

1997 COMPETITION PARTS CATALOG



This catalog has not been updated since 1996, except for some minor editing to correct some part numbers or show items which are definitely no longer available. Any numbers which are still available, would still be good in this catalog.

You can click directly on the VIEW CART button when logged into the Motorsports site to enter these numbers. They will NOT in some cases show up on the keyword search box.

If you see an item which has a different description on the Mazdaspeed Motorsports website, than in this catalog - believe the website. Some part numbers have been 'recycled'.

Open the bookmarks tab on the upper left for an index.

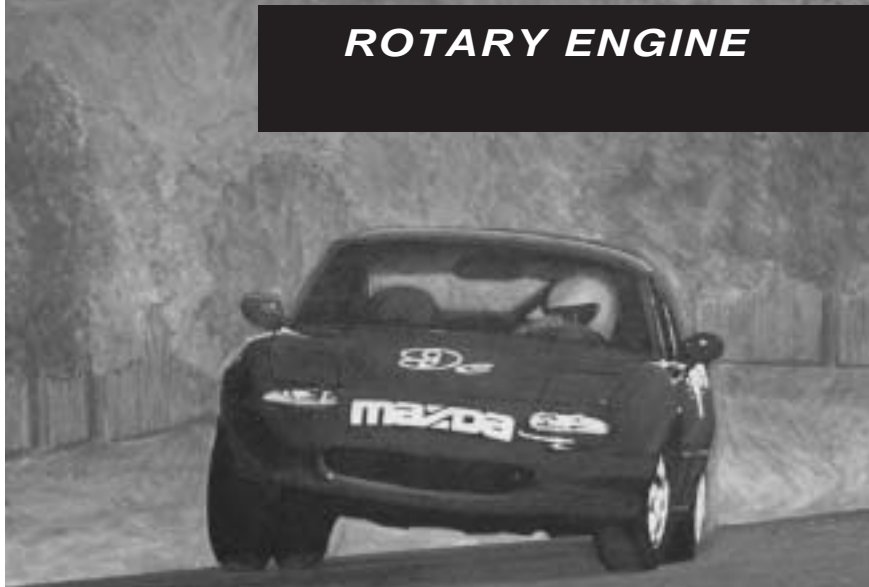


\$9.00

mazda®



ROTARY ENGINE



Competition Apex Seal Information

Carbon apex seals and Iannetti Advanced Carbon seals are recommended for any engine that will see 8000 rpm and above. They weigh significantly less than the stock (cast iron) apex seals and provide lower mass, keeping the apex seal in contact with the rotor housing face at high rpm. At high rpm, the stock (cast iron) seal overcomes the spring, causing the seal to skip across the rotor housing surface, reducing engine performance. Cast iron seals also can warp at high rpm.

Iannetti Advanced Carbon Apex Seals

Design

The two (2) spring design allows for a higher spring pressure which helps improve chamber sealing. This design feature allows the engine to be run with a higher degree of timing before "TDC," retarding the onset of pre-ignition or detonation and effectively increasing the engine's horsepower capabilities. The insignificant wear characteristics of the material allows the use of almost double the apex spring pressure than could be used with other stock or carbon apex seals. This capability also contributes to better sealing, thereby improving the containment of the combustion chamber pressures, which in turn, assists in preventing the onset of detonation.

Material

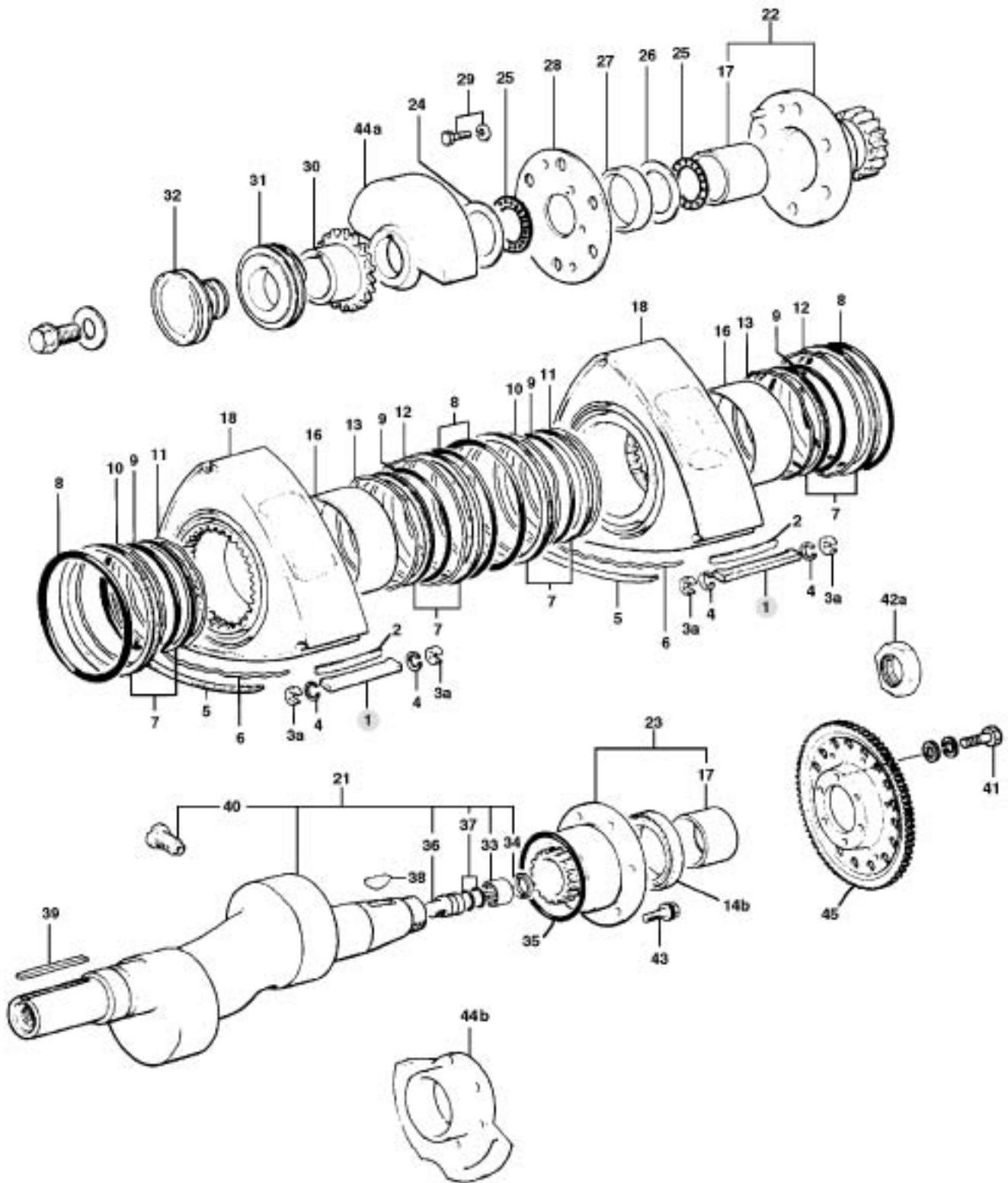
The apex seal material exhibits the following qualities: high strength, low friction and lightweight (lower than ferrous-based seals).

Recent material composition improvements have been made, especially in the case of the 2 mm Iannetti apex seal used for turbo applications. The Iannetti 2 mm seal can handle over 50% more stress on the apex seal beam cross-section than the 3 mm stock seal for normally aspirated 13B engines.

Benefits

- Provides excellent sealing characteristics at all temperatures
- Withstands damaging engine detonation
- Will not absorb moisture when engine is being stored
- Ideal for turbo applications
- Iannetti seals have been used by most major professional teams in the world:
 - Winner of the 1994 IMSA World Sports Car Championship, Wayne Taylor – Team Downing/Atlanta.
 - 3rd in Class at the 24 Hours of Le Mans, 1995 - MazdaSpeed – Team Downing/Atlanta.
 - 3rd overall at the Rolex 24 Hours of Daytona, 1996 – Team Downing/Atlanta.
 - 1st in Class at the 24 Hours of Le Mans, 1996 - MazdaSpeed – Team Downing/Atlanta.

Rotary Engine Components



ROTARY ENGINE COMPONENTS

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
I	4352-11-301	C	6	Apex Seal, Carbon (3 mm width)	I2A	1974-85	Requires use of competition apex seal springs. (Part #4352-11-304)
I	0000-01-9101		6*	Apex Seal, Iannetti Ceramic (3 mm width)	I2A	1974-85	3 mm width - 2 spring design. Requires use of modified springs.
I	N201-11-300A	S	6	Apex Seal (3 mm width)	I2A	1974-85	Includes side piece. (Part #1202-11-302)
I	4801-11-301	C	6	Apex Seal, Carbon (3 mm width)	I3B	1974-85	Requires use of competition apex seal spring. (Part #ZR03-11-C04; 3 mm width)
I	0000-01-9102		2*	Apex Seal, Iannetti Ceramic (3 mm width)	I3B	1974-85	3 mm width - 2 spring design. Requires use of modified springs (included).
I	N304-11-300	S	6	Apex Seal (3 mm width)	I3B	1974-85	Includes side piece. (Part #1202-11-302; 3 mm width).
I	0000-01-9103		2*	Apex Seal, Iannetti Ceramic (2 mm width)	I3B	1986-95	2 mm width - 2 spring design. Requires use of modified springs (included).
I	0000-01-9105		2*	Apex Seal, Iannetti Advanced Carbon (3 mm width)	I3B	1986-95	3 mm width - 2 spring design. Seal design is similar to "9103" seal, but is made for turbo applications. Requires use of modified springs.
I	N3F1-11-C00	S	6	Apex Seal (2 mm width)	I3B	1986-95	3-piece design includes side piece. (Part #N326-11-C02A)

 = NEW! Competition Part

NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)

*Iannetti Advanced carbon apex seals are sold in sets of six (6) only.

NOTE: Carbon and Iannetti Advanced carbon apex seals must be used in conjunction with the proper apex seal springs.

Iannetti Advanced Carbon Apex Seals require two (one short/one long) apex springs. Springs come with Iannetti Ceramic seals.

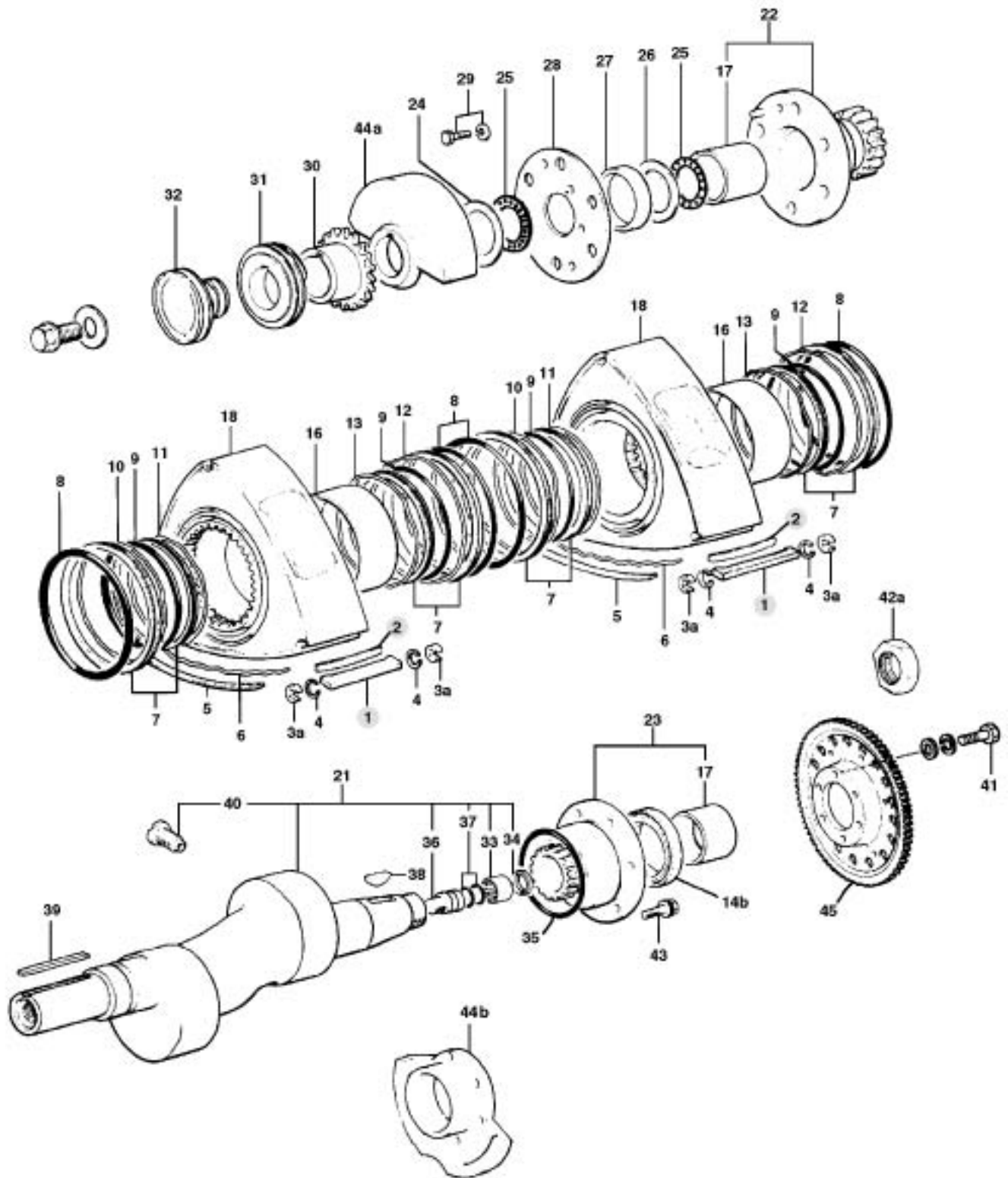
Please follow the information provided below for correct fitment and to achieve ideal sealing characteristics:

I2A (Part #0000-01-9101 – 3 mm) - Use Part #1757-11-304 for both springs. Inner (short) spring must be cut to 52 mm length. Outer (long) spring must be cut to 65 mm length. Taper ends to 15 degree angle.

I3B (Part #0000-01-9102 – 3 mm) - Use Part #1757-11-304 for both springs. Inner (short) spring 3 mm must be cut to 58 mm length. Outer (long) spring must be cut to 74 mm length. Taper ends to 15 degree angle.

I3B (Part #0000-01-9103 – 2 mm) - Inner (short) spring must be cut to 58 mm length. Outer (long) spring must be cut to 74 mm length. Taper ends to 15 degree angle. (NOTE: The stock Apex Spring (Part #N326-11-C06A) is used for the springs (cut inner to 58 mm length).

Rotary Engine Components, continued ...



ROTARY ENGINE COMPONENTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
1	I202-11-302	S	6	Side Piece - Apex Seal	I2A & I3B	1974-85	Not shown in diagram. For use with apex seal. (Part #N201-11-300A or Part #N304-11-300) Side piece comes with apex seal.
1	N326-11-C02A	S	6	Side Piece - Apex Seal	I3B ALL	1986-95	Not shown in diagram. For use with apex seal. (Part #N3F1-11-C00) Side piece comes with apex seal.
2	4352-11-304	C	6	Spring - Apex Seal	I2A	1974-85	For use with carbon apex seal only.
2	I011-11-304B	S	6	Spring - Apex Seal	I2A	1974-85	
2	ZR03-11-C04	C	6	Spring - Apex Seal	I3B	1974-85	For use with carbon apex seal only.
2	N326-11-C06C		6	Spring - Apex Seal	I3B ALL	1986-95	For use with 2 mm Iannetti Ceramic apex seal. (Part #0000-01-9103 & 9105)
2	I757-11-304	S	6	Spring - Apex Seal	I3B	1974-85	
2	N326-11-C04A	S	6	Spring - Apex Seal	I3B ALL	1986-95	Inner spring
2	N326-11-C06C	S	6	Spring - Apex Seal	I3B ALL	1986-95	Outer spring

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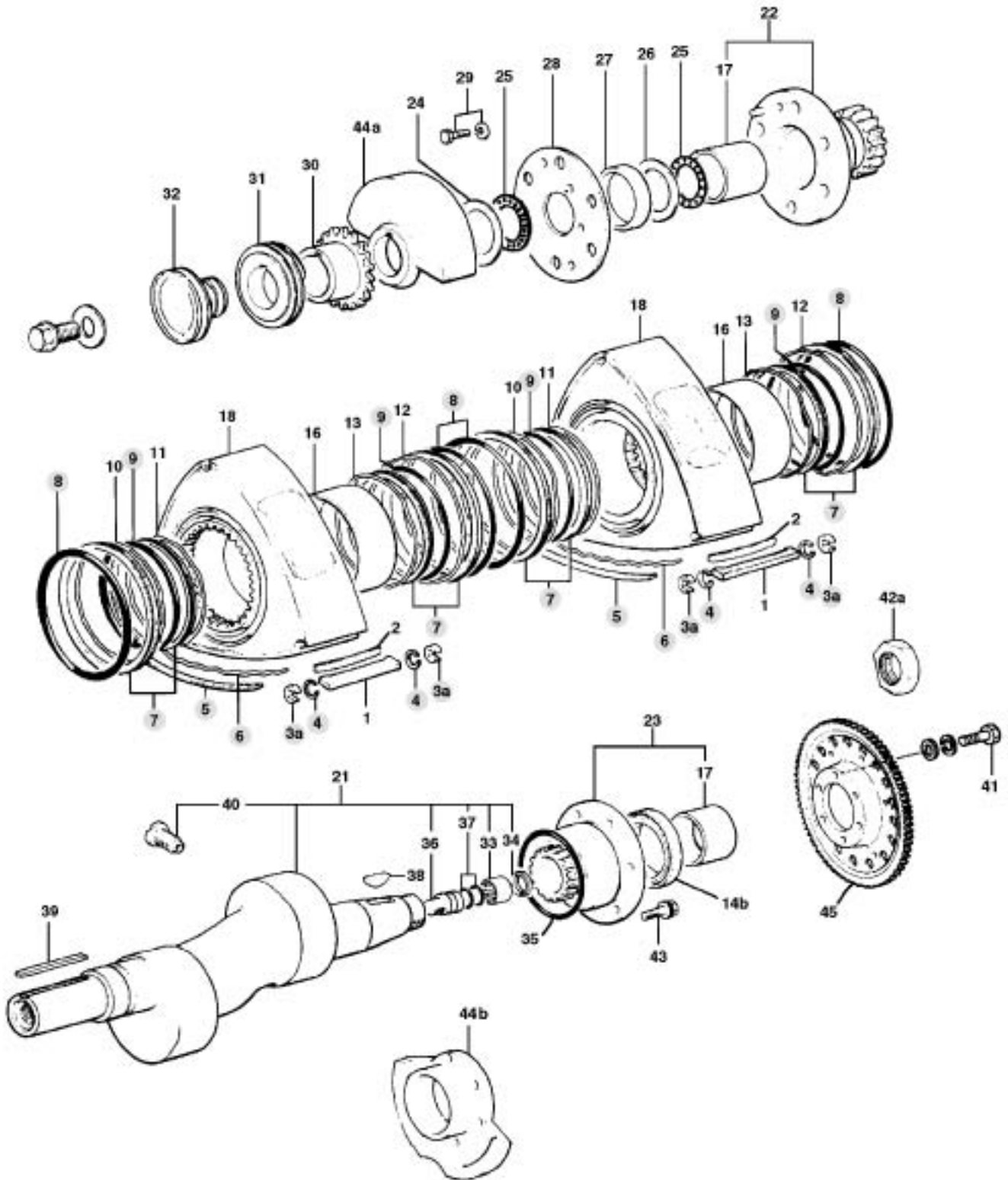


Apex Seal Tech Tips

(See page TT-13-15 in the Engine Technical Tips section of this catalog.)



Rotary Engine Components, continued ...



ROTARY ENGINE COMPONENTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
3a	I011-11-321	S	12	Corner Seal	12A & 13B	1974-85	Solid-type
3a	N225-11-321	S	12	Corner Seal	12A & 13B	1976-85	2-piece plug-type design. Requires use of corner seal plug. (Part #N201-11-322) Plug not included.
3a	N326-11-C20A	S	12	Corner Seal	13B ALL	1986-95	2-piece plug-type seal. Plug included with corner seal.
3a	ZR03-11-C21	C	18	Corner Seal	20B	ALL	
3a	N201-11-322	S	12	Plug - Corner Seal	12A & 13B	ALL	Not shown in diagram. For use with corner seal. (Part #N225-11-321) Does not come with corner seal.
3a	N326-11-C22A	S	12	Plug - Corner Seal	13B ALL	1986-95	Not shown in diagram. Plug included with corner seal.
4	I202-11-323A	S	12	Spring - Corner Seal	12A & 13B NT & T	1973-91	Wire-type spring. Use of Part #NF01-11-C24 recommended.
4	NF01-11-C24	S	12	Spring - Corner Seal	13B TT	1993-95	Recommended for all 12A & 13B applications. Retains strength under high temperatures better than wire-type design.
5	8871-23-151	C	12	Side Seal - Pre-Cut	12A & 13B	1974-85	Eliminates much of the cutting and filing required. Pre-cut to approximate length required.
5	I011-23-151A	S	12	Side Seal	12A & 13B	1974-85	
5	N3Y1-11-C11	S	12	Side Seal	13B ALL	1986-95	
6	0820-11-317	S	12	Spring - Side Seal	12A & 13B	1974-85	
6	N326-11-C17	S	12	Spring - Side Seal	13B ALL	1986-91	
6	NF01-11-C17	S	12	Spring - Side Seal	13B TT	1993-95	
7	8871-23-180	S	4	Oil Seal Set (Steel)	12A & 13B	ALL	
8	I202-11-343	S	4	O-Ring (Outer) - Oil Seal	12A & 13B	ALL	
9	0820-11-341	S	4	O-Ring (Inner) - Oil Seal	12A & 13B	ALL	

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Corner Seal Tech Tips

(See page TT-16 in the Engine Technical Tips section of this catalog.)

Side Seal Tech Tips

(See page TT-12 in the Engine Technical Tips section of this catalog.)

ROTARY ENGINE COMPONENTS, continued ...

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
10	4352-11-353	C	2	Spring - Oil Seal (Front/Outer)	12A & 13B	ALL	Heavy-duty spring provides increased pressure.
10	1011-11-353A	S	2	Spring - Oil Seal (Front/Outer)	12A & 13B	ALL	
11	1011-11-351	S	2	Spring - Oil Seal (Front/Inner)	12A 13B	1974-83 1974-75	
11	N225-11-351	S	2	Spring - Oil Seal (Front/Inner)	12A 13B ALL	1984-85 1984-95	
12	4352-11-363	C	2	Spring - Oil Seal (Rear/Outer)	12A & 13B	ALL	Heavy-duty spring provides increased pressure.
12	1011-11-363A	S	2	Spring - Oil Seal (Rear/Outer)	12A & 13B	ALL	
13	1011-11-361	S	2	Spring - Oil Seal (Rear/Inner)	12A 13B	1974-83 1974-75	
13	N225-11-361	S	2	Spring - Oil Seal (Rear/Inner)	12A 13B ALL	1984-85 1984-95	
14a	0820-10-605	S	1	Main Seal (Front)	12A & 13B	1971-91	Not shown in diagram
14a	N3A1-10-507	S	1	Main Seal (Front)	13B TT	1993-95	Not shown in diagram
14b	1668-10-556A	S	1	Main Seal (Rear)	12A & 13B	ALL	
15	Gasket & O-Ring Sets (Not shown in diagram.) (See page E-20.)						
16	4801-11-111	C	2	Rotor Bearing	12A & 13B	ALL	Competition bearings have 0.04 inch deeper oil groove and provide 0.0005 inch more clearance than stock bearings. Thinner overlay material improves bearing service life.
16	ZRY1-11-B21	C	2	Rotor Bearing	13B	ALL	Oversized for use with 20B (3-rotor) lightweight race rotor and 13B eccentric shaft. Oil groove and clearance is identical to Part #4801-11-111, but bearing O.D. is 1 mm larger to fit 20B rotor.
16	1011-11-111	S	2	Rotor Bearing	12A & 13B	ALL	
16	N3A1-11-B11	S	2	Rotor Bearing	13B TT	1993-95	
16	N3A2-11-B11	S	2	Rotor Bearing	13B TT	1993-95	
16	N3A3-11-B11	S	2	Rotor Bearing	13B TT	1993-95	
16	ZR03-11-B21	C	3	Rotor Bearing	20B-C	ALL	Competition bearing for 20B (3-rotor) race engine.

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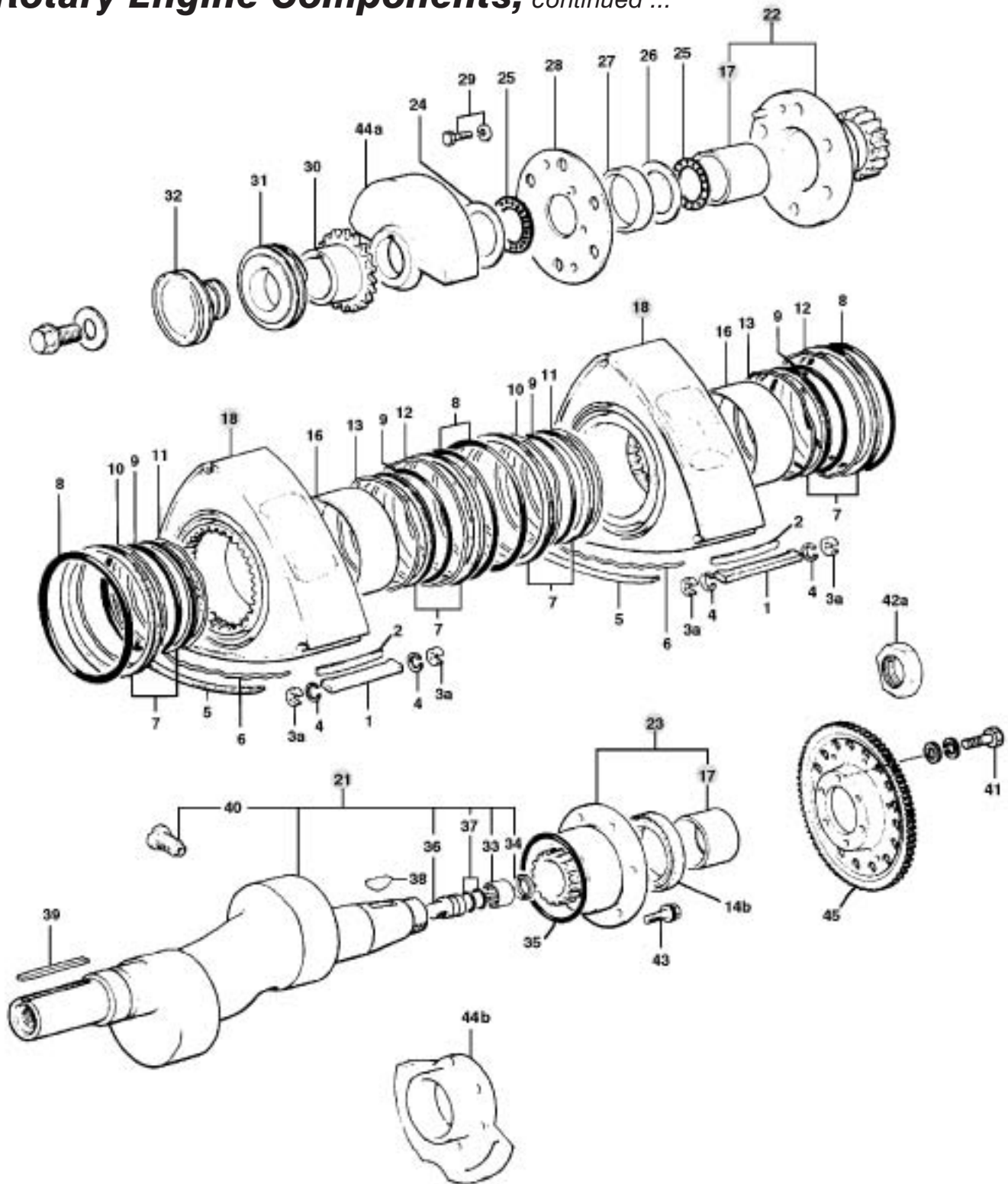
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Rotor Bearing Tech Tips

(See page TT-10 and TT-11 in the Engine Technical Tips section of this catalog.)

Rotary Engine Components, continued ...



Main Bearing Tech Tips

(See page TT-18 in the Engine Technical Tips section of this catalog.)


Eccentric Shaft Tech Tips

(See page TT-20 in the Engine Technical Tips section of this catalog.)

Stationary Gear Tech Tips

(See page TT-18 in the Engine Technical Tips section of this catalog.)

ROTARY ENGINE COMPONENTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
17	4801-10-502	C	1	Main Bearing (Rear)	12A & 13B	1971-91	3-window type. Recommended for any engine used at 8000 rpm and above. Increases oil flow to the inside of eccentric shaft and to rotors.
17	0820-10-502B	S	2	Main Bearing	12A & 13B	1971-91	
17	N350-10-E02	S	2	Main Bearing - O/S	13B ALL	1989-91	
17	NF01-10-E04	S	2	Main Bearing	13B TT	1993-95	T= 1.980 mm (Yellow)
17	NF01-10-E05	S	2	Main Bearing	13B TT	1993-95	T= 1.983 mm (Green)
17	NF01-10-E06	S	2	Main Bearing	13B TT	1993-95	T= 1.986 mm (Brown)
17	NF01-10-E07	S	2	Main Bearing	13B TT	1993-95	T= 1.989 mm (Black)
17	NF01-10-E08	S	2	Main Bearing	13B TT	1993-95	T= 1.992 mm (Blue)
17	NF01-10-E22	S	2	Main Bearing	13B TT	1993-95	T= 1.988 mm (Yellow)
17	NF01-10-E23	S	2	Main Bearing	13B TT	1993-95	T= 1.991 mm (Green)
17	NF01-10-E24	S	2	Main Bearing	13B TT	1993-95	T= 1.994 mm (Brown)
17	NF01-10-E25	S	2	Main Bearing	13B TT	1993-95	T= 1.997 mm (Black)
17	NF01-10-E26	S	2	Main Bearing	13B TT	1993-95	T= 2.000 mm (Blue)
17	NF01-10-E42	C	1	Main Bearing (Center)	20B Cosmo	ALL	T= 1.988 mm
18	Rotors (Front & Rear) (See page E-24.)						
19	Rotor Housings (Not shown in diagram. See pages E-20 through E-21.)						
20	Side Housings (Not shown in diagram. See pages E-22 through E-23.)						
21	XXXXXXXX		1	XXXXXX	XXX	ALL	XXXX
21	N201-11-400	S	1	Eccentric Shaft	12A	1974-85	
21	4801-11-400	C	1	Eccentric Shaft	13B	ALL	
21	3648-11-400	S	1	Eccentric Shaft	13B	1974-78	
21	N304-11-400	S	1	Eccentric Shaft	13B	1984-85	
21	N326-11-D00B	S	1	Eccentric Shaft	13B ALL	1986-91	
21	N3A1-11-D00	S	1	Eccentric Shaft	13B TT	1993-95	For manual transmission only
21	NLA	C	1	Eccentric Shaft	20B Cosmo	ALL	
22	Stationary Gear (Front) (See page E-25.)						
22a	Stationary Gear (Center) (Not shown in diagram. See page E-25.)						
23	Stationary Gear (Rear) (See page E-25.)						



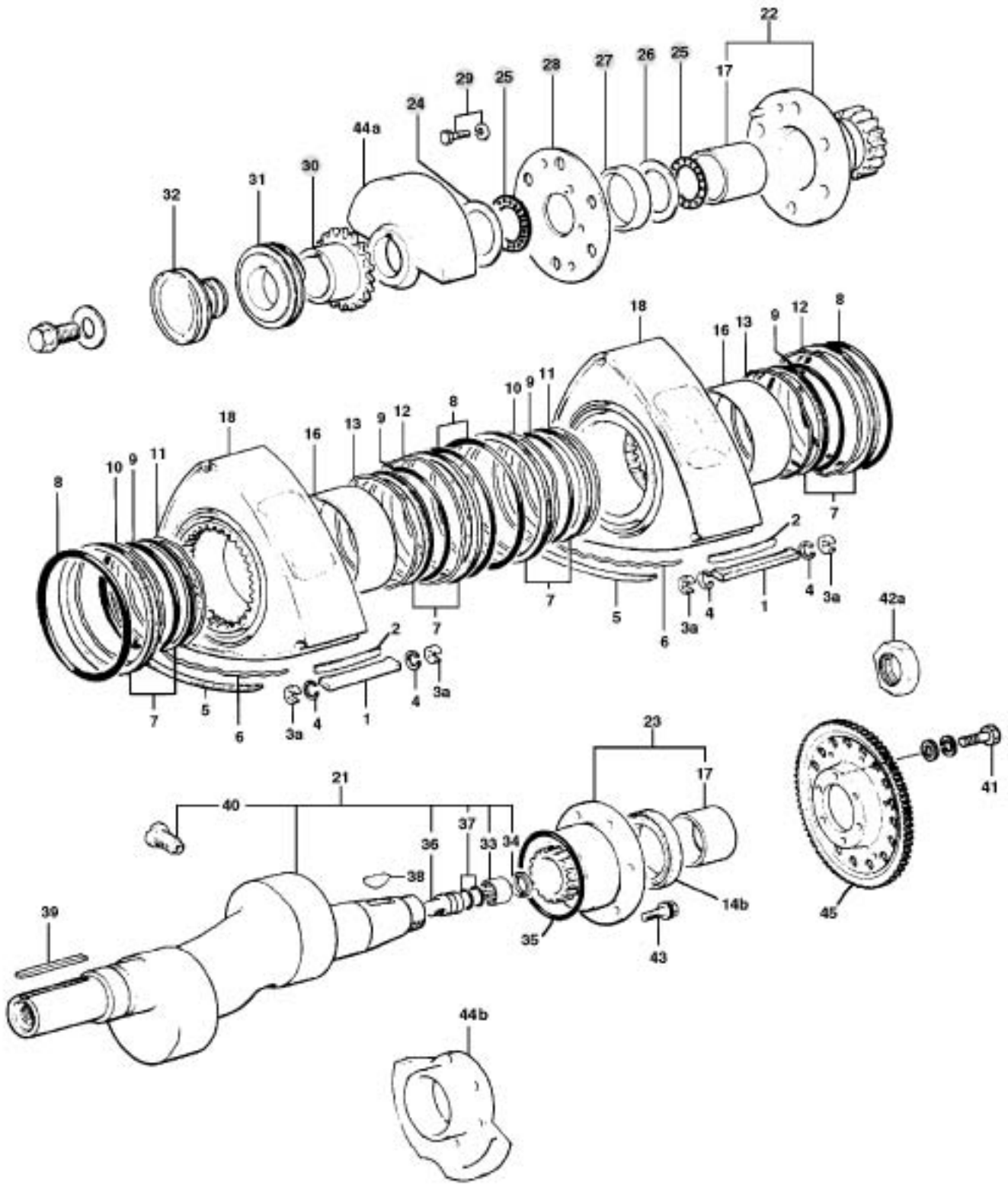
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Rotary Engine Components, continued ...



