SERVICE MANUAL

DATSUN

MODEL 410 SERIES

NISSAN MOTOR CO., LTD.

OTEMACHI BLDG., OTEMACHI, CHIYODA-KU,
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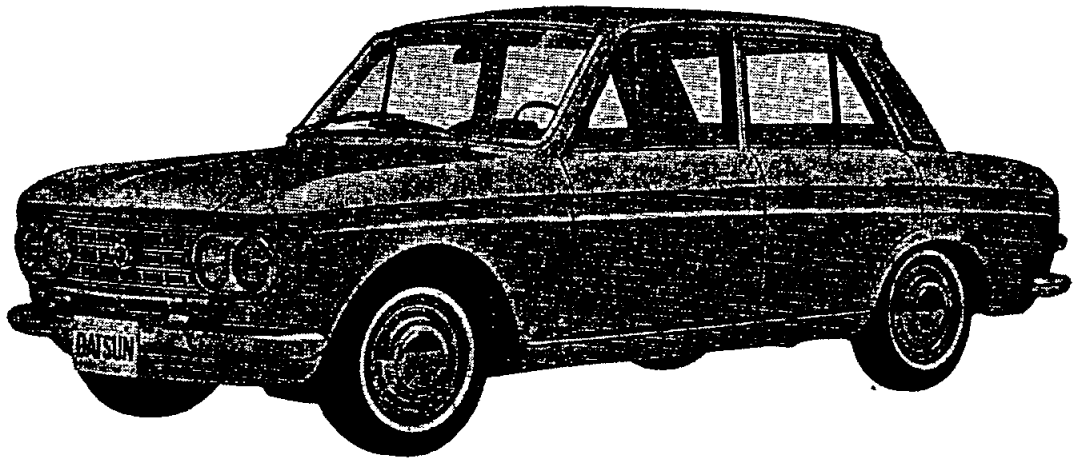

DATSUN BLUEBIRD MODEL P(L)410

INTRODUCTION

This manual has been complies for purpose of assisting *DATSUN* distributors and dealers for effective service and maintenance of the *Model P(L)410* Each assembly of the major components is described in detail. In addition, comprehensive instructions are given for complete dismantling, assembling and inspection of these assemblies.

It is emphasised that only genuine *DATSUN Spare Parts* should be used as replacements.

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SPECIFICATION

MAJOR SPECIFICATION

Name and Model of Vehicle		Datsun P410		Classification	S
Name of Manufacturer		NISSAN MOTOR CO., LTD.			
Name of Chassis and Model		Datsun P410		Kind of Vehicle	Passenger 4-wheel
Vehicle Weight kg		885	Name of Vehicle		Datsun
Seating Capacity		5	Series of Vehicle		P410
Vehicle Gross Weight kg		1,160	Engine Model		E1
Overall Length mm		3,990	Total Piston Displacement ltr.		1,189
Overall Width mm		1,490	Fuel		Gasoline
Overall Height mm		1,415			
Interior size of room Space mm	Length	1,685	Wheel Base mm		2,380
	Width	1,240	Overhang to the end of Rear Body		950
	Height	1,130	Cargo Space, of-set mm		
Distribution of Vehicle Weight Without Load kg	Front	505	Tire Size	Front	5.60-13-4P
	Rear	380		Rear	5 60-13-4P
Distribution of Vehicle Weight With Load kg	Front	600	Proportion of Tire With Load	Front	95 2
	Rear	560		Rear	88.9
Proportion of Front Tire with Load		51.7	Max. Inclination Angle	Front	46°
				Rear	46°
Tread mm	Front	1,206			
	Rear	1,198			

COMPARISON WITH MAJOR SPECIFICATION OF MODEL P410

ITEM \ MODEL			P410
DIMENSIONS (mm)	Vehicle Overall Length		3,995
	Vehicle Overall Width		1,490
	Vehicle Overall Height		1,415
	Interior Size of Cargo Space	Overall Length	1,685
		Overall Width	1,240
		Overall Height	1,130
	Tread	Front	1,206
		Rear	1,198
	Wheel Base		2,380
	Min. Road Clearance		175
	Floor Height		
	Overhang to the Front End (Without Bumper)		605
	Overhand to the Rear End (Without Bumper)		950
	Frame Overhand to the Front End		
	Frame Overhang to the Rear End		
TIRE SIZE	Front		5.60-13-4P
	Rear		5.60-13-4P
WEIGHT (kg)	Vehicle Weight		915
	Seating Capacity		5
	Max. Payload		
	Vehicle Gross Weight		1,160 (1,190)
	Distribution of Vehicle Weight Without Load	Front	505(525)
		Rear	380(390)
	Distribution of Vehicle Weight With Load	Front	610(615)
		Rear	560(575)
	Chassis Weight		
	Distribution (Front)		
	Distribution (Rear)		
	Height of Gravity Center mm		565
PERFOR-MANCE	Max. Speed km/h (m/h)		128(80 m/h)
	Flat Road W2 Max Load km/ℓ		18
	Grade Ability Sin θ		0.34

