

SERVICE MANUAL

MODEL
L14, L16 & L18 SERIES
ENGINES



NISSAN MOTOR CO., LTD.
TOKYO, JAPAN

SECTION EG

EG

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ENGINE GENERAL

EXTERNAL VIEWS OF ENGINE

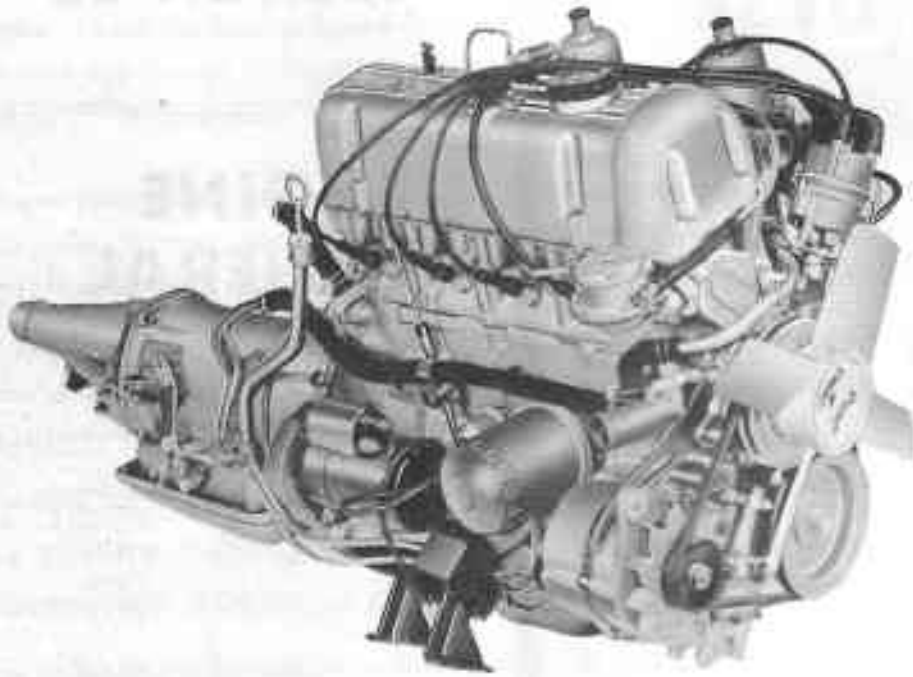


Fig. EG-1 Right side view (with SU twin carburetor)



Fig. EG-2 Left side view (with SU twin carburetor)

ENGINE GENERAL

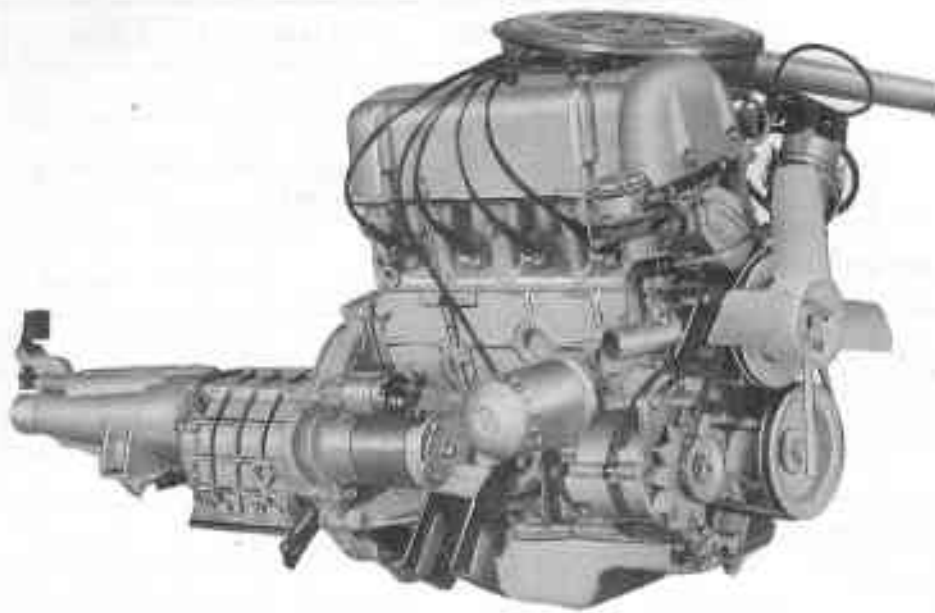


Fig. EG-3 Right side view (with single carburetor)



Fig. EG-4 Left side view (with single carburetor)

