



LUBRICANT, LIMITED SLIP REAR AXLE HYPOID, SAE 85W-140

WSS-M2C940-A

1. SCOPE

The material defined by this specification is a solvent refined petroleum base lubricant blended with sulfur/phosphorus/nitrogen extreme pressure and a friction modifier additive. The oil has improved oxidation stability and functions at MIL-L-2105D and API GL-5 performance levels.

2. APPLICATION

This specification was released originally for use in limited slip rear axle assemblies with hypoid type drive gears.

Note: Do not add any extra friction modifier to this product.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 METHOD OF SAMPLING (ASTM D 4057)

3.3 ACCEPTANCE REQUIREMENTS

The oil shall meet all the requirements of API service category GL-5 as defined in ASTM STP512A, "Laboratory Performance Tests for Automotive Gear Lubricants". It shall also meet the requirements of MIL-L2105D specification. All tests under surveillance by ASTM must be conducted using calibrated test equipment. These tests must be conducted on each blend of material (tank car or truck):

3.3.1	Density (ASTM D 4052)	Report
3.3.2	Total Sulfur, min. (ASTM D 1552/D 4951)	1.6%
3.3.3	Total Phosphorus (ASTM D 4927/D 4951)	0.10 - 0.15%
3.3.4	Moisture, max (ISO 3733/ASTM D 95)	0.10%

Date	Action	Revisions
2005 11 11	Activated	



Documents

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3.3.5	Viscosity at 100 °C, min (ASTM D 3104/ASTM D 445)	24.0 mm ² /s
3.3.6	Viscosity Index, min (ASTM D 2270)	90
3.3.7	Pour Point, max (ISO 3016/ASTM D 97)	-15 °C
3.3.8	Flash Point, min (ISO 2160/ASTM D 92)	190 °C
3.3.9	Copper Corrosion, 100 °C, 3h, max. (ISO 2160/ASTM D 130)	2b
3.3.10	Anti-Foaming Properties (ASTM D 892)	
	Volume of Foam, max (After sequences 1, 2 and/or 3)	50 mL
	Volume of Foam, max (After 5 minutes standing)	0 mL
3.3.11	Quality	
	Shall not be abrasive or corrosive to steel in the presence or absence of water and shall contain no filler, such as talc, Fullers earth, mica pulp, cork, asbestos, or other deleterious substances.	

3.4 QUALIFICATION TESTING

In addition to initial acceptance tests, these are to be conducted by all new suppliers prior to source approval and at least once every 6 months.

3.4.1 Documentation

Supplier must furnish to the affected Materials Engineering activity a completed and certified copy of the attached Supplement A & B and test reports demonstrating full compliance with all the requirements of this specification.

3.4.2 Thermal Oxidation Stability, 72h, 120 °C (FLTM BI 153-01)

Viscosity Increase (KV100), mm ² /s, max	10%
Evaporation Loss, max	1.5%
Deposits	No precipitation

(Acceptability to be determined by TAPME, Axle Design Engineering)

3.4.3 Water Tolerance Test (ASTM D 665 or FLTM BI 166-01)

No rust