ITEM			MODEL P410
PERFOR-MANCE	Min. Turning Radius m		5.0
	Brake Stopping Distance (50 km/h)		13.7
ENGINE	Model		E1
	Manufacturer		Nissan
	Classification		Gasoline Engine
	Cooling System		Water Forced Circulation
	No. of Cylinder & Arrang.		4 in Line
	Cycle		4
	Combustion Chamber		Wedge Type
	Valve Arrangement		Over Head
	Bore x Stroke mm		73 x 71
	Displacement ℓ		1,189
	Compression Ratio		8.2.
	Compression Pressure kg/cm² (r.p.m.)		11.5/350
	Max. Exploding Pressure kg/cm² (r.p m.)		48/3,600
	Max. Mean Effective kg/cm² (r.p.m.)		9.3/3,600
	Max. Power B.H.P. /r.p.m. (SAE)		60/5,000
	Max. Torque m-kg/r p.m.		9.3/3,600(SAE) (63.7 ft-lb)
	Full Road SR/PS-h		210/2,000
	Length x Width x Height mm		589 x 582 x 690
	Weight kg		138
	Position of Engine		Front
	Type of Piston		Split Skirt
	Material of Piston		LO-EX
	No. of Piston Ring	Pressure	2
		Oil	1
	Valve Timing	Inlet Open	14° B.T.D.C.
		Inlet Close	50° A.B.D.C.
		Outlet Open	52° B.T.D.C.
		Outlet Close	12° A.B.D.C.
	Valve Clearance	Intake	0.35
		Exhaust	0.35
IGNITION SYSTEM	Starting Method		Magnetic Starting System
	Ignition Method		Battery Coil Type

ITEM			MODEL P410	
ENGINE	Ignition Timing B. T. D. C. /r. p. m.		10°/600	
	Firing Order		1-3-4-2	
	Ignition Coil	Type	C14-50 (HN-12F)	
		Manufacturer	Hitachi, Hanshin	
	Distribution	Type	D-409-1, TVB-4BL (1 ea.)	
		Manufacturer	Hitachi, Mitsubishi	
		Ign. Timing Advance System	Vacuum or Governor	
	Spark Plug	Type	L45, B-6E	
		Manufacturer	Hitachi, Nihontokushutoki	
		Thread m	14	
		Gap mm	0.7~0.8	
	Carburetor	Type & No.	2D-30CE 1 ea.	
		Manufacturer	Nihonkikaki	
		Throttle Valve Bore mm	28	30
		Venturi Size mm	21-8	25-14-7
		Main Jet mm	#96	#115
		Slow Jet mm	#48	#48
		Pump Jet mm	#60	
		Power Jet mm	#55	
		Air Draught	Down	Down
	Air Cleaner	Type & No,	Paper Filter 1 ea.	
		Manufacturer	Tsuchiya	
	Fuel Pump	Type	Diaphragm	
		Manufacturer	Showa, Kyosan	
	Fuel Tank	Capacity of Fuel Tank	41ℓ(10.8 U.S. gallon)	
LUBRICATION SYSTEM	Lubricating Method		Forced Pressure Type	
	Oil Pump Type		Trocoid Type Teth	
	Oil Filter		Paper Filter	
	Oil Pan Capacity ℓ (U.S. gal.)		2.9 (0.8)	
COOLING SYSTEM	Type		Water Cooling Closed Type	
	Radiator		Maccord Closed Type	
	Capacity of Cooling Water ℓ		4.7	
	Type of Water Pump		Centrifugal Type	
	Thermostat		Bellet Type	

