

DATSUN 510

RANGE: 1969-1973



WORKSHOP MAINTENANCE & REPAIR MANUAL

ORAKE PUBLISHERS, INC.

Auto Datsun
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WORKSHOP MAINTENANCE & REPAIR MANUAL

BY DRAKE AUTOMOTIVE EDITORS

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The purpose of this manual is to provide the automobile owner and mechanic with a reference source with which he can perform normal service operations.

We endeavor to incorporate the latest manufacturing design changes and up-to-date specifications at the time of publication. While every effort is made to attain accuracy, the Publisher cannot be held responsible for manufacturing changes, typographical errors or omissions.

Upon compiling the information contained herein, we have tried to be brief and simple, relying on the combination of photographs, illustrations and text to make this manual a useful tool.

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Maintenance & Tune-up

VALVE CLEARANCE

Valve clearance adjustment is performed with the engine not running. The initial adjustment is made while the engine is cold.

Remove the air cleaner. Unbolt and remove the camshaft cover. Each valve must be adjusted with the valve completely closed; that is, the rocker arm should be at the base (lowest point) of the cam lobe. Loosen the locking nut and turn the adjusting screw until the specified clearance is obtained as checked with a feeler gauge between the rocker arm and camshaft. Straighten the locking nut. Repeat this procedure on each valve, turning the engine over by hand to position each valve as necessary. Temporarily replace the camshaft cover with two or three bolts and warm up the engine. Remove the cover and recheck the valve clearance according to the warranty certificates. Readjust as necessary. Replace the camshaft cover using a new gasket if the old gasket appears flattened or broken. Run engine and check for leaks from the gasket.

Valve clearance

Unit: mm (in)

Cold	Intake	0.20 (0.008)
	Exhaust	0.25 (0.010)
Warm	Intake	0.25 (0.010)
	Exhaust	0.30 (0.012)

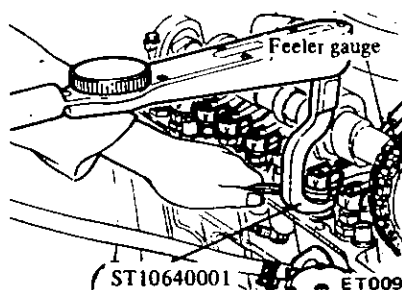


Fig. 1 Adjusting valve clearance

FAN BELT

Check for cracks or damage. Replace if necessary.

Adjust belt tension. It is correct if deflection is 0.315 to 0.472 in. when thumb pressure (22.0 lb) is applied midway between fan and alternator pulleys.

ENGINE OIL

Check if oil is diluted with water or gasoline. Drain and refill oil if necessary.

Notes:

a. A milky oil indicates the presence of cooling water. Isolate the cause and take corrective measure.

b. An oil with extremely low viscosity indicates dilution with gasoline.

Check oil level. If below the specified level, raise it up to the H level.

Engine oil capacity
(including oil filter)

Maximum (H level)

4½ U.S. qts.

Minimum (L level)

3½ U.S. qts.

OIL FILTER

The oil filter is of a cartridge type.

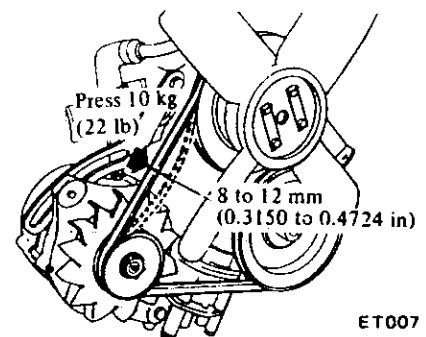


Fig. 2 Drive belt tension

Maintenance & Tune-up

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)

Water capacity

	610	620	510
Without heater	6.0 L (1 3/4 U.S. gal., 1 3/8 Imper. gal.)	5.4 L (1 3/8 U.S. gal., 1 1/4 Imper. gal.)	6.4 L (1 3/4 U.S. gal., 1 3/8 Imper. gal.)
With heater	6.5 L (1 3/4 U.S. gal., 1 3/8 Imper. gal.)	6.0 L (1 3/8 U.S. gal., 1 3/8 Imper. gal.)	6.8 L (1 3/4 U.S. gal., 1 3/8 Imper. gal.)

