



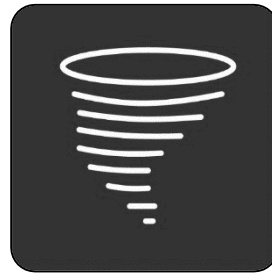
ELECTRONICS

**THE ONLY BATTERY RECONDITIONER
DEVELOPED AND TESTED FOR OEM APPLICATIONS**

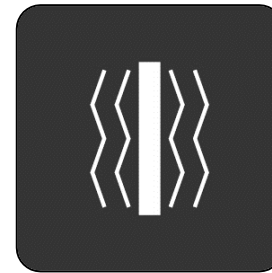
THE EGE BATTERY RECONDITIONER HAS BEEN DEVELOPED AND TESTED FOR OEM APPLICATIONS AND IS READY FOR USE UNDER ALL ENVIRONMENTAL CONDITIONS...



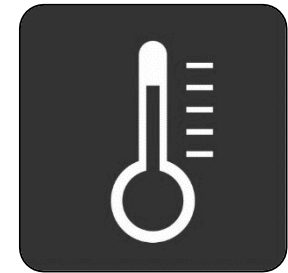
Moisture



Dust & Sand



Vibration & Shock



Temperature

AND IN THESE APPLICATION AREAS



Trucks



Buses



Forestry



Military



Mining




Construction



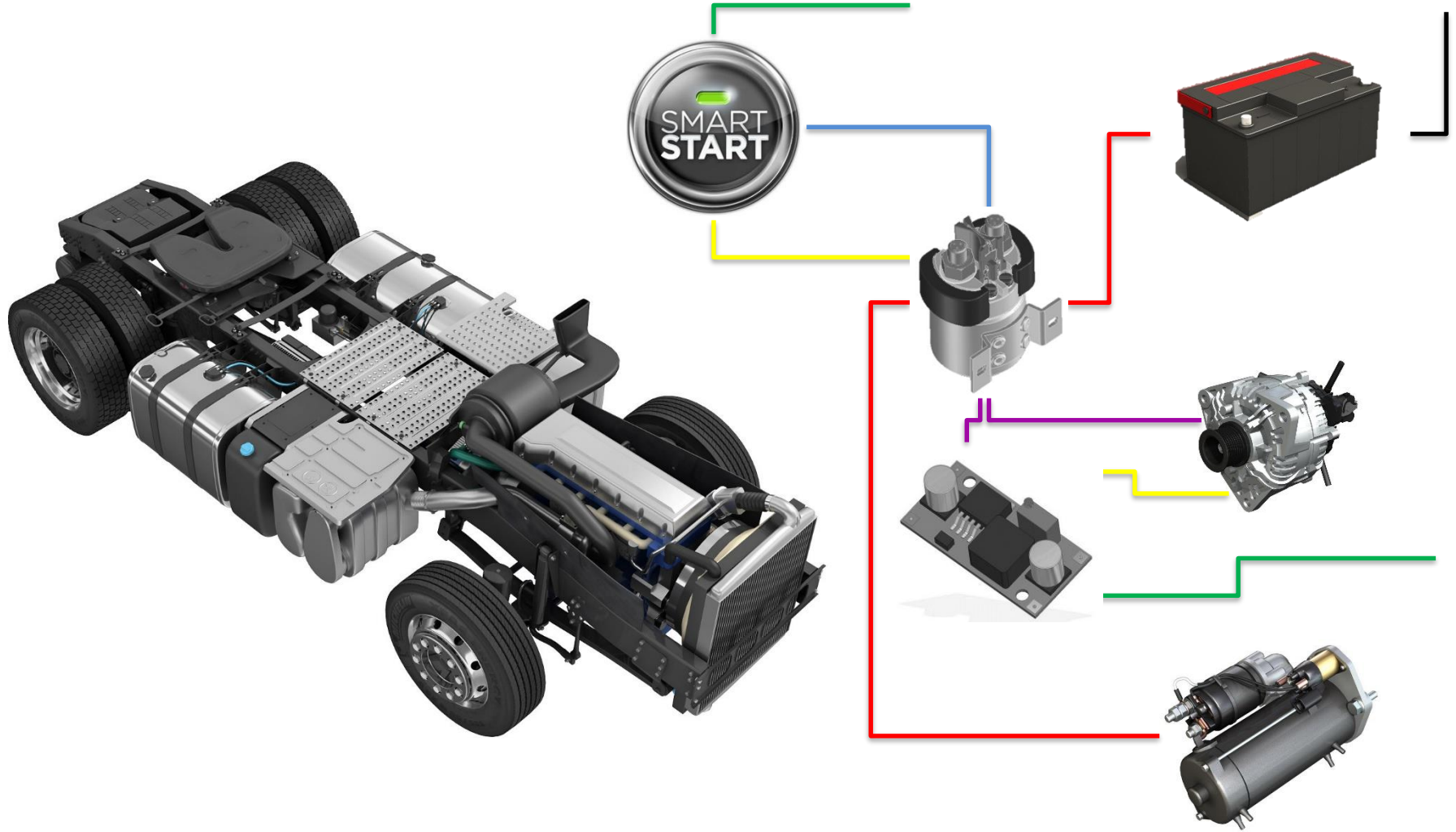
Agriculture



Motorhome

- 
- [001](#) – TYPICAL ELECTRICAL SYSTEM
 - [002](#) – BATTERY PROBLEMS – SULFATION – IMPACTS
 - [003](#) – CHEMICAL REACTION
 - [004](#) – DESCRIPTION AND CHARACTERISTICS
 - [005](#) – THE SOLUTION
 - [006](#) – FEATURES AND BENEFITS
 - [007](#) – DAY CAB TEST
