TUNE-UP

RX-7

ENGINE IDENTIFICATION

Engine type code is stamped on rear rotor housing, to the rear of oil filter. Engine serial number is stamped on front rotor housing behind distributor. Engine type codes are as follows:

Engine Type Codes

Application	Code
All Models	12A

COMPRESSION PRESSURE

Application	Pressure
All Models	①85 psi (6 kg/cm²)

① – At 250 RPM. Maximum variation allowable between chambers is 21 psi (1.5 kg/cm²).

SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (mkg)
All Models	.039 (1.0)	11 (1.5)

Spark Plug Type

Application	Nippondenso	NGK
All Models	W25EBR	BR8ET

HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from spark plugs and distributor cap. Using an ohmmeter, measure resistance of wires while gently twisting wires. If resistance is not to specifications, or fluctuates from infinity to any value, replace high tension wire(s).

Resistance (Ohms) Per Wire

Application	Resistance
All Models	3300-7000 Ohms per foot

DISTRIBUTOR

All models are equipped with electronic ignition with 2 pick-up coils. Air gap is non-adjustable but should measure .008-.024" (0.2-0.6 mm).

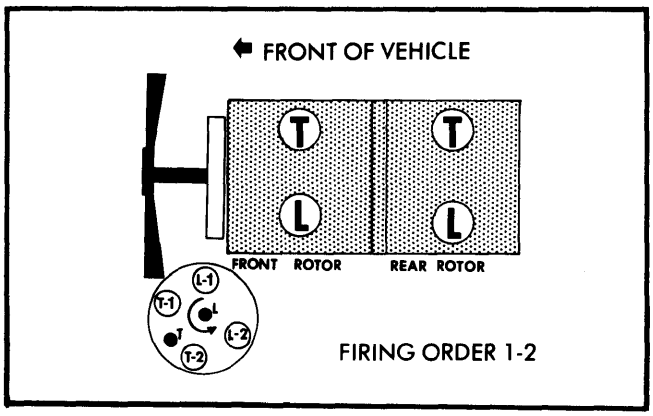

Fig. 1 Firing Order and Distributor Rotation

IGNITION TIMING

NOTE – *On vehicles equipped with automatic transmission, place selector lever in "D" position and block the wheels.*

1) Warm engine to normal operating temperature. Connect a tachometer, then connect timing light to leading (lower) spark plug of front rotor. Start engine and run at idle speed.

2) Check ignition timing and rotate distributor to correct if necessary. Tighten distributor lock nut and recheck timing.

3) Connect timing light to trailing (upper) plug of front rotor. Start engine and check timing. If not correct, loosen vacuum unit attaching screws and move vacuum unit in or out to adjust trailing timing. Remove test equipment.

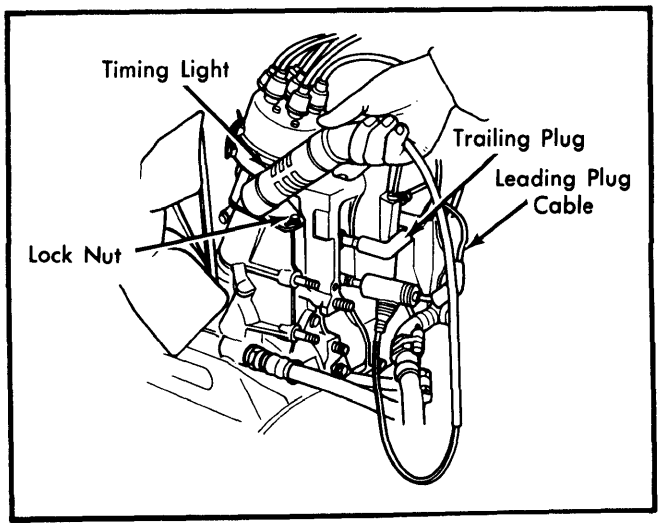

Fig. 2 Connecting Timing Light (Shown Connected to Leading Plug Wire)

TUNE-UP (Cont.)