Check for oil leaks past gasketed flange. If any leakage is found, retighten just enough to stop leakage. If retightening is no longer effective, replace filter as an assembly.

When installing oil filter, tighten by hand.

Note: Do not overtighten oil filter, lest leakage should occur.

COOLANT

Nissan Long Life Coolant

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 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.

Whenever any coolant is changed, the cooling system must be flushed and refilled with a new coolant. Check the level.

COMPRESSION

When it becomes necessary to check cylinder compression, it is essential to remove all spark plugs. The purpose of this test is to determine whether there is excessive leakage past the piston rings, head gasket, etc. To test, the engine should be heated to the operating temperature and throttle and choke valves opened.

Cylinder compression in cylinders should not be less than 80% of the highest reading. Dif-

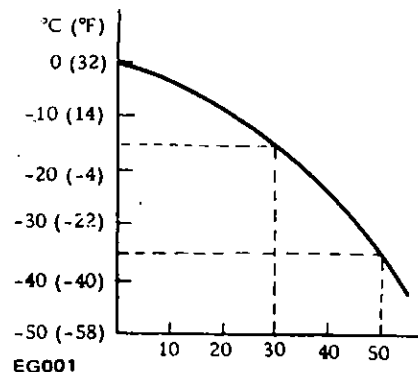


Fig. 3 Protection concentration

Maintenance & Tune-up

ferent compression in two or more cylinder usually indicates an improperly seated valve or broken piston ring.

Low compression in cylinders can result from worn piston rings. This trouble may usually be accompanied by excessive fuel consumption.

Test Result

If cylinder compression in one or more cylinders is low, pour a small quantity of engine oil into cylinders through the spark plug holes and retest compression.

If adding oil helps the compression pressure, the chances are that rings are defective.

If pressure stays low, the likelihood is that valve is sticking or seating improperly.

If cylinder compression in any two adjacent cylinders is low, and if adding oil does not help the compression, this could be leakage past the gasketed surface.

Oil and water in combustion in any two adjacent cylinders is low, and if adding oil does not help the compression, this could be leakage past the gasketed surface.

Oil and water in combustion chambers can result from this trouble.

Compression pressure

psi/at rpm

Standard 171/350

Minimum 128/350

BATTERY

Check electrolyte level in each battery cell.

Unscrew each filler cap and inspect fluid level. If the fluid is low, add distilled water to bring the level up approximately 0.394 to 0.787 in. above the plates. Do not overfill.

Measure the specific gravity of battery electrolyte.

Clean top of battery and terminals with a solution of baking soda and water. Rinse off and dry with compressed air. Top of battery

	Permissible value	Full charge value (at 20°C (68°F))
Frigid climates	Over 1.22	1.28
Tropical climates	Over 1.18	1.23
Other climates	Over 1.20	1.26

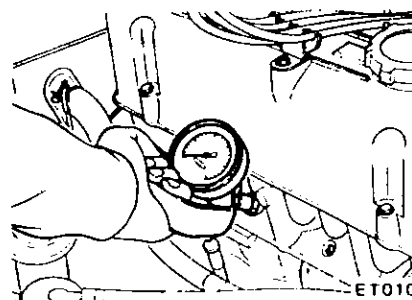


Fig. 4 Testing compression pressure

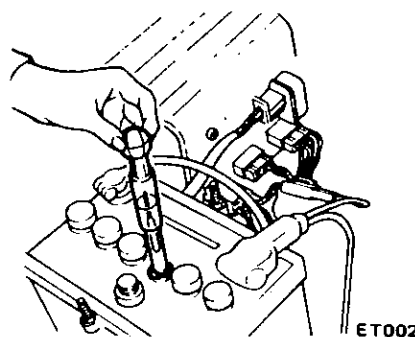


Fig. 5 Checking specific gravity of battery electrolyte

must be clean to prevent current leakage between terminals and from positive terminal to hold-down clamp.

In addition to current leakage, prolonged accumulation of acid and dirt on top of battery may cause blistering of the material covering connector straps and corrosion of straps. After tightening terminals, coat them with petroleum (vaseline) to protect them from corrosion.