#### 1989 Mazda RX-7 Factory Service Manual

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## PRE-DELIVERY INSPECTION AND SCHEDULED MAINTENANCE SERVICES

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SCHEDULE 1		
(NORMAL DRIVING CONDITION)	A- 3	3
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(UNIQUE DRIVING CONDITION)	A- 6	ô
	97U0AX-00	11

#### A PRE-DELIVERY INSPECTION

#### PRE-DELIVERY INSPECTION TABLE

#### EXTERIOR

<b>INSPECT</b> and <b>ADJUST</b> , if necessary, the following items to	Heater defroster and air conditioner at all and the
the specifications;	<ul> <li>Heater, defroster, and air conditioner at all mode selections (if equipped)</li> </ul>
☐ Glass, exterior bright metal, and paint for damage☐ Wheel lug nuts	☐ Sunroof (if equipped)
88—118 N·m (9—12 m·kg, 65—87 ft-lb)	☐ Theft-deterrent system (if equipped)
☐ Tire pressures (Refer to Section Q)	☐ Convertible Top (if equipped)
All weather strips for damage and detachment	CHECK the following items:
Operation of hood release and lock	☐ Spare fuse
☐ Operation of fuel lid and rear hatch opener	☐ Upholstery and interior finishes
☐ Door operation and alignment	<b>CHECK</b> and <b>ADJUST</b> , if necessary, the following items:  ☐ Operation and fit of windows
☐ Headlight aim	☐ Pedal height and free play of brake and clutch pedal
INSTALL the following parts	- Table Holghit and Hoo play of brake and clutch pedal
Wheel caps (if equipped)	Pedal height mm (in) Pedal free play
☐ Outside rearview mirror(s)	Pedal height mm (in)   redai free play mm (in)
☐ Front air deflector (if equipped) ☐ Convertible top (if equipped)	102 102 (7.00 7.00)
	Clutch pedal (With carpet) (0.02—0.12)
UNDER HOOD—ENGINE OFF	Brake pedal 184—189 (7.24—7.44) 4—7 (0.16—0.28)
<b>INSPECT</b> and <b>ADJUST</b> , if necessary, the following items to the specifications:	☐ Parking brake
☐ Fuel, coolant, and hydraulic lines, fittings, connections,	5—7 notches/98 N (10 kg, 22 lb)
and components for leaks	0 7 Hotorica/30 14 (10 kg, 22 lb)
☐ Engine oil level	UNDER HOOD—ENGINE RUNNING AT
☐ Power steering fluid level	OPERATING TEMPERATURE
☐ Brake and clutch master cylinder fluid levels	
☐ Windshield washer reservoir fluid level	CHECK the following items:
☐ Radiator coolant level and specific gravity	☐ Bypass air control system
Protection °C (°F) Specific gravity at 20°C (68°F)	☐ Automatic transmission fluid level
	☐ Initial ignition timing
- 4 ( 25) 1.028	☐ Idle speed
-16 ( 3) 1.054	<ul> <li>Setting of throttle sensor (Engine must not be running when performing check.)</li> </ul>
-26 (-15) 1.066	when performing check.)
-40 (-40) 1.078	ON HOIST
<ul> <li>Tightness of water hose clamps (including heater hoses)</li> </ul>	
☐ Tightness of battery terminals	CHECK the following items:
☐ Drive belt tensions	Manual transmission oil level
☐ Accelerator cable and linkage for free movement	☐ Rear axle oil level
☐ Sub-zero starting system and fluid level	☐ Underside fuel, coolant, and hydraulic lines, fittings, con-
CLEAN spark plugs  NOTE: Do not blast with sand or abrasive cleaning	nections, and components for leaks
materials	☐ Tires for cuts and bruises
materials	<ul> <li>Steering linkage, suspension, exhaust system, and all un- derside hardware for looseness or damage</li> </ul>
INTERIOR	denside flardware for loosefless of darliage
	ROAD TEST
NSTALL the following parts:	110/10/1201
Rubber stopper for inside rearview mirror	CHECK the following items:
☐ Fuse for accessories	☐ Brake operation
CHECK the operations of the following items:	☐ Clutch operation
☐ Seat controls (sliding and reclining) and headrest	☐ Steering control
□ Door locks □ Seat belts and warning system	☐ Operation of meters and gauges
☐ Janition switch and steering lock	☐ Squeaks, rattles, or unusual noises
☐ Shift-lock system and inhibitor switch (A/T only)	<ul> <li>□ Engine general performance (including turbo)</li> <li>□ Emergency locking retractors</li> </ul>
☐ Starter interlock switch (clutch pedal, M/T only)	☐ Cruise control system (if equipped)
All lights including warning and indicator lights and re-	
tractable headlight mechanism	AFTER ROAD TEST
☐ IC audible warning system	
☐ Horn, wipers, and washers (front and rear, if equipped)	☐ <b>REMOVE</b> seat and floor mat protective covers
☐ Radio and antenna (if equipped)	☐ <b>CHECK</b> for necessary owner information materials, tools,
Cigarette lighter and clock	and spare tire in vehicle
☐ Remote control outside rearview mirror (if equipped) ☐ Power windows (if equipped)	□ <b>REMOVE</b> 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:

