



SYNPRO GEAR OILS

(Eaton Approved PAO Gear Oil, GL-5/MT-1)

Fleet operators have contended with a dilemma associated with manual transmission and final drive gear oils -- low viscosity gear lubricants necessary for cold startup do not provide adequate protection during high speed, high temperature operation, while high viscosity oils necessary for providing adequate film strength at operating temperatures restrict oil flow at cold startup which could cause catastrophic gear failure.

SYNPRO GEAR OILS are developed specifically to eliminate this dilemma. They are blended from synthetic base oils with high viscosity indices and exceptionally low pour points. They meet the performance requirements of heavy-duty manual transmissions and final drives used in the trucking, mining and construction industries, as well as in stationary gearboxes. They exhibit a wide operating temperature range, eliminating the need for seasonal oil changes. Even in extremely cold weather, these products provide superior protection at startup and maintain shifting ease.

SYNPRO GEAR OILS have demonstrated outstanding ability to reduce friction. Heavy-duty fleet operators have been able to reduce fuel consumption by up to 5%, translating into substantial savings for the fleets.

Today's aerodynamic truck designs significantly reduce transmission and final drive ventilation. As a result, operating temperatures have increased and so have deposits. **SYNPRO GEAR OILS** far exceed the ability of conventional oils in oxidation resistance. This has served to reduce sludge, varnish and other deposits dramatically, and enable oil change intervals to be extended to every 500,000 miles.

In addition, they exhibit excellent anti-rust, anti-corrosion, water separation and shear stability. They are compatible with seals, paints, coatings, and other materials commonly used in automotive and fleet equipment.

*Vocational use is defined by Eaton in 2008 as off-highway use in unstable or unimproved road surfaces. Especially those with low mileage operations of under 60,000 miles per year with less than 30 miles between starting and stopping and/or having severe service. Severe service is dirty or wet environments or consistent operation on grades greater than 8%

BENEFITS:

- REDUCE SLUDGE AND VARNISH DEPOSITS
- 500,000-MILE EXTENDED DRAIN/EXTENDED WARRANTY CAPABILITY TO 750,000 MILES
- EXCELLENT LOW TEMPERATURE PERFORMANCE
- LOWER MAINTENANCE COST

APPLICATIONS:

SYNPRO GEAR OILS are recommended for all vehicles which specify API GL-5 and MT-1 gear oils, and for applications where heat and wear present major concerns. These applications include manual transmissions where EP lubricants are required, differentials including limited slip, and transfer cases for heavy equipment, tractors, industrial gear drives, and farm machinery. **SYNPRO GEAR OILS** meet the requirements of Eaton and Rockwell for extended drain intervals. They are fully approved by Eaton and Meritor Automotive for use in axles participating in their extended warranty programs to 750,000. SHAES 429 recommends a 3 year 180,000 mile extended drain for the 80W140 grade in vocational transmissions*.

- API Service Classifications GL-5 and MT-1
- SAE J 2360 (MIL L-2105E)
- MIL-PRF-2105E (QPL# MG-2214 75W90 and QPL# MG-2215 for 80W140)
- Eaton Axle Division SHAES 256 REV C (75W90) and SHAES-429 (Vocational, 80W140)
- Extended warranty coverage at Eaton
- International TMS-6816
- Mack Truck GO-J+ (75W90), GO-J (80W140)
- Dana Corporation, Axle Division
- Navistar TMS 6816
- Meritor Automotive, Inc. (formerly Rockwell International) O-76-N (75W90), O-80 (80W140)
- Scania STO 1:0 (both grades)



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TYPICAL CHARACTERISTICS

SAE Grade	75W-90	80W-140
Product Code	40715	40716
API Gravity (ASTM D-1298)	33.2	31.1
Specific Gravity (ASTM D-1298)	0.859	0.870
Pounds/gallon	7.15	7.24
Viscosity (ASTM D-445):		
cSt @ 40°C	120	310
cSt @ 100°C	15.9	31.2
Brookfield Viscosity (ASTM D-2893):		
cPs @ -18°C	7,130	20,500
cPs @ -26°C	--	75,000
cPs @ -40°C	125,000	--
Viscosity Index (ASTM D-2270)	147	146
Flash Point (ASTM D-92) °F (°C)	400 (204)	395 (202)
Pour Point (ASTM D-97) °F(°C)	-48 (-54)	-33 (-36)
Channel Point (FTMS 3456) °F(°C)	Below -45 (-45)	--
Copper Strip Corrosion (ASTM D-130)		
3 Hours @ 212 F	1a	1a
3 Hours @ 250 F	1a	1a
Four Ball EP (ASTM D-2782)		
Weld Point, kgf	400	400
Load Wear Index	64	64
FZG (ASTM D-5182), Stage Passed	12	12
Timken OK Load (ASTM D-2782), lbs	50	85

The above data is subject to usual manufacturing variation. For more information and availability, call 1-800-442-LUBE.
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