ROTARY ENGINE COMPONENTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
24	1011-11-507	S	1	Thrust Washer	12A & 12B	1971-91	
24	NF01-11-D53	S	1	Thrust Washer	13B TT & 20B Cosmo	1993-95	
25	0822-78-184	C	2	Needle Bearing	12A & 13B	ALL	Heavy duty
25	0813-11-505B	S	2	Needle Bearing	12A & 13B	1971-91	
25	NF01-11-D54	S	2	Needle Bearing	13B TT & 20B Cosmo	1993-95	
26	1011-11-504	S	1	Thrust Plate	12A & 13B	1971-91	
26	N390-11-D52	S	1	Thrust Plate	13B TT	1993-95	
26	NF01-11-D52	C	1	Thrust Plate	20B Cosmo	ALL	
27	0839-11-509	S	1	Spacer	12A & 13B	1971-91	8.00 mm (Z)
27	0839-11-502	S	1	Spacer	12A & 13B	1971-91	8.02 mm (V)
27	0839-11-508	S	1	Spacer	12A & 13B	1971-91	8.04 mm (Y)
27	8519-11-517	S	1	Spacer	12A & 13B	1971-91	8.06 mm (K)
27	0839-11-506	S	1	Spacer	12A & 13B	1971-91	8.08 mm (X)
27	8534-11-518	S	1	Spacer	12A & 13B	1971-91	8.10 mm (T)
27	8871-23-129	S	1	Spacer	12A & 13B	1971-91	8.12 mm (S)
27	NF01-11-D55	S	1	Spacer	13B TT & 20B Cosmo	1993-95	L=8.0 mm, -0.005/-0.025
27	NF01-11-D56	S	1	Spacer	13B TT & 20B Cosmo	1993-95	L=8.0 mm, -0.005/+0.015
27	NF01-11-D57	S	1	Spacer	13B TT & 20B Cosmo	1993-95	L=8.0 mm, +0.015/+0.035
27	NF01-11-D58	S	1	Spacer	13B TT & 20B Cosmo	1993-95	L=8.0 mm, +0.035/+0.055
27	NF01-11-D59	S	1	Spacer	13B TT & 20B Cosmo	1993-95	L=8.0 mm, +0.055/+0.075
28	1011-11-501	S	1	Bearing Plate	12A & 13B	1971-91	
28	NF01-11-D51	S	1	Bearing Plate	13B TT & 20B Cosmo	1993-95	
29	9080-12-825	S	6	Bolt & Washer - Stationary Gear to Engine	12A & 13B	ALL	
30	4352-11-521	C	1	Drive Gear - Dry Sump Oil System	12A & 13B	ALL	
30	0839-11-551A	S	1	Drive Gear - Oil Pump	12A & 13B	1972-91	
30	N326-11-D75	S	1	Drive Gear - Oil Pump	13B TT	1993-95	
30	NF01-11-D70	C	1	Drive Gear - Oil Pump	20B Cosmo	ALL	

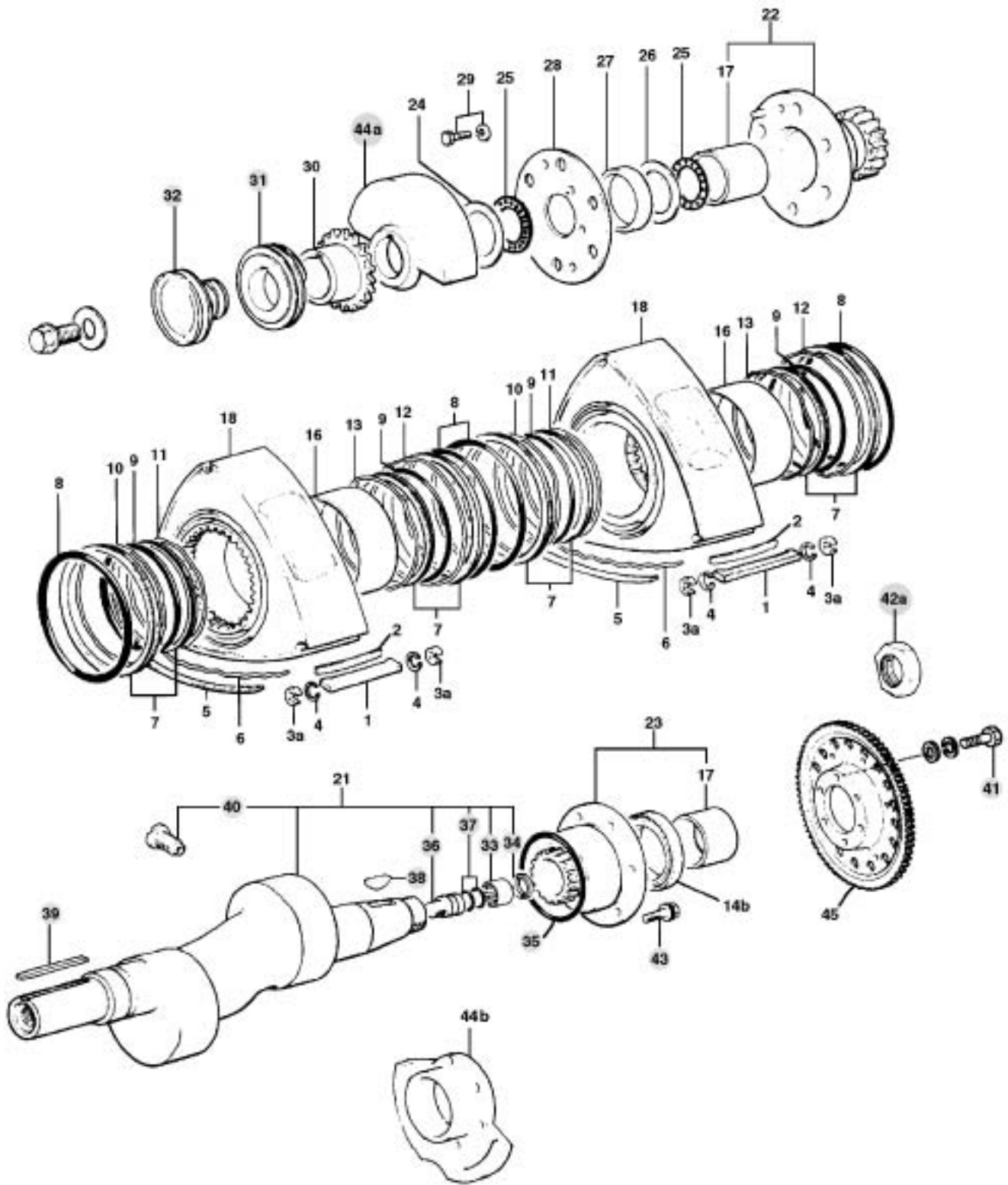
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Rotary Engine Components, continued ...



Counterweight Tech Tips

(See page TT-16 in the Engine Technical Tips section of this catalog.)

ROTARY ENGINE COMPONENTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
31	0839-11-531	S	1	Drive Gear - Distributor	12A & 13B & 20B	1972-91	
31	N3C1-11-D71	S	1	Drive Gear - Distributor	13B TT	1993-95	
32	Drive Pulley (See Cooling System section, page C-4.)						
33	0810-11-403	S	1	Pilot Bearing	12A	1971-73	
33	N326-11-D03	S	1	Pilot Bearing	12A & 13B	1974-95	Fits 1974 and later eccentric shafts.
34	0810-11-404	S	1	Seal - Pilot Bearing	12A	1971-73	
34	1881-11-404	S	1	Seal - Pilot Bearing	12A & 13B	1974-95	Fits 1974 and later eccentric shafts.
35	0813-10-555A	S	1	O-Ring	12A & 13B	ALL	
36	Blind Plug (Call for Information.)						
37	O-Rings - Blind Plug (Call for Information.)						
38	0820-11-705	S	1	Key - Flywheel (Rear)	12A & 13B	ALL	
39	9923-60-571	S	1	Key - Flywheel (Front)	12A & 13B	ALL	
40	8553-11-411		2	Plug - Oil Jet	12A, 13B & 20B Cosmo	ALL	Recommended for all competition engines. Replaces stock jet that uses spring and check ball, which can stick.
41	9978-11-025	C/S	6	Flywheel Bolts	12A & 13B	ALL	Flywheel to counterweight
42a	0810-11-711	S	1	Flywheel Lock Nut	12A & 13B	ALL	
42b	0820-11-712	S	1	Flywheel Lock Washer	12A & 13B	ALL	Not shown in diagram
43	9078-12-820	S	6	Bolt & Washer - Rear Stationary Gear	12A, 13B & 20B Cosmo	ALL	
44	4352-11-010	C	1	Counterweight Set - (Front/Rear)	12A	See Notes	Not shown in diagram. For use with competition rotors.
44	4801-11-010	C	1	Counterweight Set - (Front/Rear)	13B	See Notes	Not shown in diagram. For use with competition rotors.
44a	1881-11-511	S	1	Counterweight (Front)	12A	1974-80	
44a	N201-11-511	C/S	1	Counterweight (Front)	12A	1981-82	Lightest counterweight
44a	N226-11-511A	S	1	Counterweight (Front)	12A	1983-85	
44a	N304-11-511	S	1	Counterweight (Front)	13B	1984-85	
44a	N326-11-D61A	S	1	Counterweight (Front)	13B ALL	1986-88	
44a	N350-11-D61	S	1	Counterweight (Front)	13B ALL	1989-91	
44a	N3A7-11-D61	S	1	Counterweight (Front)	13B TT	1993-95	
44a	NF01-11-D60	C	1	Counterweight (Front)	20B Cosmo	ALL	

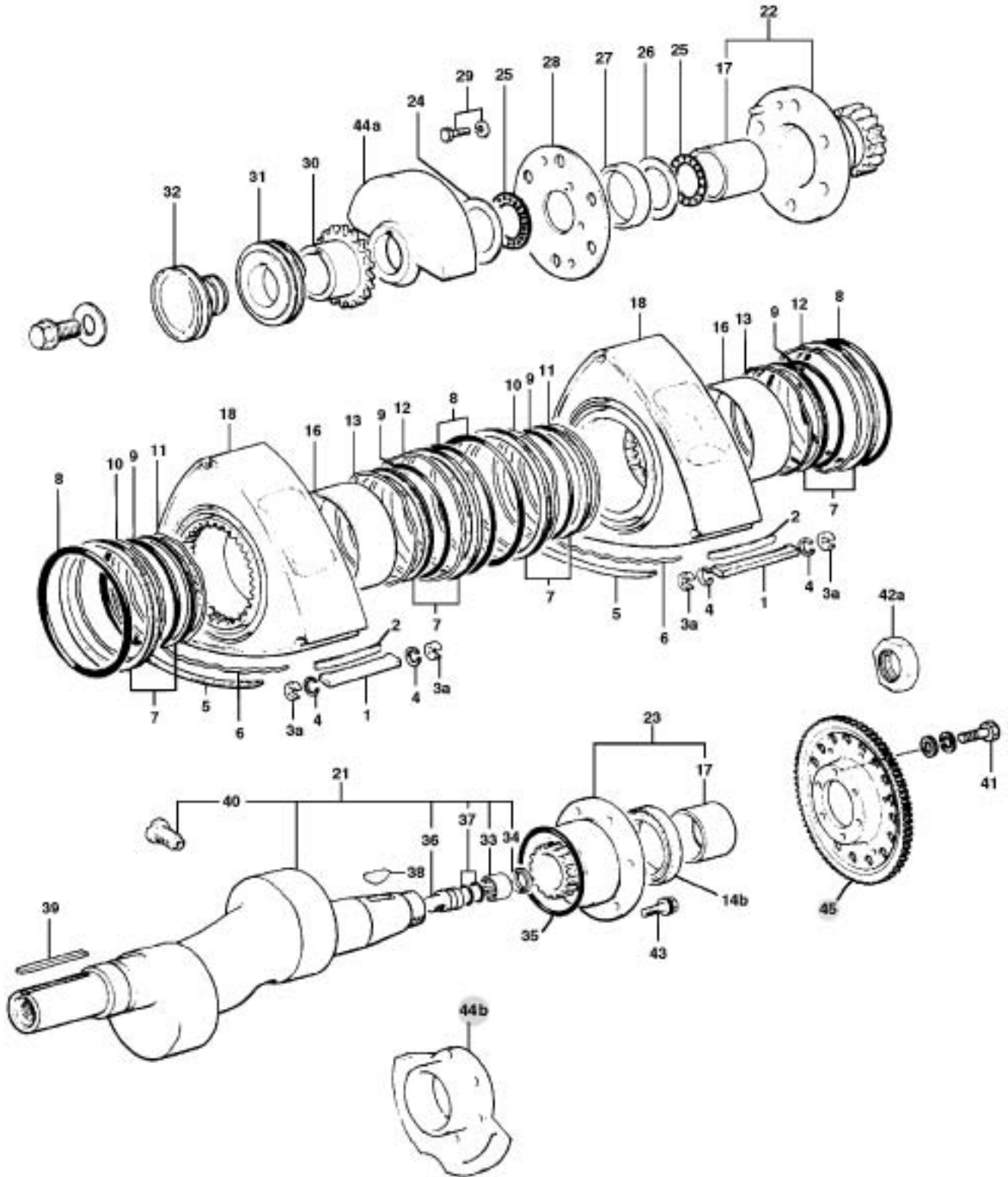
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Rotary Engine Components, *continued ...*



ROTARY ENGINE COMPONENTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
44b	0000-01-9152		1	Counterweight (Rear)	12A & 13B	ALL	Modified for use with 5-1/2" clutch and flywheel. Requires rebalancing of assembly if 1983-85 12A rotors are not used.
44b	1883-11-751A	S	1	Counterweight (Rear)	12A	1974-82	Automatic transmission
44b	N226-11-751A	S	1	Counterweight (Rear)	12A	1983-85	Automatic transmission
44b	1029-11-751A	C/S	1	Counterweight (Rear)	13B	1976-85	Automatic transmission
44b	N327-11-521A	S	1	Counterweight (Rear)	13B ALL	1986-88	Automatic transmission
44b	N351-11-521	S	1	Counterweight (Rear)	13B ALL	1989-95	Automatic transmission
44b	NF01-11-521	C	1	Counterweight (Rear)	20B Cosmo	ALL	Automatic transmission
45	Flywheel (See Clutch & Flywheel section, pages CF-3, CF-8 and CF-11)						
	Tension Bolt (Not shown in diagram. See page E-24.)						
	Tubular Dowel & O-Rings (Not shown in diagram. See page E-24.)						



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GASKET & O-RING SET

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
3625-89-100	S	1	Gasket & O-Ring Set	I2A	1974-75	
8823-89-100	S	1	Gasket & O-Ring Set	I2A & I3B	1976-78	
8871-89-100	S	1	Gasket & O-Ring Set	I2A	1979-80	
N201-89-100	S	1	Gasket & O-Ring Set	I2A	1981-82	
N231-89-100	S	1	Gasket & O-Ring Set	I2A	1983-85	
3565-89-100	S	1	Gasket & O-Ring Set	I3B	1974-75	
N304-89-100	S	1	Gasket & O-Ring Set	I3B	1984-85	
8DF1-10-271	S	1	Gasket & O-Ring Set	I3B NT	1986-88	
8DF4-10-271	S	1	Gasket & O-Ring Set	I3B T	1987-88	
8DF5-10-271	S	1	Gasket & O-Ring Set	I3B NT	1989-91	
8DF6-10-271	S	1	Gasket & O-Ring Set	I3B T	1989-91	
8DFH-10-271	S	1	Gasket & O-Ring Set	I3B TT	1993-95	
8DJ1-10-271		1	Gasket & O-Ring Set	20B Cosmo	ALL	O-Ring and Seal Set. (Part #NF01-10-S60)



 = NEW! Competition Part

NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)

ROTOR HOUSINGS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-10-100	C	2	Rotor Housing (Front/Rear)	I2A	ALL	Peripheral port
N210-10-100		1	Rotor Housing (Front)	I2A	ALL	Largest exhaust ports of all stock housings. Recommended for use on side port and bridge-ported engines. Requires least amount of exhaust port grinding.
N210-10-150		1	Rotor Housing (Rear)	I2A	ALL	See Part #N210-10-100
1881-10-100A	S	2	Rotor Housing (NLA)	I2A	1974-75	Largest exhaust ports (legal for SCCA "ITA" RX-2 and RX-3 only).
3625-23-050	C/S	2	Rotor Housing (Front/Rear)	I2A	1974-75	Same as Part #1881-10-100A
8871-10-100	S	1	Rotor Housing (Front)	I2A	1976-79	
8871-10-150	S	1	Rotor Housing (Rear)	I2A	1976-79	
8341-10-100	S	1	Rotor Housing (Front)	I2A	1980	
8341-10-150	S	1	Rotor Housing (Rear)	I2A	1980	
N201-10-100	S	2	Rotor Housing (Front/Rear)	I2A	1981-83	
N249-10-100	S	2	Rotor Housing (Front/Rear)	I2A	1984-85	

 = NEW! Competition Part

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TT = Twin-Turbo (93-95 RX7)

ROTOR HOUSINGS, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4801-10-100	C	2	Rotor Housing (Front/Rear)	13B	ALL	Peripheral port
1757-10-100A	S	2	Rotor Housing (Front/Rear)	13B	1974	Largest exhaust ports
3775-10-100	S	2	Rotor Housing (Front/Rear)	13B	1975	
8712-10-100A	S	+	Rotor Housing (Front)	13B	1976-78	
8712-10-150A	S	+	Rotor Housing (Rear)	13B	1976-78	
8736-10-100A	S	+	Rotor Housing (Front)	13B	1978	With E.G.R. port
8736-10-150A	S	+	Rotor Housing (Rear)	13B	1978	With E.G.R. port
N304-10-100C	S	2	Rotor Housing (Front/Rear)	13B	1984-85	GSL-SE Model
N326-10-B10	S	1	Rotor Housing (Front)	13B NT	1986-88	
N326-10-B50C	S	1	Rotor Housing (Rear)	13B NT	1986-88	
N332-10-B10	S	1	Rotor Housing (Front)	13B T	1987-88	
N332-10-B50B	S	1	Rotor Housing (Rear)	13B T	1987-88	
N350-10-B10A	S	1	Rotor Housing (Front)	13B NT	1989-91	
N350-10-B50A	S	1	Rotor Housing (Rear)	13B NT	1989-91	
N318-10-B10A	S	1	Rotor Housing (Front)	13B T 20B Cosmo	1989-91 ALL	
N318-10-B50C	S	1	Rotor Housing (Rear)	13B T 20B Cosmo	1989-91 ALL	
N3Y2-10-S70	S	1	Rotor Housing (Front)	13B TT	1993-95	
N3Y2-10-S80	S	1	Rotor Housing (Rear)	13B TT	1993-95	



= NEW! Competition Part

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Rotor Housing Tech Tips

(See page TT-3 in the Engine Technical Tips section of this catalog.)

SIDE HOUSINGS

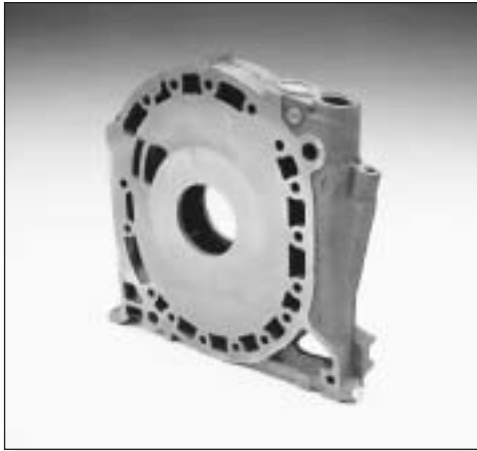
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-01-9210		1	Front Housing (Bridge-Ported)	I2A & I3B	1974-85	For GT3, CSR, F/Atlantic Engs. Same as Part #8871-10-200A, but intake port has been machined on CNC machine to correct port timing. Finish grinding is required. Reduces hand-grinding time by approximately 50%-75%.
8871-10-200A	C	1	Front Housing	I2A & I3B	1974-85	Recommended for street-port, bridge-port & peripheral-port engines. Gas-nitrited material.
1757-10-200C	C/S	+	Front Housing	I2A & I3B	1974-75	Largest intake ports (legal for SCCA "ITA" class RX2, 3, 4 only).
8981-10-200B	S	1	Front Housing	I2A	1981-85	
N304-10-200B	S	1	Front Housing	I3B	1984-85	
N326-10-C00C	S	1	Front Housing	I3B NT	1986-88	
N318-10-C00D	S	1	Front Housing	I3B T	1987-88	
N350-10-C00A	S	1	Front Housing	I3B NT	1989-91	
N370-10-C00B	S	1	Front Housing	I3B T	1989-91	
N3FI-10-C00	S	1	Front Housing	I3B TT	1993-95	
NF01-10-C00E	C	1	Front Housing	20B Cosmo	ALL	
0000-01-9211		1	Intermediate Housing (Bridge-Ported)	I2A & I3B	1974-85	See NOTES for Front Housing (Part #0000-01-9210) above. Same as Part #8871-23-070 below with CNC porting.
8871-23-070	C	+	Intermediate Housing	I2A & I3B	1974-85	See NOTES for Part #8871-10-200A above.
1757-23-070	C/S	+	Intermediate Housing	I2A & I3B	1974	Largest intake port (legal for SCCA "ITA" class RX2, 3, 4 only). With emission hole.
1708-23-070	C/S	+	Intermediate Housing	I2A & I3B	1975	Largest intake port (legal for SCCA "ITA" class RX2, 3, 4 only). Without emission hole.
3648-23-070	S	+	Intermediate Housing	I2A & I3B	1976-78	
8341-10-400	S	1	Intermediate Housing	I2A	1981-85	
N304-10-400	S	1	Intermediate Housing	I3B	1984-85	
N326-10-D00B	S	1	Intermediate Housing	I3B NT	1986-88	
N332-10-D00B	S	1	Intermediate Housing	I3B T	1987-88	
N350-10-D00C	S	1	Intermediate Housing	I3B NT	1989-91	
N370-10-D00C	S	1	Intermediate Housing	I3B T	1989-91	
N3A1-10-D00B	S	1	Intermediate Housing	I3B TT	1993-95	

 = NEW! Competition Part

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Bridge-Port Side Housing – Part #0000-01-9211



CNC – Machined Bridge-Port

SIDE HOUSINGS, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
NF01-10-D50D		1	Intermediate Housing (1st-Thick)	20B Cosmo	ALL	
NF01-10-D00C		1	Intermediate Housing (2nd-Thin)	20B Cosmo	ALL	
0000-01-9212		1	Rear Housing (Bridge-Ported)	12A & 13B	1974-85	See NOTES (page E-22) for Front Housing. (Part #0000-01-9210) Same as Part #8871-23-095 below, with CNC porting.
8871-23-095	C	1	Rear Housing	12A & 13B	1974-85	See NOTES (page E-22) for Part #8871-10-200A. Threaded water outlet hole can be plugged easily.
3565-23-095	C/S	1	Rear Housing	12A & 13B	1974-75	Largest intake ports (legal for SCCA "ITA" class RX-2, 3, 4 only).
8501-23-090	S	1	Rear Housing	12A & 13B	1976-78	
N201-10-300A	S	1	Rear Housing	12A	1981-82	
N231-10-300A		1	Rear Housing	12A	1983-85	
N304-10-300	S	1	Rear Housing	13B	1984-85	
N326-10-C50C	S	1	Rear Housing	13B NT	1986-88	
N318-10-C50C	S	1	Rear Housing	13B T	1987-88	
N350-10-C50A	S	1	Rear Housing	13B NT	1989-91	
N370-10-C50A	S	1	Rear Housing	13B T	1989-91	
N3YA-10-C50D	S	1	Rear Housing	13B TT	1993-95	
NF01-10-C50D		1	Rear Housing	20B Cosmo	ALL	

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Side Housing Tech Tips

(See page TT-6 in the Engine Technical Tips section of this catalog.)

ROTORS - FRONT & REAR

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-11-100	C	2	Rotor (Front/Rear)	12A	ALL	Rotor gear secured with snap-ring. Chrome-plated apex seal grooves increase resistance to wear. Approximate Weight = 4260 gm.
0000-01-9121		1	Rotor Set (Front/Rear)	12A	ALL	Balanced and lightened rotor set has chrome-plated apex seal grooves for durability. Stock rotor gear is replaced with "3130" (hardened) material and secured with pins. Approximate Weight = 4000 gm.
N2Y2-11-B10		1	Rotor (Front)	12A	ALL	Chrome-plated apex grooves. Approximate Weight = 4350 gm.
N2Y2-11-B50		1	Rotor (Rear)	12A	ALL	Chrome-plated apex grooves. Approximate Weight = 4350 gm.
1011-23-103B	S	2	Rotor (Front/Rear)	12A	1974-75	Approximate Weight = 4350 gm.
1480-23-103	S	1	Rotor (Front)	12A	1976-82	Approximate Weight = 4350 gm.
1480-23-113	S	1	Rotor (Rear)	12A	1976-82	Approximate Weight = 4350 gm.
N225-23-103	S	1	Rotor (Front)	12A	1983-85	Approximate Weight = 4100 gm.
N225-23-113	S	1	Rotor (Rear)	12A	1983-85	Approximate Weight = 4100 gm.
4801-78-130	C	2	Rotor (Front/Rear)	13B	ALL	Rotor gear secured with snap-ring. Approximate Weight = 4920 gm.
0000-01-9122		1	Rotor Set (Front/Rear)	13B	ALL	Balanced and lightened competition rotor set. (Part #4801-78-130) Approximate Weight = 4500 gm.
ZRY1-11-B10A*	C	2	Rotor (Front/Rear)	13B/20B	ALL	Rotor gear secured with snap-ring. Lightweight rotor for 13B engines. Approximate Weight = 3750 gm.
8182-23-103	S	2	Rotor (Front/Rear)	13B	1974-78	Approximate Weight = 5000 gm.
N304-23-103	S	2	Rotor (Front/Rear)	13B	1984-85	Approximate Weight = 5000 gm.
N3Y6-11-B10	S	2	Rotor (Front/Rear)	13B NT	1986-88	Approximate Weight = 4300 gm.
N3Y2-11-B10A	S	2	Rotor (Front/Rear)	13B T	1987-88	Approximate Weight = 4300 gm.
N3Y5-11-B10A	S	2	Rotor (Front/Rear)	13B NT	1989-91	Approximate Weight = 4075 gm. Highest compression ratio.
N3Y8-11-B10B	S	2	Rotor (Front/Rear)	13B T & 20B Cosmo	1989-91	Approximate Weight = 4075 gm.
N3YA-11-B10	S	2	Rotor (Front/Rear)	13B TT	1993-95	

 = NEW! Competition Part

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TT = Twin-Turbo (93-95 RX7)

*Using 20B lightweight rotors (Part #ZRY1-11-B10A) in the 13B engine requires use of 13B rotor bearing (Part #ZRY1-11-B21) and rebalancing of the entire rotating assembly.






NOTE: Rotor weights do not include the bearing.



Rotor Tech Tips

(See page TT-8 in the Engine Technical Tips section of this catalog.)

STATIONARY GEARS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-10-500A	C	1	Stationary Gear (Front)	12A	ALL	Heat treated to resist fatigue. Use 0000-01-9161
0000-01-9161		1	Stationary Gear (Front)	12A	ALL	Stock 20B gear is modified for use in 12A engine. Hardened material provides alternative to stock 12A gear. Main bearing is a competition type multi-window design.
3743-10-500	S	1	Stationary Gear (Front)	12A	ALL	
4801-10-500	C	1	Stationary Gear (Front)	13B	ALL	Heat treated to resist fatigue.
3648-10-500	S	1	Stationary Gear (Front)	13B ALL	1974-88	
N370-10-E00C	S	1	Stationary Gear (Front)	13B ALL	1989-91	
N3A1-10-E0YB	S	1	Stationary Gear (Front)	13B TT	1993-95	May be used for all 13B engines as alternative to stock type. Hardened material is similar to competition version. Main bearing is a competition type multi-window design.
NF01-10-E00G		1	Stationary Gear (Front)	20B Cosmo	ALL	20B Cosmo gear may be used for 13B as alternative to stock stationary gear. Hardened material is similar to competition version. Main bearing is a competition type multi-window design.
NF01-10-E20G		1	Stationary Gear (Center)	20B Cosmo	ALL	Not shown in diagram.
4352-10-550A	C	1	Stationary Gear (Rear)	12A	ALL	Heat treated to resist fatigue. Includes standard bearing. Purchase of competition main bearing required Use 01-9162 (Part #4801-10-502, page E-13)
0000-01-9162		1	Stationary Gear (Rear)	12A	ALL	See NOTES for Front Stationary Gear (Part #0000-01-9161) above.
3743-10-550A	S	1	Stationary Gear (Rear)	12A	ALL	
4801-10-550	C	1	Stationary Gear (Rear)	13B	ALL	Heat treated. Includes 3-window type bearing.
3648-10-550A	S	1	Stationary Gear (Rear)	13B ALL	1974-88	
N370-10-E10B	S	1	Stationary Gear (Rear)	13B ALL	1989-91	
N3A1-10-E1YC	S	1	Stationary Gear (Rear)	13B TT	1993-95	See NOTES for Part #N3A1-10-E0YB above.
NF01-10-E10H		1	Stationary Gear (Rear)	20B Cosmo	ALL	See NOTES for Part #NF01-10-E00G above.

 = NEW! Competition Part

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Competition Tension Bolt Information

A rubber insulator is bonded to these bolts at the center to dampen out vibrations at certain rpms. The insulator helps prevent bolt fatigue, resulting in longer bolt life.

Before installing tension bolts, lubricate threads with an anti-seize compound. Tension bolt seals should be lubricated with oil. Be sure to torque the tension bolts in a crisscross circular pattern, starting with 8 foot-lbs. and moving in 4 lb. increments to a maximum of 25 foot-lbs.

TENSION BOLTS & WASHER SEALS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-10-E50	C	16-18*	Tension Bolt	12A	ALL	
1015-10-451B	S	16-18*	Tension Bolt	12A	ALL	
1015-10-452A	S	1	Tension Bolt	12A	ALL	Long bolt
4801-10-E50	C	17-18*	Tension Bolt	13B	ALL	
1757-10-451B	S	17-18*	Tension Bolt	13B ALL	1974-85	
1757-10-452A	S	1	Tension Bolt	13B ALL	1974-85	Long bolt
N326-10-E51	S	17*	Tension Bolt	13B ALL	1986-88	
N326-10-E52	S	1	Tension Bolt	13B ALL	1986-88	Long bolt
N350-10-E51B	S	16/17*	Tension Bolt	13B ALL	1989-95	1989-91 uses 16. 1993-95 uses 17.
N350-10-E50A	S	1	Tension Bolt	13B ALL	1989-95	Includes heat-shrink tube.
N350-10-E61A	S	1	Tension Bolt	13B ALL	1989-95	Long bolt
0839-10-455	S	17-19*	Tension Bolt Washer Seals	12A & 13B	ALL	

TENSION BOLT INFORMATION

*All 12A and 13B engines use a total of 17, 18, or 19 tension bolts, depending on which side housings are being used. One (1) of these bolts always will be longer than the others.

TUBULAR DOWELS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0839-10-111B	S	4	Tubular Dowel	12A	ALL	
1757-10-111	S	4	Tubular Dowel	13B	ALL	
N3A1-10-B73	S	4	O-Ring, Tubular Dowel	12A/13B & 20B Cosmo	1971-95	

Oil Pan / Baffle Plate Information

A baffle plate improves the performance of the oil system by keeping the oil from foaming. Installed between the pan and block, the plate allows oil to de-aerate by slowing its return from the engine to the pan. The baffle plate also improves the oil cooling system's heat-transfer capabilities and helps maintain the supply of oil around the oil pickup when cornering and braking.