- 1: Inspect and if necessary correct, clean, or replace
  - Replace or change

    - L: Lubricate T: Tighten

### 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.

L	1	
,	7	

ONDITION)
DRIVING CO
(NORMAL
SCHEDULE 1

MAINTE	MAINTENANCE	N	iber of	Number of months or m	or miles	(kilomet	iles (kilometers), whichever comes first	ichever	comes fi	rst		
	INTERVALS Months	onths	7.5	15	22.5	30	37.5	45	52.5	09		
MAINTENANCE	2	liles	7,500	15,000	22,500	30,000	Miles 7,500 15,000 22,500 30,000 37,500 45,000 52,500 60,000	45,000	52,500	60,000	Service data and inspection point	Page
OPERATION		Km)	12,000)	(24,000)	(36,000)	(48,000)	(Km) (12,000) (24,000) (36,000) (48,000) (60,000) (72,000) (84,000) (96,000)	(72,000)	(84,000)	(96,000)		
Engine												
Drive belts (except air pump drive belt)	ımp drive be	( <del>)</del>				_				_	Cracks or damage     Tension	C-5
	Non-Turbo		æ	æ	ш	Ж	Ж	Œ	æ	œ	Oil pan capacity:	
	Turbo			Replace	every 5	,000 mile	Replace every 5,000 miles (8,000 km) or 5 months	km) or 5	months		4.4 liters (4.7 US qt, 3.9 Imp qt)	9-Q
O::	Non-Turbo	_		Ж		В		œ		œ	Oil filter capacity:	
	Turbo			Replace	every 5	,000 mile	Replace every 5,000 miles (8,000 km) or 5 months	km) or 5	months		0.17 liters (0.18 US at, 0.15 lmp at)	9-0

## Air Conditioner System (If equipped)

	ווייס ביין ופוועפומיון מוויטמווי	
Compressor	Inspect operation annually	
Air Cleaner		
Air cleaner element	ď	F1-34 F2-34

## Ignition System

	G-27					
Plug gap 1.4mm (0.056 in) Recommended spark plugs Leading Trailing NGK BUR7EQ BUR9EQ						
Plug g.     Recom	Plug c     Recon     NG					
ac.						
*						
Œ						
Ш						
*1						
	Spark plugs					

## Cooling System

	_						ŀ
Cooling system		_	_		_	<ul> <li>Hoses for cracks or wear</li> <li>Coolant level</li> </ul>	
Engine coolant			 Я	 	Œ	<ul> <li>Coolant capacity:         <ul> <li>Turbo: 8.7 liters (9.2 US qt, 7.7 lmp qt)</li> <li>Non-Turbo: 7.3 liters (7.7 US qt, 6.4 lmp qt)</li> </ul> </li> </ul>	<del> </del>

E-5

E-6

### Fuel System

ruei ayatanı						
peed peed	1*2	1*2	1 * 2		Idle speed: 750 ± 25 (A/T: N Range)	F1-15 F2-15
Fuel filter				Œ	ſ	F1-48 F2-44
Fuel lines		*			Fittings, connections, and components fot leaks	F1-48 F2-44

S	Α
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(Cont'd)
CONDITION)
DRIVING
(NORMAL
SCHEDULE 1

		Page	,	
		00 Service data and inspection point		
	rst	90	22,500 30,000 37,500 45,000 52,500 60,000	(36,000) (48,000) (60,000) (72,000) (84,000) (96,000)
	comes fi	52.5	52,500	(84,000)
	chever	45	45,000	(72,000)
	ers), whi	37.5	37,500	(000'09)
	(kilomet	22.5 30 37.5 45 52.5 60	30,000	(48,000)
	Number of months or miles (kilometers), whichever comes first	22.5	22,500	(36,000)
	nonths (	15	15,000	(24,000)
	nber of r	7.5	Miles 7,500 15,000 22	(Km) (12,000) (24,000) (36
	Nur	Months	Miles	(Km)
	MAINTENANCE	INTERVALS Months 7.5	/	
30110011		/	MAINTENANCE	OPERATION