 - [008](#) – DESULATION TESTS
 - [009](#) – CONTRACT MANUFACTURE – TT ELECTRONICS
 - [010](#) – CONTRACT MANUFACTURE – MERITEC
 - [011](#) – SELECTED REFERENCES
 - [012](#) – YOUR APPLICATION REQUESTS

EGE BATTERY RECONDITIONER – TYPICAL ELECTRICAL SYSTEM



Battery Problems

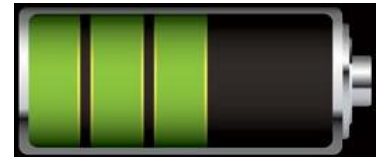
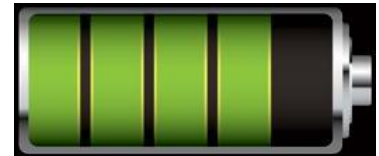
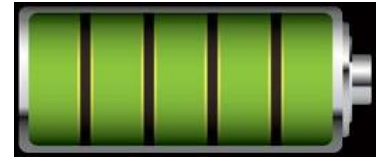
- Charging is inefficient
- Batteries lose capacity over time
- 20% from mechanical failure
- **80% from chemical failure**
- All batteries eventually fail

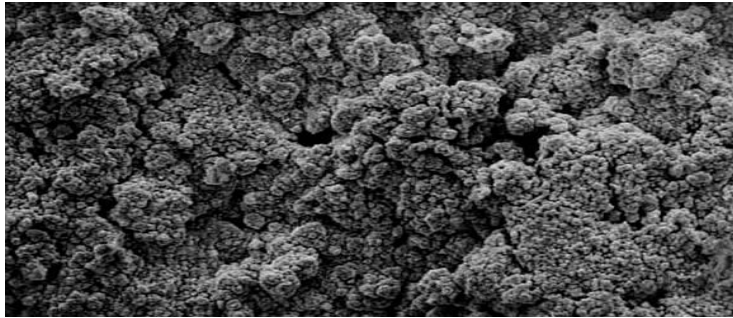
Sulfation

- Occurs in every lead acid battery and is accelerated by:
- Repeated cycling (inadequate charging)
- Excessive battery discharge
- Lack of battery use (promotes self-discharge)
- Leaving batteries in a discharged state for extended periods of time

