

1989 Mazda RX-7 Factory Service Manual

This Online/PC version of the Manual has been brought to you by “Scott 89t2” and www.1300cc.com

Thanks to those who are hosting it for me.



Some parts of the manual may be hard to read or see on the screen, but if you print the pages out it's perfect. Well except for the crookedness 😊.

***Terms of Use:** This online/PC copy of the manual is only to be used and in your possession if you already own the printed version. It is for backup purposes only in case yours (or part of) is lost or damaged. If you downloaded this manual by mistake, Please Remove it from your possession. I also take no responsibility for what you do to yourself or your car while you use this manual.

PRE-DELIVERY INSPECTION AND SCHEDULED MAINTENANCE SERVICES

PRE-DELIVERY INSPECTION A- 2
PRE-DELIVERY INSPECTION TABLE A- 2
SCHEDULED MAINTENANCE SERVICES A- 3
SCHEDULE 1
(NORMAL DRIVING CONDITION)..... A- 3
SCHEDULE 2
(UNIQUE DRIVING CONDITION) A- 6

97U0AX-001

PRE-DELIVERY INSPECTION TABLE

EXTERIOR

INSPECT and **ADJUST**, if necessary, the following items to the specifications:

- Glass, exterior bright metal, and paint for damage
- Wheel lug nuts
88—118 N·m (9—12 m·kg, 65—87 ft·lb)
- Tire pressures (Refer to Section Q)
- All weather strips for damage and detachment
- Operation of hood release and lock
- Operation of fuel lid and rear hatch opener
- Door operation and alignment
- Headlight aim

INSTALL the following parts

- Wheel caps (if equipped)
- Outside rearview mirror(s)
- Front air deflector (if equipped)
- Convertible top (if equipped)

UNDER HOOD—ENGINE OFF

INSPECT and **ADJUST**, if necessary, the following items to the specifications:

- Fuel, coolant, and hydraulic lines, fittings, connections, and components for leaks
- Engine oil level
- Power steering fluid level
- Brake and clutch master cylinder fluid levels
- Windshield washer reservoir fluid level
- Radiator coolant level and specific gravity

Protection °C (°F)	Specific gravity at 20°C (68°F)
- 4 (25)	1.028
-16 (3)	1.054
-26 (-15)	1.066
-40 (-40)	1.078

- Tightness of water hose clamps (including heater hoses)
- Tightness of battery terminals
- Drive belt tensions
- Accelerator cable and linkage for free movement
- Sub-zero starting system and fluid level

CLEAN spark plugs

NOTE: Do not blast with sand or abrasive cleaning materials

INTERIOR

INSTALL the following parts:

- Rubber stopper for inside rearview mirror
- Fuse for accessories

CHECK the operations of the following items:

- Seat controls (sliding and reclining) and headrest
- Door locks
- Seat belts and warning system
- Ignition switch and steering lock
- Shift-lock system and inhibitor switch (A/T only)
- Starter interlock switch (clutch pedal, M/T only)
- All lights including warning and indicator lights and retractable headlight mechanism
- IC audible warning system
- Horn, wipers, and washers (front and rear, if equipped)
- Radio and antenna (if equipped)
- Cigarette lighter and clock
- Remote control outside rearview mirror (if equipped)
- Power windows (if equipped)

- Heater, defroster, and air conditioner at all mode selections (if equipped)
- Sunroof (if equipped)
- Theft-deterrent system (if equipped)
- Convertible Top (if equipped)

CHECK the following items:

- Spare fuse
- Upholstery and interior finishes

CHECK and **ADJUST**, if necessary, the following items:

- Operation and fit of windows
- Pedal height and free play of brake and clutch pedal

	Pedal height mm (in)	Pedal free play mm (in)
Clutch pedal	183—193 (7.20—7.60) (With carpet)	0.6—3.0 (0.02—0.12)
Brake pedal	184—189 (7.24—7.44) (With carpet)	4—7 (0.16—0.28)

- Parking brake
5—7 notches/98 N (10 kg, 22 lb)

UNDER HOOD—ENGINE RUNNING AT OPERATING TEMPERATURE

CHECK the following items:

- Bypass air control system
- Automatic transmission fluid level
- Initial ignition timing
- Idle speed
- Setting of throttle sensor (Engine must not be running when performing check.)

ON HOIST

CHECK the following items:

- Manual transmission oil level
- Rear axle oil level
- Underside fuel, coolant, and hydraulic lines, fittings, connections, and components for leaks
- Tires for cuts and bruises
- Steering linkage, suspension, exhaust system, and all underside hardware for looseness or damage

ROAD TEST

CHECK the following items:

- Brake operation
- Clutch operation
- Steering control
- Operation of meters and gauges
- Squeaks, rattles, or unusual noises
- Engine general performance (including turbo)
- Emergency locking retractors
- Cruise control system (if equipped)

AFTER ROAD TEST

- REMOVE** seat and floor mat protective covers
- CHECK** for necessary owner information materials, tools, and spare tire in vehicle
- REMOVE** identification color tape on directional tires

97U0AX-002

SCHEDULED MAINTENANCE SERVICES

Follow the Schedule 1 (Normal Driving Condition) if you operate your vehicle mainly where none of the following conditions apply.
 Follow the Schedule 2 (Unique Driving Condition) if one or more of the items below apply.