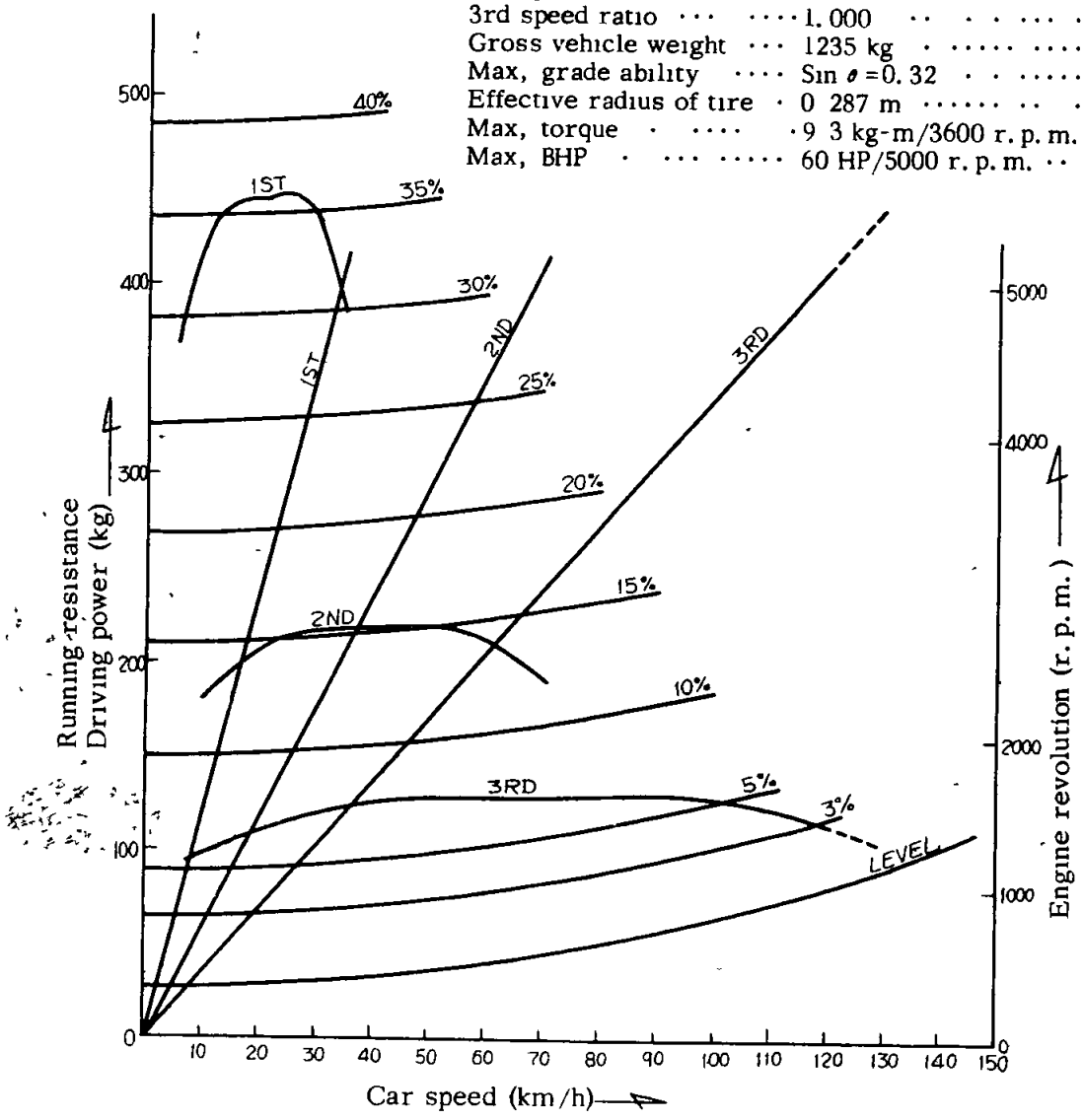
ITEM			MODEL: P410	
BATTERY	Type of No.		2SMB, 14M2	
	Voltage V		12	
	Capacity A.H.		40	
GENERATOR	Type		AC300-12AIR	
	Manufacturer		Mitsubishi	
	Generating Method		Alternator	
	Voltage V		12	
	Capacity kw		0.3	
	Voltage Regulator		RL-A2	
STARTER	Type		S114-72	
	Manufacturer		Hitachi	
	Voltage & Power V-HP		12-1.4	
RUNNING DEVICE	Engine-Transmission Mechanism		Engine-Clutch Transmission	
TRANSMITTING DEVICE	Clutch	Type	Single Dry Disc Hydraulic Operation	
		Number of Plate	1 (facing 2)	
		Outdia. x India. x Thickness mm	200 x 130 x 3.5	
		Total Friction Area	363 cm²	
	Transmission	Type	Synchromeshed on 2nd Top & 1 Reverse	Synchromeshed on 2nd 3rd & 4th 4 forward 1 reverse (410-UT)
		Operating Method	Remote Control	Floor Shift
		1st	3.518	3.945
		2nd	1.725	2.402
		3rd	1.000	1.490
		4th		1.000
		Reverse	4.125	5.159
PRE-PELLER SHAFT	Length x Outdia. x India. mm		1,237 x 68 9 x 65.3	
	Type of Universal Joint		Spicer	
FINAL GEAR	Final Gear	Type of Gear	Hypoid	
		Gear Ratio	4.375	
DIFF. GEAR	Housing Type		Banjo	
	Type of Numberof Gear		Straight Bevel Pinion (2)	