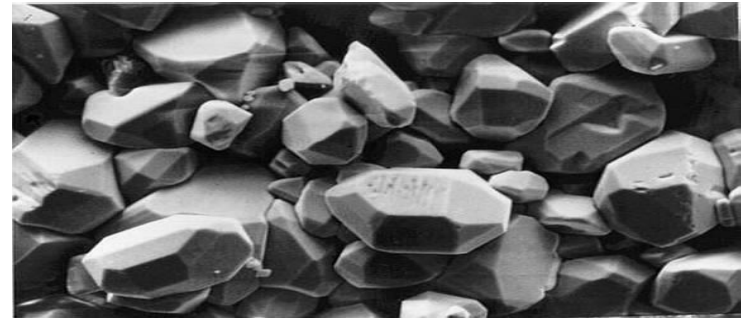
Impact of Sulfation

- Causes of Chronic Low Voltage in Batteries, resulting in Premature failure of...
- Batteries, Starter Motors, Alternators and Electronics
- Reduces the battery's capacity to absorb voltage spikes, decreasing light bulb life and causes the battery to be unreliable!

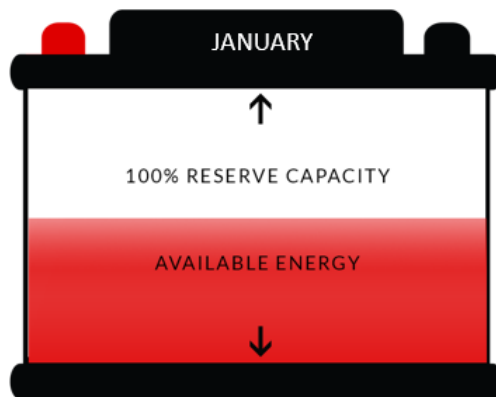
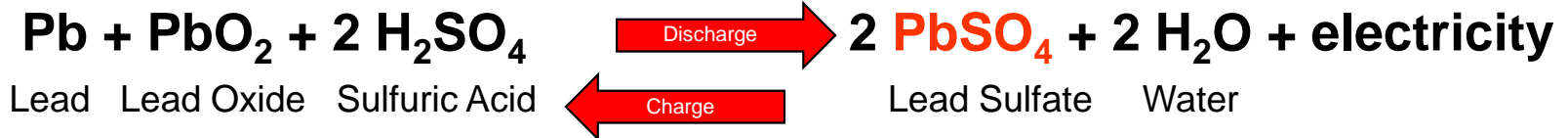




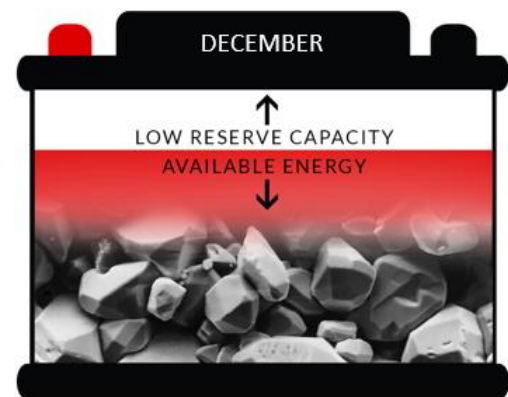
New Battery Plate ("Sponge Lead")



Sulfated Battery Plate (Lead Sulfate Crystals)




Crystalline PbSO₄
Cannot "recharge"



