

A detailed close-up photograph of a car engine, showing various mechanical components like the timing belt, pulleys, and hoses. The engine is highly polished and metallic. A large, solid blue diagonal shape cuts across the lower half of the image, starting from the left edge and extending towards the bottom right corner. The background of the lower half is a dark gray.

POWERTRAIN COMPONENTS

Lubricants developed to deliver more engine efficiency, better fuel economy, and a quieter drive.



POWERTRAIN COMPONENTS

EXTENDING OPERATING LIFE WITH SYNTHETIC LUBRICANTS

Superchargers

Synthetic lubricants have been a mainstay in lube-for-life superchargers. For gears and powdered metal parts, a light viscosity ester oil with a robust antioxidant package is recommended. For high-speed bearing applications, a light viscosity ester grease with EP additives has been proven extremely effective.

Supercharger gears - Nye Synthetic Oil 605

Actuators

Idle Air Control Valves - Uniflor™ 8921

Turbo Diesel Actuator Bearings - Uniflor™ 8921

Bearings & Gears in Smart Remote Actuators - Uniflor™ 8512R

Actuator Motors - Uniflor™ 8512R

Electronic Throttle Control

The stepper motor that powers an electronic throttle control must withstand high temperatures and corrosive fuel system vapors. Fluorinated lubricants, which are inherently inert, tolerate this kind of environment. In addition to staying fluid at very low temperatures, their superior thermo-oxidative stability prevents high-temperature varnishing and breakdown, even at sustained temperatures of 250 °C.

Throttle Body Bearings - Uniflor™ 8911

Bearings in Throttle Position Sensors - Uniflor™ 8922EL

Throttle Position Sensors - Uniflor™ 8950

Throttle Actuator Valves - Uniflor™ 8901F

Starter

Motors - Rheolube® 373

Gears - Rheolube® 380

Electrical Connector - NyoGel® 760G

Cooling System

Radiator fan motor bearings must withstand high heat, dust, dirt, and debris. A complex sodium-soap, light viscosity ester grease is effective. It is also an option for bearings in alternators, water pumps, and air conditioner compressors.

Bearing Grease - Rheotemp™ 600

EGR Valves

The Exhaust Gas Recirculation (EGR) valve is exposed to extremely high temperatures and acidic exhaust fumes. PFPEs thickened with PTFE perform well in this demanding environment. They offer the broadest temperature capabilities of any synthetic lubricant and are unaffected by corrosive gases and liquids. PFPE/PTFE lubricants regularly ensure lifetime durability requirements are met.

EGR Valves - Uniflor™ 8921, Uniflor™ 8472

EGR Sensors - Rheotemp™ 768G

Connectors

Electrical Contacts - NyoGel® 760G

Fuel Pump Connectors - NyoGel® 768G

High Temperature Electrical Connectors - NyoGel® 768G

Transmission

PRNDL Gear Shifting - NyoGel® 975F

Bearings in Dual Clutch Transmission - Rheolube® 380

Connectors

Insertion force reduction has become a major assembly process challenge and cause of many quality problems. Mating multi-pin connectors, sometimes in difficult to reach locations, often requires significant force – creating the potential for incomplete mating, as well as repetitive-motion injuries for assembly workers. Synthetic lubricants have been proven to reduce high insertion force with while ensuring electrical conductivity and protecting against fretting corrosion.

Starter

Starter motors must withstand the elements, temperatures from -40 °C to 200 °C, and 50,000 duty cycles or more. Issues of high load and torque, especially during cold crank, also have to be considered. Effectively lubricating the motors' gears, bearings, and splines requires a careful blend of synthetic oils, additives and gellants. Our proven starter motor greases feature PAO and ester blends with additives for extreme pressure, corrosion protection, and friction reduction.

Transmission

Console-mounted PRNDL assemblies require lubrication to dampen noise and enhance the perceived quality of plastic parts. The synthetic lubricant should enable the mechanism to slide smoothly between notches while imparting a quality feel to the thumb-activated release mechanism. It should withstand the cold and offer vibration and noise reduction.

When the risk of silicone contamination and migration is a concern, a non-silicone grease is required to protect nearby electronics and still provide wide temperature range performance and impart a quality feel. Nye offers an advanced damping grease, NyoGel® 975F, to meet these needs.

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