

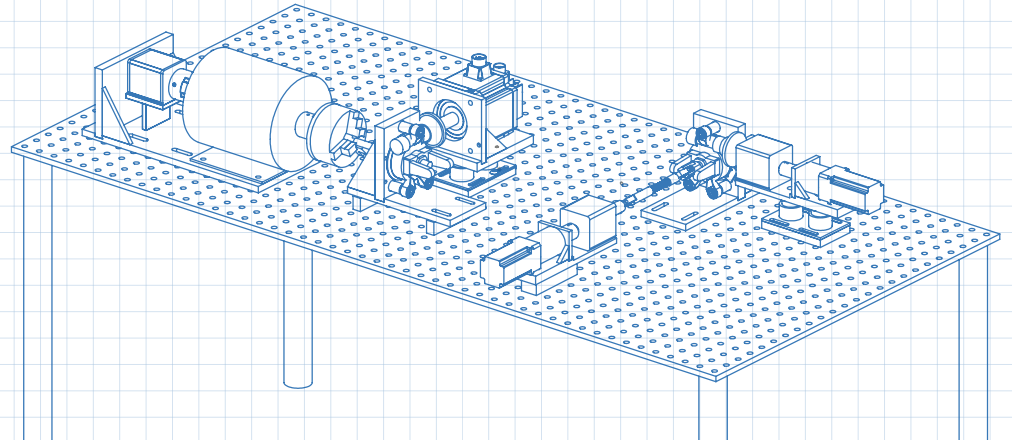


EPS Test Apparatus

Test rig designed to simulate wear-in and normal operation of the worm and wheel assembly with a main goal of measuring frictional torque. With stability being the focus of the research, understanding these characteristics have aided Nye and its venture to design the next generation Electric Power Steering (EPS) lubricant.

TEST PARAMETERS

- Ramp Loading
- Constant Loading
- Directional Change
- Maximum Loading = 120 N m
- Environmental Testing (upon request)



TEST CAPABILITIES

MECHANICAL BREAK-IN

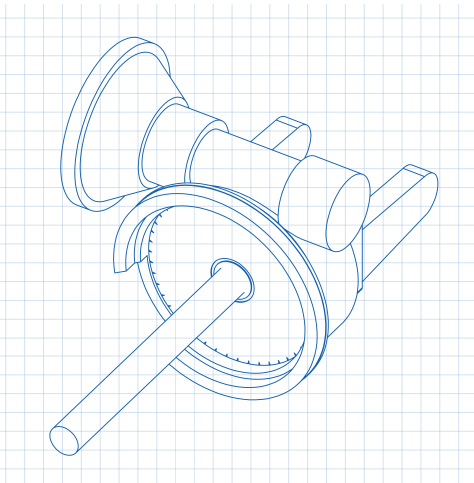
High loaded break-in with directional changes designed to wear-in EPS system.

HIGH RESOLUTION FEEDBACK TEST

Non-loaded free rotation test designed to understand frictional characteristics and "feel" of the operator.

CYCLICAL ASSISTED DRIVE SIMULATION

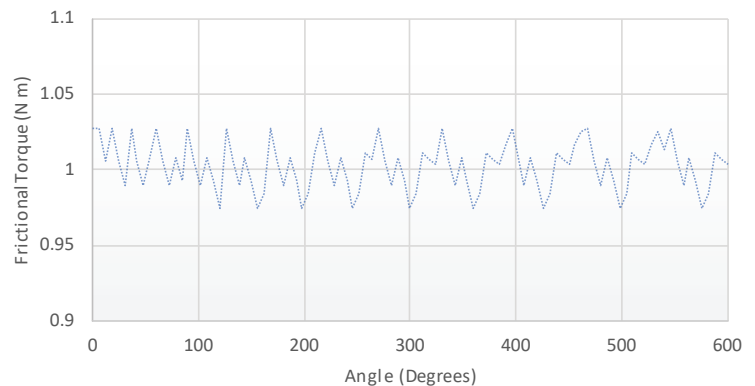
Cyclical type test with ramping load and directional change designed to replicate an on-road environment.



TEST RESULTS

FRICTIONAL TORQUE

One high resolution transducer is used to plot frictional torque against a known wheel angle. Averages and trends are recorded throughout intervals of testing.



INFRARED TEMPERATURE DISTRIBUTION

Complete temperature view to understand hot spots and inefficiencies throughout the worm and gear. Maximum temperature element recorded. Video can be included upon request.



*All test parameters can be adjusted to customer specifications.

ABOUT NYE LUBRICANTS

Nye Lubricants is a leader in the innovation, formulation and provision of synthetic lubricants, enabling and improving breakthrough products and critical new technologies. We bring proven experience, deep technical knowledge and customer focus to solve our customers' toughest challenges, adding tangible value to products in a wide range of industries and applications.

Nye's mission is to partner with innovative companies and provide high-performance lubricants using our leading-edge technology and engineering expertise.

Nye's vision is to be recognized globally as a lubricant and engineered materials expert. Its products will serve as enabling technologies, combining innovation, product knowledge and a fundamental understanding of its customers' requirements.

RESEARCH & DEVELOPMENT

Nye's research and development has always been customer and market driven. Our team of experienced tribologists and chemists is closely connected to technology leaders in a wide range of industries. Our team understands trends and future challenges related to lubricants in next generation design. We partner with customers to provide solutions and enable, improve, and extend the lifetime of innovative products.

APPLICATION ENGINEERING

To validate how well a lubricant performs in our customers' products, Nye's engineers partner with design engineers to simulate actual environmental conditions in our application lab. Our testing capabilities can help shorten product development cycles, reduce test costs, and help our customers bring their products to market faster, while saving cost.

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