

SERVICE MANUAL

MODEL A10 AND A12 ENGINE



NISSAN MOTOR CO., LTD.
TOKYO, JAPAN

SERVICE MANUAL

MODEL
A10 & A12
ENGINE



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QUICK REFERENCE INDEX

ENGINE GENERAL EG

ENGINE TUNE-UP ET

ENGINE MECHANICAL EM

ENGINE LUBRICATION SYSTEM EL

COOLING SYSTEM CO

FUEL SYSTEM EF

EMISSION CONTROL SYSTEM EC

ENGINE ELECTRICAL SYSTEM EE

SERVICE EQUIPMENT SE

FOREWORD

This service manual has been prepared for the purpose of assisting service personnel of our distributors and dealers for effective service and maintenance of model A10 and A12 series engines.

Since proper maintenance and service are most essential to satisfy our customers by keeping their cars in the best condition, this manual should be read carefully. The followings should be noted for effective utilization of this manual.

- 1. Please for complete detail of the car refer to this and DATSUN 1200 SERVICE MANUAL because this manual describes information concerning the engine.*
- 2. All part name in this manual conform to DATSUN 1200 PARTS CATALOG and DATSUN 1000 PARTS CATALOG, and only the genuine service parts listed in these parts catalogs should be used for replacement.*
- 3. All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication approval.*
- 4. It is emphasized that those who use this manual revise the contents according to the SERVICE JOURNAL and SERVICE DATA AND SPECIFICATIONS issued by the factory, which carry the latest factory approved servicing method.*
- 5. Rights for alteration in specifications and others at any time are reserved.*

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SECTION EG

ENGINE GENERAL

EG

EXTERNAL VIEW OF ENGINE	EG- 1
MAIN SPECIFICATIONS	EG- 2
VEHICLE REFERENCE	EG- 2
RECOMMENDED LUBRICANTS, GASOLINE AND COOLANT	EG- 3
UNIT SERIAL NUMBER LOCATION	EG- 5
PERIODICAL INSPECTION AND MAINTENANCE	EG- 6
(A10 AND A12 ENGINE)	

