

SERVICE MANUAL

MODEL

J13, J15 & J16 SERIES

ENGINES

SECTION EG

EG

ENGINE GENERAL

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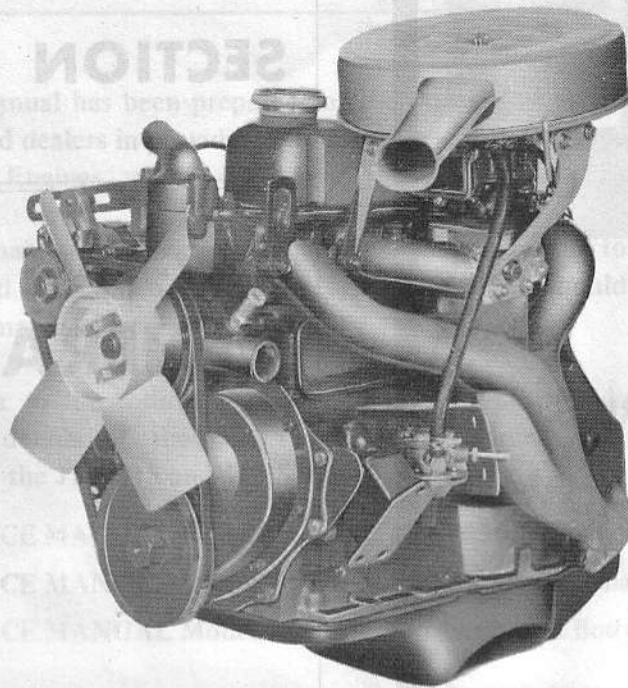


Fig. EG-1 Left side view for 620

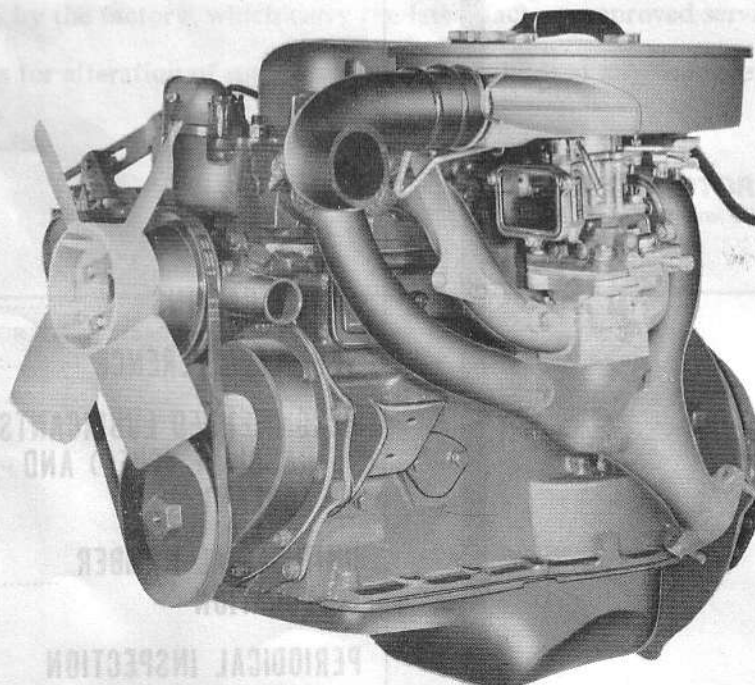


Fig. EG-2 Left side view for T20

SPECIFICATIONS

Engine model		J13	J15	J16
Number of cylinders, type		4, In line		
Valve arrangement		Over head valve		
Bore × stroke	mm (in)	73 × 77.6 (2.87 × 3.06)	78 × 77.6 (3.07 × 3.06)	78 × 82 (3.07 × 3.23)
Displacement	cc (cu in)	1,299 (79.3)	1,483 (90.5)	1,567 (95.6)
Compression ratio		8.2	8.3	
Firing order		1-3-4-2		
Number of piston rings	Compression	2		
	Oil	1		
Number of main bearings		3		
Capacities liters (U.S.qt., Imper.qt.)	Oil pan	3.0 (3 1⁄8 , 2 5⁄8)		
	With oil filter	3.7 (3 3⁄8 , 3 1⁄4)		
	Lubricating system	4.4 (4 5⁄8 , 3 3⁄8)		

VEHICLE REFERENCE

This section contains the information regarding engines only. Please refer to both this manual and the

manual of chassis and body for complete details of the vehicles.