ITEM \ MODEL			P410
STEERING SYSTEM	Type of Gear		Cam & Lever
	Gear Ratio		14. 8
	Steering Angle Out		28°36'
	Steering Wheel Dia. mm		405
RUNNING DEVICE	Wheel Arrangement		2 Front & 2 Rear
	Front Axle		Wish Bone Ball Joint Type
	Toe-In mm		3
	Camber		1°30'
	Caster		1°30'
	Inclination Angle of King Pin		6°30'
	Type of Rear Axle		Semi-Floating Type
BRAKE SYSTEM	Master Brake	Type	2 Leading (Front) Leading Trailing (Rear)
		Lining Dimension (Front)	40 x 4. 5 x 215
		Lining Dimension (Rear)	40 x 4. 5 x 215
		Total Braking Area (Rear) cm²	228. 6
		India. of Drum (Front)	25. 40
		India. of Drum (Rear)	23. 81
	Oil Brake	Inner Dia of Master Cyl. mm	22. 22
		India. of Wheel Cyl. (Front) mm	25. 40
		India. of Wheel Cyl. (Rear) mm	23. 81
		Max. Oil Pressure kg/cm²	115
	Parking Brake	Type	Mechanical for Rear Wheel
		Lining Dimension mm	40 x 4. 5 x 215
		Total Braking Area cm²	351
		India. of Drum mm	228. 6
SUSPENSION	Front		Independent Suspension with Double Wish Bones, Coil Springs
	Coil Spring Size Length x Width x Thickness - No.		14 x 94 x 325. 5 - 8

ITEM \ MODEL		P410
SUSPENSION	Rear	Parallel Semi-Elliptic
	Spring Size Length x Width x Thickness - No.	$1200 \times 60 \times \frac{6-2}{5-2}$
	Helping Spring mm	
	Shock Absorber (Front)	Telescopic Double Action
	Shock Absorber (Rear)	Telescopic Double Action
	Stabilizer (Front)	Torsion Bar Type
	Stabilizer (Rear)	Torsion Bar Type
FRAME	Type	
	Section	
	Dimension Height x Width x Thickness mm	