ENGINE GENERAL

EXTERNAL VIEW OF ENGINE

External view of model A10 engine

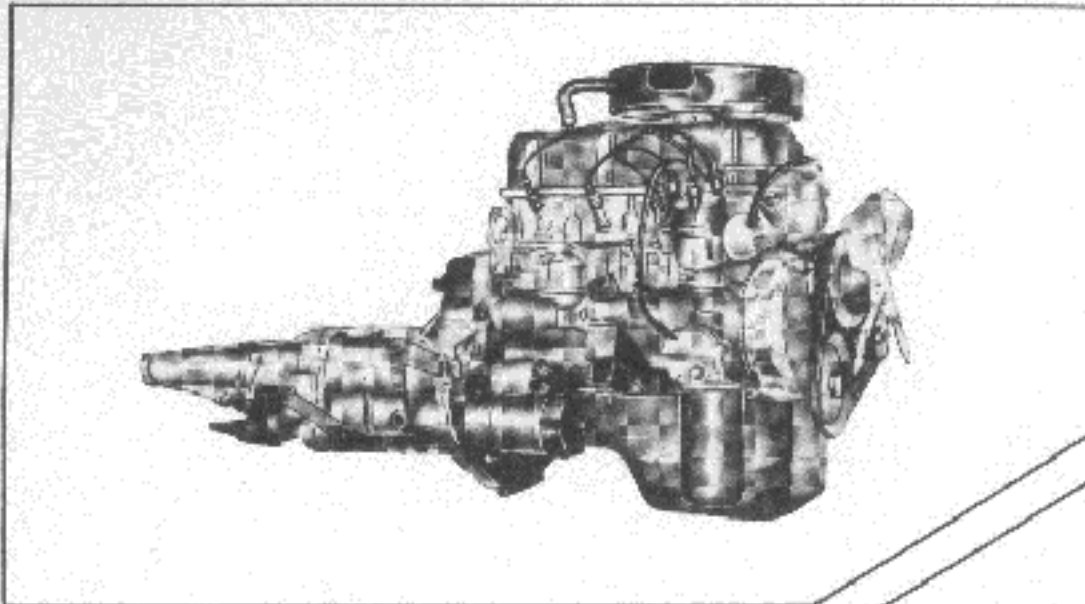


Fig. EG-1 Right hand side

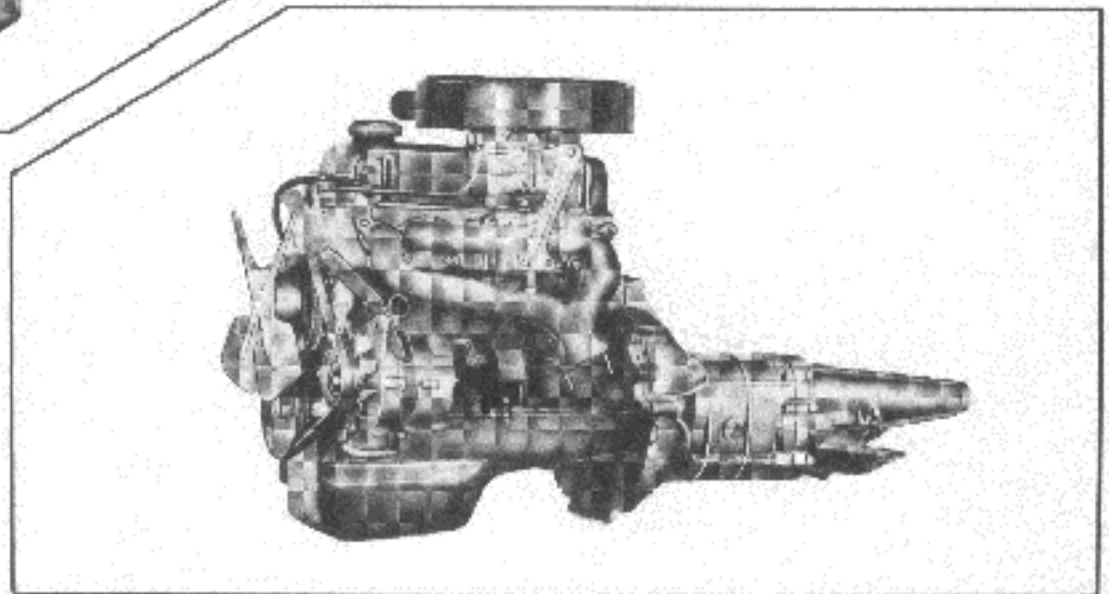


Fig. EG-2 Left hand side

External view of model A12 engine

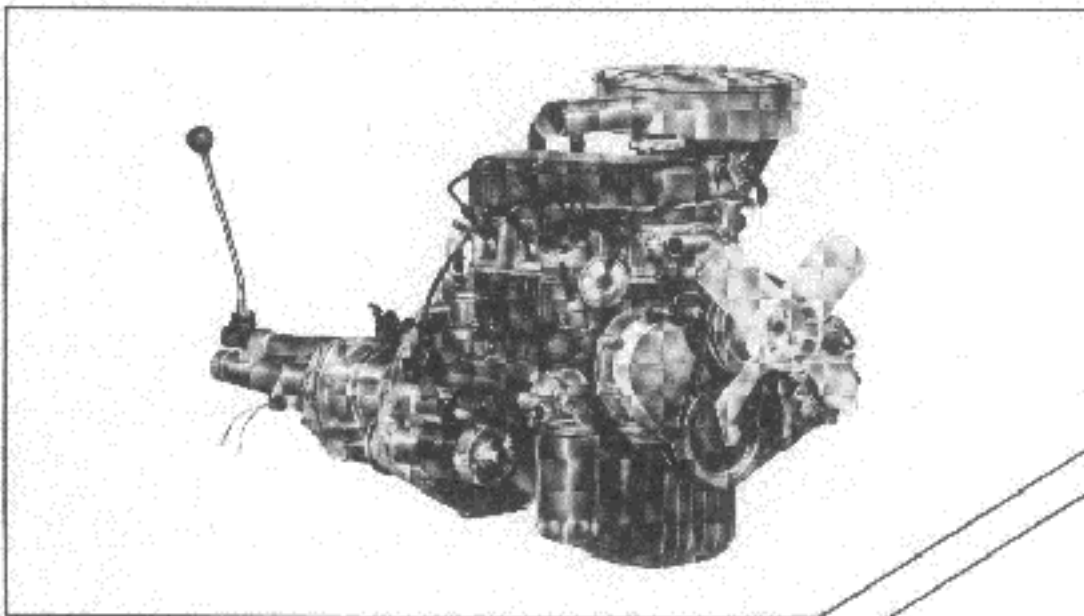


Fig. EG-3 Right hand side

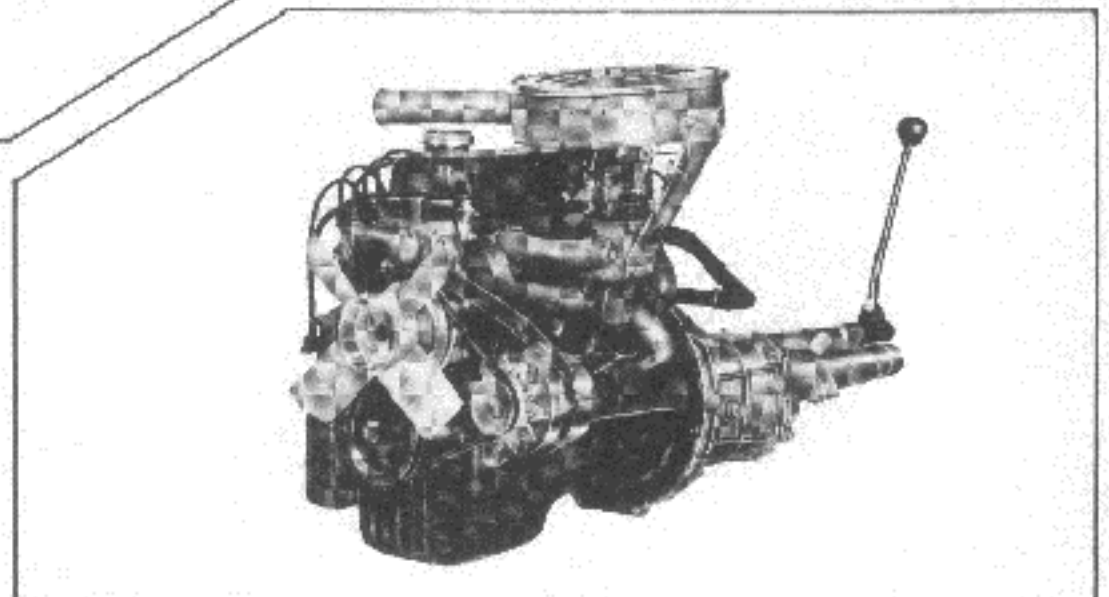


Fig. EG-4 Left hand side

ENGINE

MAIN SPECIFICATIONS

Engine model		A10	A12
Number of cylinders, in line		4	4
Valve arrangement		Over head valve	Over head valve
Bore	mm (in)	73 (2.874)	73 (2.874)
Stroke	mm (in)	59 (2.323)	70 (2.756)
Displacement	cc (cu in)	988 (60.3)	1,171 (71.5)
Compression ratio		8.5 : 1	9.0 : 1
Maximum power, SAE HP at rpm		62/6,000	69/6,000
Maximum torque, SAE kg-m (ft-lb) at rpm		8.5 (62)/4,000	9.7 (70)/4,000
Capacity Oil pan (*) ℓ (USqts/Imp qts)		2.7 (2 7/8 / 2 3/8)	2.7 (2 7/8 / 2 3/8)

(*) The above table indicates volume of oil required for replacement when oil filter element is not replaced. When both oil and oil filter element are replaced, total volume of oil will be approximately 3.2 liters (3-3/8 US qts, 2-3/4 Imp qts).