The table that follows lists the

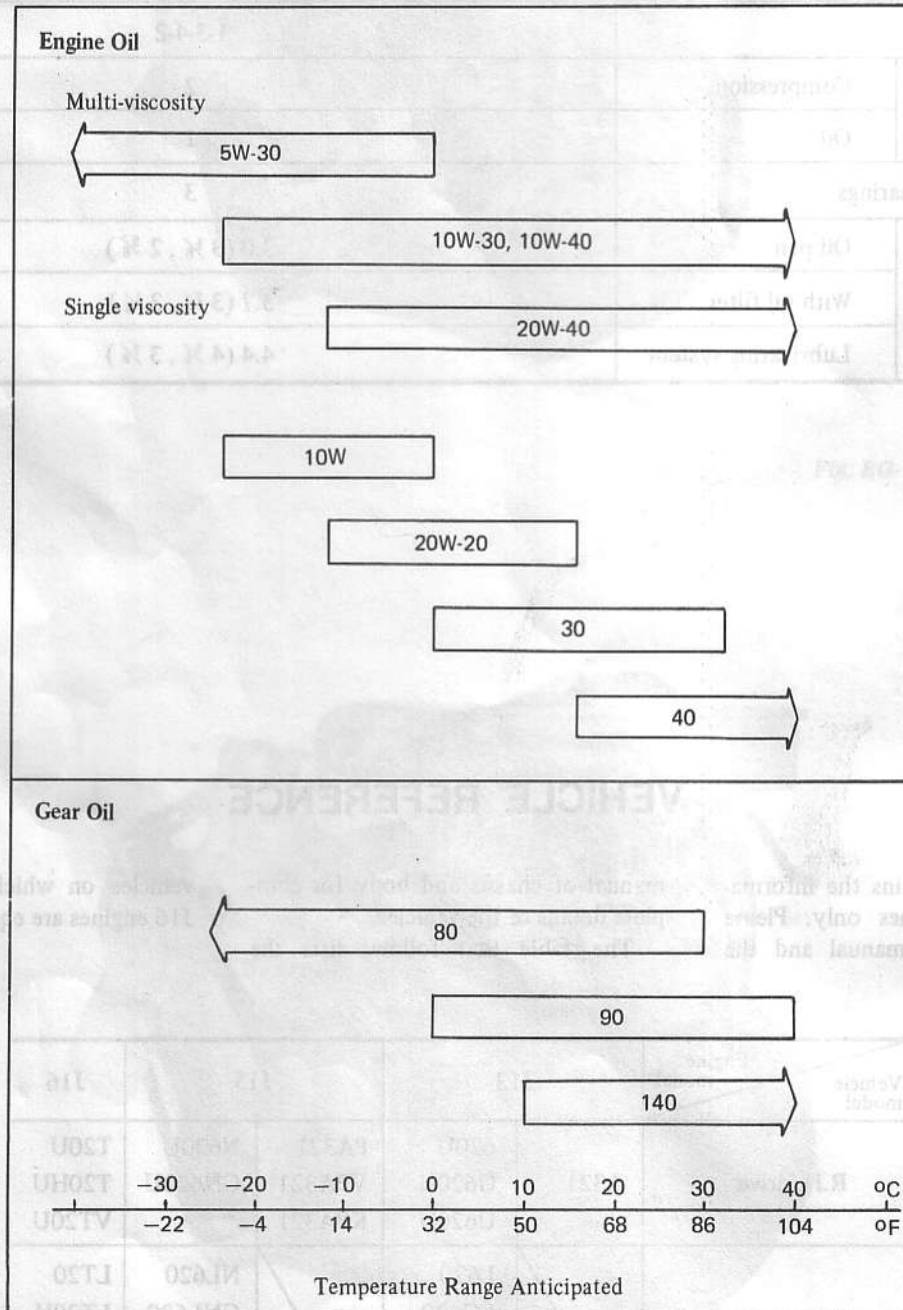
vehicles on which the J13, J15 and J16 engines are equipped.