Oil Pan & Baffle Plate – Part #0000-01-7101 and #4352-10-709

OIL PANS / BAFFLE & DRY SUMP PLATES

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-01-7101		1	Oil Pan	RX7 12A	1979-85	For wet sump system. Provides increased capacity over stock oil pan. Use with baffle plate. Additional 1 qt. capacity.
0000-01-7102		1	Oil Pan	RX7 NT & T	1986-91	For wet sump system. Provides increased capacity over stock oil pan. Use with baffle plate. Additional 2 qt. capacity.
4352-10-709	C	1	Baffle Plate	RX7 12A	1979-85	For wet sump system. Use with Competition or stock pan. Use bolt 9979-40-616B
0000-01-7112		1	Baffle Plate	RX7 NT & T	1986-91	For wet sump system. Use with Competition or stock pan. Use bolt 9979-40-616B
0000-01-9201	C	1	Dry Sump Plate	12A	ALL	Does not include bolts.
4801-10-701A	C	1	Dry Sump Plate	13B	ALL	Does not include bolts.
N2Y0-10-427	S	1/2	Gasket, Oil Pan	12A	ALL	Fitment of baffle plate requires two (2) gaskets.
1757-10-711A	S	1/2	Gasket, Oil Pan	13B	1974-85	Fitment of baffle plate requires two (2) gaskets.
N3Y0-10-427	S	1/2	Gasket, Oil Pan	13B NT & T	1986-91	Fitment of baffle plate requires two (2) gaskets.
N3YA-10-427	S	1	Gasket, Oil Pan	13B TT	1993-95	
NFY1-10-427A	C	1	Gasket, Oil Pan	20B Cosmo	ALL	
9983-10-612	S	22	Bolt - Dry Sump Plate	12A & 13B	ALL	

= NEW! Competition Part

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TT = Twin-Turbo (93-95 RX7)

Competition Oil Pressure Regulator Information

Replaces the stock secondary (rear) regulator. With the use of a high-capacity oil pump, the competition regulator allows oil pressure in the system to reach 105-115 psi. Installation requires adjustment of the front pressure regulator to ensure it does not limit system pressure. Front regulator should be shimmed to 1/8".

OIL PRESSURE REGULATOR / MISCELLANEOUS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-14-250	C	1	Oil Pressure Regulator - Wet Sump	12A & 13B	ALL	For wet sump system. (See information above.)
4801-14-250	C	1	Oil Pressure Regulator - Dry Sump	12A & 13B	ALL	For dry sump system. (Larger bypass capacity to maintain correct pressure.)
N3A1-14-230	S	1	Oil Pressure Regulator	12A & 13B 13B TT	ALL 1993-95	Stock pressure regulator for 13B Twin-Turbo provides approximately 90-100 psi.
0000-01-9511		1	Oil Block	12A & 13B	ALL	Block mounts on rear housing and has oil fittings to route oil back to front rotor.
0000-01-9512		1	Relief Valve - Oil Pressure	12A & 13B	ALL	Relief valve includes scavenge.
0000-01-9513		1	Oil Breather Fitting	12A & 13B	ALL	

OIL PUMP / OIL PUMP CHAIN

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
1058-78-220C	C	1	Oil Pump	12A & 13B	1974-85	Heat-treated gear set and shaft reduce wear. Impeller width (17.5 mm) is larger than stock oil pumps (except 1983-85 13B).
8501-14-100	S	1	Oil Pump	12A	1978-82	Impeller width (15.0 mm).
8553-14-100	S	1	Oil Pump	13B	1983-85	Impeller width (17.5 mm).
N326-14-100A	S	1	Oil Pump	13B NT	1986-91	Use Part #N318-14-100A for high-performance applications.
N318-14-100A	S	1	Oil Pump	13B T	1986-91	Also recommended for 1986-91 Non-Turbo engines.
NF01-14-100	S	1	Oil Pump	13B TT	1993-95	
0839-14-142	S	1	Oil Pump Chain	12A & 13B	1974-85	
N326-14-151	S	1	Oil Pump Chain	13B ALL	1986-95	



= NEW! Competition Part

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FRONT COVER GASKET, O-RING, SEAL

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR
8527-10-641	S	1	Gasket - Front Cover*	12A & 13B	1971-88
N326-10-502A	S	1	Gasket - Front Cover (Turbo - thru 6/90 only)*	13B ALL	1989-91
N386-10-502	S	1	Gasket - Front Cover (Turbo - 7/90 on)*	13B T	1990-91
N3A1-10-502	S	1	Gasket - Front Cover*	13B TT	1993-95
N231-10-174	S	1	O-Ring - Front Cover	12A & 13B	ALL
0820-10-605	S	1	Seal, Front Cover (Main)	12A & 13B	1971-91
N3A1-10-507	S	1	Seal, Front Cover (Main)	13B TT	1993-95
4352-10-616	C	1	Blind Plate - Dry Sump System (Right Side)	12A & 13B	ALL
4352-10-617	C	1	Gasket - Sump System Blind Plate - Dry (Right Side)	12A & 13B	ALL
3997-10-602	C	1	Blind Plate - Metering Oil Pump (Right Side)	12A & 13B	ALL
1757-14-611	S	1	Gasket - Blind Plate (Right Side)	12A & 13B	ALL


*Engines operating with high oil pressure should use a gasket. Use a thin layer of silicone sealant and an O-Ring. (Part #N231-10-174) 0813-10-174 Can be used as a thicker o-ring if necessary.

Dry Sump Systems

A dry sump oil system is essential in all full race engines. A dry sump system allows the engine to be mounted lower in the chassis, helps improve engine cooling by reducing oil foaming and increases the amount of oil available to the engine when the car is under high "G-load" conditions.

We offer two (2) different dry sump systems for rotary applications. The race-proven factory front cover system and an alternative belt-driven Peterson system.

DRY SUMP FRONT COVER

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-10-600	C	1	Dry Sump Front Cover	12A & 13B, 20B Cosmo	ALL	Mazda factory system. See NOTE below.
0000-01-9312		1	Dry Sump Front Cover	12A & 13B	AL	Improved front cover design copies the factory dry sump, but improves oil flow by 30-40%. Uses all same fitment pieces listed below.

 = NEW! Competition Part

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TT = Twin-Turbo (93-95 RX7)

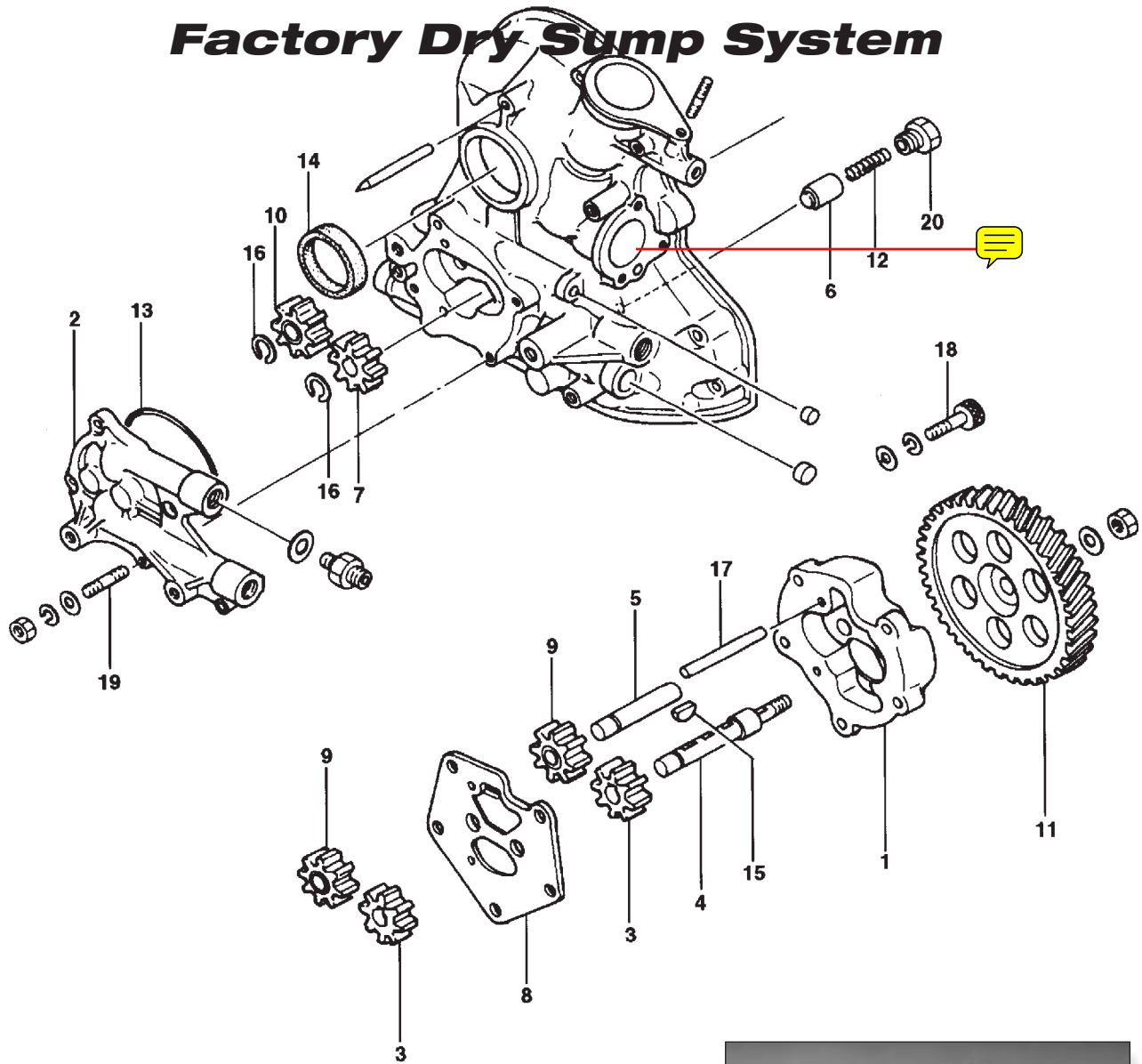
NOTE: Fitment of factory Dry Sump Front Cover System requires use of the following components: Drive gear (Part #4352-11-521), Pressure regulator (Part #4801-14-250), Suction pipe-left (Part #4352-14-410), Suction pipe-right (Part #4352-14-420), O-Rings (Part #4801-14-433, qty. 2), Fittings (Parts #ZR03-11-R96 and #ZR03-11-R98), Oil strainer (Part #4801-14-713, qty. 2) and Dry sump plate.



Dry Sump Tech Tips

(See page TT-21 in the Engine Technical Tips section of this catalog.)

Factory Dry Sump System

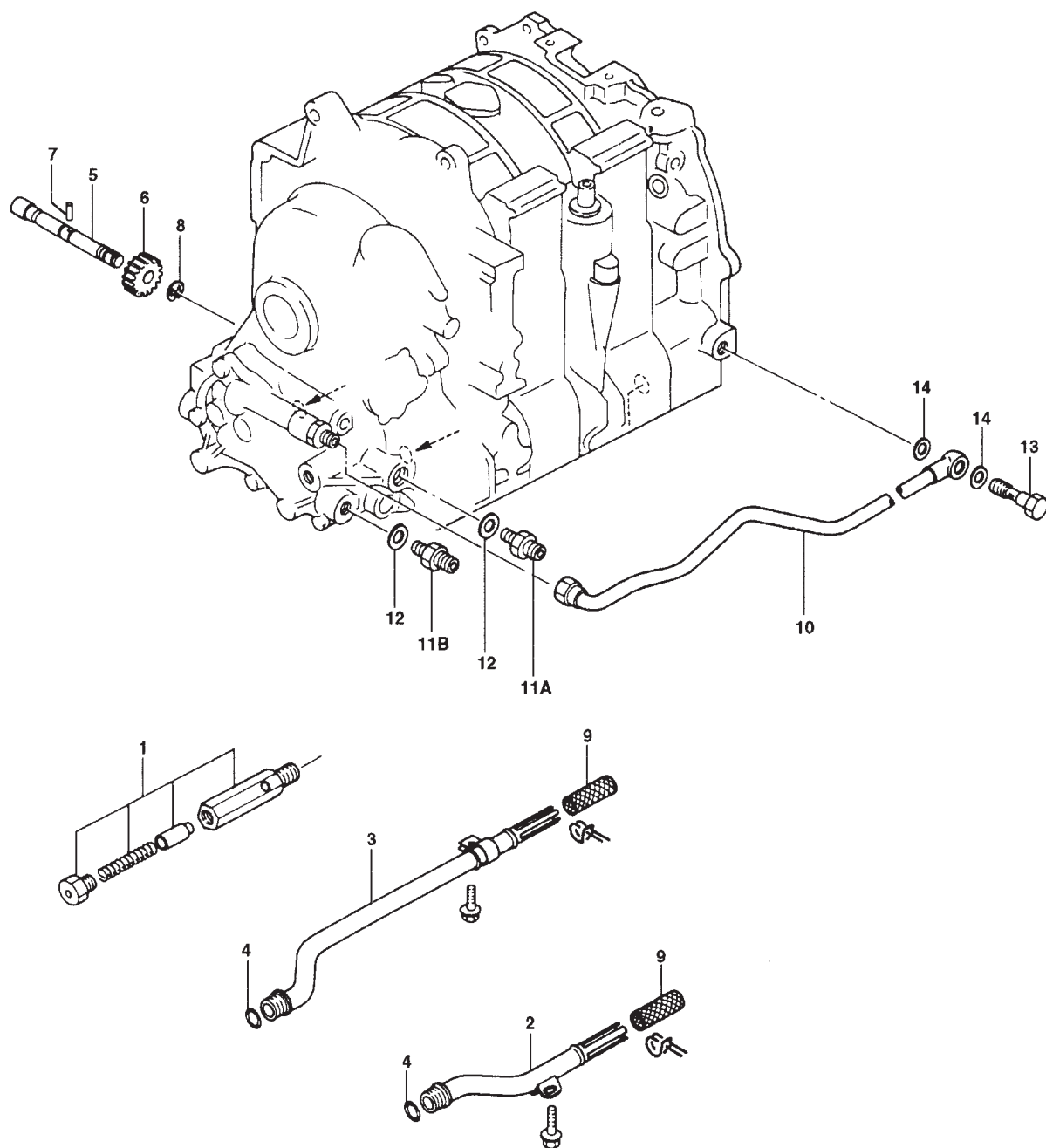


Dry Sump Front Cover — Part #4352-10-600

FACTORY DRY SUMP SYSTEM

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE
1	4352-14-105	C	1	Rear Pump Body	12A & 13B
2	4352-14-110	C	1	Pump Cover	12A & 13B
3	4352-14-111	C	2	Pump Gear (Scavenge & Transfer)	12A & 13B
4	4352-14-112	C	1	Drive Shaft	12A & 13B
5	4352-14-114	C	1	Idle Shaft	12A & 13B
6	4352-14-115	C	1	Plunger	12A & 13B
7	4352-14-116	C	1	Pressure (Driven) Gear	12A & 13B
8	4352-14-118	C	1	Plate	12A & 13B
9	4352-14-125	C	2	Gear	12A & 13B
10	4352-14-130	C	1	Pressure (Driven) Gear	12A & 13B
11	4352-14-151	C	1	Main (Driven) Gear	12A & 13B
12	4352-14-273	C	1	Spring	12A & 13B
13	9954-20-8501	C	1	O-Ring	12A & 13B
14	0820-10-605	S	1	Oil Seal -Front Cover	12A & 13B
15	0820-14-119	C	1	Key - Drive Shaft	12A & 13B
16	0810-14-113	C	2	Snap Ring	12A & 13B
17	9923-30-655	C	2	Alignment Pin	12A & 13B
18	9980-80-830	C	6	Bolt	12A & 13B
19	9985-10-825	C	6	Stud	12A & 13B
20	0839-14-274	S	1	Plug	12A & 13B
	9980-30-8115	C	1	Bolt - Front Cover, Extra Long (Not Shown)	12A & 13B
	4352-11-521	C	1	Drive Gear - Dry Sump (Not Shown)	12A & 13B

Factory Dry Sump System – Oil Piping and Miscellaneous



FACTORY DRY SUMP SYSTEM — OIL PIPING & MISCELLANEOUS

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE
1	4801-14-250	C	1	Pressure Regulator (For Dry Sump System)	12A & 13B
2	4352-14-410	C	1	Suction Pipe (Left)	12A & 13B
3	4352-14-420	C	1	Suction Pipe (Right)	12A & 13B
4	4801-14-433	C	2	O-Ring - Suction Pipe	12A & 13B
5	4352-14-620	C	1	Shaft - Metering Oil Pump	12A & 13B
6	0820-14-625A	S	1	Gear - Metering Oil Pump	12A & 13B
7	0813-14-623	S	1	Pin	12A & 13B
8	9957-60-800	S	2	Clip	12A & 13B
9	4801-14-713	C	2	Oil Strainer - Suction Pipe	12A & 13B
10	4801-14-730	C	1	Oil Pipe	12A & 13B
11A	ZR03-14-R96	C	1	Fitting - Oil Pump (-12)	12A & 13B
11B	ZR03-14-R98	C	1	Fitting - Oil Pump (-16)	12A & 13B
12	9956-42-200	S	2	Washer - Fitting (Oil Pump & Front Cover)	12A & 13B
13	9938-11-400	S	1	Fitting - Oil Pipe	12A & 13B
14	9956-21-800	S	2	Washer - Oil Pipe Fitting	12A & 13B





PISTON ENGINE

















Piston Set - 1.6 DOHC – Part #0000-01-5201







Valve Spring Set, Lifter & Retainers (1.6 & 1.8 DOHC Engines)

ENGINE COMPONENTS - PISTON

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
B660-12-421F	C	1	Camshaft Billet - Intake	1.6 DOHC	1990-93	Blank billet has unground lobes with machined journals. Not recommended for radical, high-lift cams.
B61P-12-441A	C	1	Camshaft Billet - Exhaust	1.6 DOHC	1990-93	Blank billet has unground lobes with machined journals. Not recommended for radical, high-lift cams.
0000-01-3302		1	Cam Pulley - Adjustable	1.3 & 1.5 SOHC	ALL	
0000-01-5302		2	Cam Pulley - Adjustable	1.6 & 1.8 DOHC	1990-97	Allows cam timing to be adjusted.
E301-11-301	C	1	Crankshaft	1.3 SOHC	ALL	Euro-market part for GT5, DSR.
0000-01-5201		1	Piston Set	1.6 DOHC	1990-93	High compression pistons (12:1 ratio) for EP and GT3. (.040" overbore). Rings and pins included.
0000-01-5202		1	Piston Set	1.6 DOHC	1990-93	.040" overbore pistons for SCCA "IT" class Miatas. Rings and pins included.
0000-01-5203		1	Piston Set	1.8 DOHC	1994-97	High-compression pistons (12:1 ratio) .040" - over pistons. Rings and pins included.
0000-01-5204		1	Piston Set	1.8 DOHC	1994-97	.040" overbore pistons for SCCA, "IT" class. Rings and pins included.
0000-01-3201		1	Piston Set	1.3 & 1.5 SOHC	ALL	High compression pistons for GT4, GT5 and DSR. Rings and pins included.
0000-01-5201-01		1	Ring Set	1.6 DOHC	See NOTES	Replacement ring set for Part #0000-01-5201.
0000-01-5202-01		1	Ring Set	1.6 DOHC	See NOTES	Replacement ring set for Part #0000-01-5202.
0000-01-5203-01		1	Ring Set	1.8 DOHC	See NOTES	Replacement ring set for Part #0000-01-5203.
0000-01-5204-01		1	Ring Set	1.8 DOHC	See NOTES	Replacement ring set for Part #0000-01-5204.
0000-01-3201-01		1	Ring Set	1.3 & 1.5 SOHC	See NOTES	Replacement rings for Piston Set Part #0000-01-3201.
















*Quantity determined when valve adjustment is performed.

ENGINE COMPONENTS - PISTON, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-01-5301		16	Valve Spring Set	1.6 DOHC	ALL	Call for info on retainers
0000-01-3301		+	Cylinder Head - Complete	1.3 & 1.5 SOHC	ALL	Ported and race-ready complete head. (Part #E515-10-100C) Includes valves, springs, rocker arms, special order only. For GT4, GT5, and DSR.
E515-10-100C	C	1	Cylinder Head - Bare	1.3 & 1.5 SOHC	ALL	Euro-market (bare) head. For GT4, GT5, and DSR classes.
FE05-10-100J	C	1	Cylinder Head - Bare	2.0 SOHC	ALL	Euro-market (bare) head. For GT3 class.
E5D7-10-271	C	1	Head Gasket	1.3 & 1.5 SOHC	ALL	Japan-market 1.5 turbo gasket provides superior sealing.
0000-01-5305		1	Dry Sump System	1.6 & 1.8 DOHC	1988-97	Special order. Call for information.
0000-01-3305		1	Dry Sump System	1.3 & 1.5 SOHC	ALL	Special order. Call for information.
B6N7-14-100A	C	1	Oil Pump	1.6 DOHC	1988-90	High volume pump fits only 1988-90 1.6 DOHC engines.
B6N7-12-120	C	16	Valve Spring Set	1.6 & 1.8 DOHC	1988-97	Heavy-duty set includes inner and outer spring.
B6N7-12-113	C	16	Valve Spring Retainer (Upper)	1.6 & 1.8 DOHC	1988-97	
B6N7-12-123C	C	16	Valve Spring Retainer (Lower)	1.6 & 1.8 DOHC	1988-97	
B6N7-12-183	C	16	Valve Lifter - Solid	1.6 & 1.8 DOHC	1988-97	Requires use of valve adjusting discs. Eliminates HLAs.
0000-01-5311-KT		1	Kit-Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Includes 16 of each size (1.00 mm through 2.00 mm). Plastic case included.
0000-01-5311-00		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.00 mm
0000-01-5311-05		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.05 mm
0000-01-5311-10		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.10 mm
0000-01-5311-15		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.15 mm
0000-01-5311-20		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.20 mm
0000-01-5311-25		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.25 mm
0000-01-5311-30		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.30 mm

*Quantity determined when valve adjustment is performed.

ENGINE COMPONENTS - PISTON, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-01-5311-35		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.35 mm
0000-01-5311-40		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.40 mm
0000-01-5311-45		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.45 mm
0000-01-5311-50		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.50 mm
0000-01-5311-55		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.55 mm
0000-01-5311-60		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.60 mm
0000-01-5311-65		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.65 mm
0000-01-5311-70		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.70 mm
0000-01-5311-75		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.75 mm
0000-01-5311-80		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.80 mm
0000-01-5311-85		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.85 mm
0000-01-5311-90		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.90 mm
0000-01-5311-95		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 1.95 mm
0000-01-5312-00		*	Valve Adjusting Disc	1.6 & 1.8 DOHC	1988-97	Size = 2.00 mm
B6N7-11-225	C	8	Rod Bearing	1.6 DOHC	1988-97	(-.006 mm to -.003 mm)
B6N7-11-226	C	8	Rod Bearing	1.6 DOHC	1988-97	(-.003 mm to 0 mm)
B6N7-11-227	C	8	Rod Bearing	1.6 DOHC	1988-97	(0 to +.003 mm)
B6N7-11-228	C	8	Rod Bearing	1.6 DOHC	1988-97	(+.003 mm to +.006 mm)
B6N7-11-229	C	8	Rod Bearing	1.6 DOHC	1988-97	(+.006 mm to +.009 mm)
B6N7-11-351	C	10	Main Bearing	1.6 & 1.8 DOHC	1988-97	(-.005 mm to -.002 mm)
B6N7-11-352	C	10	Main Bearing	1.6 & 1.8 DOHC	1988-97	(-.002 mm to +.001 mm)
B6N7-11-353	C	10	Main Bearing	1.6 & 1.8 DOHC	1988-97	(+.001 mm to +.004 mm)
B6N7-11-354	C	10	Main Bearing	1.6 & 1.8 DOHC	1988-97	(+.004 mm to +.007 mm)
B6N7-11-355	C	10	Main Bearing	1.6 & 1.8 DOHC	1988-97	(+.007 mm to +.010 mm)
0000-01-5210		1	Main Bearing Cap	1.6 & 1.8 DOHC	1988-97	Competition "4130" center steel main bearing cap is recommended for EP and GT engines. Also can be used as replacement for all main caps.

*Quantity determined when valve adjustment is performed.





COOLING





Radiator – Part #0000-01-7501

RADIATORS / OIL COOLERS / INTERCOOLER

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
1058-78-190	C	1	Radiator - Aluminum	12A & 13B	Various	Aluminum Mazda factory competition radiator. Dimensions: 19-1/2" high, 22-1/8" wide, 2" thick.
0000-01-7501		1	Radiator - Aluminum	RX7 12A	1983-85	Heavy-duty bolt-in replacement for stock unit. Similar to Part # 1058-78-190. Can be used in conjunction with stock water/oil cooler mounted under oil filter. Same dimensions as Part # 1058-78-190.
0000-01-7502		1	Radiator - Aluminum	RX7 12A RX7 13B	1979-82 1984-85	Heavy-duty (1.125" core) aluminum radiator is a bolt-in replacement. Equivalent to a 3-row radiator in cooling capacity. Fits models with oil cooler mounted under radiator.
0000-01-7504		1	Radiator - Aluminum	RX7	1986-91	High-flow radiator mounts in stock location. Recommended for SCCA "IT" and similar classes.
0000-01-7505		1	Radiator - Aluminum	RX7 TT	1993-95	Heavy-duty (1.125" core) aluminum radiator is a bolt-in replacement. Equivalent to a 3-row radiator in cooling performance.
1058-78-180	C	1	Oil Cooler	12A & 13B	Various	Mazda factory competition oil cooler. Dimensions are 6.55" high, 22.5" wide, 2" thick (not including mounting brackets and fittings).
0000-01-7512	C	1	Oil Cooler	RX7	1986-91	Mounts in stock location.
3565-14-700	S	1	Oil Cooler	12A & 13B	Various	Stock replacement oil cooler for RX4 can be used in place of stock RX7 oil cooler that mounts under radiator. This is high capacity/high flow cooler. Recommended for SCCA "IT" and similar classes.
0000-01-7515	C	1	Intercooler - Aluminum	RX7 TT	1993-95	Heavy-duty bolt-in replacement unit provides superior cooling and improved turbo performance.

 = NEW! Competition Part

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FLUIDYNE Fluidyne Racing Products



Fluidyne Heat Exchanger – Part #0000-01-9503

HEAT EXCHANGERS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-01-9501	C	I	Heat Exchanger - Therm-X III™	Various	---	Fluidyne Racing Products water/oil heat exchanger is made of lightweight alloy and provides over 65,000 BTUs of heat rejection without a significant increase in water temperatures. For installation in hot water supply line. Weight: 4 3/4 lbs. Size 11-1/2 x 4-1/2 x 3" (L x H x W). Fittings: Oil (AN-12); Water, 1" pipe (Part #DB-30503).
0000-01-9502	C	I	Heat Exchanger- Therm-X IV™	Various	---	See NOTES for part #0000-01-9501 above. For installation in cold water supply line. Fittings: Oil, AN-12; Water, 1-3/4" hose (Part #DB-30504).
0000-01-9503	C	I	Heat Exchanger - Therm-X™	Various	---	Fluidyne Racing Products "parallel-flow" all-aluminum unit produces over 80,000 BTUs of heat rejection. Needs only a portion of the hot water returning to the radiator. Can be mounted anywhere and at any axis. (Weight: 9-1/2 lbs. Size: 14-1/4 x 6-1/4 x 4-1/4" (L x H x W). Fittings: Oil, -12; Water, (3/4" NPT); Temperature probe (1/2" NPT, 1 quart oil capacity (Part #DB-30500).



Pulleys – Drive, Water Pump and Alternator

Replacement of stock engine pulleys in SCCA "IT" classes is now legal. With a stock water pump and drive pulley, the water pump spins at a very high rpm creating cooling system cavitation and possible overheating.

Replacing the drive and water pump pulleys with smaller diameter pulleys reduces the water pump's rpm significantly. Replacing the alternator pulley with a large diameter competition pulley will increase alternator bearing life by slowing the alternator speed.



Drive, Alternator and Water Pump Pulleys

PULLEYS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-01-7201	C	1	Drive Pulley - Aluminum	12A & 13B ALL	1974-91	Pulley diameter is smaller than stock part, effectively slowing water pump and alternator speed. (Single sheath.)
0000-01-7211	C	1	Water Pump Pulley - Aluminum	12A & 13B	1974-85	Pulley diameter is larger than stock. Must be used with smaller diameter drive pulley. (Single sheath.)
0000-01-7212	C	1	Water Pump Pulley - Aluminum	RX7 NT&T	1986-88	Pulley diameter is larger than stock. Must be used with smaller diameter drive pulley.
0000-01-7213		1	Water Pump Pulley - Aluminum	RX7 NT&T	1989-91	Pulley diameter is larger than stock. Must be used with smaller diameter drive pulley.
0833-78-153A	C	1	Alternator Pulley - Aluminum	12A & 13B	1979-91	(15 mm shaft diameter/74 mm outside diameter.)
0000-01-9231		1	Idler Pulley/Bracket	12A & 13B	See NOTES	Assembly mounts in place of alternator, reducing engine drag and overall weight. For use on CSR, F/Atlantic and GT Class cars.
3922-18-381	S	1	Fan/Alternator Belt	12A & 13B	1979-85	For use with alternate size pulleys.

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NOTE: Competition drive pulley timing marks can be determined as follows: with pulley installed on engine, turning engine clockwise, first mark to reach indicator pin is 20° BTDC, second mark is 10° BTDC and third mark 0° BTDC.

WATER PUMPS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
ZR03-15-010	C	1	Competition Aluminum Water Pump	12A, 13B, 20B	1974-85	Water pump for the 20B 3-rotor engine also fits all 12A & 13B engines. Provides higher flow rate than stock pump and weighs approximately 5 lbs. Location of the alternator is on the right side of motor. Includes housing.
4801-15-130	C	+	Aluminum Water Pump Cover	12A & 13B	1974-85	Replacement cover for competition aluminum water pumps.
3997-15-010B	C	1	Competition Cast-Iron Water Pump	12A & 13B	1974-85	Identical to stock pump except thermostat is removed and water bypass plugged.
N232-99-153B	S	1	Water Pump	12A & 13B RX7	1974-78 1979-85	Includes gasket.
N326-15-100R-MC	S	1	Water Pump	RX7 NT&T	1986-88	REBUILT - NLA New
N350-15-100R-M0	S	1	Water Pump	RX7 NT&T	1989-91	REBUILT - NLA New
N3A1-15-100R-MA	S	1	Water Pump	RX7 TT	1993-95	Order Gasket, N3A1-15-116 - Rebuilt
B660-15-010R-ME	S	1	Water Pump	Miata 1.6 & 1.8 DOHC	1990-97	NLA NEW REBUILT - SEE SITE FOR GASKETS
NLA	C	1	Water Pump Cover Gasket	12A & 13B	1974-85	For competition aluminum water pumps only.



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INTAKE & EXHAUST





Air Filters



K&N Air Filter – Part #0000-06-5201

K&N AIR FILTERS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-06-7201	C	1	Air Filter	RX2 & RX3	1971-76	
0000-06-7202	C	1	Air Filter	RX3 RX4 RX7 12A	1977-78 1974-78 1979-85	Complete air box and filter assembly also available (Part #0000-06-7301).
0000-06-7203	C	1	Air Filter	RX7 13B RX7 NT, T & TT	1984-85 1986-95	
0000-06-5201	C	1	Air Filter	Miata 1.6 & 1.8 323 & Protege	1990-97 1990-94	323 and Protege (all engines).
0000-06-6201	C	1	Air Filter	MX6, 626 2.0 & 2.5	1993-97	Fits 2.5 V6 and 2.0 4 cylinder.
0000-06-4201	C	1	Air Filter	MX3 1.6 & 1.8	1992-95	
0000-06-3201	C	1	Air Filter	323 & GTX 1.6 & 1.6 T	1986-89	



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Intake System Components








Air Box & Filter Assembly – Part #0000-06-7301



Grose-Jet® – Part #0000-06-7311

INTAKE SYSTEM COMPONENTS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-06-7301		1	Air Box and Filter Assembly	I2A	ALL	Redesigned high-flow aluminum air filter box for stock carburetor improves horsepower and engine performance by maximizing air flow. Includes high-flow K&N filter element. Legal for SCCA "IT" class.
0000-06-7311		2	Grose-Jet®	I2A	1972-85	Replaces stock carburetor needle and seat. Provides consistent fuel metering and fuel flow under all conditions, even with high "G" cornering loads. Also available for 13B carburetor applications.
NF01-13-350	C	1	Fuel Pump	13B & 20B	See NOTES	High volume fuel pump for 20B Cosmo 3 rotor engine provides approximately 10-20% more fuel flow than any stock fuel injection pump.
N304-13-250	C/S	2/4	Fuel Injector	RX7 (13B) RX7 T	1984-85 1987-91	Highest fuel flow of any injector available (from 1984-85 13B GSL-SE). Recommended for turbo upgrade applications where additional fuel is required.
0000-06-9301		1	Intake Manifold – Side Port	I2A	ALL	For mounting downdraft carburetor. (Weber 48 IDA/F to side port engine.)
4352-13-100	C	1	Intake Manifold – Peripheral Port	I2A	ALL	For mounting downdraft carburetor (Weber 48 IDA/F) to peripheral-port engine.
4801-13-100	C	1	Intake Manifold – Peripheral Port	13B	ALL	For mounting downdraft carburetor (Weber 48 IDA/F) to P-port engine.
0000-06-3301		1	Intake Manifold – Dual Side Draft	1.3 & 1.5 SOHC	ALL	For mounting dual-side draft carburetors (GT4, GT5, DSR). Linkage not included.
0000-06-5301		1	Intake Manifold – Dual Side Draft	1.6 DOHC	1990-93	For mounting dual-side draft carburetors (E Production legal). Linkage not included.
0862-78-205	C	2	O-Ring-Intake Manifold	I2A & 13B	ALL	For peripheral-port engines only.
0862-78-206	C	4	Gasket-Carburetor Base	I2A & 13B	ALL	For Weber 48 IDA/F carburetors.
0839-78-240	C	2	Rubber Isolator – Carburetor	I2A & 13B	ALL	Rubber support block for fitment of Weber 48 IDA/F carburetors.
ZR03-13-280	C	1	Regulator-Fuel Pressure	I2A, 13B & 20B	ALL	For fuel injected engines.
4352-41-130	C	1	Throttle Cable	I2A & 13B	ALL	For use with downdraft Weber 48 IDA/F carburetors on side and peripheral-port.