VEHICLE REFERENCE

Information described herein is about engines only.

Please, refer to both this manual and the manual for chassis and body for complete details of the car.

The vehicles on which A10 and A12 engines are mounted are as follows.

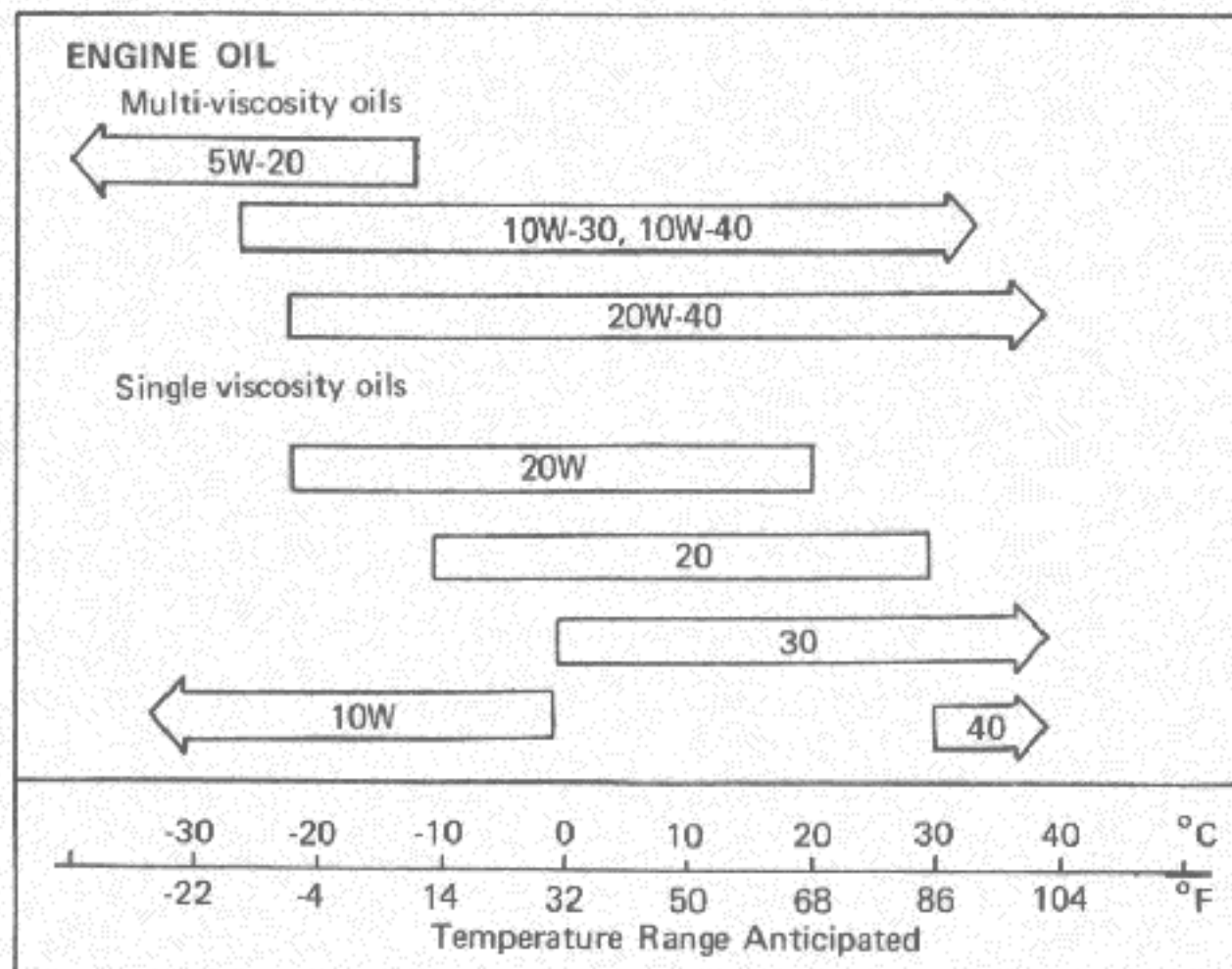
Engine		Vehicle		
Model	Displacement	Current model	Vehicle name	Remarks
A10	988 cc (60.3 cu in)	B10(S)(T)FU	DATSUN 1000	RH drive, 4 door sedan with manual T/M
		B10(S)AFU		RH drive, 4 door sedan with automatic T/M
		LB10(S)TF		LH drive, 4 door sedan with manual T/M
		B10(S)(T)U		RH drive, 2 door sedan with manual T/M
		B10(S)AU	RH drive, 2 door sedan with automatic T/M	
		LB10(S)T	LH drive, 2 door sedan with manual T/M	
		VB10(S)(T)U	DATSUN 1000 VAN	RH drive, Van with manual T/M
		VLB10(S)T		LH drive, Van with manual T/M
KB10U	DATSUN 1000 COUPE	RH drive, Coupe with manual T/M		
(L)B20(S)TU	DATSUN 1000 PICK-UP	RH & LH drive, Pick-up with manual T/M		