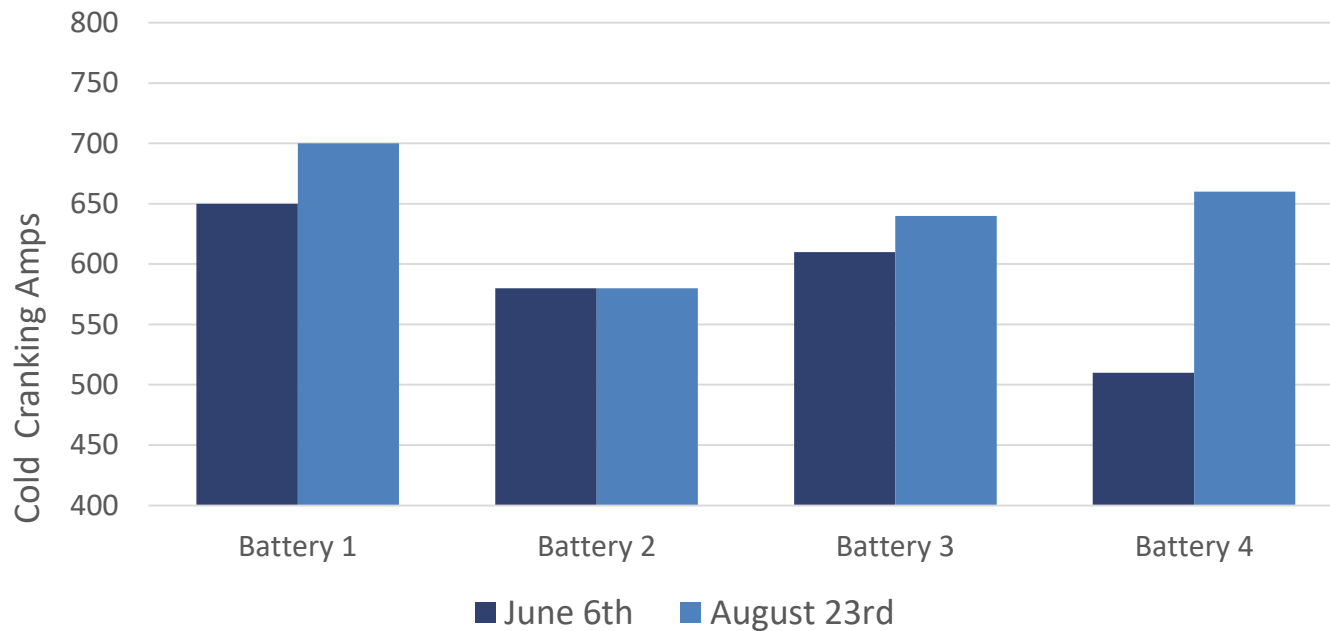
- The EGE Battery Reconditioner is compact and lightweight, and embodies 15-years of research and testing.
- It is easily installed within a few minutes, requiring only two connections at the battery terminals, with several simple options to mount the 2.5 oz unit.
- The manufacturing process has been streamlined to over-mold the circuit board, cables and external fuse, and inject potting compound, all in a single step.
- Companies can realise significant savings in their operating costs by integrating a patented battery desulfation technology in all trucks and vehicles using starting-lighting-ignition (SLI) batteries. OEM's can similarly benefit.