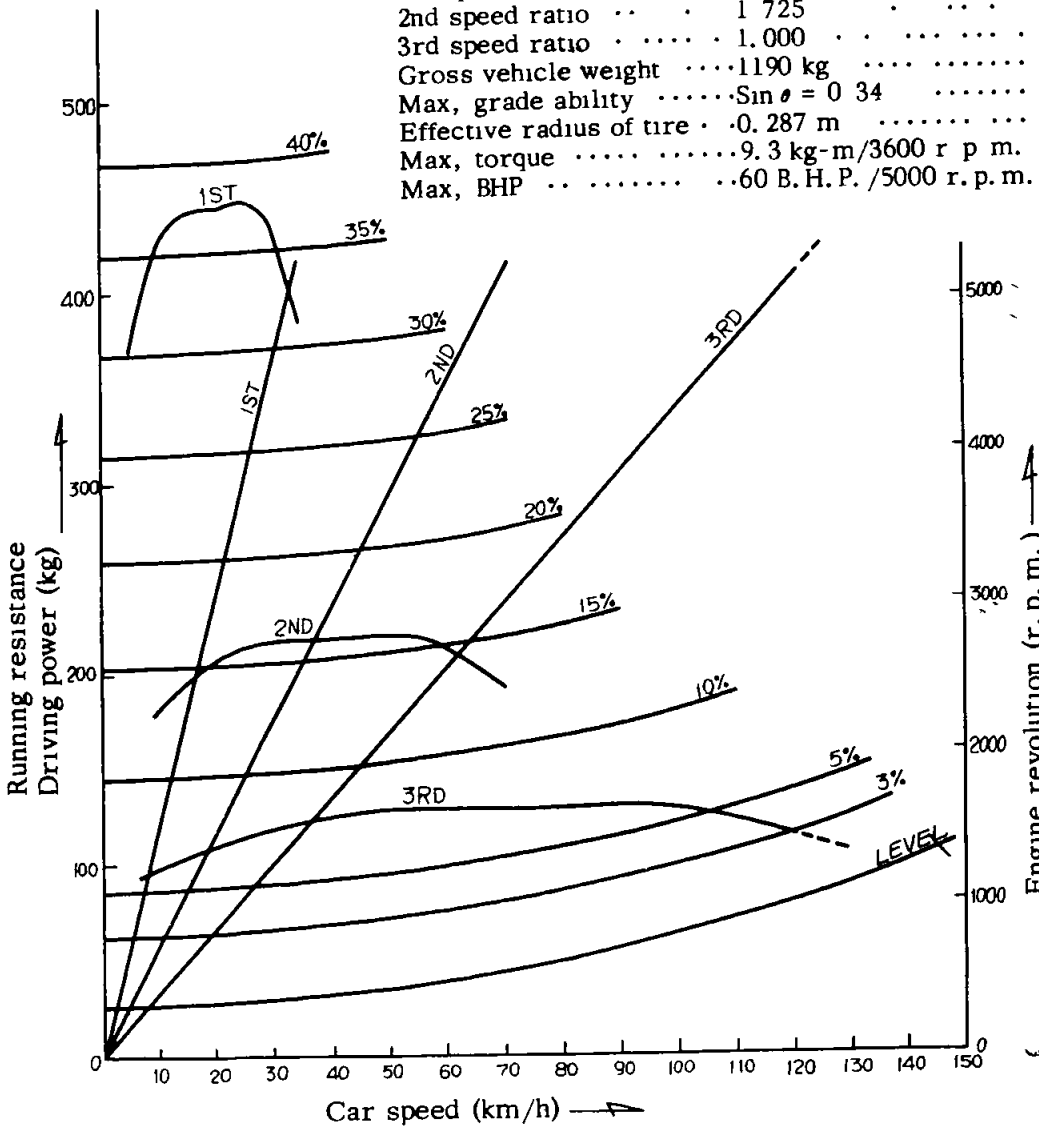
MODEL WP410
RUNNING PERFORMANCE CURVE

Final gear ratio	4 375
1st speed ratio	3. 518
2nd speed ratio	1 725
3rd speed ratio	1. 000
Gross vehicle weight	1235 kg
Max, grade ability	Sin θ = 0. 32
Effective radius of tire	0 287 m
Max, torque	9 3 kg-m/3600 r. p. m.
Max, BHP	60 HP/5000 r. p. m.