ENGINE GENERAL

SPECIFICATIONS

Engine model	L14(S)	L16(S)	L16(T)	L18(S)	L18(T)
Type	In-line				
Number of cylinders	4				
Valve arrangement	O.H.V.				
Bore x stroke	mm (in)	83 x 66 (3.27 x 2.60)	83 x 73.7 (3.27 x 2.90)	85 x 78 (3.35 x 3.07)	
Displacement	cc (cu in)	1,428 (87.1)	1,595 (97.3)	1,770 (108.0)	
Compression ratio		9.0	8.5	9.5	8.5 9.5
Firing order	1-3-4-2				
Number of piston rings	Compression	2			
	Oil control	1			
Number of main bearings	3				
Capacities	Oil pan (*1) liters (U.S.gal., Imper.gal.)	4.3 (1 ¼, 1)			
	Cooling system(*2) liters (U.S.gal., Imper.gal.)	6.0 (1 ¾, 1 ¾)			

Key to symbols:

(T) SU twin carburetor
 (S) Single carburetor

Notes: (*1) Amount of oil required at each oil change period when oil filter is renewed. In case oil filter is not renewed, total quantity is approximately 3.8 liters (1 U.S.gal., ¾ Imper.gal.).

(*2) If heater is used, total quantity is approximately 6.5 liters (1 ¾ U.S.gal., 1 ¾ Imper.gal.).

VEHICLE REFERENCE

This section contains the information regarding engines only. For complete details of vehicles, also refer to

the Service Manuals separately prepared for the "Chassis and Body" and "Automatic Transmission."

The table that follows lists the vehicles on which the L14, L16 or L18 engine is equipped.

ENGINE GENERAL

Engine model	Class	Vehicle name	Vehicle model		
			R.H. drive	L.H. drive	
L18(T)	Hardtop	Datsun 180B	KP610UAWTK KP610UWTK		
L18(S)			KPL610AWT KPL610AT		
	Sedan		P610UAWT P610UWT P610SUWT	PL610AWT PL610WT	
	Station wagon		WP610UAWT WP610UWT	WPL610WT	
L16(T)	Sedan	Datsun 1600	P510TKU	PL510TK	
L16(S)		Datsun 160B	610UAWT 610UWT 610SUWT	L610AWT L610WT L610SWT	
			Station wagon	W610UWT	WL610WT
			Van	V610SUWT	VL610SWT
	Sedan	Datsun 1600	P510AU P510TU	PL510A PL510T	
L14(S)		Datsun 1400	JN510TU JN510SU	NL510ST NL510T JNL510T JNL510S JNL510ST	

RECOMMENDED LUBRICANTS, PETROL (FUEL) AND COOLANT

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

Temperature	°F	-13 to 32°	5 to 68°	14 to 86°	32 to 104°	50 to 122°	Over 68°
	°C	-25 to 0°	-15 to 20°	-10 to 30°	0 to 40°	10 to 50°	Over 20°
Engine oil (MS)		SAE 10W	SAE 20W	SAE 20	SAE 30	SAE 40	SAE 50

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Percent concentration	Boiling point		Freeze protection
	Sea level	0.9 kg/cm ² cooling system pressure	
30%	106°C (221°F)	124°C (255°F)	-15°C (5°F)
50%	109°C (228°F)	127°C (261°F)	-35°C (-31°F)

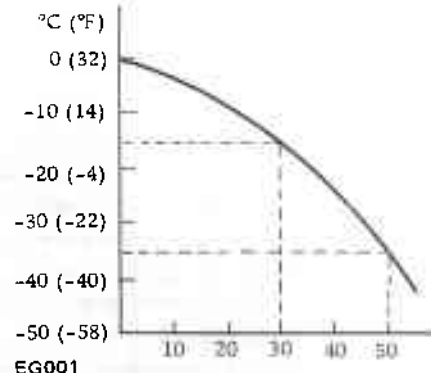


Fig. EG-5 Protection concentration

UNIT SERIAL NUMBER LOCATION

There are two serial numbers for unit identification; engine and chassis. These numbers are indicated in the car identification plate located 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. The number is preceded by the engine model, L14, L16 or L18.

L18 - 000001

└─ Serial No.