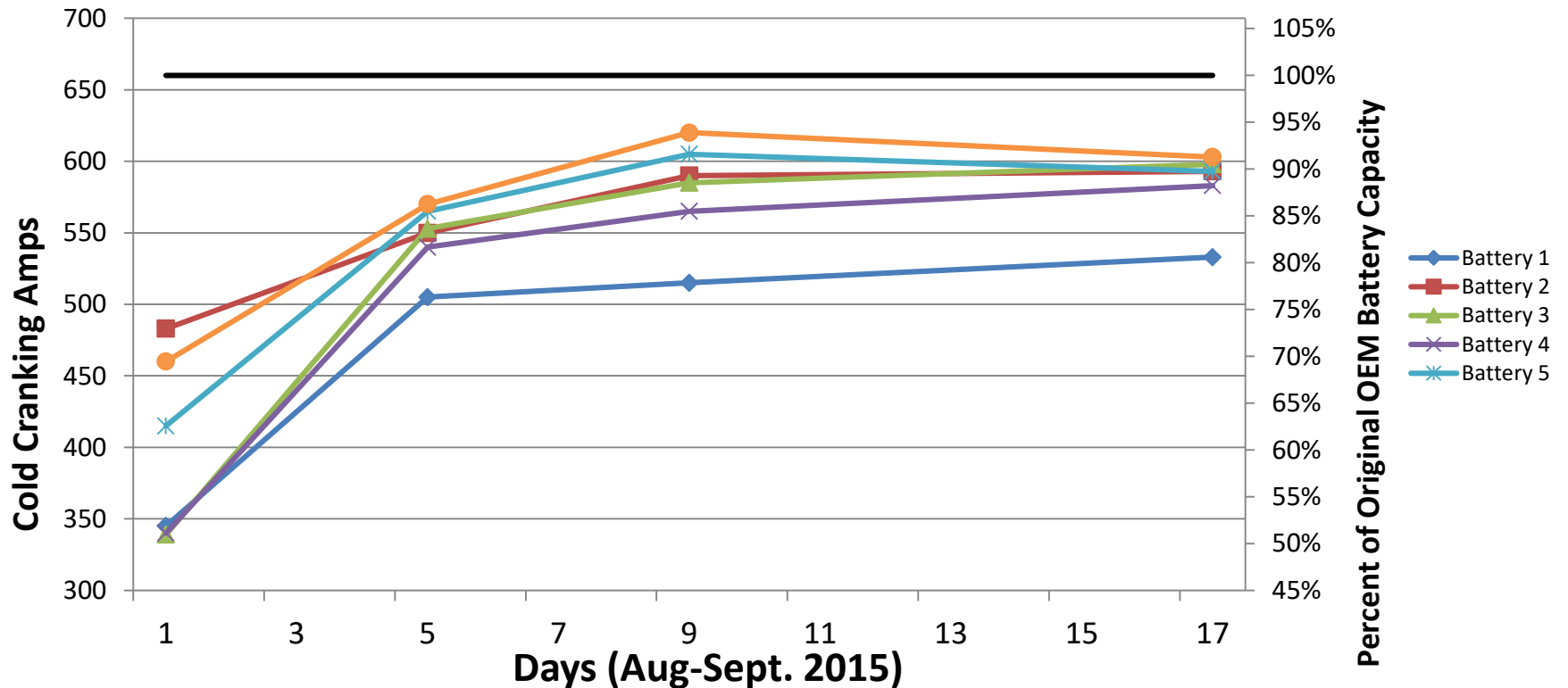
Physical Description	Value
<ul style="list-style-type: none"> ▪ Parameter ▪ Input / Output wires ▪ Battery Connections ▪ Dimensions ▪ Case Type ▪ Electronics ▪ Visual "On" Indicator ▪ Warranty ▪ Sealing ▪ NATO: 6130-01-643-3339 	<ul style="list-style-type: none"> ▪ Enables the battery to operate at full capacity ▪ 16 ga. Stranded, 1050 C ▪ Ring Type Terminals, 8mm ▪ 45mm x 48mm x 17mm ▪ UL94v-O Fire Retardant Plastic ▪ Fully Encapsulated ▪ Yes, green LED ▪ 8-Year Prorated ▪ IP67, and IP6K9K
Operating Characteristics	Value
<ul style="list-style-type: none"> ▪ Operating Temperature ▪ Normal Operating Voltage ▪ Reverse Polarity Protected ▪ Current Drain, Unit On ▪ Current Drain, Unit Off ▪ Pulse Frequency 	<ul style="list-style-type: none"> ▪ -40 C to +85 C ▪ +12V to +35V ▪ Yes ▪ <20mA ▪ <0.2mA ▪ 10,000Hz

Features	Benefits
<ul style="list-style-type: none"> ▪ Removes and prevents sulfation ▪ Replenishes the active materials to their original state 	<ul style="list-style-type: none"> ▪ Enables the battery to operate at full capacity ▪ Improved charge performance and charge acceptance ▪ Makes cold starting easier ▪ Extends service life of electrical equipment ▪ More uptime ▪ Maximum battery performance and service life ▪ Improved electrical system performance ▪ Saves money ▪ Extends battery life by 50-100% ▪ Increases starter life by 25% ▪ Increases alternator life by 50% ▪ Alternators perform as designed ▪ Cost savings in electrical component maintenance and repairs ▪ Extended battery warranty
<ul style="list-style-type: none"> ▪ Small and compact ▪ Environmentally friendly 	<ul style="list-style-type: none"> ▪ Extended battery warranty ▪ Small and easy to install ▪ No need of special tools or installation procedures ▪ No added costs or time for assembly ▪ Reduces downtime ▪ Use existing tools and assembly routines ▪ Saves money
<ul style="list-style-type: none"> ▪ Environmentally friendly 	<ul style="list-style-type: none"> ▪ Contributes to reaching company environmental goals on r ▪ No harmful effect on the environment ▪ Benefits company name

