

RECOMMENDED LUBRICANTS AND FLUIDS

		AMBIENT TEMPERATURE								
COMPONENT	SPECIFICATION	-30	-20	-10	0	10	20	30	40	50
		-22	-4	+14	+32	50	68	86	104	122
Engine	Use oils to API service levels SE or SF or SE/CC or SF/CC	Viscosity								
		5W/20)	_____							
		5W/30)	_____							
		5W/40)	_____							
		10W/30	_____							
		10W/40) 10W/50)	_____							
Automatic gearbox	ATF Dexron IID		_____							
	Transfer gearbox (LT230) final drive units swivel pin housings <i>ROVER</i>	Viscosity								
		90 EP	_____							
MIL-L-2105 or MIL-L-2105B <i>STC 3534</i>	80W EP	_____								
Power steering	ATF Dexron IID		_____							
3org Warner transfer gearbox	ATF Dexron IID ATF M2C 33C 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). 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. NOTE: Do not use Silicone Grease
Air Conditioning System Refrigerant	METHYLCHLORIDE REFRIGERANTS MUST NOT BE USED Use only with refrigerant 12. This includes 'Freon 12' and 'Arcton 12'
Compressor Oil	Shell Clavus 68 BP Energol LPT68 Sunisco 4GS Texaco Capella F Wax/Free 68 Castrol Licematic 99
ABS Sensor bush-rear	Silicone grease: Staborags NBU • Wabco 830 502,0634 Wacker chemie 704 • Wabco 830 502.0164 Kluber CL301

ANTI-FREEZE

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

Continued

1988 Model Year Vehicles: Premium unleaded gasoline should be used with a CLC or AKI rating of 90 or 91 (95 or 96 RON), use of the higher of these ratings will enhance engine smoothness and overall performance.

1989 Model Year Vehicles: Premium unleaded gasoline must be used with a CLC or AKI rating of 90 minimum (95 RON). Fuel used other than that specified for the Model Year could seriously impair vehicle performance.

Using unleaded fuel with an octane rating lower than stated above can cause persistent, heavy 'spark knock' ('spark knock' is a metallic rapping noise). If severe, this can lead to engine damage. If a heavy spark knock is detected even when using fuel of the recommended octane rating, check the ignition timing system.

CAUTION: Do not use oxygenated fuels such as blends of methanol/ gasoline or ethanol/gasoline (e.g. 'Gasohol'). Take care not to spill fuel during **refuelling**.