## **Electrical System**

		T 15
Essino oil lovol warning evetem		1-40
Eligine on ever walling system		T_47
Engine coolant level warning eyetem		
Eligine codialit level walling system		F1_87
	:	 - !
Sub-zero starting assist system	Inspect the operation seasonally (sub-zero weather use of liy).	F2-85

Chassis and Body			continues to the second	α
Brake lines hoses and connections			<ul> <li>Proper attachment and confrections</li> </ul>	0-1
			Caliper operation     This construction along the second of the sec	
			Front 20mm (0.79 in)	P-37, 41
			Rear 8mm (0.31 in) (Solid disc)	P-45
-	_			
Disc brakes	-		.1mm (0.004 in)	P-37, 41, 45
			Thickness of disc pad:	;
			Front: 2mm (0.08 in)	P-37, 41
			Rear: 1mm (0.04 in)	P-45
			<ul> <li>Free play: 5—20mm (0.20—0.79 in)</li> </ul>	8-Z
		_	Operation and looseness	N-12
Steering operation and initiage	-		Fluid leakage	N-16
		-	Damage, looseness, and	R-15
Front suspention ball joints			grease leakage	2
	-		Cracks, damage, grease leakage, or	M-14
Driveshaft dust boots		_	band looseness	
			Clearance between body and	F1-59
Exhaust system heat shield			exhaust system	F2-55
Example Description or passes				M-9
FIUII WIEEL DEALING GLEASE				J1-7, J2-8
Manual transmission oil				M-18
Differential oil		r		2
Bolts and nuts on chassis and body	<b>—</b>			
		_		7-74
Toe control hub and control link				M-12

an 1-1-1-1-1

#### A

## SCHEDULE 2 (UNIQUE DRIVING CONDITIONS) Chart symbols:

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

R: Replace or change T: Tighten

T: lightenL: 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 Califor. nia vehicles as well.

## SCHEDULE 2 (UNIQUE DRIVING CONDITIONS)

	11 <b>-</b>	on point Page	
	of the contract of the contrac	Service data and inspection point	
	9	9	(96)
miles (kilometers), whichever comes first	22	22	(32) (40) (48) (56) (64) (72) (80) (88)
omes	20	50 55	(8)
ever c	45	45	(72)
vhiche	40	40	(64)
ırs), v	35	35	(26)
omete	30	30	(48)
s (kij	20 25	52	(40)
r mile	20	20	(35)
iths o	0 15	15	(24)
fmon	10	10	(16)
Number of months	2	2	(8)
Num	Months	x1,000 Miles 5 10 15	(x1,000 Km) (8) (16) (24)
MAINTENANCE	INTERVALS	/	/
W		MAINTENANCE	OPERATION

#### Engine

								F				-	-		
Drive belts (Except air pump drive belt)	drive belt)						_		:					<ul><li>Uneck for damage</li><li>Tension</li></ul>	C-5
ازد دریادها	Non-Turbo	Я	R R	Я	Ж	æ	Ж	В	۳	œ	œ	<u>س</u>	œ	R R R R R R R Oil pan capacity:	
	Turbo		Œ	Replace every 3,000 miles (5,000 km) or 3 months	every	3,000	) miles	; (5,000	o km) c	л 3 m	onths			4.4 liters (4.7 US qt, 3.9 lmp qt)	9 
10 d	Non-Turbo	æ	R R	æ	œ	æ	æ	æ	<u>د</u>	æ	œ	<u>س</u>	lœ	R R R R R R R Oil filter capacity:	
D D	Turbo		ď	Replace every 3,000 miles (5,000 km) or 3 months	every	3,000	) miles	(5,000	) km) c	or 3 m	onths			0.17 liters (0.18 US at, 0.15 lmp at)	9- 