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Muffler – Part #0000-06-9103-DX

EXHAUST						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-06-9103-DX		1	Muffler-Stainless	12A & 13B	ALL	Dynomax® Ultra Flo stainless mufflers feature a unique straight through design. This effectively minimizes back pressure and turbulence. Stainless construction provides high temperature (up to 1900° F) durability and longer life. Dimensions: 16" x 6" round with 3" inlet/outlet. Also available in 12" and 30" case lengths and 3-1/2" inlet/outlet. For SCCA "IT" class.
0000-06-9104-26		1	Muffler-Stainless	12A & 13B	ALL	Replaceable stainless steel packing. 26" length/3" inlet and outlet. (4" inlet and outlet also available.) For "GT" classes.
0000-06-9104-30		1	Muffler-Stainless	12A & 13B	ALL	See NOTES for Part #0000-06-9104-26. (30" length)
0000-06-500	C	1	Muffler-Stainless	12A & 13B	ALL	Stainless steel casing and packing. Dimensions: L= 18"/ W= 13"/H= 7" with 3" inlet and outlet. Available while supplies last. For "GT" classes.
0000-06-9102-SS	C	1	Muffler-Stainless	12A & 13B	ALL	Stainless steel casing and packing. Case dimensions: 25" x 8" (round). 3" inlet and outlet. For "GT" classes.
0000-06-9101-LR	C	1	Muffler-Stainless	12A & 13B	ALL	Stainless steel casing with lava rock packing. More durable than stainless packing. Case dimensions same as Part #0000-06-9102-SS. For "GT" classes.

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Exhaust Pipe Joint Kit – Part #0000-06-9411



Exhaust Pipe Joint Kit Assembled – Part #0000-06-9411

EXHAUST, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-06-9401		1	Header	12A	See NOTES	For use on 12A GT3 class cars. Not legal for street use. Special order.
0000-06-9402		1	Header	12A	See NOTES	For use on 12A F/Atlantic and CSR class cars. Not legal for street use. Special order.
0000-06-7401		1	Header	RX7 12A	1979-85	For use on 12A RX7s (ITA, etc.). Not legal for street use.
0000-06-7405		1	Header	RX7 13B	1986-91	For use on 13B RX7s (ITS, etc.). Not legal for street use.
0000-06-5401		1	Header	Miata 1.6 DOHC	1990-93	1-5/8" diameter header with 2-1/2" collector. For use on SCCA "IT" engines. Not legal for street use.
0000-06-5402		1	Header	Miata 1.6 DOHC	1990-93	1-3/4" diameter header with 2-1/2" collector for use on SCCA GT and EP engines. Not legal for street use.
0000-06-5403		1	Header	Miata 1.8 DOHC	1994-97	Not legal for street use.
0000-06-9111		1	Header Flange – Stainless	12A	ALL	Stainless exhaust header flange.
0000-06-9411		1	Kit-Exhaust Pipe Joint	Various	ALL	3" exhaust pipe joint kit eliminates need for standard pipe clamps, slip-joints, gaskets or welding of pipes. Kit consists of 2 flange rings that are welded to exhaust pipes. Stainless clamp securely seals flange rings together. Allows for quick assembly and disassembly. (Also available in 4".)
0000-06-9412		1	90° Exhaust Turn	12A & 13B	ALL	Exhaust flange can be used to add plates to control decibel levels.
0839-78-298	C	2	Gasket-Exhaust Manifold	12A & 13B	ALL	For peripheral-port engines.

= NEW! Competition Part

NT = Non-Turbo

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**IGNITION
AND ELECTRICAL**



Ignition & Electrical System Components



Ignition Wire Set – Part #0000-10-7301

IGNITION & ELECTRICAL SYSTEM COMPONENTS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-10-7301	C	1	Wire Set-Ignition	RX7, RX3, RX4	1974-85	High temp-resistant, high performance Taylor Cable® 8 mm solid-core, silicon wire set.
0000-10-7302	C	1	Wire Set-Ignition	RX7 NT & T	1986-91	High temp-resistant, high performance Taylor Cable® 8 mm solid-core, silicon wire set.
0000-10-5301	C	1	Wire Set-Ignition	Miata 1.6 & 1.8	1990-97	High performance 8.5 mm wire set.
8341-18-200	C	1	Distributor-Electronic	12A & 13B	ALL	Recommended for use with high performance ignition systems (MSD, etc.). Does not have trailing vacuum distributor. Vacuum advance must be removed.
ZR03-18-300	C	1	Alternator	12A/13B/20B	ALL	High output 20B (3 rotor) alternator can be used for 12A and 13B.
0833-78-153A	C	1	Pulley-Alternator	12A & 13B	ALL	Allows alternator to spin at lower rpm. For use on 1979 and later alternators without fan.
0000-10-9231	C	1	Idler Pulley & Bracket Kit	12A & 13B	ALL	Idler pulley and bracket is installed in place of alternator. Saves weight and alternator drag on engine. For GT, CSR and F/Atlantic applications.
0845-18-200	C	1	Starter-Top Mount	12A & 13B	See NOTES	For use on top mount starter applications (CSR, F/Atlantic).

 = NEW! Competition Part

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NGK Spark Plugs

We offer a variety of NGK stock and racing spark plugs for rotary and piston applications.

- Racing Plugs (R6725 and T813JN-13 series) are recommended for all rotary engines that are being used in a racing application. The R6725 series plugs are available in the following heat ranges*: 10.5, 11.0 and 11.5. The T813JN-13 is a 13.0 heat range plug.
- The NGK "EGV" plug provides a number of different heat ranges*: 8.0, 9.0, 10.0 and 11.0. However, the reach of the "EGV" plug is not as long as that of the racing plugs or the stock plugs. This shorter "reach" means that its flash-front is not as close to the combustion chamber, and therefore may cost horsepower. It also leaves some threads in the spark plug hole exposed, where carbon can build up, resulting in possible detonation. Installation and removal of these plugs on 1981 and later engines requires use of a special thin-wall spark plug socket because of a protrusion that restricts the installation of the wrong type of plug. A spark plug socket may be machined down to the correct diameter, or the protrusion may be ground off.
- The stock plug for the 1993-95 RX7 Twin-Turbo (NGK Part #BUR9EQP) is a platinum plug that can be used for stock or mildly ported engines. The "9.0" is the coldest heat range it comes in. This plug is recommended for stock-porting 12A and 13B engines (SCCA IT class).



NGK Racing Spark Plugs – Part #0000-10-R115



NGK Racing Spark Plugs – Part #0000-10-R13

NGK SPARK PLUGS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-10-R105	C	4	Spark Plug	12A & 13B	ALL	NGK Part #R6725-105
0000-10-R111	C	4	Spark Plug	12A & 13B	ALL	NGK Part #R6725-111
0000-10-R115	C	4	Spark Plug	12A & 13B	ALL	NGK Part #R6725-115
0000-10-R13	C	4	Spark Plug	12A & 13B	ALL	NGK Part #T813JN-13

*NGK Spark Plug Heat Ranges – The higher the number, the colder the plug.

NGK SPARK PLUGS, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-10-8GV	C	4	Spark Plug	12A & 13B	ALL	NGK Part #B8EGV
0000-10-9GV	C	4	Spark Plug	12A & 13B	ALL	NGK Part #B9EGV
0000-10-10GV	C	4	Spark Plug	12A & 13B	ALL	NGK Part #B10EGV
0000-10-11GV	C	4	Spark Plug	12A & 13B	ALL	NGK Part #B11EGV
0000-10-BKR7	C	4	Spark Plug	Miata 1.6 DOHC	1990-93	NGK Part #BKR7E-11 Colder heat range plug for showroom stock.
0000-10-R540-08		4	Spark Plug	1.6 & 1.8 DOHC	ALL	Recommended for use in racing (high compression) applications.
0000-10-R540-09		4	Spark Plug	1.6 & 1.8 DOHC	ALL	Recommended for use in racing (high compression) applications.
0000-18-3648	S	4	Spark Plug	RX7	1979	NGK Part #BR7ET
0000-18-3649	S	4	Spark Plug	RX7	1980	NGK Part #BR8ET
0000-18-N201	S	4	Spark Plug	RX7 12A	1981-85	NGK Part #BR8EQ-14
0000-18-N203	S	4	Spark Plug	RX7 13B	1984-85	NGK Part #BR9EQ-14
0000-18-N343	S	2	Spark Plug, Leading	RX7 NT & T	1986-91	NGK Part #BUR7EQ May also use NGK #BUR7EQP.
0000-18-N342	S	2	Spark Plug, Trailing	RX7 NT & T	1986-91	NGK Part #BUR9EQ May also use NGK Part #BUR9EQP.
0000-18-N3A2	S	2	Spark Plug, Leading	RX7 TT	1993-95	NGK Part #BUR7EQP (platinum) May also be used for 1986-91 RX7.
0000-18-N3A1	S	2	Spark Plug, Trailing	RX7 TT	1993-95	NGK Part #BUR9EQP (platinum) May also be used for 1986-91 RX7 & SCCA "IT" class (12A & 13B-ALL) (leading and trailing).
0000-18-BP03	S	4	Spark Plug	Miata 1.6 DOHC	1990-93	NGK Part #BKR6E-11 May also use optional colder plug (Part #0000-10-BKR7/NGK Part #BKR7E-11).
0000-18-BP01	S	4	Spark Plug	Miata 1.8 DOHC	1994-97	NGK Part #BKR5E-11 May also use optional colder plug (Part #0000-10-BP03/NGK Part #BKR6E-11).



= NEW! Competition Part

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Spark Plug Washers

Using a thinner spark plug washer on rotary engine applications helps move the "flash front" closer to the combustion chamber. Engine dyno testing has shown an improvement in horsepower when using these thinner washers.

SPARK PLUG WASHERS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-10-9101	C	4	Washer-Spark Plug	12A/13B/20B	ALL	.045" washer is for use with NGK Part #R6725 and #T813JN-13 racing plugs.



MSD IGNITION SYSTEMS & COILS



MSD Ignition System and Coil – Part #0000-10-7101 and #0000-10-7201

MSD IGNITION SYSTEMS & COILS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-10-7101	C	2	Ignition System - without REV Control (MSD-6A)	Rotary Piston	ALL ALL	Multi-spark capacitive discharge street/race system is designed for high performance and race applications where an rpm limiter is not required. High energy system provides more power, easier starting, reduced plug fouling and better fuel economy street legal (MSD Part #6200).
0000-10-7102	C	2	Ignition System - with REV Control (MSD-6AL)	Rotary Piston	ALL ALL	Multi-spark capacitive discharge race system is designed for applications requiring an rpm limiter. Same features as MSD-6A but has MSD's soft touch REV control (MSD Part#6420).
0000-10-7103	C	2	Ignition System - (MSD-7AL-2)	Rotary Piston	ALL ALL	Multi-spark capacitive discharge race system is designed for applications requiring an rpm limiter. Multiple spark system keeps engine clean at low rpms for better throttle and cornering response (MSD Part #7220).
0000-10-7201	C	2	Blaster High Vibration Coil	Rotary Piston	ALL ALL	Construction design protects the coil's internal components from low and high frequency vibrations (MSD Part #8222).
0000-10-7202	C	2	Blaster 3 Power Tower Ignition Coil	Rotary Piston	ALL ALL	Features a new coil tower design that offers more secure coil wire attachment and better spark isolation than standard coil towers. Uses unique "HEI" style boot and terminal to hold wire in place (MSD Part #8223).



***CLUTCH
AND FLYWHEEL***







Centerforce “Dual-Friction” Clutch Kits

Dual-Friction Clutch Kits are designed specifically for autocross and racing applications. A race-proven centrifugal weight system on the pressure plate generates up to a 90% increase in holding capacity over a stock clutch with a minimal increase in clutch pedal pressure. The Dual-Friction clutch disc features unique carbon-fiber facings. Carbon-fiber facings are lighter, more heat and oil resistant and less abrasive than metallic facings commonly used on most other high performance/racing discs. All Centerforce Clutch Kits include pressure plate and disc. A stock Mazda factory release bearing should be used with Centerforce clutches.

CENTERFORCE “DUAL-FRICTION” CLUTCH KITS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-7401	C	1	Clutch Kit	RX7 & RX2,3,4 (12A & 13B)	1971-82	215 mm diameter (See NOTE below.)
0000-02-7402	C	1	Clutch Kit	RX7 (12A & 13B NT)	1983-88	225 mm diameter (See NOTE below.)
0000-02-7421	C	1	Clutch Kit	RX7 T	1987-88	240 mm diameter
0000-02-7412	C	1	Clutch Kit	RX7 NT	1989-91	225 mm diameter
0000-02-7422	C	1	Clutch Kit	RX7 T	1989-91	230 mm diameter
0000-02-7423	C	1	Clutch Kit	RX7 TT	1993-95	236 mm diameter
0000-02-5401	C	1	Clutch Kit	Miata (1.6 DOHC)	1990-93	200 mm diameter
0000-02-5402		1	Clutch Kit	Miata (1.8 DOHC)	1994	215 mm diameter
0000-02-5403		1	Clutch Kit (Special)	Miata (1.8 DOHC)	1994-97	Requires use of Centerforce light-weight aluminum flywheel Part #0000-02-5204.
0000-02-6401	C	1	Clutch Kit	MX6 & 626 TURBO	1988-92	
0000-02-6402	C	1	Clutch Kit	MX6 & 626 2.5 V6	1993-97	
0000-02-4401	C	1	Clutch Kit	MX3 1.8 V6	1992-94	
0000-02-3401	C	1	Clutch Kit	323 GTX (1.6 DOHC T)	1988-89	



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NOTE: If you own a 1971-85 12A or 13B Mazda, be sure to order the correct diameter clutch. If you purchased a used vehicle and are not sure whether it has a 215mm or 225mm diameter clutch/flywheel, we suggest you measure the clutch disc diameter before ordering.



Centerforce Lightweight Flywheels

Centerforce Lightweight Flywheels provide significant engine performance improvement by enabling engine rpms to reach the optimum power band more quickly. All Centerforce Aluminum Flywheels use a steel ring gear and steel heat shield for durability.



Centerforce Aluminum Flywheel – Part #0000-02-7207

CENTERFORCE LIGHTWEIGHT FLYWHEELS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-7212	C	1	Aluminum Flywheel	RX7 12A	1979-82	Approximate Weight: 9 lbs. (215 mm). (See NOTE below.)
0000-02-7213	C	1	Aluminum Flywheel	RX7 12A & 13B NT	1983-91	Approximate Weight: 9 lbs. (225 mm). (See NOTE below.)
0000-02-7207		1	Aluminum Flywheel	RX7 T & TT	1987-95	Approximate Weight: 11 lbs. Can be used on all RX7 Turbo and Twin-Turbo models. (See NOTE below.)
0000-02-5203		1	Aluminum Flywheel	Miata (1.6 DOHC)	1990-93	Approximate Weight: 9 lbs. (200 mm).
0000-02-5204		1	Aluminum Flywheel	Miata (1.8 DOHC)	1994-96	Approximate Weight: 9 lbs. Requires use of Centerforce Clutch Kit (Part #0000-02-5403).
0000-02-7202	C	1	Steel Flywheel	RX7 12A	1979-82	215 mm diameter/Approximate Weight: 14 lbs. (See NOTE below.)
0000-02-7203	C	1	Steel Flywheel	RX7 12A & 13B NT	1983-88	225 mm diameter/Approximate Weight: 14 lbs. (See NOTE below.)
0000-02-7205	C	1	Steel Flywheel	RX7 NT	1989-91	225 mm diameter/Approximate Weight: 14 lbs. (See NOTE below.)

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NOTE: When installing a lightweight flywheel on any rotary engine application you will need to purchase an automatic transmission rear counterweight for your model/year application.

Aluminum Flywheel For 5-1/2" Clutches

This unique lightweight flywheel for 5-1/2" racing clutches weighs approximately 4 pounds and features a steel center heat shield for durability. Due to its integral ring gear (part of the aluminum outer hub), the moment of inertia on the flywheel is comparable to all-aluminum flywheels. The aluminum outer hub can be replaced when necessary (when ring gear teeth become worn).



Another unique feature this flywheel offers is that it can be used with a bottom- or top-mount starter (mounting position). Remounting the center steel heat shield to one side or the other of the aluminum outer hub accomplishes this.

Important safety note: *Allen-head mounting bolts should be replaced periodically — use only aircraft quality bolts.*



Aluminum Flywheel with Quarter Master 5-1/2" Clutch Assembly –
Part #0000-02-9203 and #0000-02-9103

ALUMINUM FLYWHEEL FOR 5-1/2" CLUTCHES

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9203		1	Aluminum Flywheel (for 5-1/2" clutches)	12A & 13B	ALL	<ol style="list-style-type: none"> 1. When replacing aluminum hub/ring gear assembly, aircraft quality bolts must be used (Part #0000-02-9203-AA). 2. Flywheels are preassembled for use on bottom-mount starter applications. If your vehicle uses a top-mount starter, flywheel must be reassembled prior to installation. 3. Use of a 5-1/2" clutch and flywheel assembly requires use of modified rear counterweight (Part #0000-01-9152). Counterweight must be balanced to rotors if 1983-85 12A rotors are not being used.
0000-02-5201		1	Aluminum Flywheel (for 5-1/2" clutches)	1.6 & 1.8 DOHC	ALL	When replacing aluminum hub and/or ring gear assembly, aircraft quality bolts must be used (Part #0000-02-9203-AA).

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Quarter Master Clutches

Quarter Master clutches provide ultimate performance at high rpms and temperatures without the failures sometimes common to other clutch designs. Features and benefits include:

- Low "moment of inertia"
- Lightweight aluminum clutch cover
- Unique closed-style design
- Improved sintered metal friction material that eliminates dusting
- Allows harder, faster acceleration and deceleration into and out of corners
- Highest torque capacities and lowest wear rates

All Quarter Master clutches and flywheels are built with the intent of making them as inertially light as possible, without sacrificing durability.

We offer both the Quarter Master 7-1/4" and 5-1/2" 2-disc clutch assemblies for rotary applications.

Quarter Master 5-1/2" Clutch Unit

The lightweight 5-1/2" clutch unit with aluminum flywheel provides approximately 30% less rotational inertia and weight than the Quarter Master 7-1/4" clutch unit with aluminum flywheel. It only is available for bottom mount starter applications with an aluminum flywheel.

QUARTER MASTER CLUTCHES						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9103	C	1	Clutch – 5-1/2" Assembly	12A/13B	ALL	Includes aluminum clutch cover, pressure plate, housing, floater plate and 2-disc clutch pack. Requires use of Quarter Master bolt kits (Part #0000-02-9123 and #0000-02-9128) and Quarter Master radius-faced release bearing (Part #0000-02-9122 or #0000-02-9122-PB).* (Spline size = 1" x 22)
0000-02-9101	C	1	Clutch – 7-1/4" Assembly	12A/13B	ALL	Includes a Quarter Master lightweight aluminum cover pressure plate, housing, floater plates and 2-disc clutch pack. Requires use of Quarter Master bolt kit (Part #0000-02-9113) and Quarter Master release bearing (Part #0000-02-9112).* (Spline size = 1" x 22)

INSTALLATION TIPS!!

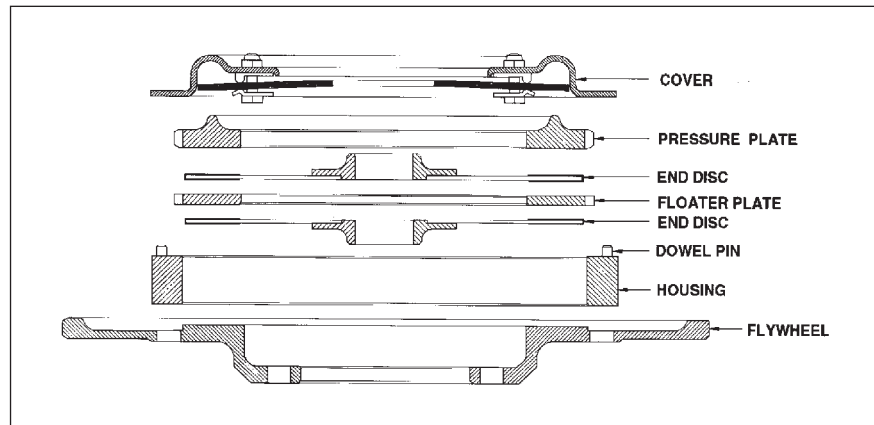
- Using a 5-1/2" clutch and flywheel requires use of modified rear counterweight (Part #0000-01-9152). Counterweight must be balanced to rotors if 1983-85 12A rotors are not being used. Template for drilling of rear counterweight also can be provided.
- When installing any clutch it is very important to check that clutch has adequate free-play. In addition, be sure that a pedal stop has been installed to prevent clutch from going over-centering.

*Quarter Master clutches require the use of a special radius-faced release bearing. Do not use a flat-face bearing with any Quarter Master clutch.

NOTE: Using a lightweight flywheel requires the use of a rear automatic transmission counterweight. See Counterweight section for part number listing (page E-19).

Quarter Master Clutch Replacement Parts

When replacing clutch packs, be sure to check the floater plate and pressure plate for any sign of wear or warpage. We also recommend that you carefully check the condition of the pilot bearing. A worn pilot bearing can significantly reduce the service life of your clutch and transmission.



Quarter Master Clutch Components

QUARTER MASTER CLUTCH REPLACEMENT PARTS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9111	C	1	Clutch Pack – 7-1/4" (Gold)	12A & 13B	ALL	Replacement clutch discs for 2-disc clutch unit (includes 2-discs) (Spline size: 1 x 22). (QM Part #226062)
0000-02-9121	C	1	Clutch Pack – 5-1/2" (Gold)	12A & 13B	ALL	Replacement clutch discs for 2-disc clutch unit (includes 2-discs) (Spline size: 1 x 22). (QM Part #225062)
0000-02-9115	C	1	Floater Plate – 7-1/4"	12A & 13B	ALL	One plate required for 2-disc clutch units. (QM Part #509506)
0000-02-9125	C	1	Floater Plate – 5-1/2"	12A & 13B	ALL	One plate required for 2-disc clutch units. (QM Part #105506)
0000-02-9116	C	1	Clutch Cover-Aluminum – 7-1/4"	12A & 13B	ALL	(QM Part #309504)
0000-02-9126	C	1	Clutch Cover-Aluminum – 5-1/2"	12A & 13B	ALL	(QM Part #105504)
0000-02-9114	C	1	Pressure Plate – 7-1/4"	12A & 13B	ALL	(QM Part #209501)
0000-02-9124	C	1	Pressure Plate – 5-1/2"	12A & 13B	ALL	(QM Part #105501)
0000-02-9117	C	1	Housing – 7-1/4"	12A & 13B	ALL	(QM Part #206503)
0000-02-9127	C	1	Housing – 5-1/2"	12A & 13B	ALL	(QM Part #205503)

QUARTER MASTER CLUTCH REPLACEMENT PARTS, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9112	C	1	Release Bearing/Collar – 7-1/4"	12A & 13B	ALL	Fits most transmissions except PBS MDR-1. (QM Part #236520)
0000-02-9112-PB	C	1	Release Bearing/Collar – 7-1/4"	12A & 13B	ALL	Fits PBS MDR-1 gearbox. (QM Part #236521)
0000-02-9122	C	1	Release Bearing/Collar – 5-1/2"	12A & 13B	ALL	Fits most transmissions except PBS MDR-1. (QM Part #235520)
0000-02-9122-PB	C	1	Release Bearing/Collar – 5-1/2"	12A & 13B	ALL	Fits PBS MDR-1 gearbox. (QM Part #235521)
0000-02-9122-W0	C	1	Release Bearing – 5-1/2"	12A & 13B	ALL	Bearing without collar. (QM Part #105031)
0000-02-9113	C	1	Bolt Kit – 7-1/4"	12A & 13B	ALL	Flywheel to counterweight. (QM Part #206507)
0000-02-9113-AA	C	1	Bolt Kit – 7-1/4"	12A & 13B	ALL	Clutch to flywheel. For use with aluminum flywheel. (QM Part #209507)
0000-02-9123	C	1	Bolt Kit – 5-1/2"	12A & 13B	ALL	Flywheel to counterweight. (QM Part #505001)
0000-02-9128	C	1	Bolt Kit – 5-1/2"	12A & 13B	ALL	Clutch to flywheel. (QM Part #205508)



Quarter Master Clutch Tech Tips

(See Tech Tip page TT-28.)



“Moment of Inertia”

Moment of inertia, with respect to rotation, is called angular momentum. Angular momentum is the force that has to be overcome to spin a circular component (e.g., a flywheel and clutch). It is the function of the mass of the part and the radius on which the mass is positioned. The more centered the mass is on a circular part, the lower the angular momentum, and the less horsepower is needed to spin the part. This translates to the flywheel/clutch assembly being able to accelerate faster at every rpm range.

For example, Quarter Master’s aluminum flywheel and 7-1/4" aluminum clutch unit together are rated at 146.3 inch-pounds. In other words, the assembly requires approximately 146.3 inch-pounds of force to initiate movement. QM’s aluminum flywheel and the new compact 5-1/2" aluminum clutch unit require approximately 101 inch-pounds of force to initiate movement (a 30% reduction).



Quarter Master Aluminum Flywheel – Part #4352-11-752A

QUARTER MASTER FLYWHEELS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-11-752A	C	1	Aluminum Flywheel – 7-1/4" (Bottom Mount)	12A & 13B	ALL	1-piece lightweight aluminum flywheel (with integral ring gear) can be used with any 7-1/4" Borg & Beck style clutch. Approximate Weight: 3.5 lbs. (116 teeth).
4801-11-752A	C	1	Aluminum Flywheel – 7-1/4" (Top Mount)	12A & 13B	ALL	Similar to Part #4352-11-752A for top-mount starter applications. Approximate Weight: 3.5 lbs. (116 teeth).
0000-02-9201	C	1	Steel Flywheel – 7-1/4" (Bottom Mount)	12A & 13B	ALL	Lightweight 1-piece flywheel can be used with any Borg & Beck style clutch. Integral ring gear provides a lower moment of inertia than 2-piece steel flywheels.
0000-02-9202	C	1	Aluminum Flywheel – 5-1/2" (Bottom Mount)	12A & 13B	ALL	Requires use of modified rear counterweight (Part #0000-01-9152). Approximate Weight: 3.1 lbs. (116 teeth).

NOTE: Using a lightweight flywheel requires the use of a rear automatic transmission counterweight. See Counterweight section for part number listing (page E-19).



Tilton Racing Clutches

We now carry Tilton's popular OT-II (7-1/4") and OT-III (5-1/2") racing clutches. The OT-II and OT-III clutches feature a unique open-style design, incorporating many features of the Tilton Carbon/Carbon clutch. Clutch assemblies include clutch cover assembly, pressure plate and floater plate. All Tilton racing clutches require 2-disc clutch pack to be ordered separately. See clutch pack section on page CF-10. An original equipment Mazda release bearing can be used. Tilton Racing Clutches are not recommended for street use.

- Lightest weight and lowest inertia
- Highest burst strength
- Highest torque capacity
- Lowest release load
- Coolest running
- Long wearing
- Durable
- Self cleaning

TILTON RACING CLUTCHES						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9103-TL		1	Clutch Assembly – 5-1/2"	Various	ALL	Clutch pack must be ordered separately. See page CF-10. TL Part #67-002HG
0000-02-9101-TL		1	Clutch Assembly – 7-1/4"	Various	ALL	Clutch pack must be ordered separately. See page CF-10. TL Part #66-002HORA

INSTALLATION TIPS!!

- Using a 5-1/2" clutch and flywheel requires use of modified rear counterweight (Part #0000-01-9152). Counterweight must be balanced to rotors if 1983-85 12A rotors are not being used. Template for drilling of rear counterweight also can be provided.
- When installing any clutch it is very important to check that clutch has adequate free-play. In addition, be sure that a pedal stop has been installed to prevent clutch from going over-centering.

NOTE: Using a lightweight flywheel requires the use of a rear automatic transmission counterweight. See Counterweight section for part number listing (page E-19).




Tilton Steel Flywheel and 7-1/4" Clutch Assembly – Part #0000-02-9001-TL













Tilton 7-1/4" Clutch / Flywheel Assembly

Includes Tilton OT-II 7-1/4" clutch, lightweight steel flywheel, 2-disc clutch pack and all necessary hardware. Designed for Non-Turbo rotaries with 1" x 22 spline size and ring gear tooth count of 116. Flywheel weight and moment of inertia: 8.2 lbs./136.

TILTON 7-1/4" CLUTCH / FLYWHEEL ASSEMBLY

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9001-TL		1	Flywheel/Clutch Assembly – 7-1/4"	Various	ALL	Includes steel flywheel, OT-II 7-1/4" clutch (with clutch discs), and all hardware (TL Part #56-253). Spline size 1" x 22.

TILTON CLUTCH REPLACEMENT PARTS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9121-TL		1	Clutch Pack – 5-1/2"	Various	ALL	(1" x 22) TL Part #64140-0-AA-29
0000-02-9129-TL		1	Clutch Pack – 5-1/2"	13B T & TT	ALL	(1" x 23) TL Part #64140-0-AA-30
0000-02-9111-TL		1	Clutch Pack – 7-1/4"	Various	ALL	(1" x 22) TL Part #64185-0-AA-29
0000-02-9119-TL		1	Clutch Pack – 7-1/4"	13B T & TT	ALL	(1" x 23) TL Part #64185-0-AA-30
0000-02-9125-TL		1	Floater Plate – 5-1/2"	ALL	ALL	TL Part #67-119
0000-02-9115-TL		1	Floater Plate – 7-1/4"	ALL	ALL	TL Part #66-119
0000-02-9124-TL		1	Pressure Plate – 5-1/2"	ALL	ALL	TL Part #67-118HR
0000-02-9114-TL		1	Pressure Plate – 7-1/4"	ALL	ALL	TL Part #66-118HR
0000-02-9122-TL		1	Release Bearing, Hydraulic – 5-1/2"	ALL	ALL	TL Part #61303
0000-02-9112-TL		1	Release Bearing, Hydraulic – 7-1/4"	ALL	ALL	TL Part #61300
0000-02-9123-TL		1	Bolt Kit – 5-1/2"	12A/13B	ALL	TL Part #95-011-5
0000-02-9113-TL		1	Bolt Kit – 7-1/4"	12A/13B	ALL	Except with heavy (drag) flywheel. TL Part #95-010
0000-02-5113-TL		1	Bolt Kit – 5-1/2"	1.6 & 1.8 DOHC	1990-97	

 = NEW! Competition Part

NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)



Tilton Flywheels

Tilton steel flywheels (unless noted) have integral ring gears. Tilton steel flywheels can have a lower moment of inertia than some aluminum flywheels. Aluminum flywheels use a steel heat shield and ring gear for durability. Some flywheels must be special ordered.

TILTON FLYWHEELS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9201-TL		1	Flywheel, Steel – 7-1/4" (Bottom Mount)	12A/13B	ALL	Non-Turbo engines only. Weight and moment of inertia: 8.2 lbs./ 136. TL Part #51-300
0000-02-9207-TL		1	Flywheel, Steel – 7-1/4" (Top Mount)	12A/13B	ALL	Non-Turbo engines only. TL Part #51-303
0000-02-9205-TL		1	Flywheel, Steel – 7-1/4" (Bottom Mount)	13B T & TT	ALL	Turbo engines only. Weight and moment of inertia: 9.5 lbs./184. TL Part #51-300T
0000-02-5201-TL		1	Flywheel, Steel – 5-1/2"	1.6 & 1.8 DOHC	1990-97	TL Part #51-335
0000-02-5211-TL		1	Flywheel, Steel – 200 mm (Standard Size Clutch)	1.6 DOHC	1990-93	TL Part #51-330
0000-02-5212-TL		1	Flywheel, Steel – 226 mm (Standard Size Clutch)	1.8 DOHC	1994-97	TL Part #51-331
0000-02-5213-TL		1	Flywheel, Steel – 5-1/2"	1.6 & 1.8 DOHC	1990-97	TL Part #51-335

= NEW! Competition Part

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T = Turbo





TT = Twin-Turbo (93-95 RX7)

INSTALLATION TIPS!!

- Using a 5-1/2" clutch and flywheel requires use of modified rear counterweight (Part #0000-01-9152). Counterweight must be balanced to rotors if 1983-85 12A rotors are not being used. Template for drilling of rear counterweight also can be provided.
- When installing any clutch it is very important to check that clutch has adequate free-play. In addition, be sure that a pedal stop has been installed to prevent clutch from going over-centering.

NOTE: Using a lightweight flywheel requires the use of a rear automatic transmission counterweight. See Counterweight section for part number listing (page E-19).

Clutch Components

PRESSURE PLATES						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
N203-16-410A	S	1	Pressure Plate	I2A & I3B (ALL)	1971-83	215 mm diameter
N304-16-410	S	1	Pressure Plate	RX7 NT (ALL)	1983-88	225 mm diameter (I2A & I3B models)
N311-16-410	C	1	Pressure Plate	RX7 T	1987-88	Factory competition pressure plate (diaphragm pressure: 730 kg) (240 mm diameter). Also may be used on 1989-91 RX7 turbos.
0000-02-7421-SS		1	Pressure Plate	RX7 T	1987-88	Similar to Part #N311-16-410 (240 mm diameter). Modified stock plate provides approximately 30-40% higher diaphragm pressure than stock unit. Also may be used on 230 mm 1989-91 RX7 turbos.
JE01-16-410B	S	1	Pressure Plate	RX7 T	1987-88	240 mm diameter
N309-16-410B	S	1	Pressure Plate	RX7 NT	1989-91	225 mm diameter
N310-16-410C	S	1	Pressure Plate	RX7 T	1989-91	230 mm diameter
0000-02-7423-SS		1	Pressure Plate	RX7 TT	1993-95	Modified stock pressure plate provides 30% higher diaphragm pressure over stock unit. Use with stock disc.
N315-16-410B	S	1	Pressure Plate	RX7 TT	1993-95	
B6Y3-16-410	C	1	Pressure Plate	Miata (1.6 DOHC)	1990-93	200 mm diameter. Diaphragm pressure: 510 kg.
B622-16-410	S	1	Pressure Plate	Miata (1.6 DOHC)	1990-93	200 mm diameter
0000-02-5402-SS		1	Pressure Plate	Miata (1.8 DOHC)	1994-97	226 mm diameter. Provides 30-40% higher diaphragm pressure than stock plate. Use with stock disc.
BP07-16-410	S	1	Pressure Plate	Miata (1.8 DOHC)	1994-97	226 mm diameter
0000-02-6402-SS		1	Pressure Plate & Disc	MX6 (2.5 V6)	1993-97	Includes plate and disc. Stock plate is modified to provide 30-40% higher diaphragm pressure than stock unit. High performance disc material is used.
KL02-16-410D	S	1	Pressure Plate	MX6 (2.5 V6)	1993-97	
B6Y1-16-410C	C	1	Pressure Plate	323 GTX (4WD T)	1988-89	Use with competition or stock disc (Part #FE83-16-460A).

