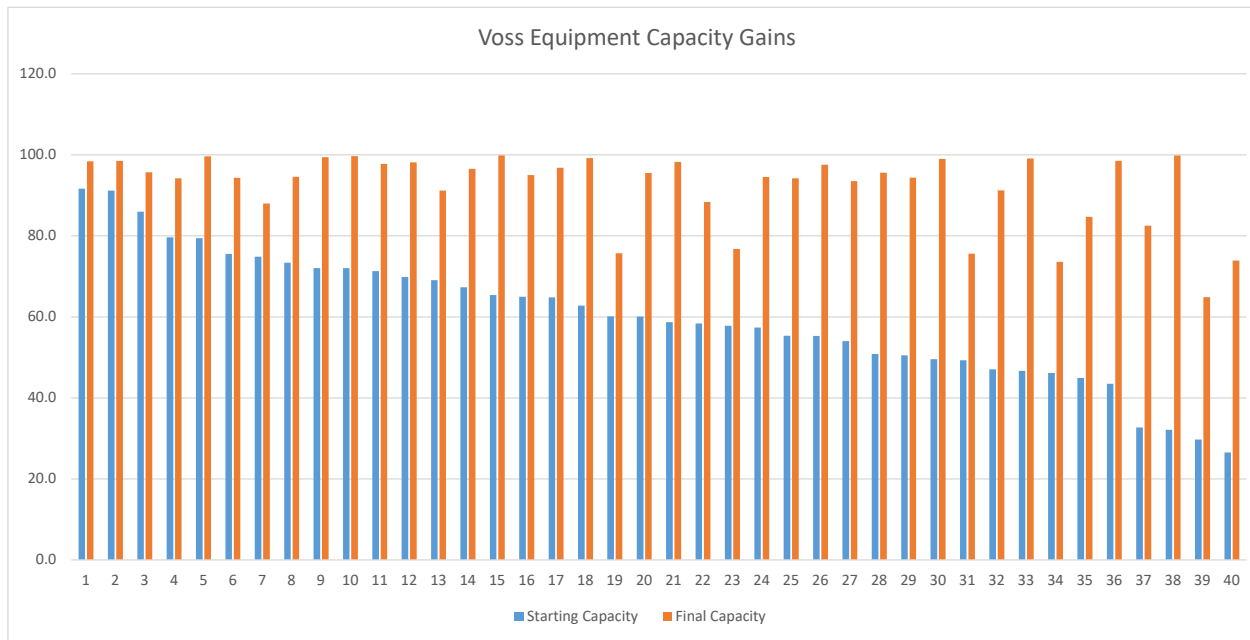


THE RESULTS

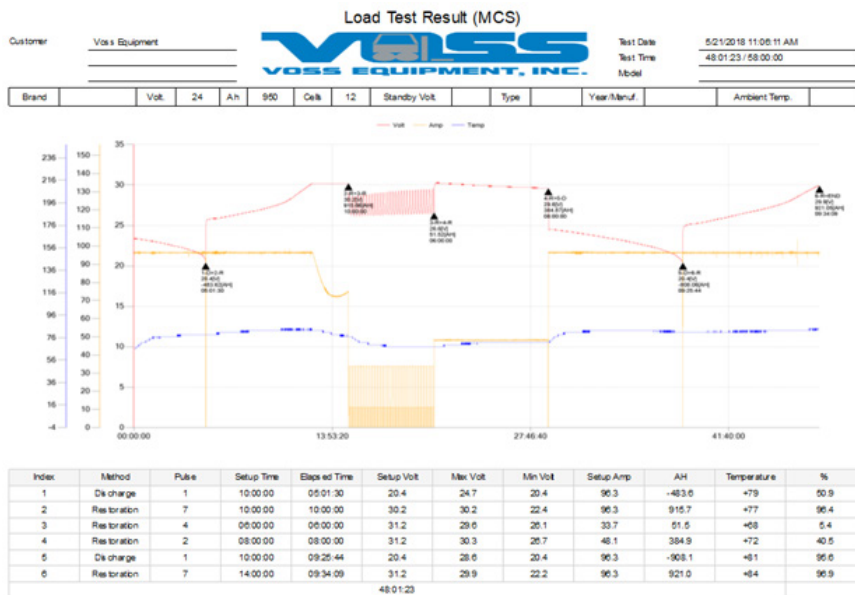
Voss Equipment instantly saw a decrease in labor hours utilizing the Xtender. Using their load bank and constant current charger, Voss Equipment was spending 8 to 10 man-hours over a 3-day span to discharge, charge, and monitor cell voltages on an hourly basis during discharges to recondition a battery. The Xtender decreased the man-hours to 2 hours over a 2-day period to replicate the same process while increasing capacity to a higher level than their previous procedure. Previously, they were able to start discharges only when they could dedicate 6 hours to test cell voltages each hour during the discharge. They were now able to start the Xtender at the end of the day because of the Battery Monitoring Sensors monitoring cell voltages every 3 minutes throughout the process. Over the 40 battery study, Voss Equipment saw 100% of their batteries with a starting capacity over 60% reach the 80% target