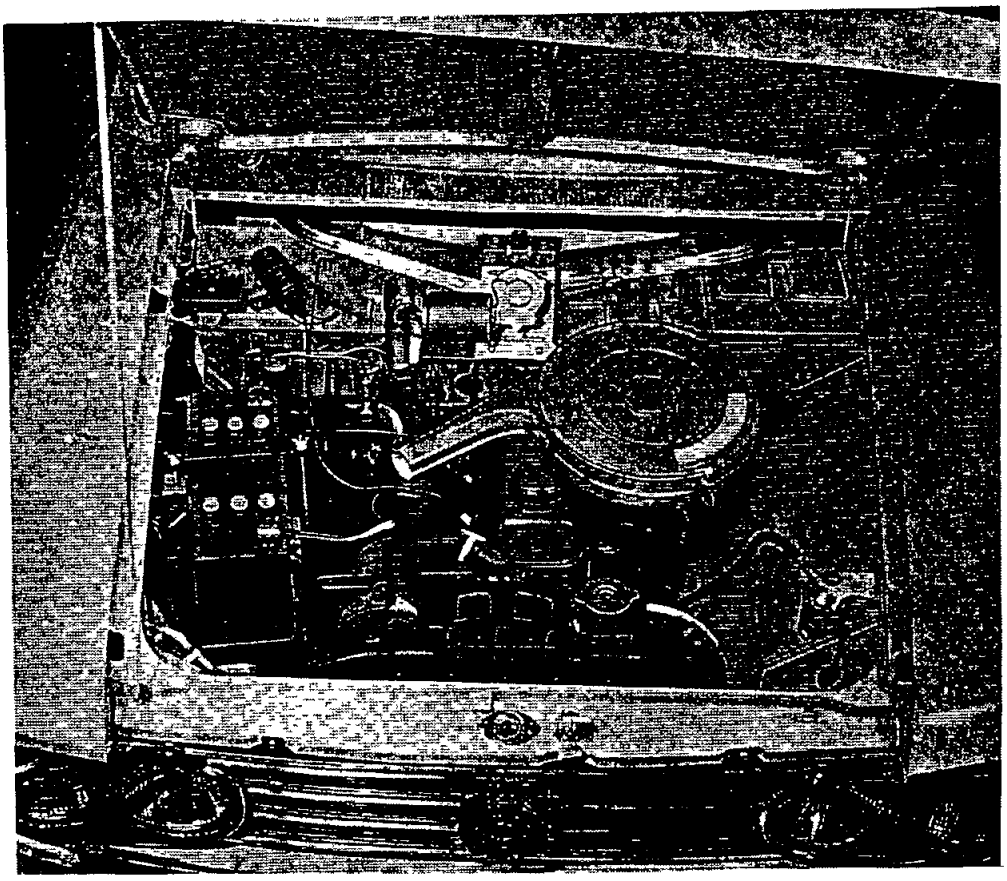


MODEL P410
RUNNING PERFORMANCE CURVE

Final gear ratio	4.375
1st speed ratio	3.518
2nd speed ratio	1.725
3rd speed ratio	1.000
Gross vehicle weight	1190 kg
Max, grade ability	Sin θ = 0.34
Effective radius of tire	0.287 m
Max, torque	9.3 kg-m/3600 r.p.m.
Max, BHP	60 B.H.P./5000 r.p.m.



ENGINE



ENGINE

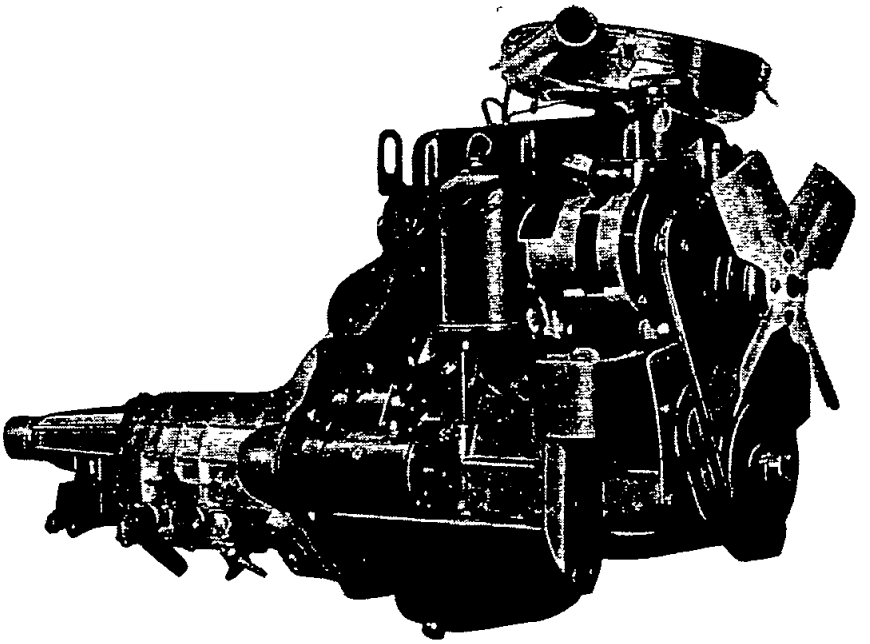
The engine is of monobloc construction, and is fitted with overhead valves operated by rockers and push rods from the camshaft. Oil seals are fitted to the valves. Three steel backed bearings support the camshaft which is chain driven.

The oil pump and distributor are driven from the camshaft, each component having its own drive shaft.

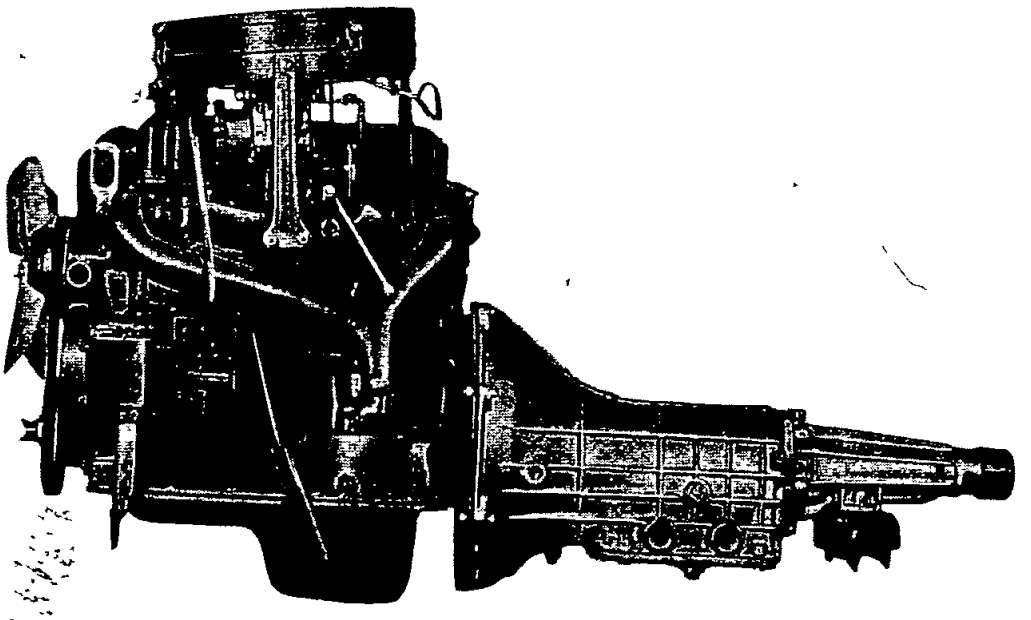
The pistons are each fitted with two compression rings and a slotted oil control ring. Bearings of the thin shell preformed type are fitted to the connecting rod big ends and to the main bearings. A counter-blanced crankshaft is fitted. The end thrust on this component is taken by special washers at the center main bearing. The centrifugal water pump and cooling fan are driven by the dynamo belt.