 = NEW! Competition Part

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TT = Twin-Turbo (93-95 RX7)

CLUTCH DISCS & RELEASE BEARINGS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-16-460	C	1	Clutch Disc	12A & 13B	1971-82	215 mm diameter Features solid hub and organic facing material.
0863-16-460	S	1	Clutch Disc	12A & 13B	1971-82	215 mm diameter
N308-16-460A	S	1	Clutch Disc	RX7 NT	1983-88	225 mm diameter
N307-16-460	S	1	Clutch Disc	RX7 T	1987-88	240 mm diameter
N309-16-460C	S	1	Clutch Disc	RX7 NT	1989-91	225 mm diameter
N310-16-460B	S	1	Clutch Disc	RX7 T	1989-91	230 mm diameter
N315-16-460C	S	1	Clutch Disc	RX7 TT	1993-95	230 mm diameter (Also recommended for use on 1987-91 RX7 turbos.)
B6Y4-16-460	C	1	Clutch Disc	Miata (1.6 DOHC)	1990-93	200 mm diameter Uses improved disc-facing material.
B623-16-460B	S	1	Clutch Disc	Miata (1.6 DOHC)	1990-93	200 mm diameter
BP07-16-460	S	1	Clutch Disc	Miata (1.8 DOHC)	1994-96	226 mm diameter
KL07-16-460	S	1	Clutch Disc	MX6 (2.5 V6)	1993-96	
B6Y1-16-460A	C	1	Clutch Disc	323 GTX (1.6 DOHC T)	1988-89	
D405-16-460A	C	1	Clutch Disc	323 GLC	1986-89 1981-85	
0820-16-510	S	1	Release Bearing	12A & 13B	1971-78	
FE84-16-510	S	1	Release Bearing	RX7 NT	1979-88	12A and 13B Non-Turbo
F853-16-510	S	1	Release Bearing	RX7 T & 323 GTX	1987-88	
G561-16-510	S	1	Release Bearing	RX7 NT & T	1989-91	
N315-16-510	S	1	Release Bearing	RX7 TT	1993-95	
B622-16-510	S	1	Release Bearing	Miata (1.6 & 1.8 DOHC)	1990-97	
G560-16-510B	S	1	Release Bearing	MX6 (ALL)	1993-97	



= NEW! Competition Part

NT = Non-Turbo

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TT = Twin-Turbo (93-95 RX7)

NOTE: If you own a 1971-85 12A or 13B Mazda, be sure you are ordering the correct diameter clutch. If you purchased a used vehicle (particularly a race car) and are not sure whether the car has a 215 mm or 225 mm diameter clutch/flywheel, it is important that you measure the clutch disc diameter before ordering.




TRANSMISSION



Tailshaft Bearing Kit

Transmission tailshaft bushings often seize due to the high rpm seen in competition. The only way to avoid these failures is to install a needle bearing in place of the bushing. Fitment of the needle bearing requires machining out the inside diameter of the tailshaft housing. The tailshaft bearing kit includes needle bearing, snap ring and information regarding the tailshaft machining. Use of a hardened competition driveshaft yoke (Part #4352-25-130) is required with this modification.


TAILSHAFT BEARING KIT

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9411		1	Tailshaft Bearing Kit	RX2, RX3, RX7	1974-85	

Transmission Shift Bushing

One of the small components that can cause problems is the transmission shift bushing on your stock transmission. Under racing conditions, the stock bushing can wear quickly. Our competition aluminum bushing replaces the stock plastic bushing in the shift control lever rod end. A worn shifter bushing causes increased wear to synchro rings which can result in serious damage to other transmission components. It also can create a shifting problem when bushings are severely worn.

TRANSMISSION SHIFT BUSHING

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-02-9401	C	1	Transmission Shift Bushing	RX2, RX3, RX4, RX7	1972-80	Please call for information on bushings for 1981-85 and 1986-91 RX7s.
0000-02-9402		1	Transmission Shift Bushing	RX7 TT Miata	1993-95 1990-97	Same as Part #0000-02-9401 but bushing is shorter (Total height: 1/2").

 = NEW! Competition Part

NT = Non-Turbo

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Ordering Transmission Parts

Because there were many different stock transmissions produced for the various models over the years, a listing of transmission replacement parts cannot be provided in this catalog. If you are planning to rebuild your transmission, please call us in advance to request a transmission diagram and parts listing for your vehicle. It can be faxed or mailed to you. Be sure to use this diagram and parts list to determine the part numbers required for your rebuild. This will simplify ordering and help reduce the possibility of shipment of improper parts.

MAZDA TRANSMISSION RATIOS							
MODEL	YEAR	NOTES+	1ST	2ND	3RD	4TH	5TH
RX2, RX3, RX4, Cosmo	1974-76	1	3.683	2.263	1.397	1.0	.862
RX3 SP, RX4, Cosmo	1977-78	1	3.380	2.002	1.390	1.0	.791
RX7	1979-83	2	3.674	2.217	1.432	1.0	.825
RX7 12A	1984-85	2	3.622	2.186	1.419	1.0	.758*
RX7 GSL-SE 13B	1984-85	2	3.622	2.186	1.419	1.0	.807**
RX7	1986	2	3.475	2.002	1.366	1.0	.711
RX7 (Non-Turbo & Without Viscous Limited Slip)	1987-91	2	3.475	2.002	1.366	1.0	.697
RX7 GTUS	1989	2	3.475	2.002	1.366	1.0	.756
RX7 Turbo	1987-88	3	3.483	2.015	1.391	1.0	.762
RX7 Turbo	1989-91	3	3.483	2.015	1.391	1.0	.719
RX7 Twin-Turbo	1993-95	3	3.483	2.015	1.391	1.0	.719
Miata	1990-97	2	3.136	1.888	1.330	1.0	.814
626 (RWD)	1979-82	2	3.214	1.818	1.296	1.0	.860
PBS MDR-I Competition 5-Speed w/Changeable Ratios	Various	4					

*1985 12A = 0.807 **1985 13B = 0.711 +See reference notes on the following page for information about these transmissions.

Replacement parts for the following transmissions are also available. Complete transmissions must be special ordered. Please call for information and pricing.

- 1) 5-speed Competition Overdrive transmission for rotary applications (complete transmission no longer available).
- 2) PBS GLC & 323 FWD (dog ring) transmission.
- 3) 323 GTX & GTR rally transmission.

Reference Notes

1. Rib Case (Stock) Transmission (1974-78 – 12A & 13B)

- Main case has ribbing for strength and rigidity.
- The bottom of the transmission has an inspection plate.
- The bellhousing is separate/removable.
- This transmission can be used in 1979-80 RX7s with some external modifications.
- For racing purposes, potential weak areas are synchro rings and plastic shift control rod end bushing. The plastic bushing can be replaced by an aluminum bushing (Part #0000-02-9401).

2. Smooth Case (Stock) Transmission (1979-91 – RX7 Non-Turbo Models, Miata & 626RWD)

- Main case is basically smooth, compared with rib-case design.
- The bellhousing cannot be removed from case.
- The location of the shift lever is further back on 1981-83 models. This transmission can be used on earlier models with modification of the shifter hole in tunnel.
- The breather “vent” is on the right side of the transmission on 1983-85 models.
- For racing purposes, the plastic shift control rod end bushing (on 1990-96 Miatas and 1979-80 RX7s) should be replaced with an aluminum bushing.
- 1979-82 626 gear ratios may be used as an alternative (call for information).
- 1979-80 transmission components are somewhat weaker and more likely to be damaged under racing conditions. Use 1981-85 gearbox.

3. Rib Case (Stock) Transmission (1987-95 – RX7 Turbo)

- Similar in design to early rib-case design transmission.
- The bellhousing diameter is larger than all other transmissions.
- The bolt pattern is identical to other transmissions.

4. “PBS” MDR-1 (Quick Change) 5-Speed Transmission

(See PBS Transmission Listing on T-7 for more information.)

PBS MDR-1 5-Speed Transmission

The PBS MDR-1 (Quick Change) Transmission provides the following benefits:

- Final drive gears can be changed without taking the transmission out of the car (5 different ratios available).
- Gearbox includes the following gear ratios: (1st-2.095/2nd-1.600/3rd-1.407/4th-1.167).
- Alternative ratios also available for each gear (1st to 5th).
- Overall length identical to stock (RX7) transmissions.
- Dog rings provide for a quick-shifting, strong, durable box.
- For GT and Production class applications.

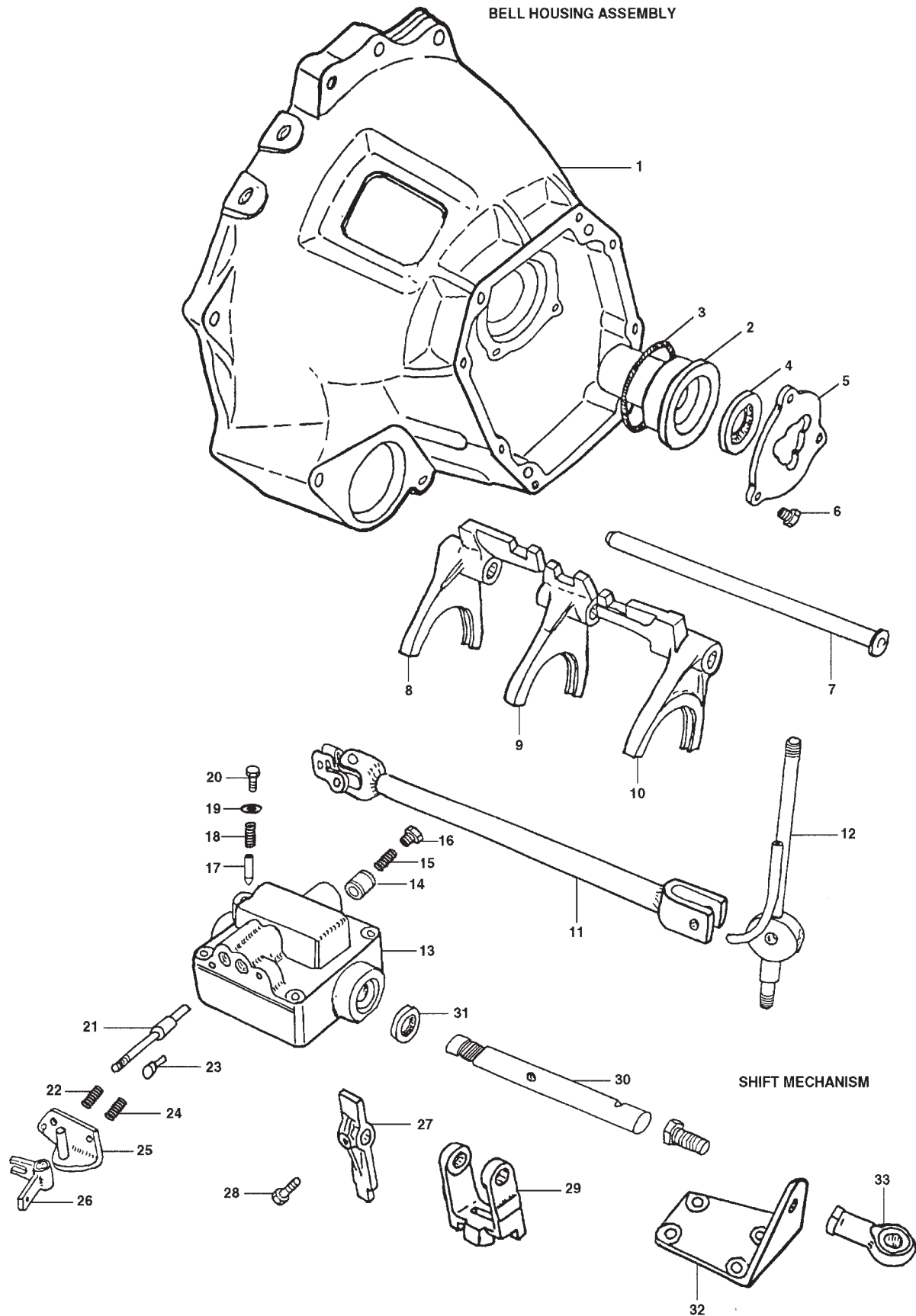


PBS MDR-1 Quick Change Transmission – Part #MANA-17-000

COMPETITION 5-SPEED (QUICK CHANGE) TRANSMISSION

PART NUMBER	CODE	# REQ.	DESCRIPTION
MANA-17-000	C	1	Complete Transmission

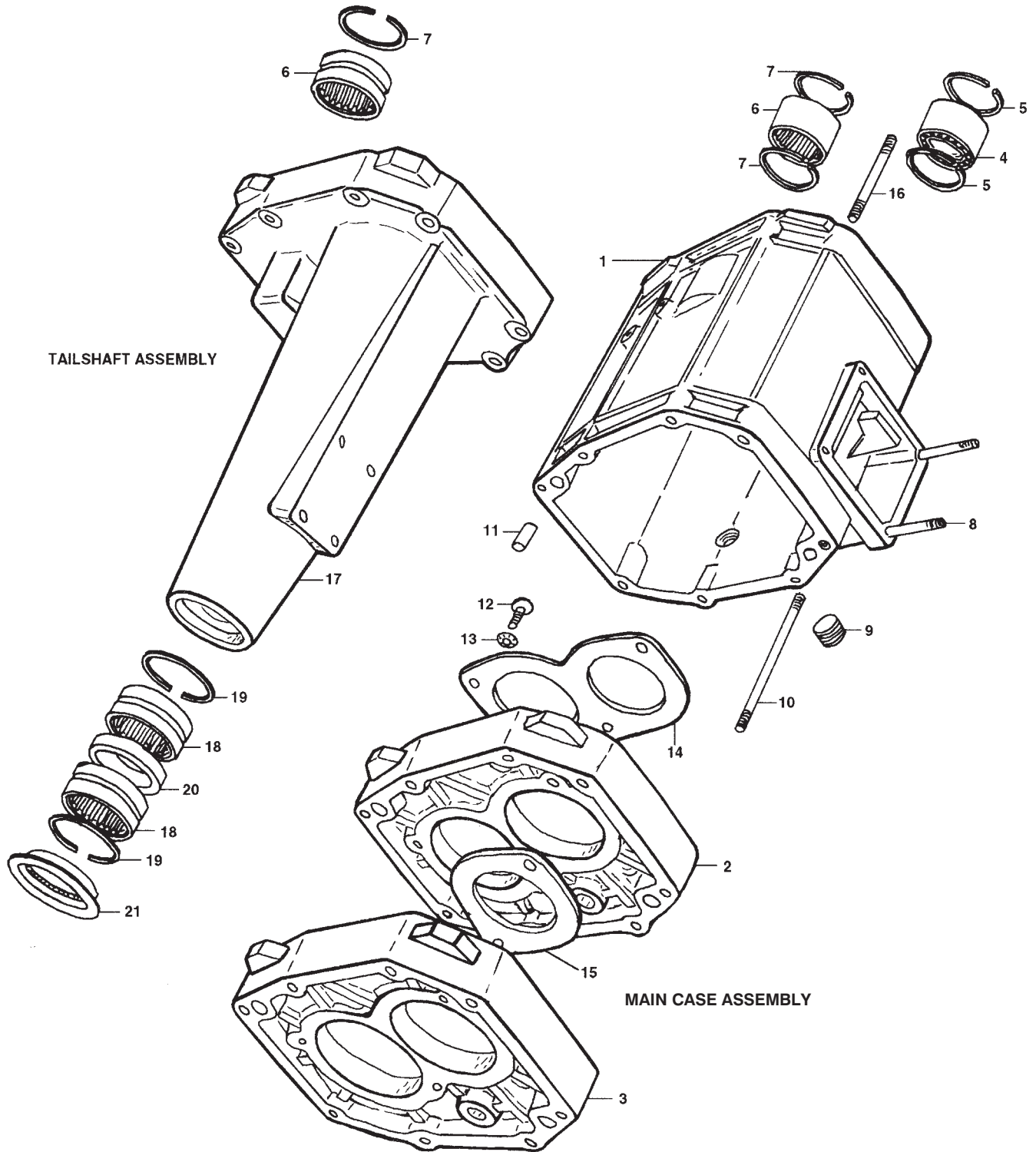
PBS 5-Speed Transmission - Bell Housing & Shift Mechanism



BELL HOUSING & SHIFT MECHANISM

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION
1	MANA-17-403	C	1	Bell Housing
1	MANA-17-403A	C	1	Bell Housing (GTO-Heavy Duty)
2	MANA-17-2121	C	1	Release Bearing Collar
2	MANA-17-2121-AA	C	1	Release Bearing Collar (GTO-Heavy Duty)
3	MANA-17-9003-60	C	1	O-Ring – Release Bearing Collar
4	MANA-17-9002-90	C	1	Oil Seal – Input Shaft
5	MANA-17-2122	C	1	Input Shaft Retainer (Includes Tube)
6	MANA-17-9003-80	C	3	Cap Screw (1/4" - 20 x 3/4")
7	MANA-17-304	C	1	Shift Rail
8	MANA-17-3031-AA	C	1	Shift Fork (1st/Reverse)
9	MANA-17-3032-AA	C	1	Shift Fork (2nd/3rd)
10	MANA-17-3033-AA	C	1	Shift Fork (4th/5th)
11	MANA-17-307	C	1	Control Lever Shift
12	MANA-17-308	C	1	Shift Lever
13	MANA-17-301	C	1	Shift Selector Cover
14	MANA-17-3024	C	1	Plunger-Straight
15	MANA-17-9004-50	C	1	Spring
16	MANA-17-3029	C	1	Cap Screw – 6 mm
17	MANA-17-9004-30	C	1	Plunger
18	MANA-17-9004-20	C	1	Spring
19	MANA-17-9004-10	C	1	Washer – Special
20	MANA-17-9004-00	C	1	Cap-Retainer
21	MANA-17-313	C	1	Plunger – Reverse Lock-Out
22	MANA-17-9004-70	C	1	Spring – Plunger
23	MANA-17-3025	C	1	Plunger – Shoulder
24	MANA-17-9004-40	C	1	Spring – Plunger
25	MANA-17-311	C	1	Support – Reverse Lock-Out
26	MANA-17-312	C	1	Lever – Reverse Lock-Out
27	MANA-17-3021	C	1	Finger – Shift Selector
28	MANA-17-9003-90	C	1	Cap Screw (1/4" - 28 x 1")
29	MANA-17-3022	C	1	Shift Selector Yoke
30	MANA-17-3023	C	1	Shift Selector Rod
31	MANA-17-9003-30	C	1	Oil Seal – Shift Selector Rod
32	MANA-17-309	C	1	Support Bracket – Selector Rod
33	MANA-17-310	C	1	Heim Joint-Selector Rod

PBS 5-Speed Transmission - Main Case & Tailshaft Assembly



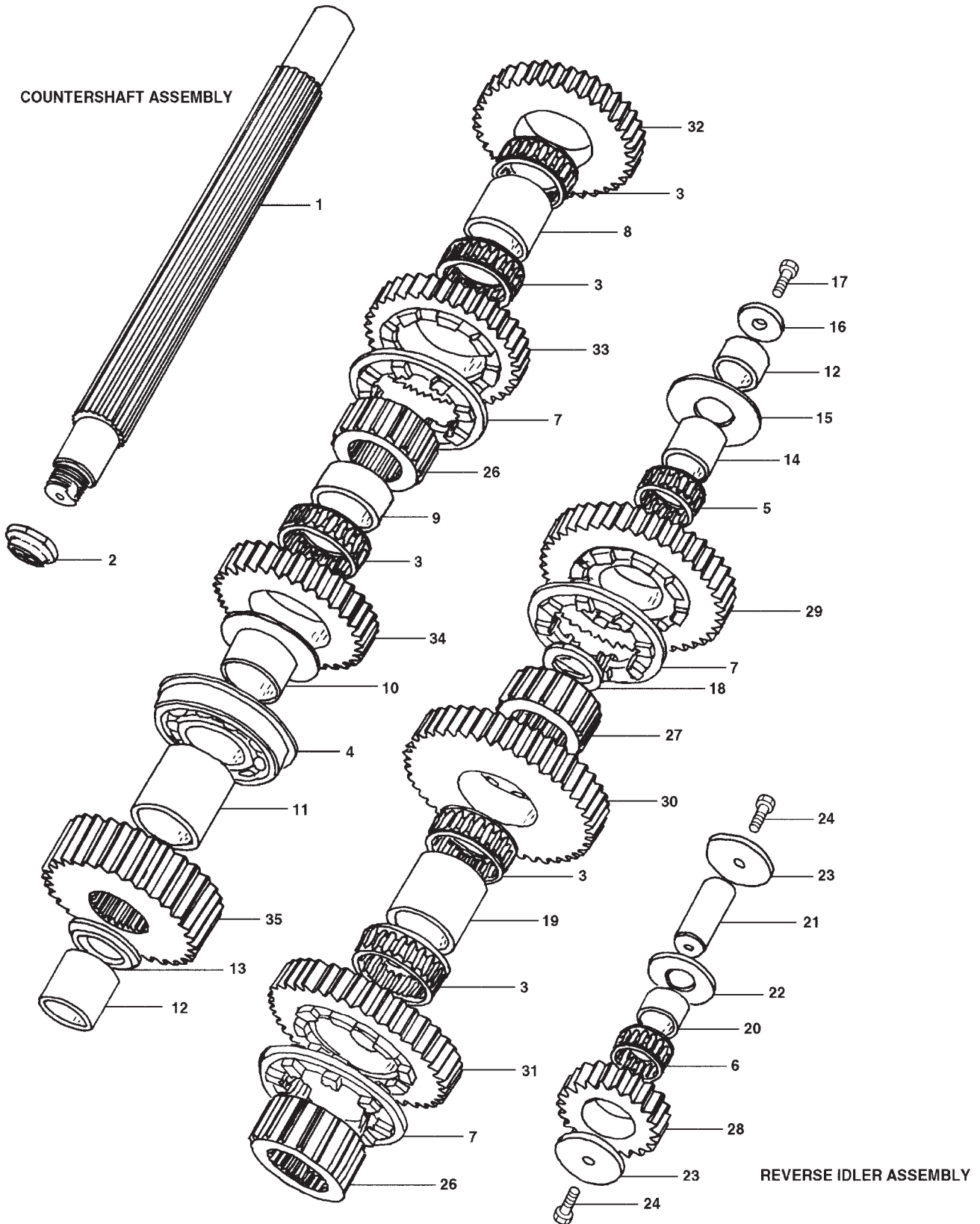
BELLHOUSING & SHIFT MECHANISM, continued ...

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION
	MANA-17-314	C	1	Shifter Cable (Not Shown)
	MANA-17-315	C	1	Spacer (Not Shown)
	MANA-17-9005-0B	C	1	Sliding Yoke (Not Shown) (GTO-Heavy Duty)

MAIN CASE & TAILSHAFT ASSEMBLY

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION
1	MANA-17-101	C	1	Main Case
2	MANA-17-103F	C	1	Bearing Carrier - Front
3	MANA-17-103R	C	1	Bearing Carrier - Rear
4	MANA-17-9001	C	1	Bearing 1st Motion Shaft-Front
5	MANA-17-9001-50	C	2	Snap Ring - 1st Motion Shaft
6	MANA-17-9002	C	2	Bearing - Countershaft - Front & Rear
7	MANA-17-9001-60	C	3	Snap Ring - Countershaft Bearing - Front & Rear
8	MANA-17-8003	C	4	Stud-Selector Cover Mounting (1/4" x 2-7/16")
9	MANA-17-9004-60	C	1	Plug-Oil Filler
10	MANA-17-8001	C	1	Stud-Main Case/Tail Housing (5/16" x 5-1/2")
11	MANA-17-9003-40	C	9	Dowel Pin (.5" dia. + 0/-.0002 x 3/4")
12	MANA-17-9003-00	C	5	Screw-Bearing Retainer
13	MANA-17-9003-10	C	5	Lock Washer-Bearing Retainer
14	MANA-17-2081	C	1	Retainer Plate-Countershaft Bearing
15	MANA-17-2082	C	1	Retainer Plate-Output Shaft Bearing
16	MANA-17-8002	C	8	Stud-Main Case/Bell Housing (5/16" x 2-5/16")
17	MANA-17-102	C	1	Extension Housing
17	MANA-17-102A	C	1	Extension Housing (GTO-Heavy Duty)
18	MANA-17-9003-50	C	2	Bearing-Extension Housing
18	MANA-17-9003-5A	C	2	Bearing-Extension Housing (GTO-Heavy Duty)
19	MANA-17-9001-70	C	2	Snap Ring-Extension Housing
19	MANA-17-9001-7A	C	2	Snap Ring-Extension Housing (GTO-Heavy Duty)
20	MANA-17-9002-80	C	1	Spacer-Extension Housing
20	MANA-17-9002-8A	C	1	Spacer-Extension Housing (GTO-Heavy Duty)
21	0837-17-335	C	1	Oil Seal-Extension Housing
21	MANA-17-9002-0A	C	1	Oil Seal-Extension Housing (GTO-Heavy Duty)

PBS 5-Speed Transmission - Countershaft & Reverse Idler Assembly

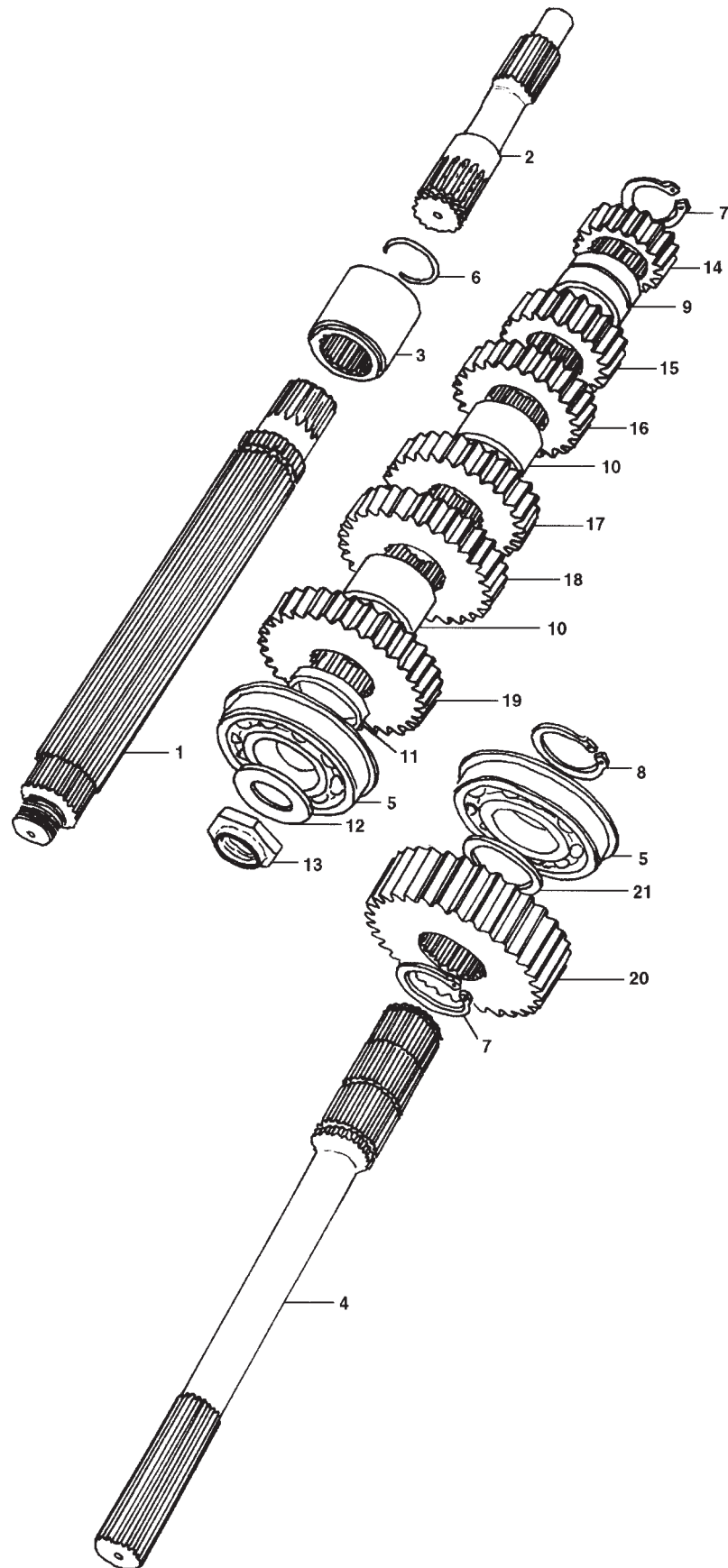


COUNTERSHAFT & REVERSE IDLER ASSEMBLY

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION
1	MANA-17-2063	C	1	Countershaft
2	MANA-17-9002-30	C	1	Lock Nut-Countershaft
3	MANA-17-9008	C	5	Needle Bearing-1st thru 5th
4	MANA-17-9001-90	C	1	Bearing-Countershaft Intermediate
5	MANA-17-9005	C	1	Needle Bearing (Reverse Driven Gear)
6	MANA-17-9007	C	1	Needle Bearing (Reverse Idler Gear)
7	MANA-17-305 -AA	C	3	Dog Ring
8	MANA-17-2042	C	1	Bearing Sleeve (3rd/4th Gear)
9	MANA-17-2043	C	1	Bearing Sleeve (5th Gear)
10	MANA-17-2034	C	1	Bearing Spacer (Countershaft)
11	MANA-17-2035	C	1	Bearing Spacer (Countershaft - Long)
12	MANA-17-9003	C	2	Inner Bearing Race Countershaft (Front & Rear)
13	MANA-17-2037	C	1	Rear Spacer (Countershaft)
14	MANA-17-9004	C	1	Inner Bearing Race-Reverse Driven Gear
15	MANA-17-2031	C	1	Thrust Washer (Reverse Driven Gear)
16	MANA-17-2032	C	1	Retainer/Washer-Countershaft
17	MANA-17-9003-70	C	1	Cap Screw (3/8"-24 x 1")
18	MANA-17-2033	C	1	Spacer/Washer-Countershaft
19	MANA-17-2041	C	1	Bearing Sleeve (1st/2nd)
20	MANA-17-9006	C	1	Inner Bearing Race-Reverse Idler
21	MANA-17-2074	C	1	Reverse Idler Shaft
22	MANA-17-2075	C	1	Spacer-Reverse Idler
23	MANA-17-2076	C	1	Washer-Reverse Idler
24	MANA-17-9003-20	C	1	Cap Screw (1/4"-28 x 5/8")
25	MANA-17-2076	C	2	Washer-Reverse Idler
26	MANA-17-2021	C	2	Hub (2nd/3rd & 4th/5th)
27	MANA-17-2022	C	1	Hub (1st/Reverse)
28	MANA-17-2072	C	1	Reverse Idler Gear (22T)
29	MANA-17-2073	C	1	Reverse Driver Gear (42T)
30	*	C	1	1st Driven Gear (see page T-13 - Item No. 15)
31	*	C	1	2nd Driven Gear (see page T-13 - Item No. 16)
32	*	C	1	3rd Driven Gear (see page T-13 - Item No. 17)
33	*	C	1	4th Driven Gear (see page T-13 - Item No. 18)
34	*	C	1	5th Driven Gear (see page T-15 - Item No. 19)
35	*	C	1	Change Gear Driver (Quick Change-Final) (see page T-15 - Item No. 20)

*See page T-13 and T-15 for part numbers of available gear sets.