ENGINE GENERAL

A12	1,171 cc (71.5 cu in)	B110(S)(T)U	DATSUN 1200	RH drive, 4 door sedan with manual T/M
		B110(S)AU		RH drive, 4 door sedan with automatic T/M
		LB110(S)T		LH drive, 4 door sedan with manual T/M
		LB110A		LH drive, 4 door sedan with automatic T/M
		B110(S)(T)RU		RH drive, 2 door sedan with manual T/M
		B110ARU		RH drive, 2 door sedan with automatic T/M
		LB110(S)TR		LH drive, 2 door sedan with manual T/M
		LB110TRU		LH drive, 2 door sedan for Canada
		LB110TRN		LH drive, 2 door sedan for Canada
		LB110AR		LH drive, 2 door sedan with automatic T/M
		VB110(S)(T)U	DATSUN 1200 WAGON or VAN	RH drive, Wagon or Van with manual T/M
		VLB110(S)T		LH drive, Wagon or Van with manual T/M
		KB110U	DATSUN 1200 COUPE	RH drive, Coupe with manual T/M
		KLB110		LH drive, Coupe with manual T/M
		KLB110U		LH drive, Coupe for U.S.A. & Canada
		KLB110N		LH drive, Coupe for Canada

RECOMMENDED LUBRICANTS, GASOLINE AND COOLANT

Use the following grades of oil, gasoline and coolant.



ENGINE

Recommended lubricants

ENGINE OIL	Gasoline	TEXACO	CHEVRON	CALTEX	CASTROL	BP	ESSO (ENCO)	MOBIL	SHELL	
		Multi grade MIL-L-2104B API MS	Havoline Motor Oil 10W-30, 20W-40	RPM Supreme Motor Oil 10W-30, 20W-40	Custom Five Star Motor Oil 10W-30, 20W-40	Castrolite 10W-30 Castrol XL20W-40 Castrol GTX20W-50*	BP Super V Viscostatic 5W-20, 10W-30, 20W-50*	Esso (Enco) Uniflo 5W-30, 10W-40* Esso (Enco) Extra Motor Oil 10W-30, 20W-40	Mobiloil Special 10W-30 Mobiloil Super 10W-40*	Shell X100 10W-30, 20W-40
		Regular MIL-L-2104B API MS	Havoline Motor Oil 10W, 20W-20, 30, 40	RPM Special Motor Oil 10W, 20W-20, 30, 40	Five Star Motor Oil 10W, 20W-20, 30, 40	Castrol HD 5W, 10W, 20W-20, 30, 40, 50	BP Energol HD 10W, 20W, 30, 40, 50	ESSO (Enco) Motor Oil 10W, 20W-20, 30, 40, 50	Mobiloil 10W, 20W-20, 30, 40, 50	Shell X100 10W, 20W, 30, 40, 50
Multi-purpose Grease MIL-G-2108, MIL-G-10924	Marfak Multi-purpose* Marfak All Purpose*	RPM Multi-motive Grease*	Marfak Multi-purpose* Marfak All Purpose*	Castrol LM*	BP Energrease L2*	Esso (Enco) Multi-purpose grease H*	Mobil grease MP*	Shell Retinax A		
ANTI-FREEZE COOLANT	Anti-Freeze Coolant*	Atlas Perma Guard* Anti-freeze and Coolant	Anti-freeze Coolant	Castrol Anti-freeze	BP Anti-frost	Atlas Perma Guard*	Mobil Freezone*	Shellzone		