## Air Conditioner System (If equipped)

	1	
A.—	min-	
Inspect refrigerant amount annually	Inspect operation annually	
Refrigerant	Compressor	

### Air Cleaner

	_	_					
cleaner element		*2	α	1*2	 α	•	F1-34
			•	-	 -		F2-34

AND THE PARTY OF T	Numb	er of	Number of months or	hs or	E	2 2 2	וכוכי	miles (Kilometers), willchever comes mas			3	20			
INTERVALS	Months	2	10	15	20	25	30	35	40	45	20		09	Service data and inspection point	Page
	x1.000 Miles	2	9	15	20	-	30	35	40	45	20	92 (	09		,
MAIN I ENANCE OPERATION	(x1,000 Km)		(16)	(24)	(32)	(40)	(48)	(26)	(64)	(72)	(80)	(88)	(96)		
	7														
Ignition System														<ul> <li>Plug gap 1.4mm (0.056 in)</li> <li>Recommended spark plugs</li> </ul>	
Spark plugs				*-			Œ			*			<u>~</u>	Leading Trailing NGK RIRZEO BUR9EO	G-27
Cooling System								ŀ		-		-		Colored to Colored and accell	
Cooling system				_			_			-			_	Hoses for cracks of weal     Coolant level	E-5
														Coolant capacity:  Tribes	
-							α						Œ	8.7 liters (9.2 US qt, 7.7 lmp qt)	E-6
Engine coolant														Non-Turbo: 7.3 liters (7.7 US qt, 6.4 lmp qt)	
Fuel System										-					F1-15
Idle speed				1*2			1*2			1*2			-	Idle speed: 750 ± 25 (A/T: N Range)	F2-15
Firel filter													<u>مح</u>	•	F1-48 F2-44
							<u>*</u> 1						-	<ul> <li>Fittings, connections, and components for leaks</li> </ul>	F1-48 F2-44
Fuel lines															
Electical dystem				_						-			-		T-45
Engine oil level warning system	200			-			_						_	_	T-47
Engine coolant level warning system	Stell I							(vino agu yothoon oron dio) : "		400	1 2	Mag			F1-87
Sub-zero eterting assist system			Inspec	Inspect the o	peral	ion se	asona	IIV (SUL	0197-	Magi	non in	. (2119)	_		10-71

SCHEDULE 2 (UNIQUE DRIVING CONDITIONS) (Cont'd)

#### A SCHEDULED MAINTENANCE SERVICES

# SCHEDULE 2 (UNIQUE DRIVING CONDITIONS) (Cont'd)

		Page	
		Service data and inspection point	
	09	99	(96)
miles (kilometers), whichever comes first	22	22	(32) (40) (48) (56) (64) (72) (80) (88)
omes	40 45 50	50 55	(80)
yer c	45	45	(72)
hiche	40	40 45	(64)
rs), w	32	35	(26)
mete	30	30	(48)
s (kilc	20 25 30 35	25 30 35	(40)
r mile	20	20	(32)
Number of months or	15	15	(24)
f mon	10	10	(16) (24)
ber o	5	5	8)
Num	Months	x1,000 Miles	(x1,000 Km) (8)
MAINTENANCE	INTERVALS	ANCE	NC
	/	MAINTEN	OPERATION

## **Chassis and Body**

Brake lines, hoses, and connections	-	_			_	<ul> <li>Proper attachment and connections</li> </ul>	P-8
Brake fluid		В			Œ	Brake fluid	P-5
Disc brakes	<del></del>	_	<del>-</del>			<ul> <li>Caliper operation</li> <li>Thickness of disc plate:     Front 20mm (0.79 in)     Rear 8mm (0.31 in) (Solid disc)     18mm (0.71 in) (Ventilated disc)</li> <li>Runout of disc plate: 0.1mm (0.004 in)</li> <li>Thickness of disc pad:     Front: 2mm (0.08 in)</li> <li>Rear: 1mm (0.04 in)</li> </ul>	P-37, 41 P-45 P-37, 41, 45 P-37, 41 P-45
Steering operation and linkage		_			_	<ul> <li>Operation and looseness</li> <li>Fluid leakage</li> <li>Free play: 5–20mm (0.20–0.79 in)</li> </ul>	N-8 N-12 N-12
Front suspension ball joints		_			_	Damage, looseness, and grease leakage	R-15
Exhaust system heat shield		-			_	Clearance between body and exhaust system	F1-59 F2-55
Driveshaft dust boots		_			_	<ul> <li>Cracks, damage, grease leakage, or band looseness</li> </ul>	M-14
Front wheel bearing grease		_			_	<ul> <li>Clean and check for damage</li> </ul>	6-W
Manual transmission oil		œ			œ		J1-7, J2-8
Differential oil		œ			œ		M-18
Bofts and nuts on chassis and body	L	<b>-</b>	-		_		
Toe control hub and control link		_		 			R-24 M-12