PBS 5-Speed Transmission - 1st Motion Shaft Assembly



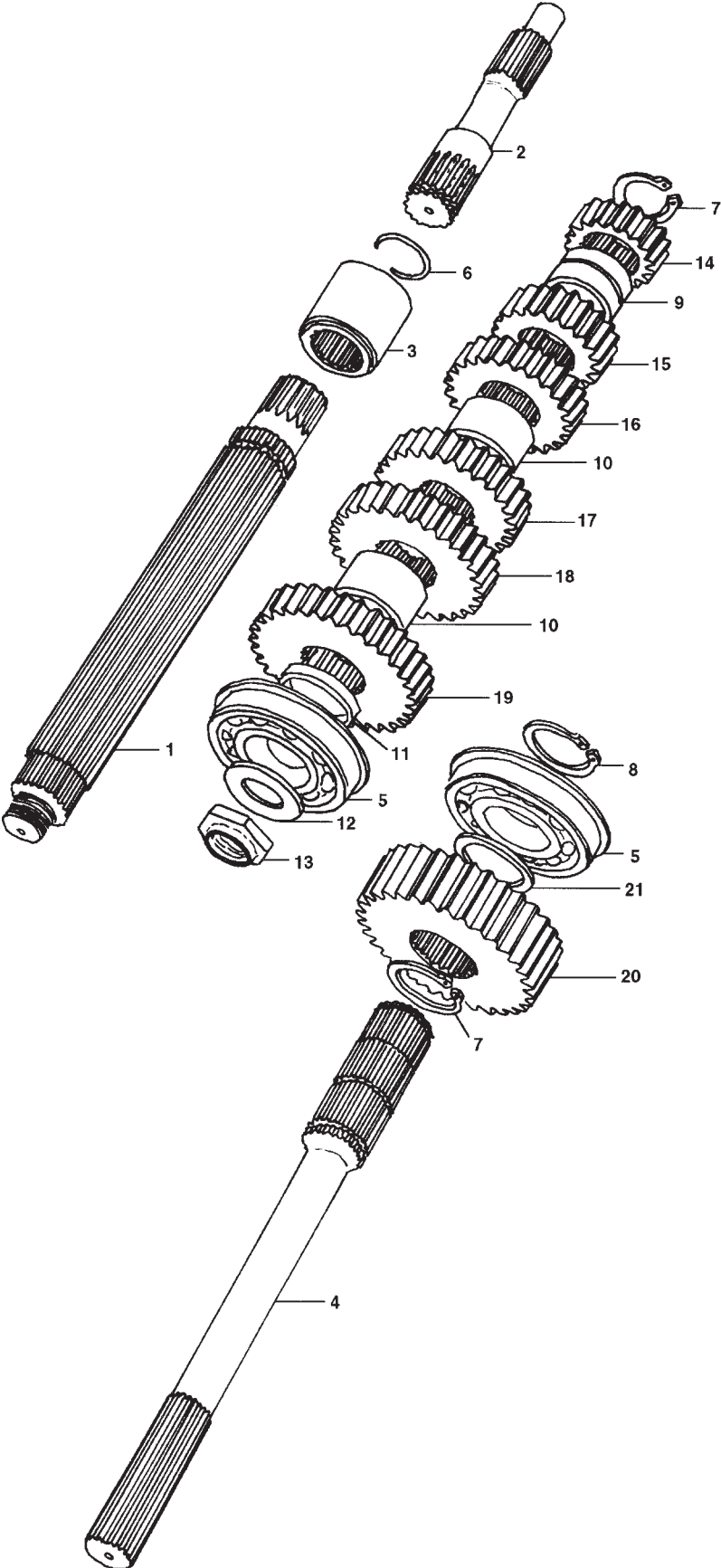
1st MOTION SHAFT ASSEMBLY

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION
1	MANA-17-2062	C	1	1st Motion Shaft
2	MANA-17-2061	C	1	Input Shaft
2	MANA-17-2061-AA	C	1	Input Shaft (GTO-Heavy Duty)
3	MANA-17-2055	C	1	Coupling- 1st Motion Shaft
4	MANA-17-2064	C	1	Tail Shaft
5	MANA-17-2064-AA	C	1	Tail Shaft (GTO-Heavy Duty)
6	MANA-17-9002-10	C	1	Snap Ring (Input Shaft)
7	MANA-17-9002-50	C	2	Snap Ring - 1st Motion Shaft, Tail Shaft Change Gear
8	MANA-17-9002-40	C	1	Snap Ring - Tail Shaft (Front)
9	MANA-17-2051	C	1	Spacer (1st/Reverse)
10	MANA-17-2052	C	2	Spacer (2nd/3rd & 4th/5th)
11	MANA-17-2053	C	1	Spacer (5th)
12	MANA-17-2054	C	1	Washer (1st Motion Shaft)
13	M501-17-309	S	1	Lock Nut (1st Motion Shaft)
14	MANA-17-2071	C	1	Reverse Gear Driver (18T)
15	MANA-17-2045	C	1	1st Gear Set (20/45-2.250 Ratio)
15	MANA-17-2144	C	1	1st Gear Set (21/44-2.095 Ratio) - w/Transmission
15	MANA-17-2243	C	1	1st Gear Set (22/43-1.954 Ratio)
16	MANA-17-2342	C	1	2nd Gear Set (23/42-1.826 Ratio)
16	MANA-17-2441	C	1	2nd Gear Set (24/41-1.708 Ratio)
16	MANA-17-254	C	1	2nd Gear Set (25/40-1.600 Ratio) - w/Transmission
17	MANA-17-2639	C	1	3rd Gear Set (26/39-1.500 Ratio)
17	MANA-17-2738	C	1	3rd Gear Set (27/38-1.407 Ratio) - w/Transmission
17	MANA-17-2837	C	1	3rd Gear Set (28/37-1.241 Ratio)
18	MANA-17-2936	C	1	4th Gear Set (29/36-1.241 Ratio)
18	MANA-17-3035	C	1	4th Gear Set (30/35-1.167 Ratio) - w/Transmission
18	MANA-17-3134	C	1	4th Gear Set (31/34-1.097 Ratio)
19	MANA-17-3233	C	1	5th Gear Set (32/33-1.031 Ratio) - w/Transmission
19	MANA-17-3332	C	1	5th Gear Set (33/32-0.970 Ratio)
19	MANA-17-3431	C	1	5th Gear Set (34/31-0.912 Ratio)

NOTE 1: Gear set ratios listed "w/Transmission" indicate those ratios that come in complete transmissions.

NOTE 2: Heavy Duty 8 pitch gears also are available in limited ratios. Please call for information.

PBS 5-Speed Transmission - 1st Motion Shaft Assembly



1st MOTION SHAFT ASSEMBLY

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION
20	MANA-17-2626-FG	C	1	Change Gear Set (26/26-1.000 Ratio-8 Pitch) - w/Transmission
20	MANA-17-293-FG	C	1	Change Gear Set (29/30-1.034 Ratio-10 Pitch)*
20	MANA-17-2936-FG	C	1	Change Gear Set (29/36-1.241 Ratio-10 Pitch)*
20	MANA-17-3034-FG	C	1	Change Gear Set (30/34-1.133 Ratio-10 Pitch)*
21	MANA-17-2036	C	1	Spacer

NOTE 1: Gear set ratios listed "w/Transmission" indicate those ratios that come in complete transmissions.

NOTE 2: Heavy Duty 8 pitch gears also are available in limited ratios. Please call for information.



Transmission Tech Tips

To ensure proper shifting, shift fork thickness should not be less than .165".





***DIFFERENTIAL
AND DRIVETRAIN***




Ring & Pinion Sets



Ring & Pinion Set – Part #1312-27-110A

RING & PINION SETS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
M068-27-110A	S	1	Ring & Pinion Set (4.11 Ratio)	RX7 Miata	1979-85 1994-97	Short pinion design. Also fits RX2, RX3 SP.
M054-27-110A	S	1	Ring & Pinion Set (4.44 Ratio)	RX7 Miata	1979-85 1994-97	Short pinion design. Also fits RX2, RX3 SP.
1312-27-110A	C	1	Ring & Pinion Set (4.875 Ratio)	RX7 Miata	1979-85 1994-97	Short pinion design. Also fits RX2, RX3 SP.
1480-27-110	C	1	Ring & Pinion Set (5.125 Ratio)	RX7 Miata	1979-85 1994-97	Short pinion design. Also fits RX2, RX3 SP.
M055-27-110A	S	1	Ring & Pinion Set (4.11 Ratio)	RX7 NT	1986-91	
M066-27-110A	S	1	Ring & Pinion Set (4.33 Ratio)	RX7 NT	1986-91	
P092-27-110B	C	1	Ring & Pinion Set (4.33 Ratio)	RX7 T	1987-91	
P061-27-110	S	1	Ring & Pinion Set (4.10 Ratio)	RX7 TT	1993-95	
P0A5-27-110A	C	1	Ring & Pinion Set (4.33 Ratio)	RX7 TT	1993-95	
0662-27-950A		1	Ring & Pinion Set (4.875 Ratio)	Miata 1.6	1990-93	Requires special fitment. Call for information.

 = NEW! Competition Part

NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)

NOTE: 1986-91 RX7 Non-Turbo Ring & Pinions: The 4.33 ratio gear set is the lowest gear set available for 1986-91 non-turbo RX7s. To obtain an even lower gear ratio (4.44, 4.875, etc.), there are two options:

1. The least expensive modification is very complicated and should be done only by qualified machinists. It requires grafting (splining and welding) of a short pinion shaft from an early (1979-85) RX7 to the end of an (1986-91) RX7 non-turbo long pinion shaft.
2. Purchase an adapter kit that allows you to fit a short pinion gear set to the 1986-91 RX7. This is more expensive than the modification explained above but does provide the ability to install a different pinion shaft later, if you need an alternate ratio.

Please call for information on purchasing these modifications and/or parts.

Ring & Pinion Information

Mazda offers optional gear sets that can be used for the early RX7 1979-85, RX2 all and RX3 SP 1977-78. These models use "short pinion" gear sets.

RX3 models (except those of "SP" variety) use a "long pinion" shaft. The pinion shaft is approximately 2-3/8" longer than the "short pinion" shaft version. There are two (2) alternate gear sets available from the factory that will fit the "long pinion" differential case. Please call for information about these ring and pinion sets.

Ring & pinion sets for the RX7 1986-91 have the longest pinions of any differential Mazda produced. The normally aspirated RX7's ring & pinion set is not interchangeable with the turbo gear set. The only alternate gear set available for the RX7 1986-91 non-turbo is a 4.33 ratio, which came in the limited edition 1989 GTUS model.

Using a lower ratio gear set improves acceleration and torque. A higher number means a lower ratio. To help calculate the proper gear set for your racing application, please use the formula below. This formula should only be considered a guide. Use the gear ratio chart in the transmission section of this catalog to obtain the transmission ratio needed for the formula.

$$\text{SPEED (MPH)} = \frac{A \times B}{C \times D \times (1056)}$$

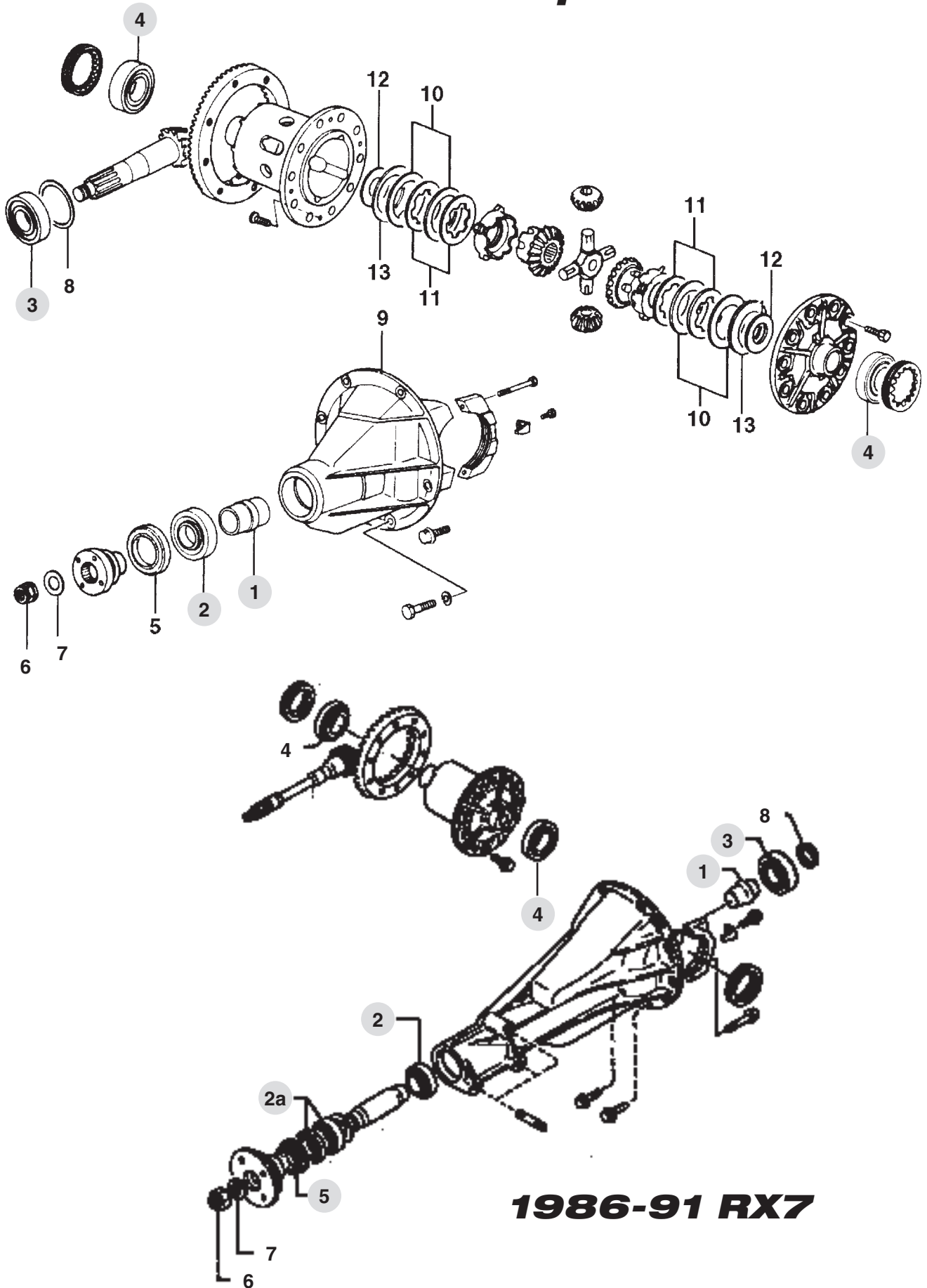
A = Rear tire circumference (measure in inches at the outside edge).

B = Engine rpm (be as accurate as possible).

C = Rear axle ratio.

D = Transmission gear ratio.

Differential Components



1986-91 RX7

DIFFERENTIAL COMPONENTS

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
1	4352-27-171	C	1	Tube, Crush	I2A & I3B	ALL	For competition unit only.
1	0305-27-171	S	1	Tube, Crush	I2A & I3B RX7 RX7 T	1971-78 1979-85 1987-91	
1	M035-27-171	S	1	Tube, Crush	RX7 NT Miata 1.8	1986-91 1994-97	
1	R004-27-171	S	1	Tube, Crush	RX7 TT	1993-95	
1	T020-27-171	S	1	Tube, Crush	Miata 1.6	1990-93	
2	0540-27-210	C	1	Bearing, Front Pinion	I2A & I3B	ALL	For use in competition differential only.
2	0755-27-210	S	1	Bearing, Front Pinion	I2A & I3B RX7 NT Miata 1.8	1971-78 1979-91 1994-97	
2	0604-27-220	S	1	Bearing, Front Pinion	RX7 T RX7 TT	1987-91 1993-95	
2	3919-27-220	S	1	Bearing, Front Pinion	Miata 1.6	1990-93	
2A	M055-27-143	S	2	Bearing, Drive Pinion (Front)	RX7 NT	1986-91	See inset drawing.
2A	P016-27-143	S	2	Bearing, Drive Pinion (Front)	RX7 T	1987-91	See inset drawing.
3	0221-27-210	S	1	Bearing, Rear Pinion	I2A & I3B RX7	1971-78 1979-85	
3	M025-27-210	S	1	Bearing, Rear Pinion	RX7 NT RX7 T Miata 1.8	1986-91 1987-91 1994-97	
3	R001-27-210	S	1	Bearing, Rear Pinion	RX7 TT	1993-95	
3	0755-27-210	S	1	Bearing, Rear Pinion	Miata 1.6	1990-93	
4	0221-27-350	S	2	Bearing, Side	I2A & I3B RX7 NT Miata 1.8	1971-78 1979-91 1994-97	
4	0118-27-350A	S	2	Bearing, Side	RX7 T RX7 TT	1987-91 1993-95	
4	0249-27-350	S	2	Bearing, Side	Miata 1.6	1990-93	
5	0223-27-018	S	1	Seal, Pinion	I2A & I3B RX7	1971-78 1979-82	
5	M005-27-165	S	1	Seal, Pinion	RX7	1983-85	
5	M055-27-165	S	1	Seal, Pinion	RX7 NT	1986-91	With and without limited slip.
5	P090-27-165	S	1	Seal, Pinion	RX7 T	1987-91	
5	R001-27-165	S	1	Seal, Pinion	RX7 TT	1993-95	
5	T020-27-165	S	1	Seal, Pinion	Miata 1.6	1990-93	
5	MA02-27-165	S	1	Seal, Pinion	Miata 1.8	1994-97	



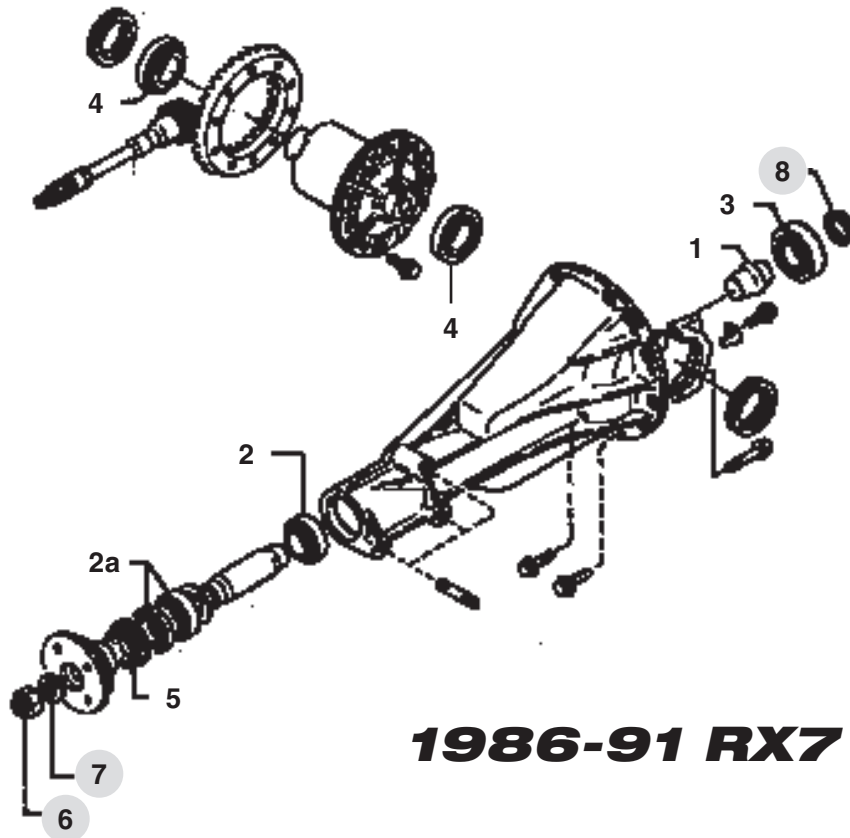
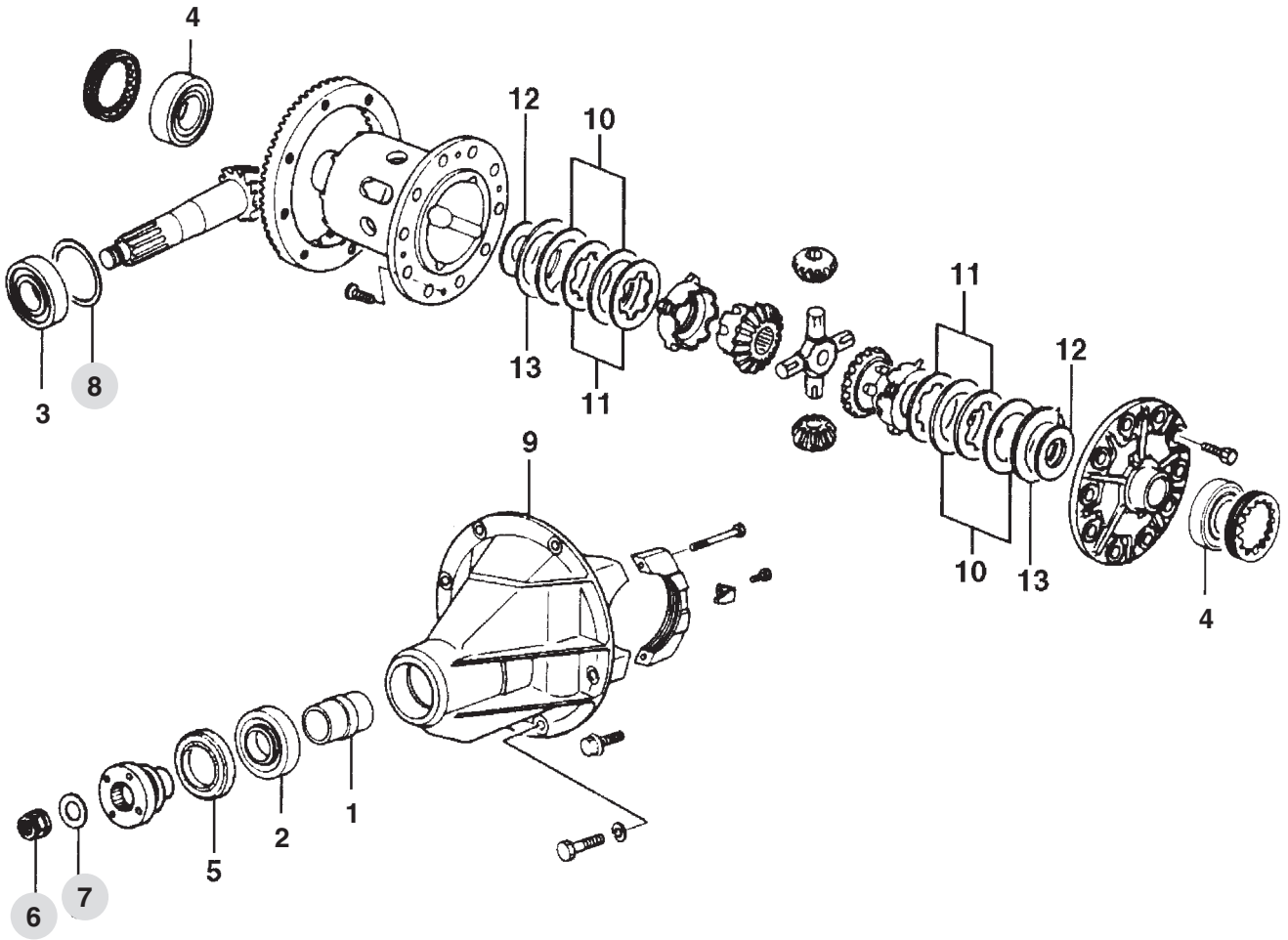
= NEW! Competition Part

NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)

Differential Components, *continued ...*



1986-91 RX7

DIFFERENTIAL COMPONENTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
6	0223-27-030	S	1	Nut, Lock	12A & 13B RX7 NT & T RX7 TT Miata 1.8	1971-78 1979-91 1993-95 1994-97	
6	3919-27-130	S	1	Nut, Lock	Miata 1.6	1990-93	
7	0223-27-012	S	1	Washer	12A & 13B RX7 NT & T RX7 TT Miata 1.8	1971-78 1979-91 1993-95 1994-97	
7	3919-27-012	S	1	Washer	Miata 1.6	1990-93	
8	0223-27-401A	S	1	Spacer (3.08 mm)	12A & 13B RX7 NT & T Miata 1.8	1971-78 1979-91 1994-97	
8	0223-27-402A	S	1	Spacer (3.11 mm)	"	"	
8	0223-27-403A	S	1	Spacer (3.14 mm)	"	"	
8	0223-27-404A	S	1	Spacer (3.17 mm)	"	"	
8	0223-27-405A	S	1	Spacer (3.20 mm)	"	"	
8	0223-27-406A	S	1	Spacer (3.23 mm)	"	"	
8	0223-27-407A	S	1	Spacer (3.26 mm)	"	"	
8	0223-27-408A	S	1	Spacer (3.29 mm)	"	"	
8	0223-27-409A	S	1	Spacer (3.32 mm)	"	"	
8	0223-27-411A	S	1	Spacer (3.35 mm)	"	"	
8	0223-27-412A	S	1	Spacer (3.38 mm)	"	"	
8	0223-27-413A	S	1	Spacer (3.41 mm)	"	"	
8	0223-27-414A	S	1	Spacer (3.44 mm)	"	"	
8	0223-27-415A	S	1	Spacer (3.47 mm)	"	"	
	F003-27-238A	S	2	Seal, Side	RX7 NT	1986-88	Not shown in diagram
	M0A2-27-238	S	2	Seal, Side	RX7 NT	89-3/90	Not shown in diagram
	M0A1-27-238	S	2	Seal, Side	RX7 NT	4/90-91	Not shown in diagram
	P016-27-238	S	2	Seal, Side	RX7 T	1987-91	Not shown in diagram
	P043-27-238	S	2	Seal, Side	RX7 TT	1993-95	Not shown in diagram
	T020-27-238	S	2	Seal, Side	Miata 1.6	1990-93	Not shown in diagram
	MA02-27-238	S	2	Seal, Side	Miata 1.8	1994-97	Not shown in diagram



= NEW! Competition Part

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TT = Twin-Turbo (93-95 RX7)

NOTE: Due to space limitations, adjustment shims and spacers for some models are not listed here. Please call for information on additional differential parts listings.



Torsen Limited-Slip Differential – Part #MM02-27-200A

LIMITED-SLIP DIFFERENTIALS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0820-79-970B	C	1	Mechanical L/S	12A & 13B RX7	1971-78 1979-85	Cam-actuated, mechanical limited-slip unit will fit stock case with minor modifications. See installation and maintenance notes on page TT-31.
M081-27-200	S	1	Mechanical L/S	RX7 NT	1986-91	Stock L/S from early models.
MM01-27-200	S	1	Torsen L/S	RX7 NT Miata 1.8	1984-91 1994-97	Torsen "Type 1" unit from 1994-95 Miata can be fitted to 1986-91 RX7 non-turbo models. May also be used on 1984-85 RX7s (12A & 13B).
MM02-27-200A	S	1	Torsen L/S	RX7 NT Miata 1.8	1984-91 1994-97	Torsen "Type 2" unit from 1997 Miata. Type 2 Torsen unit has a slightly higher bias ratio than Type 1 units and is less expensive. See notes for Part #MM01-27-200 above.
P099-27-100B	C	1	Torsen L/S	RX7 T	1987-91	Replaces stock turbo (mechanical or viscous-type) limited-slip units.
P090-27-200B	S	1	Mechanical L/S	RX7 T	1987-91	Stock limited-slip from 1987-88 turbo can be used in place of 1989-91 viscous unit.
P099-27-200E	S	1	Torsen L/S	RX7 TT	1993-95	
TOY1-27-200	C	1	Mechanical L/S	Miata 1.6 323 GTX	1990-93 1988-89	Easy bolt-in fitment to non-viscous limited-slip Miatas. Replacement of viscous-type differential requires changing output shafts (Part #T005-27-270B).
9B1A-79-960	C	1	Mechanical L/S	Protege 1.8 DOHC	1990-94	
9B2A-79-960	C	1	Mechanical L/S	323 1.6 SOHC	1986-89	



= NEW! Competition Part

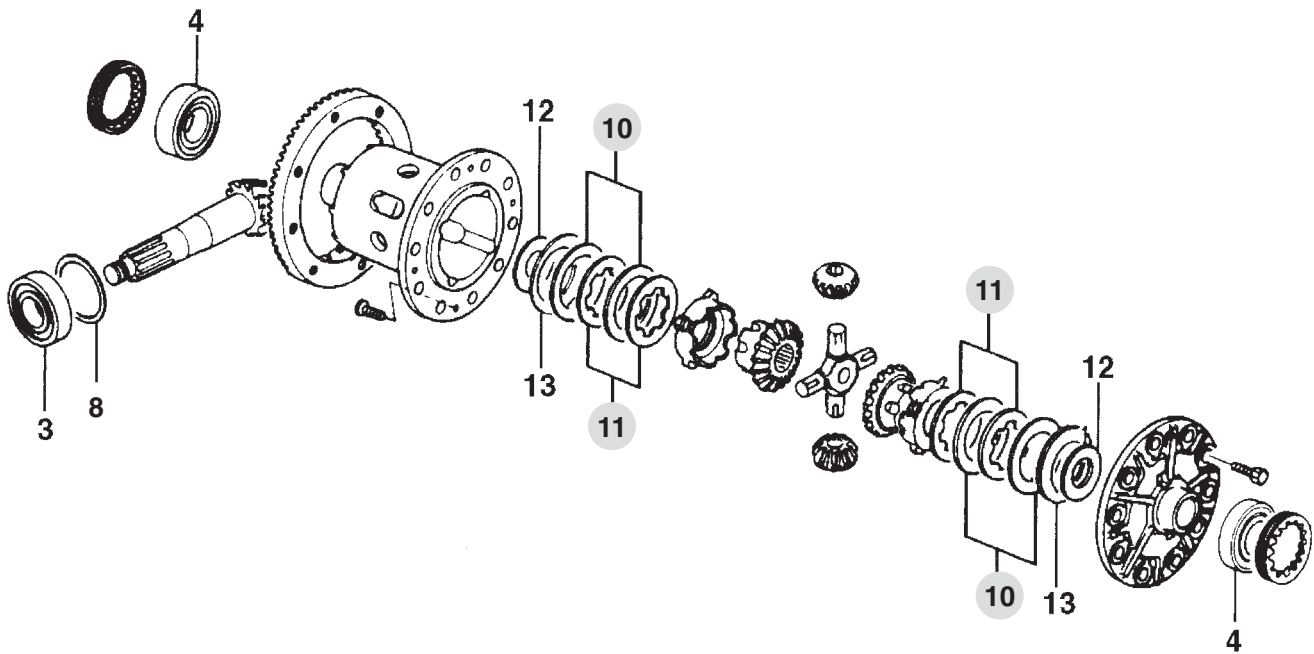
NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)

NOTE: 1979-85 RX7s — If you are building a first-generation (12A) RX7 for road racing (ITA, etc.), we recommend using a 1981-85 GSL model. The GSL model was fitted with rear disc brakes and a mechanical limited-slip differential. If you have a GS model with rear drum brakes, we recommend finding a complete GSL rear end (housing, axles, brakes, differential, etc.) from a wrecking yard. Mazda does not offer a complete limited slip assembly for the GSL, but we can provide replacement parts (friction discs, etc.) to rebuild the limited-slip. For assistance in finding a GSL rear end please call us for salvage yards that specialize in used Mazda parts.

Limited-Slip Differential Replacement Parts



LIMITED-SLIP DIFFERENTIAL REPLACEMENT PARTS

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
10	0221-79-977	C	4	Plate, Friction	12A & 13B	ALL	For competition limited-slip only.
10	M020-27-258	S	4/6	Plate, Friction	RX7 NT	1981-88	Quantity required: 1981-85 RX7 (4) / 1986-88 RX7 (6).
10	P020-27-258	S	2	Plate, Friction	RX7 T	1987-88	
10	T0Y1-27-258	C	4	Plate, Friction	Miata 1.6	1990-93	For competition limited-slip only.
11	0221-79-977	C	4	Disc, Friction (2.0 mm)	12A & 13B	ALL	For competition limited-slip only.
11	0221-79-978	C	4	Disc, Friction (2.06 mm - O/S)	12A & 13B	ALL	For competition limited-slip only.
11	M020-27-256	S	4/2	Disc, Friction (2.0 mm)	RX7 NT	1981-88	1981-85 models with rear disc brakes.
11	M020-27-257	S	4/2	Disc, Friction (2.1 mm - O/S).	RX7 NT	1981-88	1981-85 models with rear disc brakes.
11	P020-27-256	S	4	Disc, Friction (1.75 mm)	RX7 T	1987-88	
11	P020-27-257	S	4	Disc, Friction (1.85 mm - O/S)	RX7 T	1987-88	
11	T0Y1-27-256	C	4	Disc, Friction (Standard)	Miata 1.6	1990-93	For competition limited-slip only.
11	T0Y1-27-257	C	4	Disc, Friction (O/S)	Miata 1.6	1990-93	For competition limited-slip only.

 = NEW! Competition Part

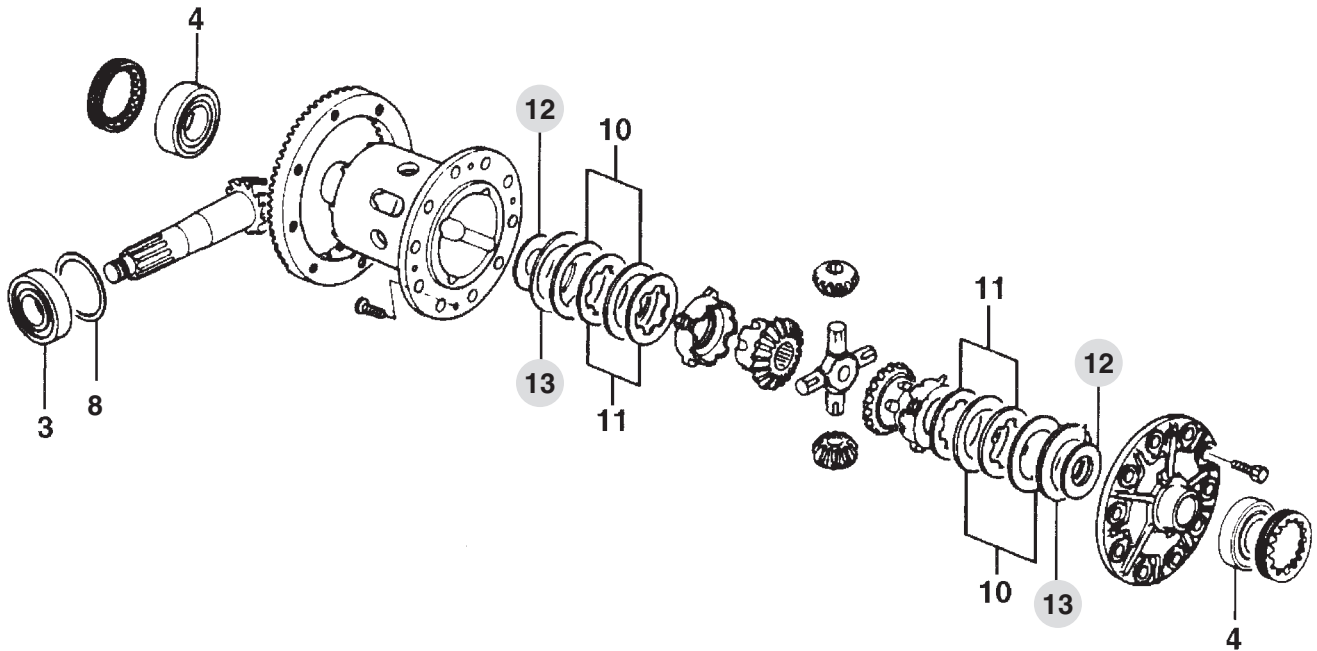
NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)

NOTE: Quantities for replacement parts listed for the 1986-88 RX7 L.S.D. do not correspond to the drawing provided.