* Should the above brand of oils not be available, it is permissible to use oils marked *

Engine model	Compression ratio	Octane number of gasoline
A10	8.5 : 1	more than 85
A12	9.0 : 1	more than 90

Nissan long life coolant (L. L. C.)

L.L.C. is an ethylene glycol base product containing chemical inhibitors to protect the cooling system from rusting and corrosion. The L.L.C. does not contain any glycerine, ethyl or methyl alcohol. It will not evaporate or boil away and can be used with either high or low temperature thermostats. It flows freely, transfers heat efficiently, and will not clog the passages in the cooling system. The L.L.C. must not be mixed with other product. This coolant can be used throughout the seasons of the year and exchange period is two years or total running mileage of 40,000 km (24,000 miles).

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)

ENGINE GENERAL

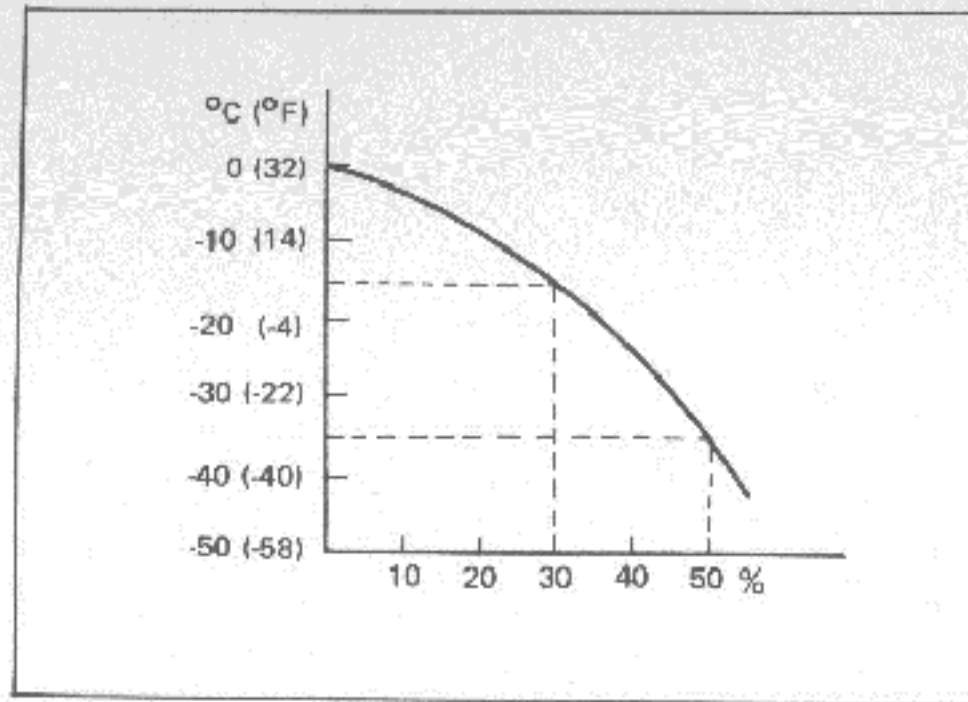


Fig. EG-5 Protection concentration

UNIT SERIAL NUMBER LOCATION

There are two serial numbers for unit identification; the engine number and the chassis number. These numbers are repeated in the car identification plate, which is located in an easy-to-read position.