capacity. Of the batteries tested, 85% of the 40 exceeded the 80% target capacity. The six batteries that did not reach the 80% target capacity all reached a final capacity of 65% with half of them starting below a 30% capacity. The BMS identified cells that needed to be replaced in order to achieve 80% final capacity.



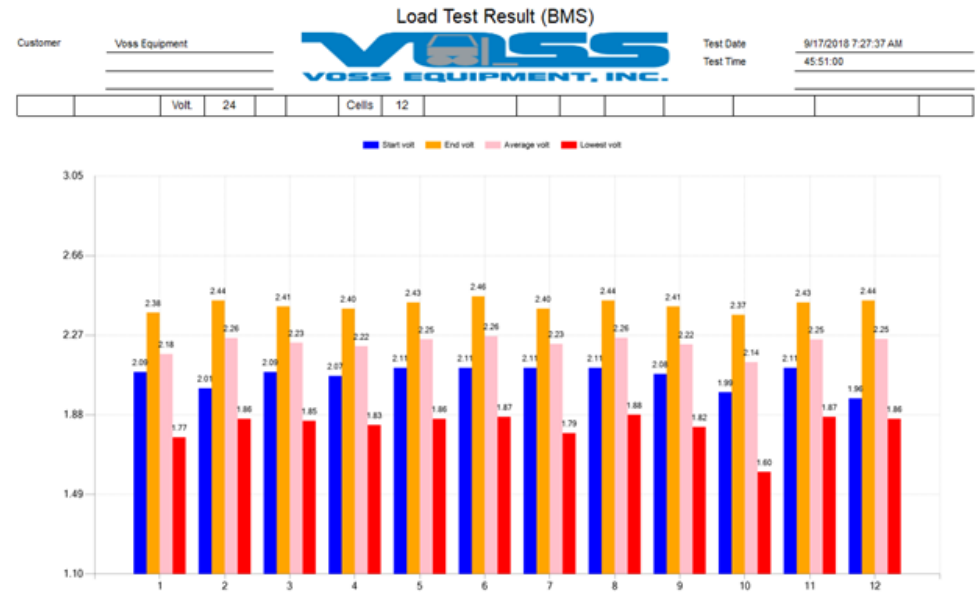
"We consistently took batteries that we could not increase the capacity past 60% using our load bank and constant current charger and exceeded an 85%-90% capacity after running the same battery on the Xtender." -Hank, Voss Equipment



Voss Equipment saw 85% of all batteries regenerated exceed the 80% target capacity while most batteries exceeded a 90% final capacity.



Voss Equipment saw this 24 volt battery increase its capacity from 483AH to 908AH exceeding a 95% final capacity.



This graph allowed Voss Equipment to be able to identify a problem with cell 10 and provide data to justify a cell replacement to their customer.