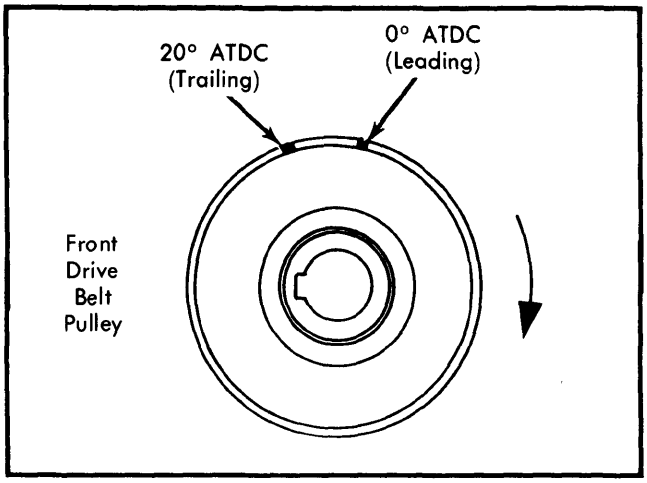

Fig. 3 Ignition Timing Mark Location

Ignition Timing Specifications

Application	Timing
Leading	TDC
Trailing	20°ATDC

IDLE SPEED & MIXTURE

1) Ensure engine is warmed up to normal operating temperature. Run engine at 2000 RPM for about 3 minutes.

2) Turn OFF all accessories. Unhook and plug idle compensator hose. Remove fuel filler cap. Connect exhaust gas analyzer to exhaust pipe and tachometer to engine.

3) With Man. Trans. in neutral or Auto. Trans. in "D", turn air adjustment screw (located on carburetor body above mixture screw) to obtain specified idle speed. Check CO level. If within specifications and idle speed is stable, mixture adjustment is not required.

4) If CO level is not within specifications, remove idle limiter cap from mixture adjusting screw. Turn screw clockwise until idle speed begins to fluctuate.

5) Slowly turn mixture adjusting screw counterclockwise until maximum specified CO level is obtained. Then, turn mixture screw an additional ½ turn counterclockwise. Recheck idle speed and readjust if necessary. Replace idle mixture limiter cap and restore all components to original positions.

Idle Speed (RPM) & CO (%)

Application	RPM	CO%
All Models	725-775	0.1

COLD (FAST) IDLE RPM

1) Connect a tachometer to engine and run engine until normal operating temperature is reached. Stop engine.

2) Pull choke knob out fully. Restart engine. Engine speed should reach RPM shown in chart within 10 seconds of starting.

3) If fast idle speed is not within specifications, remove carburetor from engine. With carburetor removed, be sure choke valve is held fully closed.

4) Measure clearance between PRIMARY throttle valve and wall of throttle bore. Clearance should be as shown in chart. If not, bend fast idle rod until correct clearance is reached.

Fast Idle Specifications

Application	RPM	Bore Clearance
All Models	3200-4000	.051-.059" (1.3-1.5 mm)

FUEL PUMP PRESSURE & VOLUME

Pressure	3.7-4.7 psi (.26-.33 kg/cm²)
Volume	1.16 qts. per min.

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

IGNITION COIL

Coil Resistance (Ohms@68°F)

Application	Primary	Secondary
All Models	0.81-0.99	.....

DISTRIBUTOR

All models are equipped with Mitsubishi electronic ignition systems.

Other Data & Specifications – *See Tune-Up article and appropriate article in DISTRIBUTORS & IGNITION SYSTEMS section.*

GENERAL SERVICING (Cont.)

FUEL SYSTEMS

CARBURETOR

Application	Model
All Models	Hitachi 4-Bbl.

Other Data & Specifications – *See Tune-Up & Hitachi Carburetors in FUEL SYSTEMS Section.*

ELECTRICAL

BATTERY

Application	Amp. Hr. Capacity
All Models	45

Battery Location – In engine compartment.

STARTER

Mitsubishi	Overrunning Clutch

Test Specifications

Application	Volts	Amps	Test RPM
Man. Trans.	11.5	50	5600
Auto. Trans.	11.5	100	6600

ALTERNATOR

Application	Rated Amp. Output
All Models	55

ALTERNATOR REGULATOR

All models are equipped with Mitsubishi adjustable alternator regulators with an operating voltage of 14-15 volts.

FILTERS

Filter	Service Interval (Miles)
Oil Filter	Replace every 15,000
Air Filter	Replace every 30,000

BELT ADJUSTMENT

Application	①Deflection
Alternator Belt	.5-.7" (13-17 mm)
Air Pump Belt	.4-.5" (11-13 mm)
A/C Belt	.3-.4" (8-10 mm)

① – Deflection is with 22 lbs. (10 kg) pressure applied midway on longest belt run.

CAPACITIES

Crankcase (Includes Filter)	5.5 qts.
Cooling System (Includes Heater)	10.0 qts.
Man. Trans. (SAE 90)	3.6 pts.
Auto. Trans. (ATF Type F)	6.6 qts.
Rear Axle (SAE 90)	2.6 pts.
Fuel Tank	14.5 gals.