



Reducing Temperature in E-Bike Motors

Application: Electric Motor

Location: USA

Challenge

A leader in the production of advanced automotive steering, driveline, and automated driving technologies recently ventured into the sports and recreation market to collaborate with other OEMs on a new project. We were approached during the design phase to assist on an E-bicycle assist power drive system they were developing. Modern gearbox designs often require high power transfer with minimal noise and heat generation. During initial testing, the customer experienced problems with the electric motor generating temperatures that exceeded 140°C. This customer needed a lubricant for the planetary and rotary motor gears that would reduce failure and ensure safety.

- Can the lubricant reduce the amount of heat generated by the electric motor?

Solution

INSTRUMENT GREASE 794A

A clay thickened, medium viscosity, ester blend grease.

- Handles harsh environmental conditions
- Excellent wide temperature performance of -20 to 150°C
- Water resistant
- Good for high-load applications

Results

When tested against competitor lubricants, INSTRUMENT GREASE 794A proved superior in all areas including durability and life-cycle requirements. The customer chose to use our grease to lubricate the gears in their e-bike assist mechanism.

Advantages

Reduces motor temperatures

Water resistant

Good high-load performance