Limited-Slip Differential Replacement Parts, *continued ...*



LIMITED-SLIP DIFFERENTIAL REPLACEMENT PARTS, *continued ...*

ITEM NO.	PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
12	0221-79-987	C	2	Washer, Thrust (1.47 mm)	I2A & I3B	ALL	For competition limited-slip units only.
12	0221-79-988	C	2	Washer, Thrust (1.68 mm - O/S)	I2A & I3B	ALL	For competition limited-slip units only.
12	M020-27-252	S	2	Washer, Thrust (1.6 mm)	RX7 NT	1981-88	
12	M020-27-253	S	2	Washer, Thrust (1.8 mm - O/S)	RX7 NT	1981-88	
12	P020-27-252	S	2	Washer, Thrust (1.5 mm)	RX7 T	1987-88	
12	P020-27-253	S	2	Washer, Thrust (1.6 mm - O/S)	RX7 T	1987-88	
12	P020-27-254	S	2	Washer, Thrust (1.77 mm - O/S)	RX7 T	1987-88	
12	T0Y1-27-265	C	2	Washer, Thrust	Miata 1.6	1990-93	For competition limited-slip units only.
13	M020-27-259	S	2	Spring, Conical	RX7 NT	1981-88	
13	T0Y1-27-259	C	2	Spring, Conical	Miata 1.6	1990-93	For competition limited-slip units only.

 = NEW! Competition Part

NT = Non-Turbo

T = Turbo

TT = Twin-Turbo (93-95 RX7)

DRIVETRAIN (MISCELLANEOUS)

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-25-100	C	1	2-Piece Driveshaft	Various	Various	Designed to remove the resonant frequency and harmonics from the working range of driveshaft speed. For GT applications.
4352-25-130	C	1	Hardened Sliding Yoke	Various	Various	For transmission fitted with competition extension housing needle bearings. Not recommended for use with transmission bushing.
4352-25-300	C	1	Center Support Bearing	Various	Various	Center support bearing for competition two-piece driveshaft.
8BB1-25-060	S	2/4	Universal Joint	Various	Various	Replacement U-joint for use on RX2, RX3, RX4 and early RX7 models (1979-83) with serviceable driveshafts. Also fits competition 2-piece driveshaft.





BRAKES





Hawk Brake Pads

Hawk Brake, a division of Wellman-Friction Products, has over 30 years experience as a leader in providing the aerospace industry with quality friction materials. Although relatively new to the racing industry, Hawk Brake has proved its expertise and is providing many top racing teams with friction materials that meet and exceed the quality of the best in the industry. We currently offer three (3) Hawk Brake pad materials to cover street, autocross and racing applications. Please ask us about the availability of other Hawk compounds.

Hawk Brake Compound Features:

- Long pad life — up to twice the pad life of leading competitors
- Extremely rotor friendly
- High friction coefficients (up to 5.5 μ)
- Consistent coefficients across all temperature ranges
- Pads are pre-bedded and ready-to-race
- Lower cost

HP Plus (H1) - High Performance Street • Solo I & II • NEW!

This new high coefficient material offers excellent brake modulation and is very rotor friendly. It is recommended primarily for street and autocross use, but also may be used for light-duty track events (Solo I/Driver's Schools).

BLACK Y-5 (H2) - High Torque • Medium Duty Race • NEW!

Hawk's new Black Y-5 compound offers lower torque coefficients than the Blue compound, but provides better pedal modulation. Recommended for medium-duty race applications (tracks without severe braking areas). Also may be used for Solo II/Autocross applications. (NOTE: This compound is sometimes used for the rear pads, in conjunction with a higher coefficient front pad to alter brake bias or reduce rear lock-up).

BLUE (H3) - High Torque • Heavy-Duty Sprint Race

Recommended for sprint racing and short endurance events. Should not be used for street or autocross applications.

Important Safety Information:

Use of high-coefficient/high-temperature pads will, over a period of use, create "heat checks" or small cracks in the rotor surface. These generally will occur only on front rotors. These cracks should be monitored on a regular basis as they will eventually widen and/or extend toward the rotor's outer edge. Cars without brake ducting (showroom stock, for example) may see this process occur even faster. With continued use, heat checked rotors can shatter. Heat checked rotors should be replaced before cracks reach approximately 1 inch from rotor edge (or if crack widths grow excessively).

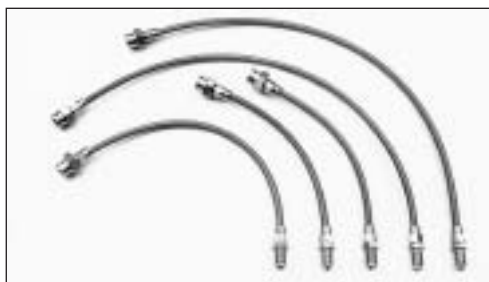
HAWK BRAKE PADS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-03-1101-H1 0000-03-1101-H2 0000-03-1101-H3	C	1	Pad Set - Front (HP Plus) Pad Set - Front (BLACK Y5) Pad Set - Front (BLUE)	RX3	1973-78	
0000-03-7106-H1 0000-03-7106-H2 0000-03-7106-H3	C	1	Pad Set - Front (HP Plus) Pad Set - Front (BLACK Y5) Pad Set - Front (BLUE)	RX7, RX2, RX4	1972-85	RX7 (12A only)
0000-03-7116-H1 0000-03-7116-H2 0000-03-7116-H3	C	1	Pad Set - Rear (HP Plus) Pad Set - Rear (BLACK Y5) Pad Set - Rear (BLUE)	RX7 GSL (12A only)	1979-85	1979-80 (with conversion from rear drum to disc)
0000-03-7108-H1 0000-03-7108-H2 0000-03-7108-H3	C	1	Pad Set - Front (HP Plus) Pad Set - Front (BLACK Y5) Pad Set - Front (BLUE)	RX7 (GSL-SE/13B) RX7	1984-85 1986-91	1986-91 RX7 (single piston calipers only)
0000-03-7107-H1 0000-03-7107-H2 0000-03-7107-H3	C	1	Pad Set - Front (HP Plus) Pad Set - Front (BLACK Y5) Pad Set - Front (BLUE)	RX7 NT, T & TT	1986-95	Four (4) piston calipers only
0000-03-7117-H1 0000-03-7117-H2 0000-03-7117-H3	C	1	Pad Set - Rear (HP Plus) Pad Set - Rear (BLACK Y5) Pad Set - Rear (BLUE)	RX7 NT, T & TT	1984-95	1984-85 (GSL-SE 13B model only)
0000-03-5101-H1 0000-03-5101-H2 0000-03-5101-H3	C	1	Pad Set - Front (HP Plus) Pad Set - Front (BLACK Y5) Pad Set - Front (BLUE)	Miata 1.6	1990-93	
0000-03-5111-H1 0000-03-5111-H2 0000-03-5111-H3	C	1	Pad Set - Rear (HP Plus) Pad Set - Rear (BLACK Y5) Pad Set - Rear (BLUE)	Miata 1.6	1990-93	
0000-03-5102-H1 0000-03-5102-H2 0000-03-5102-H3	C	1	Pad Set - Front (HP Plus) Pad Set - Front (BLACK Y5) Pad Set - Front (BLUE)	Miata 1.8	1994-97	
0000-03-5112-H1 0000-03-5112-H2 0000-03-5112-H3	C	1	Pad Set - Rear (HP Plus) Pad Set - Rear (BLACK Y5) Pad Set - Rear (BLUE)	Miata 1.8	1994-97	
0000-03-6101-H1 0000-03-6101-H2 0000-03-6101-H3	C	1	Pad Set - Front (HP Plus) Pad Set - Front (BLACK Y5) Pad Set - Front (BLUE)	MX6 (ALL)	1993-97	
0000-03-6111-H1 0000-03-6111-H2 0000-03-6111-H3	C	1	Pad Set - Rear (HP Plus) Pad Set - Rear (BLACK Y5) Pad Set - Rear (BLUE)	MX6 (ALL)	1993-97	

NOTE: If another brand of carbon pad has been used on rotors previously, before using any HAWK compound pads, resurface or replace the rotors. Although not required, for best results, HAWK recommends that new rotors be burnished with used HAWK pads.



For racing applications where a rear lock-up problem exists, we recommend installation of a brake bias adjuster. Without a bias adjuster, another way to reduce rear lock-up is to use a lower coefficient compound in the rear. For example, use a HAWK BLUE (H3) compound in the front and the BLACK Y5 (H2) or HP Plus (H1) compound in the rear.

Brake Line Kits (Braided Stainless Steel)



Brake Line Kit – Part #0000-03-7205

BRAKE LINE KITS (BRAIDED STAINLESS STEEL)

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-03-7205	C	1	Brake Line Kit	RX7	1981-85	Easily fitted to 1981-85 GSL & GSL-SE models (with rear discs). Call for information on use of this kit if you are converting a 1979-80 RX7 rear drum model to rear disc (thread pitch is different). Includes five (5) lines. Reusable fittings.
0000-03-7207	C	1	Brake Line Kit	RX7 NT & T	1986-91	For use on models with four (4) piston front calipers only. Reusable fittings.
0000-03-7208		1	Brake Line Kit	RX7 TT	1993-95	Reusable fittings.
0000-03-5201		1	Brake Line Kit	Miata 1.6 & 1.8	1990-97	Reusable fittings.

 = NEW! Competition Part

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Brake Proportioning Valve



Brake Proportioning Valve – Part #0000-03-9101

BRAKE PROPORTIONING VALVE

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-03-9101		1	Brake Proportioning Valve	Various	ALL	Tilton brake bias adjuster enables you to make seven (7) immediate and distinct changes in front/rear brake balance.



Brake Ducts

Brake ducts reduce caliper, rotor and pad temperatures, helping to reduce temperatures and fatigue to the brake system, wheel bearings, hubs, etc. For maximum cooling on vented rotors, we now offer brake ducts that route cool air to the center of the rotor.



Brake Air Ducts – Part #0000-03-7301-01

BRAKE AIR DUCTS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-03-7301-01		1	Brake Duct Kit (Front)	RX7 12A	1979-85	Fits all models except 13B GSL-SE. Requires modification (cutting) of backing plate for fitment. Template provided.
0000-03-7302		1	Brake Duct Kit (Front)	RX7 NT & T	1986-91	Models with four (4) piston calipers.
4352-33-260	C	1	Brake Duct (Right/Front)	RX7	See NOTES	Originally designed for early IMSA GTU RX7s. With significant modification, these ducts can be fitted to 1979-85 RX7 front brakes.
4352-33-270	C	1	Brake Duct (Left/Front)	RX7	See NOTES	See NOTES for Part #4352-33-260.

 = NEW! Competition Part

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Brake Rotors & Drums

BRAKE ROTORS & DRUMS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0866-33-251A	S	2	Rotor (Front)	RX3	1971-78	
8871-33-251A	S	2	Rotor (Front)	RX7 12A	1979-83	
FA54-33-251B	S	2	Rotor (Front)	RX7 12A	1984-85	
FA66-33-251B	S	2	Rotor (Front)	RX7 13B	1984-85	GSL-SE model
FB01-33-251	S	2	Rotor (Front)	RX7 NT	1986-88	Models with single piston calipers and four (4) lug hub.
FB05-33-251	S	2	Rotor (Front)	RX7 T & NT	1987-91	Early Non-Turbo models with four (4) piston calipers and all Non-Turbo models 1989-91.
F100-33-25X	S	2	Rotor (Front)	RX7 TT	1993-95	
NA01-33-25XA	S	2	Rotor (Front)	Miata 1.6	1990-93	
N026-33-25X	S	2	Rotor (Front)	Miata 1.8	1994-97	
FA18-26-251	S	2	Rotor (Rear)	RX7 12A	1981-85	GSL model
FA66-26-251	S	2	Rotor (Rear)	RX7 13B	1984-85	GSL-SE model
FB01-26-251A	S	2	Rotor (Rear)	RX7 NT	1986-88	With normal suspension
FB05-26-251A	S	2	Rotor (Rear)	RX7 T & NT	1986-91	Non-Turbo vented rotor models with automatic adjusting or sport suspension and GTUs, GXL models. Does not fit 1989 GTU and 1990-91 Non-Turbo models.
G304-26-251	S	2	Rotor (Rear)	RX7 NT	1989-91	1989 GTU and all Non-Turbo models 1990-91.
F100-26-25X	S	2	Rotor (Rear)	RX7 TT	1993-95	
NA01-26-251A	S	2	Rotor (Rear)	Miata 1.6	1990-93	
BB4C-26-251	S	2	Rotor (Rear)	Miata 1.8	1994-97	
1504-26-251C	S	2	Drum (Rear)	RX2 RX3 RX SP	ALL 1972-12/75 1977-78	
1011-26-251A	S	2	Drum (Rear)	RX3 RX4	1976 ALL	9" drum
8871-26-251C	S	2	Drum (Rear)	RX7	1979-80	Check Vin # break.
FA01-26-251	S	2	Drum (Rear)	RX7	1981-85	



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BRAKE SHOES, HYDRAULIC & HARDWARE

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
3958-26-38Z	S	1	Brake Shoe Set	RX2 RX3 RX3 SP	ALL 1972-12/75 1977-78	Call for information on semi-metallic or metallic linings.
1011-26-38Z	S	1	Brake Shoe Set	RX3 RX4	1976 ALL	For 9" drums. Call for information on semi-metallic or metallic linings.
FA01-26-38Z	S	1	Brake Shoe Set	RX7	1979-85	Call for information on semi-metallic or metallic linings.
0305-33-698A	S	8	Pad Retaining Clip (Front)	RX2, RX4	ALL	
0866-49-114	S	4	Pad Retaining Pin (Front)	RX3	1971-78	
0866-49-115	S	4	Pad Retaining Pin Clip (Front)	RX3	1971-78	
8341-49-290A	S	1	Pad Hardware Kit (Front)	RX7 12A	1979-85	
FB05-49-290B	S	1	Pad Hardware Kit (Front)	RX7 NT & T	1986-91	Fits Non-Turbo models with four (4) piston calipers.
FDZ3-33-29Z	S	1	Pad Hardware Kit (Front)	RX7 TT	1993-95	
FA18-49-290A	S	1	Pad Hardware Kit (Rear)	RX7 12A	1981-85	GSL model
FA67-49-290A	S	1	Pad Hardware Kit (Rear)	RX7 13B	1984-85	GSL-SE model
FB02-49-290B	S	1	Pad Hardware Kit (Rear)	RX7 NT	1986-91	
FB06-49-290B	S	1	Pad Hardware Kit (Rear)	RX7 NT & T	1986-91	Non-Turbo with automatic adjusting sport suspension and GTUS, GXL model.
0296-49-240	S	1	Seal Kit, Caliper (Front)	RX2, RX4	ALL	
0866-49-240	S	1	Seal Kit, Caliper (Front)	RX3	ALL	
1243-49-240	S	1	Seal Kit, Caliper (Front)	RX7	1979	
8341-49-240	S	1	Seal Kit, Caliper (Front)	RX7 NT	1980-85 & 1986-91	1986-91 models with single piston caliper.
FB05-49-240	S	1	Seal Kit, Caliper (Front)	RX7 NT & T RX7 TT	1986-91 1993-95	Non-Turbo models with four (4) piston caliper.
NAY1-33-24Z	S	1	Seal Kit, Caliper (Front)	Miata 1.6	1990-93	
NAY5-33-26Z	S	1	Seal Kit, Caliper (Front)	Miata 1.8	1994-97	

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BRAKE SHOES, HYDRAULIC & HARDWARE, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
FA18-49-240	S	1	Seal Kit, Caliper (Rear)	RX7 12A	1981-85	GSL model
FA67-49-240	S	1	Seal Kit, Caliper (Rear)	RX7 13B	1984-85	GSL-SE model
FB02-49-240	S	1	Seal Kit, Caliper (Rear)	RX7 NT	1989-91	1989 GTU and all Non-Turbo models 1990-91.
H010-49-240	S	1	Seal Kit, Caliper (Rear)	RX7 NT & T	1986-91	Non-Turbo with automatic adjusting sport suspension and GTUS, GXL model. Does not fit Non-Turbo model (1990-91).
FDY1-26-46Z	S	1	Seal Kit, Caliper (Rear)	RX7 TT	1993-95	
NAY1-26-46ZA	S	1	Seal Kit, Caliper (Rear)	Miata 1.6 & 1.8	1990-97	
8871-43-400A	S	1	Master Cylinder, Brake	RX7	1979	
8980-43-400	S	1	Master Cylinder, Brake	RX7	1980	
FA07-43-400	S	1	Master Cylinder, Brake	RX7	1981-85	S & GS model (with front disc/rear drum).
FA18-43-400	S	1	Master Cylinder, Brake	RX7	1981-83	GSL model (with 4-wheel disc).
FA66-43-400	S	1	Master Cylinder, Brake	RX7 12A & 13B	1984-85	GSL and GSL-SE model (with 4-wheel disc).
FB02-43-400D	S	1	Master Cylinder, Brake	RX7 NT	1986-91	Without automatic adjusting suspension and ABS.
FB08-43-400C	S	1	Master Cylinder, Brake	RX7 NT	1986-88	With automatic adjusting suspension/without ABS.
FB55-43-400A	S	1	Master Cylinder, Brake	RX7 NT	1986-88	With ABS
FB60-43-400A	S	1	Master Cylinder, Brake	RX7 T	1987-88	
F065-43-400B	S	1	Master Cylinder, Brake	RX7 T	1989-91	
NA01-43-40Z	S	1	Master Cylinder, Brake	Miata	1990-97	Without ABS
NA23-43-40ZA	S	1	Master Cylinder, Brake	Miata	1991-97	With ABS
0813-26-610D	S	2	Wheel Cylinder (Rear)	RX2	1971-74	
0233-26-610A	S	2	Wheel Cylinder (Rear)	RX3	1971-75	
0433-26-610A	S	2	Wheel Cylinder (Rear)	RX3	1976-78	
1745-26-610A	S	1	Wheel Cylinder (Rear/Right)	RX4	ALL	
1745-26-710A	S	1	Wheel Cylinder (Rear/Left)	RX4	ALL	
FA01-26-610A	S	1	Wheel Cylinder (Rear/Right)	RX7	1979-85	
FA01-26-710A	S	1	Wheel Cylinder (Rear/Left)	RX7	1979-85	

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**SUSPENSION
AND CHASSIS**



Suspension Kits

Stage I and Stage II suspension kits now are offered for SCCA "IT" applications.

Stage I Kits

1979-85 RX7 (Part #K-STG1-85-RX7)

Includes Coil-Over Strut Hardware Kit (Part #0000-04-7405-DP), Camber/Caster Kit (Part #0000-04-7204-AC), Tokico Illumina adjustable front strut cartridge - (2) (Part #0000-04-7217-TK) / (2) Rear Adjustable Shocks (Part #0000-04-7218-TK), (2) Eibach ERS™ 8" Front Springs (350 lbs.- Part #0000-04-9350-08), Rear Spring Kit (160 lbs. – Part #0000-04-7101-60), Adjustable 1-1/8" Front Sway Bar (Part #0000-04-7305-GC), Front Strut Tower Bar (Part #0000-04-7511). Springs may be replaced with alternate spring rates.

Stage II Kits

1979-85 RX7 (Part #K-STG2-85-RX7)

Includes all Stage I components plus Coil-Over Strut Kit (Part #0000-04-7223-KT is provided in place of Coil-Over Strut Hardware Kit), Front Control Arm Bushing Kit (Part #0000-04-7411), Rear Trailing Link Kit (Part #0000-04-7423).

1986-91 RX7 (Part #K-STG2-91-RX71)

Includes Camber/Caster Kit (Part #0000-04-7205-AC), Front Coil-Over Strut Kit (Part #0000-04-7201-AC), Koni Adjustable Front Strut Cartridges (2) (Part #0000-04-7211-KN), Koni Adjustable Rear Shocks (2) (Part #0000-04-7214-KN), Rear Shock Mounting Kit (Part #0000-04-7206-DP), Rear Shock Mounting Studs (2) (Part #0000-04-7214-AA), Rear Camber Link (Part #0000-04-7421), Eibach ERS™ 7" Front Springs (400 lbs.) and 10" Rear Springs (275 lbs.), Eibach Anti-Sway Bar Kit (Part #0000-04-7302-EB). Springs may be replaced with alternate spring rates.



Camber Kits

Camber Kits are available in both offset and centered style. Offset Kits allow adjustment of both camber and caster settings, centered Camber Kits allow adjustment of camber only. **Offset Camber/Caster Kits** require cutting of the upper strut tower sheet metal for fitment. Centered Camber Kits are offered for Solo II/autocross applications where cutting of the strut tower is not permitted. Centered Camber Kits are designed for use with 2-1/2" I.D. race springs and require modification for fitment of stock diameter replacement springs.



Camber/Caster Kit – Part #0000-04-7204-AC

CAMBER KITS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7204-AC	C	1	Camber/Caster Kit (Offset)	RX7 RX2, RX3, RX4	1979-85 1971-78	For use with Tokico Illumina shock (Part #BZ1086).
0000-04-7225-KT	C	1	Camber Kit (Centered)	RX7	1979-85	For use with Tokico Illumina shock (Part #BZ1069) or any other shock with stock bearing mount diameter.
0000-04-7205-AC	C	1	Camber/Caster Kit (Offset)	RX7 NT & T	1986-91	For use with Koni shock (Part #R8610-1149).
0000-04-7226-KT	C	1	Camber Kit (Centered)	RX7 NT & T	1986-91	For use with Tokico, GAB, Koni or other shock with stock size bearing mount diameter.

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Coil-Over Strut / Shock Kits

We offer both complete Coil-Over Strut and Shock Kits and Coil-Over Hardware Kits that include all components to modify your own struts or shocks. Coil-Over Kits are for SCCA "IT" class racing and for autocross applications where 2-1/2" race springs can be used. They are not recommended for street use.



Front Coil-Over Hardware Kit 1979-85 RX7 – Part #0000-04-7405-DP



Front Coil-Over Strut Kit - 1986-91 RX7 – Part #0000-04-7201-AC



Rear Coil-Over Shock Kit - 1986-91 RX7 - Part #0000-04-7206-DP



Rear Shock Mounting Stud - 1986-91 RX7 – Part #0000-04-7214-AA

Coil-Over Strut Kits

1979-85 RX7 – Part #0000-04-7221-KT & #0000-04-7223-KT

New strut tubes (with spindles) are modified into coil-overs for use with 2-1/2" I.D. race springs. Collar is welded in place of stock lower spring perch, becoming the seat for threaded sleeve. Kit includes (2) modified strut assemblies, (2) threaded sleeves and (2) lower spring perches. Legal for SCCA "improved touring" classes. Springs and shocks not included.

1986-91 RX7 – Part #0000-04-7201-AC

Strut tubes are fabricated to match the stock tube dimensions using thick-wall tubing and mounting brackets providing a much stronger strut, enabling it to take more abuse without bending or deforming. The tubes are threaded for easy fitment of Koni race cartridges (Part #0000-04-7211-KN). Kit includes: (2) fabricated strut tubes, (2) threaded sleeves, (2) lower spring perches. Springs and shocks not included.

Coil-over Hardware Kits

1979-85 RX7 - Front Kit - Part #0000-04-7405-DP

Includes: (2) collars (to be welded to strut in place of stock lower spring perch), (2) threaded sleeves, (2) lower spring perches (for 2-1/2" I.D. race springs). Springs not included.

1986-91 RX7 - Rear Kit - Part #0000-04-7206-DP

Includes: (2) solid upper shock mounts with integral spring perch (for 2-1/2" I.D. springs), (2) threaded sleeves, (2) lower spring perches, and required hardware. Use of Rear Shock Mounting Studs also recommended (Part #0000-04-7214-AA).

1990-96 Miata - Complete Kit - Part #0000-04-5401

Includes (4) threaded sleeves, (4) lower spring perches, (4) rubber top spring pads, (4) shock adapters (for Koni or Bilstein). Includes installation instructions and directions for trimming stock bump stops. Cannot be used with Tokico or GAB shocks.

Rear Shock Mounting Stud

1986-91 RX7 - Part #0000-04-7214-AA

Lower mounting position studs for rear shock (in control arm) are modified for fitment of Koni rear shock (Part #0000-04-7214-KN). Lower eyelet in Koni shock is too small for use with stock diameter stud.

COIL-OVER STRUT / SHOCK KITS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7405-DP	C	1	Coil-Over Hardware Kit (Front)	RX7	1979-85	Please call for information regarding fitment to 1979-80 RX7 struts.
0000-04-7206-DP	C	1	Coil-Over Hardware Kit (Rear)	RX7 NT & T	1986-91	
0000-04-7214-AA	C	2	Rear Shock Mounting Stud	RX7 NT & T	1986-91	For use with Koni rear shock (Part #0000-04-7214-KN).
0000-04-5401	C	1	Coil-Over Hardware Kit (Front/Rear)	Miata	1990-97	For use with Bilstein or Koni shocks.
0000-04-7221-KT	C	1	Coil-Over Strut Kit	RX7	1979-83	
0000-04-7223-KT	C	1	Coil-Over Strut Kit	RX7	1984-85	
0000-04-7201-AC	C	1	Coil-Over Strut Kit	RX7 NT & T	1986-91	

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Shock Absorbers and Struts



Bilstein Shocks

Bilstein high pressure "heavy duty" gas monotube shock absorbers are available for the following applications. Their superior damping ability helps improve handling and stability without sacrificing ride comfort. All Bilstein shocks are instantaneously self-adjusting for changing road surfaces and their performance does not decline from age, use or heat. They require no manual adjustments.

"Sport" and "race" valving available for an additional charge.

BILSTEIN SHOCKS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7241-BL		1	Gas Shock (Front/Right)	RX7 TT	1993-95	"Heavy-duty" setting. (Part #B46-1778)
0000-04-7242-BL		1	Gas Shock (Front/Left)	RX7 TT	1993-95	"Heavy-duty" setting. (Part #B46-1779)
0000-04-7244-BL		1	Gas Shock (Rear)	RX7 TT	1993-95	"Heavy-duty" setting. (Part #B46-1550)
0000-04-5225-BL		2	Gas Shock (Front)	Miata	1990-97	"Heavy duty" setting. Fits all models except 1994-96 "R" model. Can be used with coil-over hardware kit Part #0000-04-5401. (Part #B46-1488)
0000-04-5226-BL		2	Gas Shock (Rear)	Miata	1990-97	See NOTES for Part #0000-04-5225-BL above. (Part #B46-1489)
N023-34-700D	S	2	Gas Shock (Front)	Miata "R"	1994-97	Stock replacement shock for "R" model.
N023-28-700B	S	2	Gas Shock (Rear)	Miata "R"	1994-97	Stock replacement shock for "R" model.

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GAB SPORTS

GAB Gas Shocks and Struts

GAB Gas Shocks and Strut replacements provide easy external adjustability. GAB Shocks offer 8-stage adjustability, while the gas strut replacements have 4-stage adjustability. Rebound and compression valving adjust simultaneously for each setting.

GAB has recently announced the availability of "SUPER R" shocks and strut replacements for the 1986-91 and 1993-95 RX7. The "SUPER R" is recommended for racing and solo/autocross use only, providing more aggressive valving.

GAB GAS SHOCKS AND STRUTS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7231-GB	C	1	Strut (Front/Right)	RX7 NT & T	1986-91	(Part #GSW3300AR)
0000-04-7232-GB	C	1	Strut (Front/Left)	RX7 NT & T	1986-91	(Part #GSW3300AL)
0000-04-7234-GB	C	2	Shock (Rear)	RX7 NT & T	1986-91	(Part #GSA9030)
0000-04-7236-GB		1	Strut (SUPER R) (Front/Right)	RX7 NT & T	1986-91	(Part #GSRW3300A/R)
0000-04-7237-GB		1	Strut (SUPER R) (Front/Left)	RX7 NT & T	1986-91	(Part #GSRW3300A/L)
0000-04-7238-GB		2	Shock (SUPER R) (Rear)	RX7 NT & T	1986-91	(Part #GSRX9030A)
0000-04-7241-GB	C	1	Shock (Front/Right)	RX7 TT	1993-95	(Part #GSAJ9130R)
0000-04-7242-GB	C	1	Shock (Front/Left)	RX7 TT	1993-95	(Part #GSAJ9130L)
0000-04-7244-GB	C	2	Shock (Rear)	RX7 TT	1993-95	(Part #GSAJ9630)
0000-04-7246-GB		1	Shock (SUPER R) (Front/Right)	RX7 TT	1993-95	(Part #GSR9130/R)
0000-04-7247-GB		1	Shock (SUPER R) (Front/Left)	RX7 TT	1993-95	(Part #GSR9130/L)
0000-04-7248-GB		2	Shock (SUPER R) (Rear)	RX7 TT	1993-95	(Part #GSR9630)
0000-04-5235-GB	C	2	Shock (Front)	Miata	1990-97	(Part #GSA9120)
0000-04-5236-GB	C	2	Shock (Rear)	Miata	1990-97	Call for information on fitment of 1994-96 Miata "R". (Part #GSA9620)
0000-04-3231-GB	C	1	Strut (Front/Right)	323/Protege MX3	1990-94 1992-95	(Part #GSW3100AR)
0000-04-3232-GB	C	1	Strut (Front/Left)	323/Protege MX3	1990-94 1992-95	(Part #GSW3100AL)
0000-04-3233-GB	C	1	Strut (Rear/Right)	323/Protege MX3	1990-94 1992-95	(Part #GSW3600R)
0000-04-3234-GB	C	1	Strut (Rear/Left)	323/Protege MX3	1990-94 1992-95	(Part #GSW3600L)

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KONI *Koni Shocks and Strut Cartridges*

Koni Shock Absorbers use a twin-tube construction featuring low-pressure gas or hydraulic design. All Koni applications for Mazdas listed are adjustable externally. **Koni offers a re-valving service for certain types of shocks and struts. Please call for information on this service and for information on Koni shocks for other Mazda applications.**

KONI SHOCKS AND STRUT CARTRIDGES						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7211-KN	C	2	Strut Cartridge (Front)	RX7 NT & T	1986-91	For racing applications (SCCA "IT"). Use with Coil-Over Strut Kit (Part #0000-04-7201-AC) and Camber/Caster Kit (Part #0000-04-7205-AC). Body Length: 13"/Brg. Mount O.D. .625" (Part #R8610-1149)
0000-04-7214-KN	C	2	Shock (Rear)	RX7 NT & T	1986-91	For racing applications (SCCA "IT"). Use Rear Shock Mounting Kit (Part #0000-04-7214-AA) (Part #8241-1050 Sport)
0000-04-7215-KN	C	2	Strut Cartridge (Front)	RX7 NT & T	1986-91	For street and autocross, but can be used for racing applications. Requires gutting stock insert and bolting to strut. (Part #8640-1200 Sport)
0000-04-7216-KN	C	2	Shock (Rear)	RX7 NT&T	1986-91	See NOTES for Part #0000-04-7215-KN above. (Part #8041-1111 Sport)
0000-04-7241-KN	C	1	Shock (Front/Right)	RX7 TT	1993-95	For street, autocross and racing applications. (Part #8041-1169R Sport)
0000-04-7242-KN	C	1	Shock (Front/Left)	RX7 TT	1993-95	See NOTES for Part #0000-04-7241-KN. (Part #8041-1169L Sport)
0000-04-7244-KN	C	2	Shock (Rear)	RX7 TT	1993-95	See NOTES for Part #0000-04-7241-KN. (Part #8041-1170 Sport)
0000-04-5215	C	2	Shock (Front)	Miata	1990-97	For street, autocross and racing applications. Can be used with Coil-Over Hardware Kit. (Part #0000-04-5401) (Part #8041-1115 Sport)
0000-04-5216	C	2	Shock (Rear)	Miata	1990-97	See NOTES for Part #0000-04-5215 above. Call for information on fitment to 1994-96 Miata "R." (Part #8041-1116 Sport)
0000-04-6203-KN		2	Strut Cartridge (Front)	MX6 & 626	1993-97	For street, autocross and racing applications. Requires gutting stock insert and bolting to strut. (Part #8610-1305 Sport)
0000-04-6204-KN		2	Strut Cartridge (Rear)	MX6 & 626	1993-97	See NOTES for Part #0000-04-6203-KN. (Part #8610-1306 Sport)



= NEW! Competition Part

NT = Non-Turbo

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TT = Twin-Turbo (93-95 RX7)



Tokico Gas Shocks and Struts

Tokico offers the Illumina high pressure gas shock in strut cartridges, complete strut replacements and standard shock absorbers. All Tokico Illumina shocks feature five (5) position external adjustability. Rebound and compression valving is adjusted simultaneously for each setting.

Please call for information on Tokico high performance shocks for other Mazda applications.

We also carry Tokico "RZ" series strut cartridges for racing use. The "RZ" strut cartridges are designed for spring rates as high as 400 lbs., but are not adjustable. "RZ" cartridges are larger diameter (43 mm) and shorter length (11.6") than stock strut cartridge replacements. Please call for further information.