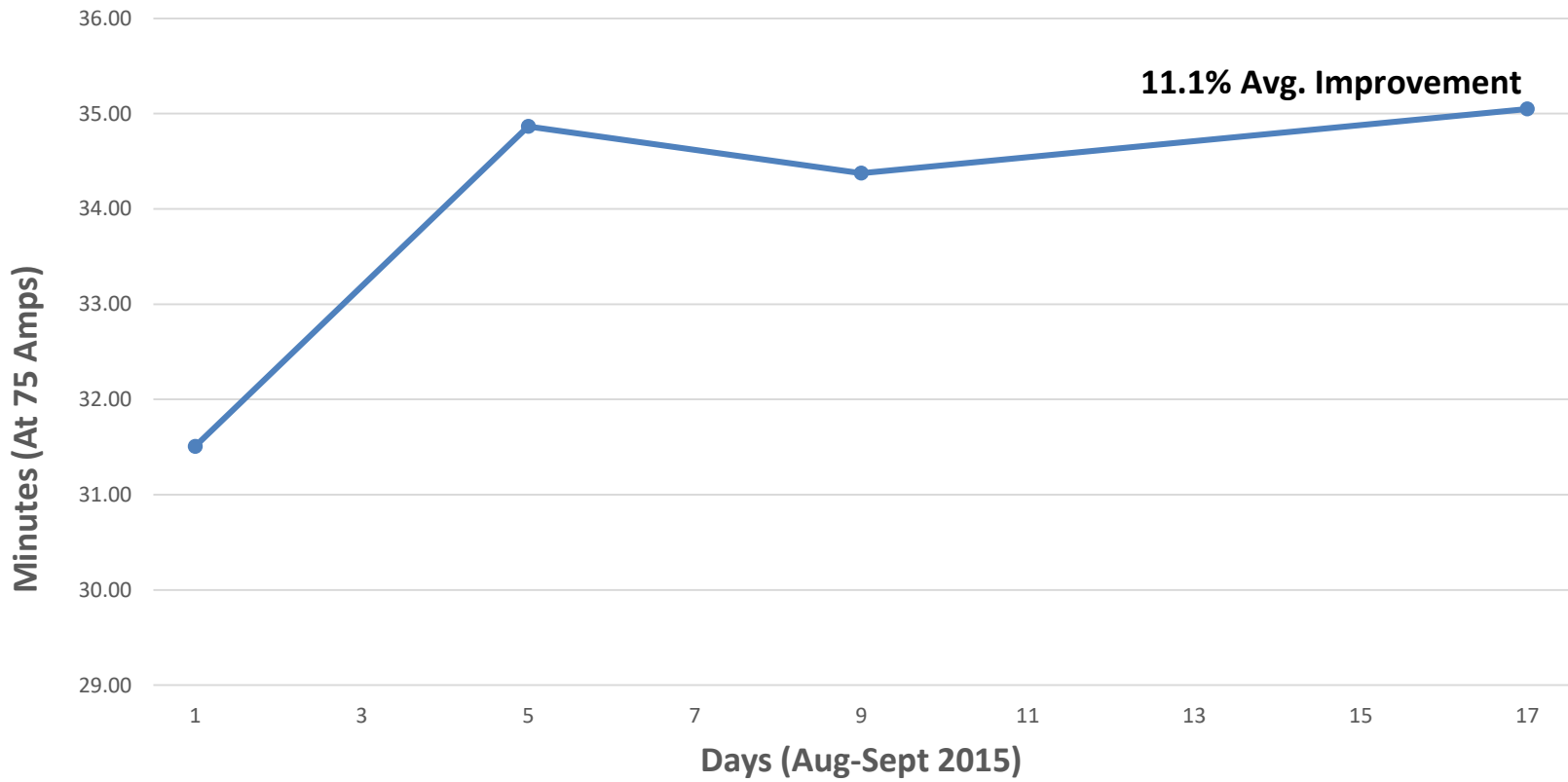
- **4 Group 31D Batteries (in service) having a 660 CCA rating**
- Battery Reconditioner installed June 6, 2017
- Battery Readings were taken August 23, 2017
- Comparison of June 6th vs. August 23rd, below



