## RECOMMENDED LUBRICANTS AND FLUIDS

| COMPONENT | SPECIFICATION | | AMBIENT TEMPERATURE |
|---|---|---|---|
| | | | °C: -30 -20 -10 0 10 20 30 40 50<br>°F: -22 -4 +14 +32 50 68 86 104 122 |
| Engine | Use oils to API service level S C | Viscosity | |
| | | 5W/20 )<br>5W/30 )<br>5W/40 ) | |
| | | 10W/30 | |
| | | 10W/40 )<br>10W/50 ) | |
| | | 15W/40 )<br>15W/50 ) | |
| | | 20W/40 )<br>20W/50 ) | |
| Automatic gearbox | ATF Dexron IID | | |
| Transfer gearbox(LT230) Final drive units Swivel pin housings | APIGL4 or GL5<br>MIL-L-2105 or<br>MIL-L-2105B | Viscosity | |
| | | 90 EP | |
| | | 80W EP | |
| Power steering | ATF Dexron IID | | |
| Borg Warner transfer gearbox | ATF Dexron IID<br>ATF M2C 33G<br>ATF Texaco 4291A Universal | | |
| Brake reservoir | Brake fluid must have a minimum boiling point of 260°C (500°F) and comply with FMVSS/116/DOT 4 | | |
| Lubrication nipples (hubs, ball joints, etc.) | NLGI-2 multipurpose lithium based grease | | |

| | |
|---|---|
| Engine cooling system | Use an ethylene glycol based anti-freeze (containing no methanol) with non-phosphate corrosion inhibitors suitable for use in aluminium engines to ensure the protection of the cooling system against frost and corrosion in all seasons. Use one part anti-freeze to one part water for protection down to -36°C (-33°F).<br>**IMPORTANT: Coolant solution must not fall below proportions one part anti-freeze to three parts water, i.e. minimum 25% anti-freeze in coolant otherwise damage to engine is liable to occur.** |
| Battery lugs, Earthing surfaces where paint has been removed | Petroleum jelly.<br>**NOTE: Do not use Silicone Grease** |
| Air Conditioning System Refrigerant | **METHYLCHLORIDE REFRIGERANTS MUST NOT BE USED**<br>Use only with refrigerant 12. This includes 'Freon 12' and 'Arcton 12' |
| Compressor Oil | Shell Clavus 68 BP Energol LPT68 Sunisco 4GS<br>Texaco Capella F Wax/Free 68 Castrol Icematic 99 |
| ABS Sensor bush-rear | Silicone grease: Staborags NBU - Wabco 830 502,0634<br>Wacker chemie 704 - Wabco 830 502,0164<br>Kluber GL301 |

**ANTI-FREEZE**

| ENGINE TYPE | MIXTURE STRENGTH | PERCENTAGE CONCENTRATION | PROTECTION LOWER TEMPERATURE LIMIT |
|---|---|---|---|
| V8 (aluminium) | One part anti-freeze<br>One part water | 50% | |
| **Complete protection**<br>Vehicle may be driven away immediately from cold | | | -33°F<br>-36°C |
| **Safe limit protection**<br>Coolant in mushy state. Engine may be started and driven away after warm-up period | | | -41°C<br>-42°F |
| **Lower protection**<br>Prevents frost damage to cylinder head, block and radiator. Thaw out before starting engine | | | -47°C<br>-53°F |

| Capacities (approx.)* | Litres | Imperial unit | US unit |
|---|---|---|---|
| Engine sump and filter from dry | 5.68 | 10 pints | 12.0 pints |
| Gearbox from dry-automatic ZF | 9.1 | 16 pints | 20 pints |
| LT230 Transfer gearbox from dry | 2.5 | 4.4 pints | 5.3 pints |
| Front axle from dry | 1.7 | 3.0 pints | 3.6 pints |
| Front axle swivel pin housing (each) | 0.35 | 0.6 pints | 0.7 pints |
| Rear axle from dry | 1.7 | 3.0 pints | 3.6 pints |
| Power steering box and reservoir | 2.9 | 5.0 pints | 6.0 pints |
| Cooling system | 11.4 | 20 pint | 24 pints |
| Fuel tank | 76.4 | 16.8 gallons | 20 gallons |
| Fuel tank (91 model year) | 81.8 | 18 gallons | 21.4 gallons |
| Borg Warner transfer gearbox from dry | 1.7 | 3.0 pints | 3.6 pints |

**NOTE:** *** All levels must be checked by dipstick or level plugs as applicable.**

**When draining oil from the ZF automatic gearbox, oil will remain in the torque converter, refill to high level on dipstick only.**

## LUBRICATION PRACTICE

The engine is filled with special oil to protect it during the running-in-period. The engine must be drained after 1600 km (1,000 miles) and refilled with an appropriate lubricant.

Use a high quality oil of the correct viscosity range and service classification in the engine during maintenance and when topping up. The use of oil not to the correct specification can lead to high oil and fuel consumption and ultimately to damaged components.

Oil to the correct specification contains additives which disperse the corrosive acids formed by combustion and prevent the formation of sludge which can block the oilways. Additional oil additives should not be used. Always adhere to the recommended servicing intervals.

**WARNING: Many liquids and other substances used in motor vehicles are poisonous and should under no circumstances be consumed and should be kept away from open wounds. These substances among others include anti-freeze, brake fluid, fuel, windscreen washer additives, lubricants and various adhesives.**

## FUEL REQUIREMENTS

The engine is designed to use only unleaded fuel. Unleaded fuel must be used for the emission control system to operate properly. Its use will also reduce spark plug fouling, exhaust system corrosion and engine oil deterioration.

Using fuel that contains lead will result in damage to the emission control system and could result in loss of warranty coverage. The effectiveness of the catalysts in the catalytic converters will be seriously impaired if leaded fuel is used. The vehicle is equipped with an electronic fuel injection system, which includes two oxygen sensors. Leaded fuel will damage the sensors, and will deteriorate the emission control system.

Federal regulations require that pumps delivering unleaded fuel be labelled **UNLEADED.** Only these pumps have nozzles which fit the filler neck of the vehicle fuel tank.

In the United States, Federal law also requires that fuel octane ratings be posted on the pumps. The Cost of Living Council Octane Rating (CLC) or Anti-knock Index (AKI) shown is an average of Research Octane Number (RON) and Motor Octane Number (MON). Fuel with a CLC or AKI rating of at least 87 should be used.

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