Engine Serial Number

The engine serial number is stamped in the rear right side of cylinder block, at cylinder head contact surface. The number is preceded by engine model, A10 or A12.

A10 XXXXXX
A12 XXXXXX
└── Engine model └── Serial number

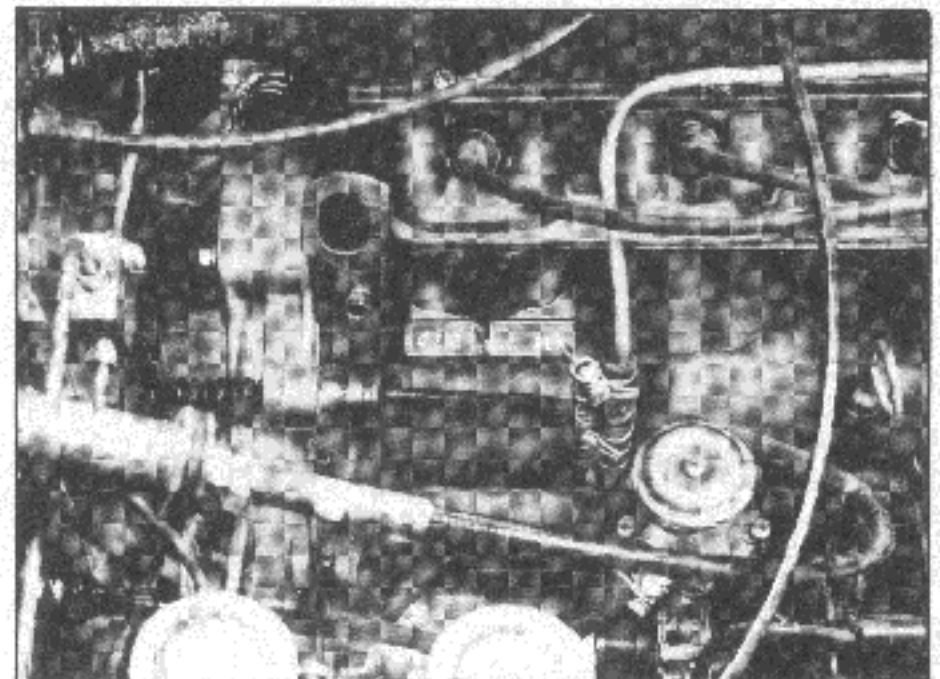


Fig. EG-6 Engine serial number

ENGINE

PERIODICAL INSPECTION AND MAINTENANCE (A10 AND A12 ENGINE)

ENGINE SERVICE POINTS (Except U.S.A. & CANADA) <small>Number of thousands of kilometers (miles)</small>	MAINTENANCE INTERVAL													
	1	5	10	15	20	25	30	35	40	45	50	90	95	100
Change engine oil	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Change cooling water		X	X		X		X		X		X			X
Change cooling water (L.L.C.)									X					
Grease distributor shaft & cam heel			X		X		X		X		X			X
Lubricate accelerator linkage			X		X		X		X		X			X
Replace carburetor air cleaner element									X					
Check or replace spark plugs			X		R		X		R		X			R
Check or replace distributor breaker points		X	X	X	X	X	X	X	X	X	X	X	X	X
Replace oil filter		X	X		X		X		X		X			X
Replace cartridge type fuel strainer					X				X					X
Retighten cylinder head bolts and manifold nuts	X													
Adjust valve clearance	X		X		X		X		X		X		X	X
Check and adjust ignition timing	X		X		X		X		X		X		X	X
Check fan belt tension	X		X		X		X		X		X		X	X
Adjust engine idling		X	X		X		X		X		X		X	X
Check fuel line (hoses, pipings, connections, etc.) for leaks	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Check engine for oil and water leaks	X		X		X		X		X		X		X	X
Check battery specific gravity	X				X				X					X

R : Replacement