



SPECIALISED LUBRICANTS

**PRODUCT NAME: LA 460 MANUAL GEARBOX AND TRANSAXLE GEAR OIL**

**SAE VISCOSITY: 70W-85**

**MAJOR RATINGS: GL-4**

## DESCRIPTION

LA460 is an Ultra-high performance, shear stable manual gearbox & transaxle oil formulated from PAES-SYN™ oil with superior high temperature stability, durability and protection advancing extreme pressure API GL-4 requirements.

## APPLICATION

LA460 improves the performance and shift capabilities of on-highway vehicles for passenger cars, 4WD's, light and heavy duty commercial trucks where an SAE 80 or 85 GL-4 viscosity oil is approved. Excellent protection for shock loading of towing and hauling operations in off-highway industries including construction, quarrying and agricultural.

## ADVANCED SYNTHETIC FORMULA

LubeAlloy Specialised Lubricants proprietary blend of PAES-SYN™ synthetic base oils, are formulated to enhance power transfer shift life and durability, exceeding OEM requirements.

## EXTENDED OIL SERVICE-OXIDATION RESISTANT

LA 460 retains an inherent ability to run cooler. This inherent thermal stability provides a cleaner, cooler and oxidation resistant oil. This desirable attribute provides extended oil drain periods and long term metal protection against metal expansion in contact points.

## WEAR PROTECTION

The combination of PAES-SYN™ base oils and highly advanced additive technology utilised in LA 460 provides a resilient oil film to protect synchromesh dog teeth, driven speed gears and shaft bearings when operated under stop-start city driving, long distance highway driving and towing loads.

## FOAM CONTROL WITH WEAR PROTECTION

LA 460 contains anti-foam chemistry that provides a resilient oil film at low and high temperatures. Elasto-hydrodynamic lubrication (EHD-L) provided from the PAES-SYN™ oils resist oil film shear and rupture under high torque, sliding and rolling load. This characteristics retains separation between various metallurgical opposing surfaces to increase transmission life and productivity.

## RUST AND CORROSION PROTECTION

The patented chemistry of LA 460 provides outstanding hydrophobic properties that prevent oxidisation of ferrous & non-ferrous yellow metals, protecting against rust and corrosion.



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## FEATURES & OPERATIONAL BENEFITS

| FEATURES  | ADVANTAGES AND OPERATIONAL BENEFITS  |
|---|--|
| Exceptional high temperature thermal stability<br>High Shear Stability/High Viscosity Index | Increased transmission high temperature operating capability.<br>Retains viscosity and film thickness at high temperatures<br>Provides exceptional low temperature performance                       |
| High load carrying efficiency<br>Balanced additive chemistry                                | Protects metal surfaces under heavy and shock loads.<br>Delivers exceptional performance in relation to rust and corrosion prevention, water separability, foam control and air release performance. |
| Yellow Metal Oxidation Resistant<br>Anti-Oxidant Protection                                 | Protects non-ferrous metal surfaces from corrosive elements<br>Ensures lubricant life is protected from acid attack and viscosity increase   |
| Increased gear tooth and bearing durability   | Extends component life of input shaft bearings, synchromesh 'dog teeth' and driven speed gears.  |

## SPECIFICATIONS & PERFORMANCE REQUIREMENTS

|                                 |  |
|---------------------------------|--|
| API                             | GL-4   |
| FORD                            | WSD-M2C-200-C, ESW-M2C-83A/B, ESP-M2C-83, ESZ-M2C-82C2, ESD-M2C-186A |
| GM                              | HN 2276, HN 2013, HN 1855, HN 1820, HN 1070, HN 1046                 |
| MERCEDES BENZ/ DAIMLER CHRYSLER | MB 235.1, 235.4  |
| MILITARY                        | ML-L-2105, CS3000A/B   |
| OPEL                            | 040 1064, 040 0063   |
| ZF                              | TE-ML 08, 02B, 16A, 17A, 19A, 24A                                    |
| MAN                             | 341 Z1/Z2  |



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## TYPICAL PROPERTIES

| TEST DESCRIPTION                          | ASTM   | TEST RESULT |
|---|--------|-------------|
| Description                               | Visual | Clear/Amber |
| Viscosity Grade                           | SAE    | 70W/85      |
| Viscosity, cSt @ 40°C                     | D-445  | 71.5        |
| Viscosity, cSt @ 100°C                    | D-445  | 12.3        |
| Viscosity Index                           | D-2270 | 171         |
| Density @ 15°C, kg/L                      | D-4052 | 0.852       |
| Flash Point, Cleveland Open Cup,(COC), °C | D-92   | 240         |
| Pour Point, °C                            | D-5950 | -42         |
| FZG Gear Test                             | IP 334 | >10         |
| Viscosity, Brookfield, cP @ -40°C         | D-2983 | 22,927      |

**Health and Safety:** This product is not expected to cause health concerns when used for the intended application and according to the recommendations in the Material Safety Data Sheet (MSDS).