- **6 Exide, Commercial Series 31D Batteries**
- Approximately 2 years old
- Emergency Vehicle - In service, not due for replacement
- Rating: 660 CCA / 160 minutes of Reserve Capacity at 25 amps



Load Test Results (Avg. Batteries 1-6)



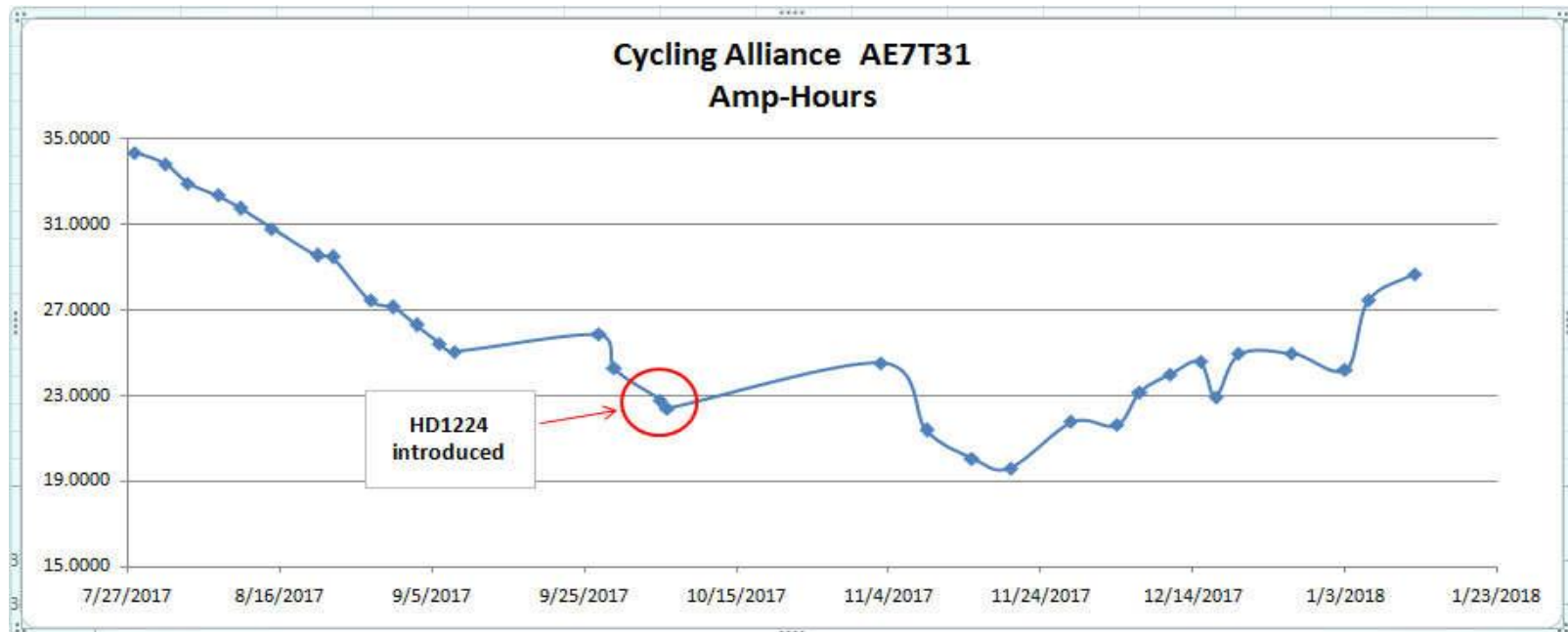
Battery Type: Alliance Truck Parts: Dual Purpose Battery EPM AE7131, Group 31 Seal Lead Acid.