GENERAL SPECIFICATIONS

No. of Cylinder	4
Bore	73.025 mm. (2,875 in.)
Stroke	71 mm. (2.796 in.)
Volume	1,189 cc.
Max. brake horse power	60 HP. at 5000 r. p. m.
Torque	9.3 kg-m at 3600 r. p. m.
Firing order	1 - 3 - 4 - 2
Valve arrangement	Overhead valve, push rod type
Compression pressure	163 lbs. per sq. in. (11.5 kg/cm²) at 350 r. p. m.
Compression ratio	8.2 1



ENGINE-RIGHT SIDE



ENGINE-LEFT SIDE

COOLING SYSTEM

An efficient cooling system is of major importance to ensure the satisfactory running of the engine and it is therefore necessary to pay particular attention to its maintance.

Description

The cooling system is maintained by water pump circulation, combined with an efficient fan cooled radiator and thermostat

The system is pressurised and the relief valve, incorporated in the radiator filler cap, controls the pressure at approximately 0. 4 kg. per sq. cm. Do not remove the filler cap if the temperature of the coolant is above boiling point or if the engine is running. Topping-up should only be required occasionally to replace water lost through the overflow pipe. Top-up when the engine is cold, and if possible use clean soft water.

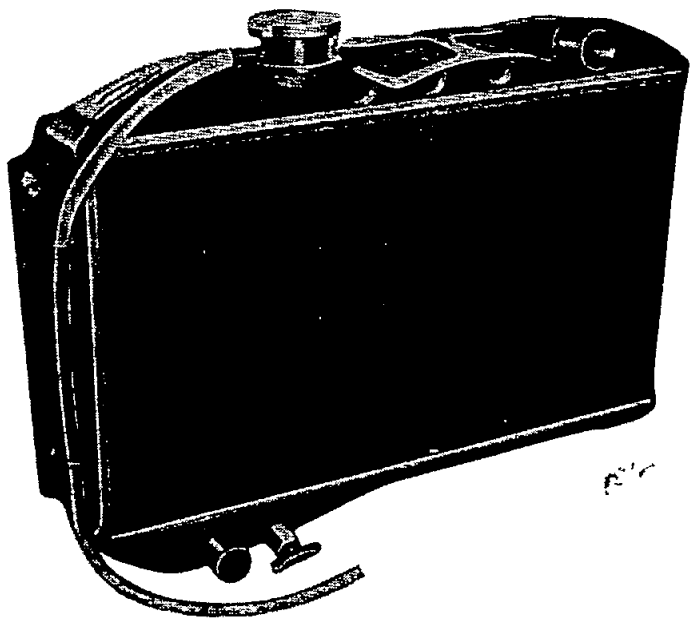


Fig. 1 Radiator

Fill to within 1/2" of the bottom of the filler plug well Overfilling when the engine is cold may cause water to flow through the overflow pipe. The capacity of the system is approximately 5. 2 litres.

Thermostat

In order to ensure maximum efficiency, it is essential to keep the engine operating temperatures within certain limits. To assist this a bellows type thermostat is fitted, being located in the water outlet at the front of the cylinder-head. The device consists of metallic bellows, filled with a volatile liquied, which controls a mushroom valve When the engine is cold this valve is closed and on starting the engine the flow of water to the radiator is temporarily restricted

Due to this, the temperature of the water in the cylinder head and cylinder jackets will quickly rise, thus ensuring rapid warming up. The heat so generated will gradually expand the bellows so opening the valve, and ultimatelly permitting a full flow of water to the radiator.