- Repeated short distance driving.
- Driving in dusty condition.
- Driving with extended use of brakes.
- Driving in areas using road salt or other corrosive materials.
- Driving on rough and/or muddy roads.
- Extended periods of idling and/or low speed operation.
- Driving for a prolonged period in cold temperature and/or extremely humid climates.

SCHEDULED 1 (NORMAL DRIVING CONDITION)

Chart symbols:

I: Inspect and if necessary correct, clean, or replace

R: Replace or change

T: Tighten

L: Lubricate

Remarks:

After 60 months or 60,000 miles (96,000 km), continue to follow the prescribed maintenance items and intervals periodically.

As for * marked items in this maintenance chart, please pay attention to the following points.

- *1 This maintenance operation is recommended by Mazda. However, it is not necessary for emission warranty coverage or manufacturer recall liability.
- *2 This maintenance operation is required for Canada and all states except California. However, we recommend that it also be performed on California vehicles as well.

SCHEDULE 1 (NORMAL DRIVING CONDITION)

MAINTENANCE INTERVALS	Number of months or miles (kilometers), whichever comes first								Service data and inspection point	Page	
	Months	7.5	15	22.5	30	37.5	45	52.5			60
	Miles (Km)	7,500 (12,000)	15,000 (24,000)	22,500 (36,000)	30,000 (48,000)	37,500 (60,000)	45,000 (72,000)	52,500 (84,000)			60,000 (96,000)

Engine

Drive belts (except air pump drive belt)					I					I	• Cracks or damage • Tension	C-5
Engine oil	Non-Turbo	R	R	R	R	R	R	R	R	R	• Oil pan capacity: 4.4 liters (4.7 US qt, 3.9 Imp qt)	D-6
	Turbo	Replace every 5,000 miles (8,000 km) or 5 months										
Oil filter	Non-Turbo	R	R	R	R	R	R	R	R	R	• Oil filter capacity: 0.17 liters (0.18 US qt, 0.15 Imp qt)	D-6
	Turbo	Replace every 5,000 miles (8,000 km) or 5 months										

Air Conditioner System (If equipped)

Refrigerant	Inspect refrigerant amount annually										
Compressor	Inspect operation annually										

Air Cleaner

Air cleaner element					R					R		F1-34 F2-34
---------------------	--	--	--	--	---	--	--	--	--	---	--	----------------

Ignition System

Spark plugs			I*1							I*1			G-27
					R								

• Plug gap 1.4mm (0.056 in)	
• Recommended spark plugs	Leading Trailing
	NGK BUR7EQ BUR9EQ

Cooling System

Cooling system			I							I	• Hoses for cracks or wear • Coolant level	E-5
Engine coolant					R					R	• Coolant capacity: Turbo: 8.7 liters (9.2 US qt, 7.7 Imp qt) Non-Turbo: 7.3 liters (7.7 US qt, 6.4 Imp qt)	E-6

Fuel System

Idle speed			I*2							I	Idle speed: 750 ± 25 (A/T: N Range)	F1-15 F2-15
Fuel filter										R		F1-48 F2-44
Fuel lines										I*1	• Fittings, connections, and components for leaks	F1-48 F2-44

SCHEDULE 2 (UNIQUE DRIVING CONDITIONS)

Chart symbols:

- I:** Inspect and if necessary correct, clean, or replace
- R:** Replace or change
- T:** Tighten
- L:** Lubricate

Remarks:

After 60 months or 60,000 miles (96,000 km), continue to follow the prescribed maintenance items and intervals periodically. As for * marked items in this maintenance chart, please pay attention to the following points.

- *1 This maintenance operation is recommended by Mazda. However, it is not necessary for emission warranty coverage or manufacturer recall liability
- *2 This maintenance operation is required for Canada and all states except California. However, we recommend that it also be performed on California vehicles as well.

SCHEDULE 2 (UNIQUE DRIVING CONDITIONS)

MAINTENANCE INTERVALS	Number of months or miles (kilometers), whichever comes first												Service data and inspection point	Page
	Months	5	10	15	20	25	30	35	40	45	50	55		
MAINTENANCE OPERATION	5	10	15	20	25	30	35	40	45	50	55	60		
(x1,000 Miles)	(8)	(16)	(24)	(32)	(40)	(48)	(56)	(64)	(72)	(80)	(88)	(96)		

Engine

Drive belts (Except air pump drive belt)						I							I	• Check for damage • Tension	C-5
Engine oil	Non-Turbo	R	R	R	R	R	R	R	R	R	R	R	R	Oil pan capacity: 4.4 liters (4.7 US qt, 3.9 Imp qt)	D-6
	Turbo	Replace every 3,000 miles (5,000 km) or 3 months													
Oil filter	Non-Turbo	R	R	R	R	R	R	R	R	R	R	R	R	Oil filter capacity: 0.17 liters (0.18 US qt, 0.15 Imp qt)	D-6
	Turbo	Replace every 3,000 miles (5,000 km) or 3 months													

Air Conditioner System (If equipped)

Refrigerant	Inspect refrigerant amount annually	--	--
Compressor	Inspect operation annually	--	--

Air Cleaner

Air cleaner element	I*2		R		I*2								R	F1-34 F2-34
---------------------	-----	--	---	--	-----	--	--	--	--	--	--	--	---	----------------