Vehicle model	Engine model	J13		J15		J16
R.H. drive	A321	620U G620U U620U	PA321 VPA321 KPA321	N620U GN620U	T20U T20HU VT20U	
L.H. drive		L620 LG620 UL620 L620T LG620T		NL620 GNL620 UNL620 NL620T GNL620T	LT20 LT20H	

RECOMMENDED LUBRICANTS, GASOLINE (FUEL) AND COOLANT

RECOMMENDED SAE VISCOSITY NUMBER

Use the following grades of oil,
gasoline (fuel) and coolant.



RECOMMENDED LUBRICANTS

PRODUCING		AGIP	BP	CALTEX	CASTROL	ESSO	MOBIL	SHELL	TEXACO	TOTAL	
ENGINE OIL	Multigrade SD MIL-L-2104B	AGIP F.1 Woom 10W-40, 20W-50	Super Viscostatic 5W-20, 10W-40, 20W-50	Custom Five Star Motor Oil 10W-30, 10W-40, 20W-40, 20W-50	Castrolite 10W-30 XL 20W-40	Uniflo 5W-30, 10W-40 Extra Motor Oil 5W-20, 10W-30, 20W-40	Mobiloil Super 5W-30, 5W-40, 10W-40, 10W-50, 20W-50 Mobiloil Special 5W-20, 10W-30, 20W-40, 20W-50	Super Motor Oil 10W-40, 20W-50	Havoline Super Premium 5W-30, 10W-40, 20W-50	GTS 10W-30, 20W-40, 20W-50	
	Gasoline	Monograde SD MIL-L-2104B	AGIP F.1 Woom 10W-20, 30, 40, 50	_____	5HD, 10HD, 20HD, 30HD, 40HD, 50HD	_____	Mobiloil 10W, 20W-20, 30, 40, 50	_____	Havoline Motor Oil 10W, 20W-20, 30, 40, 50	Super HD 10W, 20W-20, 30, 40, 50	
	Transmission and steering	API GL-4 MIL-L-2105	AGIP F.1 Rotra Hypoid 80, 90, 140 or AGIP F.1 Rotra MP (MIL-L-2105B Level)	Gear Oil EP 80, 90, 140	Universal Thuban 80, 90, 140	Hypoy 80, 90, 140	Gear Oil GP 80, 90, 140	Mobilube EP or GX 80-90, 90, 140	Spirax 75EP, 80EP, 90EP, 140EP	Universal Gear Lub. EP 80, 90, 140	Extreme Pression 80, 90, 140
GEAR OIL	Differential	API GL-5 MIL-L-2105B	AGIP F.1 Rotra MP 80, 90, 140 AGIP F.1 Rotra MP/S90 (MIL-L-2105B Level containing friction modifier)	Linslip 90-1, 90	3450 Gear Oil 90 Multipurpose Thuban EP 80, 90, 140	Hypoy LS	Gear Oil GX 80, 90, 140	Mobilube HD 80, 80-90, 90, 140	Spirax Heavy Duty 80, 90, 140	3450 Gear Oil 90 Multipurpose Lub. EP 80, 90, 140	Extreme Pression type B 80, 90, 140
	Multipurpose grease	Lithium soap NLGI 2	_____	Energol L-2*	Marfak Multipurpose 2*	LM Grease*	Multipurpose Grease*	Mobilgrease MP*	Retinax A	Marfak Multipurpose 2*	Multis*
Brake and clutch fluid	Brake and clutch fluid	SAE J1703a	Disc Brake Fluid	Heavy Duty Brake Fluid	G.B.F. Crimson G.B.F. Green GI (LMA)	Brake Fluid HD 400, 500	Super Heavy Duty B.F.	Donax B, HB	Super Heavy Duty Motor Vehicle B.F.	Brake Fluid	
	Antifreeze coolant (L.L.C.)	_____	Antifrost	StarTex Antifreeze Coolant	Antifreeze	Antifreeze*	Permazone*	Glycoshell*	Antifreeze Coolant* StarTex Antifreeze Coolant*	Antigel*	

In case the above brand oils are not available, it is permissible to use oils marked “*”.