The thermostat itself is detachable, therefore, should the occasion arise, it can be removed from its housing and the hose reconnected to avoid laying up the car. Should the thermostat be tight, there are two tapped holes on the top which may be utilized to ease it from casting. When the system has been completely emptied, it is essential to allow air to escape through the thermostat valve and then finally top-up. The thermostat opening is set by the manufacturer and cannot be altered It open at a temperature of 76 5° ± 1. 5°C. During decarbonising it is policy to test this opening by immersing the thermostat in water raised to the requisite temperature. The valve should open under these conditions, but if it fails to open a new unit should be fitted.

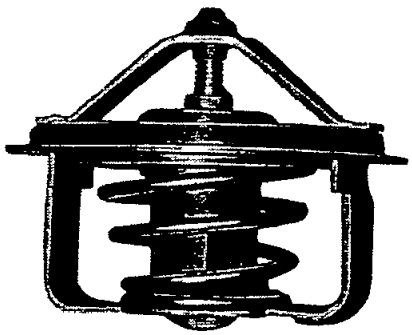


Fig. 2 Pellet Thermostat

Overheating

Overheating may be caused by a slack fan belt, excessive carbon deposit in the cylinders, running with the ignition too far retarded, incorrect carburetor adjustment, failire of the water to circulate or loss of water.

Fan Belt Adjustment

The fan is driven from the crankshaft by a "V" belt, this also driving the alternator.

A New belt can be fitted by first loosening the clamp bolts (Fig. 3), which hold the dynamo in position, and moving the dynamo towards the engine. Slide the belt over the fan and onto the fan pulley.

Adjustment is then made by bringing the alternator away from the engine. The belt should be sufficiently tight to prevent slip, yet the belt should have 10 to 15 mm slack between the generator and crankshaft

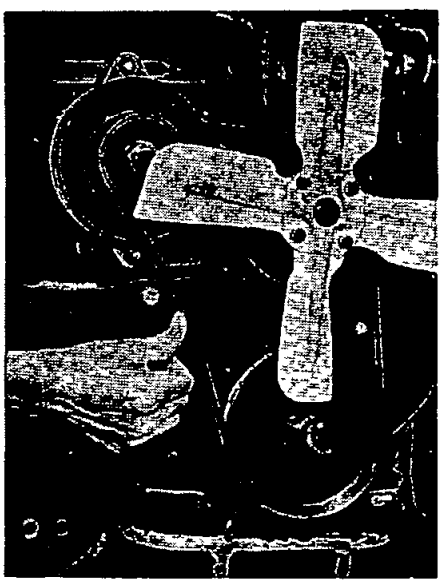


Fig. 3 Fan Belt Adjustment

pulley when the midspan is pushed firmly

After the correct tension has been obtained, securely lock it in position again.

Front Precausions

Freezing may occur first at the bottom of the radiator or in the lower hose connections.

Ice in the hose will stop water circulation and may cause boiling A muff can be used to advantage, but care must be taken not to run with the muff fully closed, or boiling will result. When frost is expected or when the car is to be used in a very low temperature, make sure that the strength of the solution is, in fact, up to the strength advised by the manufacturers. The strength of the solution must be maintained by topping-up with anti-freeze solution as necessary. Excessive topping-up with water reduces the degree of protection afforded. Solution must be made up in accordance with instructions supplied with the container.

Top-up when the system is cold.

If the cooling system has to be drained, run the mixture into a clear container and use again.

Protection by Draining

On cars where anti-freeze is not used the following precautions must be taken during frosty weather to obviate any damage due to freezing of the cooling system.

When heavy frost is imminent, the cooling system must be completely drained. It is not sufficient merely to cover the radiator and engine with rugs and musks. There are two drain cocks one on the left-hand side of the cylinder block and the other at the base of the radiator block. Both taps must be opened to drain the system and the car must be on level ground while draining.

The drain taps should be tested at frequent intervals by inserting a piece of wire to ensure that they are cleare. This should be done immediately the taps are opened, so that any, obstruction freed by the wire may be flushed out by the water. The draining should be carried out when the engine is hot

When completely drained the engine should be run for a timed minute to ensure that all water has been cleaned from the system

A suitable notice should be then affixed to the radiator, indicating that the water has been drained.

Flushing the Radiator

To ensure efficient circulation of the coolant and to reduce the formation of scale and sediment in the radiator, the system should be periodically flushed with clear running water, preferably before putting in anti-freeze in the winter and again when taking it out in the spring. The water should be allowed to run through until it comes out clear from the drain taps. At intervals a stiff piece of wire should be inserted into the taps during draining to ensure that they are not becoming clogged with sediment.

This method of radiator flushing may serve well, but in cases where the "furring" up is excessive the operator will find it more efficient practice to remove the radiator completely and flush in the reverse way to the flow, turn the radiator upside down and let the water flow in through the bottom hose connection and out of the top connection.