└─ Engine model

L14, L16, L18

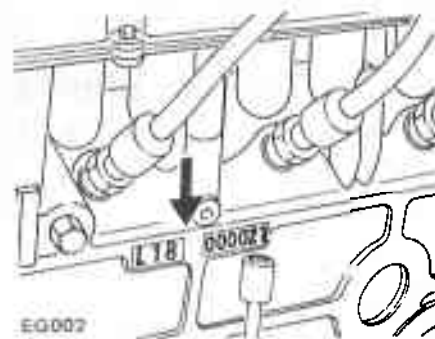


Fig. EG-6 Engine serial number location

ENGINE GENERAL

PERIODICAL INSPECTION AND MAINTENANCE

UNDER HOOD MAINTENANCE SCHEDULE

MAINTENANCE OPERATION	MAINTENANCE INTERVAL																			
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
Number of thousands of kilometers																				
Number of thousands of miles	0.6	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	
Adjust intake & exhaust valve clearances	X		X		X		X		X		X		X		X		X		X	
Check drive belt tension	X		X		X		X		X		X		X		X		X		X	
Retighten cylinder head bolts & manifold nuts	X																			
Replace oil filter	X		X		X		X		X		X		X		X		X		X	
Check engine oil for leaks	X		X		X		X		X		X		X		X		X		X	
Change engine oil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Change engine coolant			X		X		X		X		X		X		X		X		X	
Change engine coolant (L.L.C.)					X		X		X		X		X		X		X		X	
Check cooling system hoses & connections					X		X		X		X		X		X		X		X	
Lubricate accelerator linkage			X		X		X		X		X		X		X		X		X	
Replace carburetor air cleaner filter (Viscous type)																				X
Clean or replace carburetor air cleaner filter (Dry type)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Check SU-carburetor damper oil level, top up if necessary		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Adjust carburetor-idle r.p.m. & mixture ratio		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Replace fuel filter																				X
Check fuel line (hoses, pipings, connections, etc.) for leaks	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Check & adjust ignition timing	X		X		X		X		X		X		X		X		X		X	
Check distributor breaker point		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Grease distributor shaft & cam heel			X		X		X		X		X		X		X		X		X	
Check or replace spark plugs			X		X		X		X		X		X		X		X		X	
Check battery specific gravity	X																			X

R: Replacement

ENGINE GENERAL

AFTER FIRST 1,000KM (600 MILES)

Changing engine oil

Second and thereafter
every 5,000 km (3,000 miles)

Draining is best done after a good warm-up when the oil, being thoroughly heated, will flow readily and freely and any foreign matter will be held in suspension.

Place a large bowl or other shallow container under the engine. Then remove the oil pan drain plug. Do this carefully, as the oil will be hot and it will spurt out with some force. After completely draining the dirty oil off securely replace the oil drain plug and finally refill the engine in the usual way up to the "H" mark on the dipstick. Make sure the car is on a level surface while draining and filling the engine.

Replacing oil filter

Second and thereafter
every 10,000 km (6,000 miles)

The oil filter is of a full-flow cartridge type. The element of oil filter is sealed in the container as a unit, and it can be easily removed by hand. Take care not to lose the rubber seal ring. When it is to be assembled, the seal should be lightly oiled, and when the seal contacted, it is tightened by rotating it about 1/3 turn.

Oil pan capacity

L14, L16 and L18 4.3 liters
(1.14 U.S.gal., 0.95 Imper.gal.)
[including 0.5 liter
(0.13 U.S.gal., 0.11 Imper.gal.)
oil filter]

Fan belt tension

Second and thereafter
every 10,000 km (6,000 miles)

Incidentally, we call it the fan belt, but also it drives the water pump and alternator. It is advisable, however, to check the tension regularly, so that when the need for adjustment does arrive it is not overlooked. With the engine switched off and the bonnet up, push the belt gently downwards. You should be able to depress it about 10 mm (1/2 in). If the fan belt has become slack through wear loosen the fixing and adjusting bolts, and move the whole of the alternator toward or away from the engine. This will take up the slack. Tighten the bolts again, and recheck to make sure the belt has the required free play. If you tighten it too much it will wear rapidly and also overload the water pump and alternator bearings.

EVERY 10,000KM (6,000 MILES)

Changing cooling water

Scale or sediment accumulated in

water jacket or radiator is obstructive to heat radiation. The system should be thoroughly flushed out by opening the two drain plugs, one at the bottom of the radiator and the other at the right side of the cylinder block, until clean water comes out.

Always use clean, soft water in the radiator. Immediately the cold weather arrives, the cooling system should be protected against freezing by a good anti-freeze solution such as a NISSAN LONG LIFE COOLANT. To allow for expansion when hot, the level, when cold, should be visible just below the filler neck. Do not overfill the system. This coolant (L.L.C.) should be changed every 40,000 km (24,000 miles).

EVERY 40,000KM (24,000 MILES)

Replacing air cleaner element (wet paper type)

The air cleaner is of a wet paper type element (viscous type). As this element has been performed special treatment, there is no need to clean the element until it is replaced by a new one. This element will look so dirty as to be required dust, but never try to clean, since there is no fear to reduce the cleaning action. Care must be taken not to damage filter element.