RECOMMENDED GRADE OF GASOLINE

Engine model	Compression ratio	Octane No. of gasoline
J13	8.2 : 1	more than 85
J15	8.3 : 1	
J16		

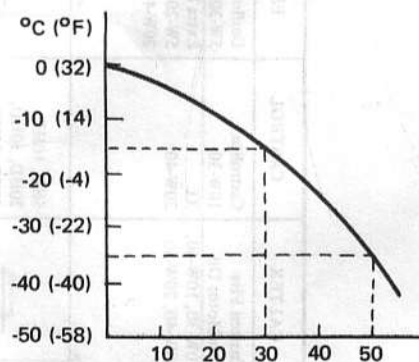
NISSAN LONG LIFE COOLANT (L.L.C)

This L.L.C. is an ethylene glycol base product containing chemical inhibitors to protect the cooling system from rusting and corrosion. L.L.C. does not contain any glycerine, ethyl or methyl alcohol. It will not evapo-

rate or boil away and can be used with either high or low temperature thermostat. It flows freely, transfers heat efficiently, and will not clog the passages in the cooling system. L.L.C. must not be mixed with any other

products. This coolant can be used throughout the seasons of the year and exchange period is two years or total running mileage of 36,000 km (24,000 miles).

Percent concentration	Boiling point		Freeze protection
	Sea level	0.9 kg/cm ² (13 psi) cooling system pressure	
30%	106°C (223°F)	124°C (255°F)	-15°C (5°F)
50%	109°C (228°F)	127°C (261°F)	-35°C (-31°F)



EG001

Fig. EG-3 Protection concentration

UNIT SERIAL NUMBER LOCATION

There are two serial numbers for unit identification: engine and chassis

numbers. These numbers are indicated in the vehicle identification plate lo-

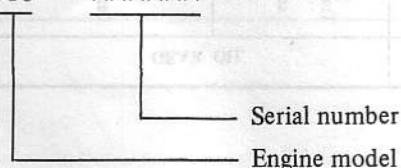
cated in an easy-to-read position.

ENGINE SERIAL NUMBER

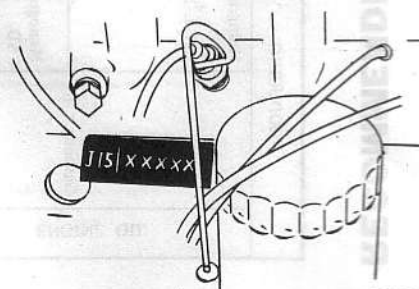
The engine serial number is stamped on the rear right side of cylinder block, at cylinder head contact face. See Figure EG-4.

The number is preceded by the engine model, J(J13), J15 or J16.

J - XXXXXX
J15 - XXXXXX
J16 - XXXXXX



EG-6



SP025

Fig. EG-4 Engine serial number location

PERIODICAL INSPECTION AND MAINTENANCE

MAINTENANCE INTERVAL

MAINTENANCE OPERATION	1	3	6	9	12	15	18	21	24	27	30	33	36
Number of thousands of kilometers			39 75	42 78	45 84	51 87	54 90	57	60	63	66	69	72
Number of thousands of miles	0.6	2	26 50	28 52	30 54	32 56	34 58	36 60	40	42	44	46	48
Adjust intake & exhaust valve clearances	X			X			X			X			X
Check drive belt tension	X			X			X			X			X
Retighten cylinder head bolts & manifold nuts	X												
Replace oil filter	R			R			R			R			R
Check engine oil for leaks	X			X			X			X			X
Change engine oil	R	R	R	R	R	R	R	R	R	R	R	R	R
Change engine coolant				R			R			R			R
Check cooling system hoses & connections							X			R			X
Grease water pump							X			X			X
Lubricate accelerator linkage				X			X			X			X
Clean or replace carburetor air cleaner filter (Dry type)		X	X	X	X	X	X	X	X	X	X	X	R
Replace carburetor air cleaner filter (Viscous type)													R
Adjust carburetor-idle r.p.m., mixture ratio		X					X			X			X
Replace fuel filter													R
Check fuel line (hoses, pipings, connections, etc.) for leaks	X	X	X	X	X	X	X	X	X	X	X	X	X
Check & adjust ignition timing	X			X			X			X			X
Check distributor breaker point		X	X	X	X	X	X	X	X	X	X	X	X
Grease distributor shaft & cam heel				X			X			X			X
Lubricate starter motor				X			X			X			X
Check or replace spark plugs				X			X			X			X
Check battery specific gravity	X						R			X			R
							X						X

R: Replacement