

TORQUE VALUES

Lubricants/sealants have been specified in certain applications for assembly purposes.

* These bolts must have threads coated with Loctite 572 prior to assembly. For this purpose it is necessary to use an approved dispenser to apply the sealant/lubricant to the first three threads of the bolts.

** These bolts must have threads coated in lubricant EXP16A (Marston Lubricants) prior to assembly.

• • • These bolts must have threads coated in sealant Loctite 270 prior to assembly.

It is essential that all bolts are securely tightened and it is imperative that the correct torques values are adhered to.

	Nm	ft lb	in lb
COOLING SYSTEM			
Oil cooler pipes	26-34	19-25	
Radiator filler plug (plastic)	5-6		45-54
EMISSION CONTROL			
Lambda sensor	20	15	
ENGINE			
Adaptor plate to crankshaft	77 • 90	57 • 66	-
Alternator mounting bracket to cylinder head	3s • 43	26 • 32	-
Alternator to mounting bracket	22 • 28	16 • 21	-
Alternator to adjusting link	22 • 28	16 • 21	-
Chainwheel to camshaft	54 • 61	40 • 45	
Connecting rod bolt	47 • 54	35 • 40	
Cylinder head:			
Outer row	54 • 61	40 • 45 †	
Centre row	88 • 9s	65 • 70 •	
Inner row	88 • 95	65 • 70 †	
Damper to crankshaft	257 • 285	190 • 210	
Distributor clamp nut	19 • 22	14 • 16	-
Drive plate to converter	35 • 42	25-30 •	-
Engine mountings to engine and chassis	52	38	-
Engine mounting rubbers to brackets	17 -22	13 16	
Exhaust manifold to cylinder heads	19 • 22	14 • 16	
Fan to viscous unit	26 • 32	19 • 24	
Flexible drive plate to crankshaft adaptor plate	35 • 46	26-34 •	-
Intake manifold to cylinder heads	34 • 41	25 • 30	
Lifting eye to cylinder heads	35 • 43	26 • 32	
Main bearing cap bolts	68 • 75	50 - 55 **	-
Main bearing cap rear bolts	88 • 95	65 - 70 **	-
Manifold gasket clamp bolt	14 • 20	10 • 15	-
Oil pump cover to timing cover	11 • 14	8 • 10	-
Oil plug	24 • 30	18 • 22	-
Oil relief valve plug	40 • 47	30 • 35	
Oil sump drain plug	40 • 47	30 • 35	
Oil sump to cylinder block	7 • 11	5 - 8	
Oil sump rear to cylinder block	17 • 20	13 • 15	
Plenum chamber to ram housing	22 • 28	16 • 21	
Ram housing to intake manifold	20 • 27	15 • 20	
Rocker cover to cylinder head	7 • 10	5 • 7 †	
Rocker shaft bracket to cylinder head	34 • 40	25 • 30	
Spark plug..	19 • 22	14 • 16	
Starter motor attachment	41 • 47	30 • 35	
Thermostat housing to intake manifold	24 • 30	18 • 22	
Timing cover to cylinder block	24 • 30	18 • 22 †	
Viscous unit to water pump hub	40 • 50	30 • 37	
Water pump pulley to water pump hub	8 • 12	6 - 9 •	
Water pump timing cover to cylinder block	24 • 30	18 • 22	
Water jacket to plenum chamber	11 • 14	8 - 10 †	
1989 Model Year			
Oil cooler adaptor to oil pump cover	40-50	30-37	

06 TORQUE VALUES

1987-91 **KANGAROVER**

	Nm	ft lb	in lb
FUEL SYSTEM			
Air-Bypass valve (stepper motor)	17 • 22	13 • 16	
All flexible hose securing clamps	1,1 -1,3		10 • 12
Fuel feed pipe • hose to fuel rail	22	16	
 1991 Model Year			
Fuel filter	27-34	20-25	
 EVAPORATIVE LOSS CONTROL SYSTEM			
All flexible hose securing clamps	1,7		15

Charts below give torque values for all screws and bolts used except for those that are specified otherwise.

SIZE	METRIC		SIZE	UNC		UNF	
	Nm	ft lb		Nm	ft lb	Nm	ft lb
M5	5-7	3.7-5.2	1/4	6.8-9.5	5-7	8.1-12.2	6-9
M6	7-10	5.2-7.4	5/16	20.3-27.1	15-20	20.3-27.1	15-20
M8	22-28	16.2-20.7	3/8	35.3-43.4	26-32	35.3-43.4	26-32
M10	40-50	29.5-36.9	7/16	67.8-88.1	S0-65	67.8-88.1	50-65
M12	80-100	59.0-73.8	1/2	81.3-101.7	60-75	81.3-101.7	60-75
M14	90-120	66.4-88.5	5/8	122.0-149.1	90-110	122.0-149.1	90-110
M16	160-200	118.0-147.5					