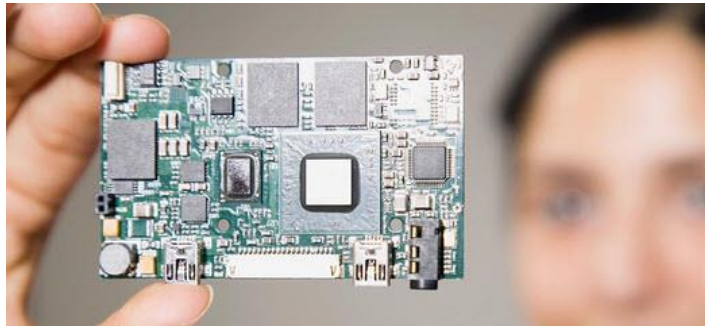
Equipment: BK Precision 8510: Programmable DC Electronic Load, Quick-Charge Battery, Charger, Agilent 34972A Data Logger, Remy BCT-200J AutoMeter

Prepared by: Dan Biggs and Andrew Hussey

Summary: Cycle a sealed lead acid battery. A complete cycle is defined: Apply charger to battery, once charged – remove charger from battery, allow to rest for 24 hours, discharge battery at 10 Amps constant current until the batteries terminal voltage is 12 Volts, then apply charger to the battery.

Conclusion: Presented in the Excel Data File.



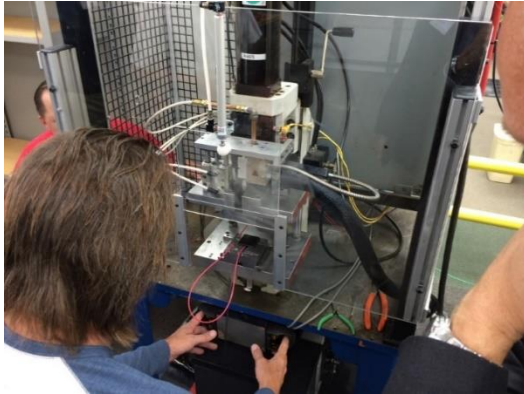


TT Electronics, a global provider of integrated manufacturing services for engineered-electronics.

TT Electronics is a 5 billion EURO company, with transportation and industry as two of their key markets.

TT Electronics have contract manufacturers in the following locations:

- Perry, Ohio, USA – 11 600 m² (HD-1224 manufacturing location)
- Rogerstone, South Wales, United Kingdom – 8 300 m²
- Suzhou, China – 15 000 m²
- Capacity: hundreds of thousands of EGE Battery Reconditioners



Meritec, a global provider of high-speed connectors, flat flex cables, coaxial interconnects and custom assemblies. The key markets are ATE & Instrumentation, MIL/Aero, Medical and Industrial markets. Core competences are molding, stamping, plating, tool & die building and high-speed signal processing. Perry, Ohio, USA – 11 600 m2 (HD-1224 manufacturing location)

- Separate cell for production of the Canadus unit with a 100% end of line tests.
- Headquartered in Painesville, Ohio. 200,000 sq. ft space
- 2 US locations (Ohio, California) also Germany and Shanghai that service the Americas, Europe, Middle East, Africa and Asia.
- Capacity: They have plenty of floor space to add additional molding machines as the Canadus business grows to other OEM's for the HD-1224.



Should any of the features and benefits not be 100% suitable for your particular application, then please feel free to stipulate your wishes as we would like to evaluate and provide a feedback:

Current investigations are as follows:

- ATEX Approval

Future technology will be centered on:

- Battery Diagnostics

Customer wishes:

-
-
-
-

THANK YOU!

YOUR TIME IS VERY MUCH APPRECIATED!