



12 MONTH ROAD TEST REPORT

ONEONTA, N.Y., Feb. 23, 2017/PRNewswire/ -- [IOXUS](#) announces conclusions of one year uSTART™ battery support system road test, and the fleet managers are amazed by the module's performance.

loxus has completed an arduous one year field trial in a major truck fleet. Confirming, with 200 units in test, the shocking and impressive performance of the loxus uSTART 12V 1100CCA battery support system developed for class 3 – 6 trucks. The loxus uSTART module directly replaces one of the Standard SLI group 31 batteries, and is expected to last the life of the truck.

uSTART reduces the number of batteries a truck would require through its 15 year life from 30 to 5. For a large fleet this would replace thousands of lead acid batteries saving millions of dollars and would eliminate thousands of tons of lead from the environment.

The uSTART module works by intelligently monitoring and supporting the vehicle's electrical bus, providing and absorbing power when required or available. Using just batteries can result in a wide range of results depending on load, age, temperature, and current state of charge. As a start is initiated, terminal voltage drops and the battery will discharge. The lower the voltage drops, the more current has to be supplied, further stressing the battery and starter.

In typical delivery operations the battery cannot recover from the previous cycle in the time between stops (charge acceptance). The results in batteries operating at a low state of charge (SOC) all of the time, and exponentially accelerates the wear out of the batteries and increases the functional resistance (ESR) of the batteries, lowering the voltage further under load. uSTART eliminates voltage cut-off problems and helps the battery maintain a high state of charge, by preventing it from cycling, extending life dramatically, and makes the starting events predictable and repeatable. The voltage acceptance of the ultracapacitor based module allows for

rapid, full recharge of the system from the alternator, being ready with enough energy for the next stop/start event within 15-30 seconds.

While the battery can function in a problematic environment, the starter and other electrical components pay the price. Every day, on every cycle, the combination of low SOC and high ESR leads to starters that must spin longer on each crank and require more current, resulting in battery and starter lives that are significantly reduced. uSTART solves this by supporting the electrical bus and maintains a healthy voltage, even during cold cranking loads, for all of the vehicle components.

In the one year field trial, the loxus uSTART battery support systems were installed in multiple platforms of class 3 - 6 delivery trucks. The trucks experience up to 250 stops per day where the engine is turned off, but all of the electrical loads are still present. With the uSTART installed, an immediate improvement in start time was noticeable; typical start times are reduced by up to one second vs. a healthy pair of batteries. Reduced starting time is a result of the starter receiving proper voltage and current provided by the uSTART module. uSTART eliminates voltage drop ensuring a clean and brisk crank every time. Several benefits were experienced and documented during the test:

- Quicker start times, up to 1 second faster
- No roadside jumpstarts required
- Higher average state of charge of the batteries at end of test vs. beginning
- Better state of health of the batteries at end of the test vs. beginning

The uSTART battery support module installs exactly like a battery and is a drop-in replacement for one of the batteries in a class 3 – 6 truck. No special wiring or installation variation is required.

Jeff Colton, loxus VP of Sales said, "In addition to rapid payback and reducing lead from the environment, the loxus uSTART battery support system dramatically extends the life of the starter by ensuring the starter receives the right voltage and current on every engine crank, saving even more time and money by keeping the delivery truck rolling. With the proper voltage supplied to the starter, even an old truck starts like new."

For more information about the loxus uSTART module, please contact

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