Lubricants engineered to improve the functionality, reliability, and longevity of automotive steering and suspension systems.
# CHASSIS COMPONENTS

EXTENDING OPERATING LIFE WITH SYNTHETIC LUBRICANTS

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## Rear Suspension

Leaf springs, typically found on pickup trucks and SUVs, provide rear suspension and shock absorption. Exposed to water, saltwater, and road grit, they can wear down, crack, or produce squeaks and squeals. A viscous synthetic grease fortified for extreme-pressure service reduces wear and corrosion. Its high damping capability also minimizes road noise.

- **Leaf Springs** - Nyle™ 774VH-MS

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## Front Suspension

Ball joints: Tight-fitting, ball-and-socket designs are subject to dynamic motion in almost every direction. Lubricants within the ball joint must be able to withstand extreme environmental conditions, engine heat, jolts on rough surfaces, and continuous micro-motion on smooth roads. Contemporary ball joints are designed without grease fittings, so the initial fill must provide lifetime lubrication. Wide temperature, water- and saltwater-resistant synthetic greases are recommended.

- **Ball Joints**
  - NyeGeel™ 774VH-MS

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## Ball Joints - Struts - Suspension Systems

A very low viscosity synthetic fluid with temperature compatibility, wear protection, and temperature requirements to meet the demands in these applications.

- **Kick Down Modale** - Fluorocarbon Gel 875MS

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## Steering Column

- **Steering Angle Position Sensor** - Nyle™ 741A RED & Fluorocarbon Gel 895
- **Intermediate Shaft Spine** - Fluorocarbon Gel 866
- **Telescoping Steering Column** - Rheolube® 362HB
- **Tilt Steering Column** - Fluorocarbon Gel 980MS X
- **Steering Column Spine** - Rheolube® 366F
- **Column Shaft** - Nyle™ 774VLF
- **Ignition Switch** - Rheolube® 362

### Gas Pedal

For safety and ergonomics, pedal positioning systems are proliferating. A drip loss, odorless synthetic hydrocarbon grease fortified with PTFE is recommended for the bearings, gears, and sliding surfaces in this motorized assembly.

- **Kick Down Modale** - Fluorocarbon Gel 875MS

### Steering Column

- **Steering Column** - Rheolube® 362

### Electronic Power Steering

As automakers work to improve the efficiency of today’s modern vehicles, many are moving away from the old hydraulic steering assist to the more advanced electronic power steering systems. Reducing friction between mating gears and protecting the sensitive components from the elements is a primary concern. Light weight synthetic hydrocarbon greases with advanced additive packages greatly reduce low temperature torque and friction, while also providing wear protection and vibrational damping. Calcium sulfonate thickened greases can be used on bearings, gears, and as environmental seals due to their superior water washoff/spray off characteristics, corrosion protection, and wear mitigating capabilities.

- **EPS Gear** - Rheolube® 363F
- **EPS Housing** - Rheotemp™ 662

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## Brakes

Bearing, pistons, and lead screws in anti-lock braking systems are constantly exposed to brake fluid. EPDM rubber seals and o-rings also pose potential compatibility problems when exposed to some synthetic oils and greases. Silicone and polyglycol greases provide the compatibility, wear protection, and temperature requirements to meet the demands in these applications.

- **Parking Brake Cable** - Fluorocarbon Gel 880 & Fluorocarbon Gel 900A
- **Brake Caliper Pns** - Fluorocarbon Gel 900A
- **ABS Bearings & Pistons** - UniFlor™ 8512

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### Steering Linkage

The rack and pinion mechanism presents many lubrication challenges. The interface of the toothed rack and the pinion gear requires synthetic lubricants with extreme pressure and anti-wear additives to reduce noise and transferred vibration, often referred to as “rack knock.” Synthetic rack and pinion systems are placed relatively close to the exhaust systems, lubricants must also handle temperature of 150°C or higher. The spring-loaded yoke that keeps rack teeth mated to the pinion gear can be another source of noise and wear. In certain Y-shaped yokes, the racks are heat-treated and hand-polished to remove scaling and asperities. A viscous synthetic hydrocarbon grease fortified for high loads can prevent wear on unpolished racks, eliminating the need for labor-intensive, hand-polishing processes.

- **Rack & Pinion System**
  - Fluorocarbon Gel 880MS
  - Steering Gear/Yoke - Fluorocarbon Gel 875MS

### Intermediate Shaft

The intermediate shaft connects the steering column to the rack and pinion system. It shifts must absorb vibration and shock, without allowing road noise to reach the vehicle interior. For plastic-to-metal interfaces, a medium-viscosity, synthetic hydrocarbon grease enhanced by PTFE ensures good slip and low “sicktion.” For metal-to-metal interfaces, a heavier synthetic hydrocarbon grease is recommended.

To lubricate the tight spaces within newer telescoping shafts, use a lighter grease designed for sliding surfaces.