TOKICO SHOCKS AND STRUT CARTRIDGES

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7217-TK	C	2	Strut Cartridge (Front)	RX7	1979-85	Recommended for racing applications (SCCA "IT") where high spring rates (300+lbs.) will be used. Bearing mount O.D. = .588". (Part #BZ1086)
0000-04-7227-TK	C	2	Strut Cartridge (Front)	RX7	1979-85	Recommended for street and autocross applications where stock or moderate spring rates (less than 200 lbs.) will be used. Shaft bearing mount diameter is identical to stock. Call for information on fitment to 1979-80 struts. (Part #BZ1069)
0000-04-7218-TK	C	2	Shock (Rear)	RX7	1979-85	Recommended for street and autocross and racing applications. (Part #BE2317)
0000-04-7228-TK	C	1	Strut (Front/Right)	RX7 NT & T	1986-91	(Part #BB3024)
0000-04-7229-TK	C	1	Strut (Front/Left)	RX7 NT & T	1986-91	(Part #BB3025)
0000-04-7230-TK	C	1	Shock (Rear)	RX7 NT & T	1986-91	(Part #BB3633)
0000-04-7241-TK	C	1	Shock (Front/Right)	RX7 TT	1993-95	(Part #BU3465)
0000-04-7242-TK	C	1	Shock (Front/Left)	RX7 TT	1993-95	(Part #BU3466)
0000-04-7244-TK	C	2	Shock (Rear)	RX7 TT	1993-95	(Part #BU3467)
0000-04-5225-TK	C	2	Shock (Front)	Miata	1990-97	(Part #BU3686)
0000-04-5226-TK	C	2	Shock (Rear)	Miata	1990-97	Call for information on fitment to 1994-97 Miata "R". (Part #BU3687)
0000-04-6211-TK	C	1	Strut (Front/Right)	MX6/626	1993-97	(Part #BB3081)
0000-04-6212-TK	C	1	Strut (Front/Left)	MX6/626	1993-97	(Part #BB3082)
0000-04-6213-TK	C	2	Strut (Rear)	MX6/626	1993-97	(Part #BB3083)

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Eibach Springs

Eibach springs are made of the highest grade high-tensile chrome-silicon wire and are cold wound on precision CNC equipment. Each spring is heat-tempered, shot-peened, pre-set for fatigue resistance, phosphate treated and then powder coated for corrosion resistance.

Eibach Pro-Kit Spring Kits

The Eibach Pro-Kit Sport lowering spring set improves your vehicle's performance. By lowering its center of gravity and optimizing spring rates, roll, dive and squat that normally occur during aggressive driving is reduced substantially. Pro-Kit springs are designed to replace the stock springs in your Mazda, so are ideal for street use and for autocross. Some applications recommend that you build your performance suspension around Eibach 2-1/2" ERS race springs, which are available in various spring rates (see page SC-11).

The NOTES section for each Pro-Kit listed below includes information on the approximate amount the Eibach Pro-Kit will lower the vehicle. Please call for other information regarding spring rates, etc.

EIBACH PRO-KIT SPRING KITS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7101-EB	C	1	Pro-Kit	RX7	1979-85	F=1.00"/R=.75" (Part #5507.140)
0000-04-7102-EB	C	1	Pro-Kit	RX7 NT	1986-91	F=.75"/R=.75" (Part #5513.140)
0000-04-7103-EB	C	1	Pro-Kit	RX7 T	1987-91	F=.75"/R=.75" (Part #5520.140)
0000-04-7104-EB	C	1	Pro-Kit	RX7 TT	1993-95	F=1.00"/R=1.00" (Part #5525.140)
0000-04-5101-EB	C	1	Pro-Kit	Miata	1990-97	Call for information on fitment to 1994-97 Miata "R." F=1.25"/R=1.25" (Part #5515.140)
0000-04-6101-EB	C		Pro-Kit	MX6/626	1988-92	F=1.25"/R=1.25" (Part #5511.140)
0000-04-6103-EB	C	1	Pro-Kit	MX6 V6	1993-97	F=1.00"/R=1.00" (Part #5522.140)
0000-04-6104-EB	C	1	Pro-Kit	MX6 4 Cyl.	1993-97	F=1.25"/R=1.25" (Part #5527.140)
0000-04-6102-EB	C	1	Pro-Kit	626 V6	1993-97	F=1.00"/R=1.00" (Part #5526.140)
0000-04-4101-EB	C	1	Pro-Kit	MX3 V6	1992-94	F=1.00"/R=1.00" (Part #5521.140)
0000-04-4103-EB	C	1	Pro-Kit	MX3 4 Cyl.	1992-95	F=1.00"/R=1.00" (Part #5521.240)
0000-04-3102-EB	C	1	Pro-Kit	Protege & 323	1990-94	F=1.00"/R=1.00" (Part #3526.140)
0000-04-3101-EB	C	1	Pro-Kit	323 2WD	1986-89	F=1.00"/R=1.00" (Part #5503.140)

 = NEW! Competition Part

NT = Non-Turbo

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TT = Twin-Turbo (93-95 RX7)

Eibach ERS™ Race Springs

For over 25 years, European racing teams have turned to Eibach springs for advanced suspension components. The Eibach ERS™ Race Springs System consists of over 400 main and tender spring choices, allowing racing suspensions to be dialed-in to any track or weather condition. Eibach springs are the highest quality race springs available.



Eibach ERS™ Race Springs

EIBACH ERS™ RACE SPRINGS - 2-1/2" I.D.

SPRING RATE	7" FREE LENGTH SPRINGS PART NUMBER	8" FREE LENGTH SPRINGS PART NUMBER	10" FREE LENGTH SPRINGS PART NUMBER
175	0000-04-9175-07	0000-04-9175-08	0000-04-9175-10
200	0000-04-9200-07	0000-04-9200-08	0000-04-9200-10
225	0000-04-9225-07	0000-04-9225-08	0000-04-9225-10
250	0000-04-9250-07	0000-04-9250-08	0000-04-9250-10
275	0000-04-9275-07	0000-04-9275-08	0000-04-9275-10
300	0000-04-9300-07	0000-04-9300-08	0000-04-9300-10
325	0000-04-9325-07	0000-04-9325-08	0000-04-9325-10
350	0000-04-9350-07	0000-04-9350-08	0000-04-9350-10
375	0000-04-9375-07	0000-04-9375-08	0000-04-9375-10
400	0000-04-9400-07	0000-04-9400-08	0000-04-9400-10
425	0000-04-9425-07	0000-04-9425-08	0000-04-9425-10
450	0000-04-9450-07	0000-04-9450-08	0000-04-9450-10
475	0000-04-9475-07	0000-04-9475-08	0000-04-9475-10
500	0000-04-9500-07	0000-04-9500-08	0000-04-9500-10

Rear 2-1/2" Tender Springs - 1986-91 RX7s

We recommend use of a 150 lbs. tender spring when using Koni rear shock (Part #0000-04-7214-KN). The tender spring and spacer are used in conjunction with a 10" (or 8") free length Eibach ERS race spring. Tender spring (Part #0000-04-8150-01)/tender spring spacer (Part #0000-04-9925).



Suspension Techniques Spring Kits

Engineered for a balanced ride and handling, optimized spring rates and a lowered ride height provide maximum road handling capability while maintaining an excellent ride on the street. Extensive product development, selection of superior materials and years of spring manufacturing assure the best possible performance and durability.

SUSPENSION TECHNIQUES SPRING KITS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7101-ST	C	1	Spring Kit	RX7	1979-85	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-054C)
0000-04-7102-ST	C	1	Spring Kit	RX7 NT & T	1986-91	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-054A)
0000-04-7104-ST	C	1	Spring Kit	RX7 TT	1993-95	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-054C)
0000-04-5101-ST	C	1	Spring Kit	Miata	1990-97	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-050). Does not fit "R" model.
0000-04-6101-ST	C	1	Spring Kit	MX6	1988-92	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-056A)
0000-04-6103-ST	C	1	Spring Kit	MX6	1993-97	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-056B)
0000-04-4101-ST	C	1	Spring Kit	MX3	1992-95	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-061)
0000-04-3102-ST	C	1	Spring Kit	Protege	1990-94	Lowers vehicle ride height approximate: F= 1.00"/R= 1.00" (Part #S-100B)

 = NEW! Competition Part

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T = Turbo

TT = Twin-Turbo (93-95 RX7)

Rear Competition Spring Kits (1979-85 RX7)

Stock diameter competition rear springs for the 1979-85 RX7. Recommended for SCCA "IT" class competition.

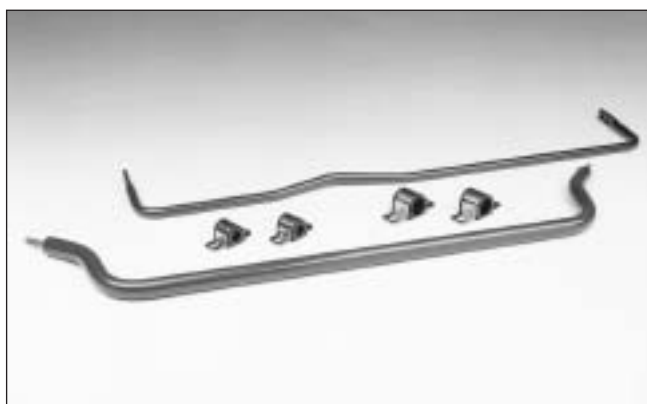
REAR SPRING KITS (1979-85 RX7)						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7101-50	C	1	Rear Spring Kit	RX7	1979-85	Spring rate = 150 lbs.
0000-04-7101-60	C	1	Rear Spring Kit	RX7	1979-85	Spring rate = 160 lbs.
0000-04-7101-75	C	1	Rear Spring Kit	RX7	1979-85	Spring rate = 175 lbs.
0000-04-7102-00	C	1	Rear Spring Kit	RX7	1979-85	Spring rate = 200 lbs.

Anti-Roll Bars



Eibach Anti-Roll Bar Kits

Eibach Anti-Roll Bars help reduce body roll and allow the vehicle's handling to be fine-tuned to the track and the driver. Eibach Anti-Roll Bars are cold formed from high strength, aircraft grade steel and are carefully designed to fit your vehicle without modification. Kits include urethane bushings and mounting hardware and instructions.



Eibach Anti-Roll Bar Kit 1993-95 RX7 TT – Part #0000-04-7303-EB

EIBACH ANTI-ROLL BAR KITS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7305-EB	C	1	Anti-Roll Bar Kit	RX7	1979-85	Front - 28.5 mm diameter Rear - 16.0 mm diameter (A) (Part #5507.320)
0000-04-7302-EB	C	1	Anti-Roll Bar Kit	RX7 NT & T	1986-91	Front - 28.5 mm diameter (A) Rear - 17.0 mm diameter (A) (Part #5520.320)
0000-04-7303-EB	C	1	Anti-Roll Bar Kit	RX7 TT	1993-95	Front - Tubular 32 mm/.2154 Rear - 19.0 mm diameter (A) (Part #5525.320)
0000-04-5302-EB	C	1	Anti-Roll Bar Kit	Miata 1.6	1990-93	Front - 24.0 mm diameter Rear - 15.0 mm diameter (A) (Part #5517.320)
0000-04-5303-EB	C	1	Anti-Roll Bar Kit	Miata 1.8	1994-97	Front - 27.0 mm diameter Rear - 15.0 mm diameter (A) (Part #5575.320)
0000-04-6301-EB	C	1	Anti-Roll Bar Kit	MX6 /626	1988-92	Front - 21.0 mm diameter Rear - 18.0 mm diameter (Part #5511.320)

= NEW! Competition Part

NT = Non-Turbo

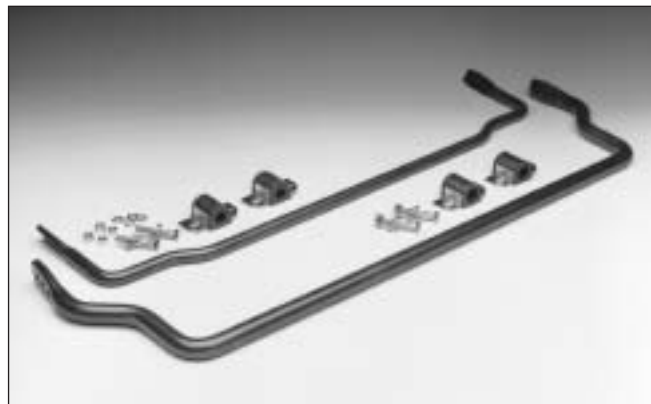
T = Turbo

TT = Twin-Turbo (93-95 RX7)

Suspension Techniques Anti-Roll Bars

Suspension Techniques Anti-Roll Bar Systems are designed to minimize body roll when cornering, resulting in improved vehicle balance and handling. Each system includes larger diameter front and rear anti-roll bars, low-deflection urethane bushings, complete mounting hardware and installation instructions.

Suspension Techniques Anti-Roll Bars may be ordered separately (front or rear) on a special order basis. See NOTES section below for part numbers of individual front or rear bars.



Anti-Roll Bar – Part #0000-04-5301-ST

SUSPENSION TECHNIQUES ANTI-ROLL BARS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7305-ST	C	1	Anti-Roll Bar Kit	RX7	1979-85	Front-28 mm (Part #0000-04-7325-ST) Rear-16 mm(A) (Part #0000-04-7335-ST) (Kit=#3-054C/F=#1-054/R=#2-054)
0000-04-7306-ST	C	1	Anti-Roll Bar Kit	RX7 NT & T	1986-88	Front-28 mm(A) (Part #0000-04-7326-ST) Rear-19 mm (Part #0000-04-7336-ST) (Kit=#3-054A/F=#1-054A/R=#2-054A)
0000-04-7307-ST	C	1	Anti-Roll Bar Kit	RX7 NT & T	1989-91	Front-27 mm (Part #0000-04-7327-ST) Rear-17 mm (Part #0000-04-7337-ST) (Kit=#3-054B/F=#1-054B/R=#2-054B)
0000-04-7301-ST	C	1	Anti-Roll Bar Kit	RX7 TT	1993-95	Front-32 mm (Part #0000-04-7321-ST) Rear-19 mm(A) (Part #0000-04-7331-ST) (Kit=#3-054C/F=#1-054/R=#2-054)
0000-04-5301-ST	C	1	Anti-Roll Bar Kit	Miata	1990-93	Front-25 mm(A) (Part #0000-04-5321-ST) Rear - 19 mm (Part #0000-04-5331-ST) (Kit=#3-060/F=#1-060/R=#2-060)
0000-04-3301-ST	C	1	Anti-Roll Bar Kit	323/Protege	1990-94	Front - 19 mm (Part #0000-04-3321-ST) Rear - 22 mm (Part #0000-04-3331-ST)

 = NEW! Competition Part

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Tubular Anti-Roll Bars

Tubular roll bars provide maximum adjustability. The center (torsion) bar can be purchased in three (3) different wall thicknesses (.125", .188", .250"). In addition, the aluminum arms or brackets are adjustable, allowing the suspension to be precisely tuned to balance the vehicle's handling.



Tubular Anti-Roll Bar-- Part #0000-04-7303 & #0000-04-7301-XX

TUBULAR ANTI-ROLL BARS (Speedway-type)

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7303	C	1	Anti-Roll Bar End Links (Front)	RX7 TT	1993-95	Tubular bar must be ordered separately.
0000-04-6301	C	1	Anti-Roll Bar End Links (Front)	MX6	1993-97	Tubular bar must be ordered separately.
0000-04-6311	C	1	Anti-Roll Bar Kit (Rear)	MX6	1993-97	Bar included.
0000-04-7301-01	C	1	Tubular Bar (.125")	Various	-	(.125" wall thickness)
0000-04-7301-02	C	1	Tubular Bar (.188")	Various	-	(.188" wall thickness)
0000-04-7301-03	C	1	Tubular Bar (.250")	Various	-	(.250" wall thickness)

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Front Anti-Roll Bar Kit (Adjustable) 1979-85 RX7

An adjustable (3-position) 1-1/8" front anti-roll bar is now available for 1979-85 RX7s. Offered specifically for SCCA "IT" class race vehicles where often only a front bar is required. Kit includes urethane bushings and heim joints.

FRONT ANTI-ROLL BAR KIT

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7325-GC	C	1	Front Anti-Roll Bar Kit	RX7	1979-85	Adjustable (3-position)

Front Anti-Roll Bar Mount/Brace Kit

1993-95 RX7/1990-97 Miata

For racing and autocross use, the stock anti-roll bar mount on 1993-95 RX7s and 1990-97 Miatas may "flex" to the point of breaking. Kit includes two (2) reinforced sway bar mounts. Fitment to Miata requires drilling out spot-welds holding stock bracket to subframe.



Anti-Roll Bar Mount/Brace Kit 1993-95 RX7 TT – Part #0000-04-7303-BK

FRONT ANTI-ROLL BAR BRACKETS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7303-BK	C	1	Anti-Roll Bar Mount/Brace Kit	RX7 TT	1993-95	Includes mount and bracket. Bushing kit also available. (Part #0000-04-7303-BR)
0000-04-7303-BR	C	1	Anti-Roll Bar Bushing Kit	RX7 TT	1993-95	Bronze bushings.
0000-04-5101-BK	C	1	Sway Bar Bracket Kit	Miata	1990-97	Spot-welds attaching stock mounts to frame must be drilled out.



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Strut Tower Bars

Front strut tower bars reduce chassis flex that can cause unpredictable handling. Movement of the chassis during hard cornering can adversely affect wheel alignment and cause handling problems.

GAB Adjustable Strut Tower Bars feature steel mounting plates and a polished hollow, oval shaped aluminum shaft construction with adjustable ends.



Strut Tower Bars 1979-85 RX7 – Part #0000-04-7511

STRUT TOWER BARS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7511	C	1	Strut Tower Bar (Non-Adjustable)	RX7	1979-85	Non-adjustable chrome-moly steel bar. Recommended for SCCA "IT" class.
0000-04-7511-AD	C	1	Strut Tower Bar (Adjustable)	RX7	1979-85	Adjustable chrome-moly steel bar. Recommended for SCCA "IT" class.
0000-04-7512	C	1	Strut Tower Bar (Non-Adjustable)	RX7 NT	1986-91	Non-adjustable, rigid tubular steel bar. Recommended for SCCA "IT" class. Fitment to 1989-91 RX7 may require modification.
0000-04-7512-AD	C	1	Strut Tower Bar (Adjustable)	RX7 NT	1986-91	Adjustable, tubular steel bar. Recommended for SCCA "IT" class. Fitment to 1987-91 RX7 Turbo may require modification.
0000-04-7503-AA	C	1	Strut Tower Bar (GAB)	RX7 NT	1986-91	Adjustable
0000-04-7504-AA	C	1	Strut Tower Bar (GAB)	RX7 TT	1993-95	Adjustable
0000-04-5501-AA	C	1	Strut Tower Bar (GAB)	Miata	1990-97	Adjustable
0000-04-3501-AA	C	1	Strut Tower Bar (GAB)	MX3 323 & Protege	1992-96 1990-94	Adjustable. Does not fit models with A/C.
0000-04-6501-AA	C	1	Strut Tower Bar (GAB)	MX6/626	1990-92	Adjustable

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Front Suspension — Bushings



Control Arm Bearing Kit - 1979-85 — Part #0000-04-7410

FRONT SUSPENSION — BUSHINGS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7409		1	Control Arm Bearing Kit	RX3	ALL	Kit includes two (2) spherical bearings that replace stock bushings in control arm. Legal for SCCA "IT" classes. Stock bushings must be pressed out of control arm.
0000-04-7410		1	Control Arm Bearing Kit	RX7	1979-85	See NOTES for Part #0000-04-7409 above.
0000-04-7411		1	Control Arm Bushing Kit	RX7	1979-85	Urethane. Stock casing must be reused.
0000-04-7412		1	Tension Rod Bushing Kit	RX7	1979-85	Urethane
0000-04-7413		1	Sway Bar End Link Bushing Kit	RX7 626	1979-85 1979-82	Urethane
0000-04-7414		1	Sway Bar Bushing Kit	RX7	1979-85	Urethane. For stock diameter bar.
0000-04-7401		1	Control Arm Bushing Kit	RX7 NT & T	1986-91	Urethane
0000-04-7401-KT	C	1	Control Arm Bushing Kit	RX7 NT & T	1986-91	UHMW material. Kit includes all front control arm bushings.
FBY1-34-470	C	2	Control Arm Bushing	RX7 NT & T	1986-91	Rubber/40% stiffer than stock (inner/front bushing).
FBY1-34-460	C	2	Control Arm Bushing	RX7 NT & T	1986-91	Rubber/40% stiffer than stock (inner/rear bushing).
0000-04-7405		2	Sway Bar End Link Bushing Kit (Front/Rear)	RX7 NT & T	1986-91	Urethane. Two kits required per vehicle.
0000-04-7406		1	Sway Bar Bushing Kit	RX7 NT & T	1986-91	Urethane. For stock diameter.
FBY1-34-380	C	2	Strut Mount (Upper)	RX7 NT & T	1986-91	Rubber/40% stiffer than stock.

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FRONT SUSPENSION — BUSHINGS, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
F128-34-480		4	Control Arm Bushing (Upper)	RX7 TT	1993-95	Rubber/40% stiffer than stock.
F128-34-460		2	Control Arm Bushing (Lower/Front)	RX7 TT	1993-95	Rubber/40% stiffer than stock (front bushing position).
F128-34-470		2	Control Arm Bushing (Lower/Rear)	RX7 TT	1993-95	Rubber/40% stiffer than stock (rear bushing position).
F128-34-471		4	Control Arm Bushing Support (Lower/Rear)	RX7 TT	1993-95	Rubber/40% stiffer than stock (rear bushing position).
F128-34-156		2	Sway Bar Bushing	RX7 TT	1993-95	Rubber/40% stiffer than stock. Stock diameter bar.
F128-28-380		4	Strut Mount Rubber (Upper - Front & Rear)	RX7 TT	1993-97	Rubber/40% stiffer than stock.
0000-04-5411		1	Control Arm Bushing Kit	Miata	1990-97	Urethane
NAY1-34-460	C	2	Control Arm Bushing (Lower)	Miata	1990-97	Rubber/40% stiffer than stock (front bushing position).
0000-04-5413		1	Sway Bar Bushing Kit	Miata	1990-97	Urethane. Except "R" model (19 mm diameter).
0000-04-5415		1	Sway Bar Bushing Kit	Miata 1.8	1994-97	Urethane. Fits "R" model only (20 mm diameter).
NA01-34-156A	S	2	Sway Bar Bushing	Miata	1990-97	Except 1994-96 "R" model (19 mm diameter).
NA75-34-156	S	2	Sway Bar Bushing	Miata 1.8	1994-97	Fits "R" model (20 mm diameter).
NAY1-28-380	C	4	Strut Mount (Upper - Front & Rear)	Miata	1990-97	Rubber/40% stiffer than stock.
GAYA-34-46X		1	Control Arm Bushing (Right/Rear)	MX6	1993-97	Rubber/40% stiffer than stock (rear bushing position).
GAYA-34-46Y		1	Control Arm Bushing (Left/Rear)	MX6	1993-97	Rubber/40% stiffer than stock (rear bushing position).
GAYA-34-380		2	Strut Mount (Upper)	MX6	1993-97	Rubber/40% stiffer than stock.
B2Y3-34-470	C	2	Control Arm Bushing (Front/Inner)	323 GTX	1988-89	Rubber/40% stiffer than stock (front bushing position).
B2Y2-34-460	C	2	Control Arm Bushing (Rear/Inner)	323 GTX	1988-89	Rubber/40% stiffer than stock (rear bushing position).
B2Y2-34-390	C	2	Strut Mount (Upper)	323 GTX	1988-89	Rubber/40% stiffer than stock.

 = NEW! Competition Part

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Rear Suspension – Bushings



Lower Trailing Link Bushing Kit – Part #0000-04-7424

REAR SUSPENSION - BUSHINGS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7422		1	Lower Trailing Link Bearing Kit	RX7	1979-85	Kit includes four (4) spherical bearings to replace stock rubber bushings in lower links. Requires pressing rubber bushings out of stock links. Uses stock bolts. Legal for SCCA "IT" classes. NOTE: Kit also available that includes modified lower trailing links, fitted with spherical bearings. (Part #0000-04-7423)
0000-04-7424		1	Trailing Link Bushing Kit	RX7	1979-85	Urethane
0000-04-7425		1	Watts Link Bushing Kit	RX7	1979-85	Requires pressing stock bushings out of links.
0000-04-7402		1	Control Arm Bushing Kit	RX7 NT & T	1986-91	Urethane. Outer bushings only.
0000-04-7402-KT	C	1	Control Arm Bushing Kit	RX7 NT & T	1986-91	UHMW material. Includes toe-steer eliminator bushings.
0000-04-7404-KT		1	Toe-Steer Eliminator Bushing Kit	RX7 NT & T	1986-91	UHMW material. Replaces stock bushing, eliminating rear suspension's toe-steer characteristics.
0000-04-7403-KT	C	1	Sub-Frame Bushing Kit	RX7 NT & T	1986-91	UHMW material.
0000-04-7405		2	Sway Bar End Link Bushing Kit (Front/Rear)	RX7 NT & T	1986-91	Urethane. Two (2) kits required per vehicle.






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REAR SUSPENSION - BUSHINGS, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
FI28-28-8C0		4	Control Arm Bushing (Upper/Inner)	RX7 TT	1993-95	Rubber/40% stiffer than stock bushing.
FI28-28-460		2	Control Arm Bushing (Lower/Inner)	RX7 TT	1993-95	Rubber/40% stiffer than stock bushing.
FI28-28-52Y	C	2	Trailing Link Bushing	RX7 TT	1993-95	Rubber/40% stiffer than stock bushing.
FI28-28-42Y	C	2	Toe Control Bushing	RX7 TT	1993-95	Rubber/40% stiffer than stock bushing.
FI28-28-380	C	4	Strut Mount Rubber (Upper - Front/Rear)	RX7 TT	1993-95	Rubber/40% stiffer than stock.
0000-04-5412		1	Control Arm Bushing Kit	Miata	1990-97	Urethane
NAY1-28-460	C	4	Control Arm Bushing (Lower/Inner)	Miata	1990-97	Rubber/40% stiffer than stock bushing (front and rear bushing position).
0000-04-5414		1	Sway Bar Bushing Kit	Miata 1.6	1990-92	Urethane. 12 mm diameter.
0000-04-5416		1	Sway Bar Bushing Kit	Miata 1.6 & 1.8	1993-97	Urethane. 11 mm diameter.
FB01-28-156	S	2	Sway Bar Bushing	Miata 1.6	1990-92	(12 mm diameter)
N023-28-156	S	2	Sway Bar Bushing	Miata 1.6 & 1.8	1993-97	(11 mm diameter)
NAY1-28-380	C	4	Strut Mount (Upper - Front/Rear)	Miata	1990-97	Rubber/40% stiffer than stock.
B2Y2-28-390	C	2	Strut Mount (Upper)	323 GTX	1988-89	Rubber/40% stiffer than stock.

FRONT SUSPENSION — BALL JOINTS & CONTROL ARMS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0305-99-356A	S	2	Ball Joint	RX2	ALL	
0866-99-356A	S	2	Ball Joint	RX3 RX4	1971-76 ALL	
8650-99-356	S	2	Ball Joint	RX3-SP	1977-78	
0866-34-310C	S	1	Control Arm (Right)	RX3	1971-78	Includes ball joint and knuckle assembly. Ball joint is available separately.
0866-34-320C	S	1	Control Arm (Left)	RX3	1971-78	Includes ball joint and knuckle assembly. Ball joint is available separately.
8871-49-310	S	1	Control Arm (Right)	RX7	1979-83	Includes inner bushings and lower ball joint. Ball joint is not available separately.
8871-49-320	S	1	Control Arm (Left)	RX7	1979-83	See NOTES for Part #8871-49-310.
FA54-49-310	S	1	Control Arm (Right)	RX7	1984-85	See NOTES for Part #8871-49-310.
FA54-49-320	S	1	Control Arm (Left)	RX7	1984-85	Includes inner bushings and lower ball joint. Ball joint is not available separately.

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FRONT SUSPENSION — BALL JOINTS & CONTROL ARMS, continued ...

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
FB01-34-550	S	2	Ball Joint	RX7 NT & T	1986-88	
FB01-34-310B	S	1	Control Arm (Right)	RX7 NT & T	1986-88	Includes inner bushings and ball joint. Ball joint is available separately.
FB01-34-360B	S	1	Control Arm (Left)	RX7 NT & T	1986-88	Includes inner bushings and ball joint. Ball joint is available separately.
FC02-34-300	S	1	Control Arm (Right)	RX7 NT & T	1989-91	Includes inner bushings and ball joint. Ball joint is not available separately.
FC02-34-350	S	1	Control Arm (Left)	RX7 NT & T	1989-91	Includes inner bushings and ball joint. Ball joint is not available separately.
FI31-34-200	S	1	Upper Arm (Right)	RX7 TT	1993-95	Includes bushings.
FI31-34-250	S	1	Upper Arm (Left)	RX7 TT	1993-95	Includes bushings.
FI31-34-300A	S	1	Lower Arm (Right)	RX7 TT	1993-95	Ball joint included, is not available separately.
FI31-34-350A	S	1	Lower Arm (Left)	RX7 TT	1993-95	Ball joint included, is not available separately.
FD01-28-116	S	4	Bolt, Upper Arm	RX7 TT	1993-95	Nut (Part #8871-34-222).
FD01-34-420	S	4	Bolt, Lower Arm (Inner/Adjusting)	RX7 TT	1993-95	Cam Plate (Part #FD01-34-473) and Nut (Part #B001-39-037B).
NA01-34-550	S	2	Ball Joint, Lower	Miata	1990-97	Bolt (Part #9978-41-280H) and Nut (Part #B037-28-091).
NA01-34-200A	S	2	Upper Arm	Miata	1990-97	Without ABS.
NA23-34-200	S	1	Upper Arm (Right)	Miata	1990-97	With ABS.
NA23-34-250	S	1	Upper Arm (Left)	Miata	1990-97	With ABS.
NA75-34-300A	S	1	Lower Arm (Right)	Miata	1990-97	Ball joint is available separately.
NA75-34-350A	S	1	Lower Arm (Left)	Miata	1990-97	Ball joint is available separately.
NA01-34-112	S	2	Bolt, Upper Arm (Inner)	Miata	1990-97	Nut (Part #9994-01-401). Washers small (Part#9995-81-426) and large (Part #NA01-34-117A).
NA01-28-4A0	S	4	Bolt, Lower Arm (Inner/Adjusting)	Miata	1990-97	Cam Plate (Part #NA01-28-473) and Nut (Part #B037-28-091).

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Watts Link Kit - 1979-85 RX7 – Part #0000-04-7426



Lower Trailing Arm Kit - 1979-85 RX7 – Part #0000-04-7423

REAR SUSPENSION — LINK AND ARMS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7423		1	Lower Trailing Link Kit	RX7	1979-85	Includes two (2) new modified lower trailing links. Rubber bushings are replaced with spherical bearings, helping to eliminate “bind” problem in rear suspension. NOTE: Spherical bearing and bushing kit also is available. (Fitment of spherical bearings to upper links is not recommended.)
0000-04-7426		1	Watts Link Kit	RX7	1979-85	Includes two (2) aluminum links with spherical bearings.
0000-04-7421		1	Camber/Subframe Link (Adjustable)	RX7 NT & T	1986-91	Easy bolt-in replacement for stock rigid rear subframe link. Allows adjustment of rear camber. Fitted with spherical bearings, left and right hand threads allow camber adjustment with link on vehicle.
NA01-28-2A0B	S	2	Upper Arm	Miata	1990-97	Inner bushings included.
NA01-28-300	S	1	Lower Arm (Right)	Miata	1990-97	Inner and outer bushings included.
NA01-28-350	S	1	Lower Arm (Left)	Miata	1990-97	Inner and outer bushings included.
9978-01-075	S	6	Bolt, Upper Arm (Inner/Outer)	Miata	1990-97	Nut (Part #8871-34-222).
NA01-28-4A0	S	4	Bolt, Lower Arm (Inner)	Miata	1990-97	Nut (Part #B037-28-091) and Cam Plate (Part #NA01-28-473).
NA01-28-113	S	2	Bolt, Lower Arm (Outer)	Miata	1990-97	Nut (Part #B037-28-091).
NA01-34-170	S	2	Sway Bar End Link	Miata	1990-97	
B2Y2-28-200	C	2	Trailing Link	323GTX	1988-89	Rubber bushings included are 40% stiffer than stock.
B2Y2-28-600	C	2	Lateral Link	323 GTX	1988-89	Adjustable link.
B2Y2-28-620	C	1	Lateral Link (Right)	323 GTX	1988-89	Rubber bushings included are 40% stiffer than stock.
B2Y2-28-630	C	1	Lateral Link (Left)	323 GTX	1988-89	Rubber bushings included are 40% stiffer than stock.



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STEERING

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7415		1	Steering Knuckle Riser Spacer	RX7	1979-85	Spacer is installed to put steering geometry back to stock position when suspension has been modified (lowered).
0000-04-7431		2	Dust Boot, Tie Rod End	RX7 626	1979-85 1979-82	Urethane replacement tie rod end dust boot is more durable than stock rubber.
0866-99-324B	S	2	Tie Rod End (Outer)	RX3	1972-75	
3625-99-322	S	2	Tie Rod End (Inner)	RX3	1972-75	
1175-99-324A	S	2	Tie Rod End (Outer)	RX3 RX4	1976-78 2/75-78	
1175-99-322A	S	2	Tie Rod End (Inner)	RX3 RX4	1976-78 2/75-78	
8021-99-324	S	2	Tie Rod End (Outer)	RX7	1979-85	
8531-99-322A	S	2	Tie Rod End (Inner)	RX7	1979-85	
8AF1-32-280	S	2	Tie Rod End (Outer)	RX7 NT & T	1986-91	
FB01-32-240A	S	2	Tie Rod (Inner/Right/Left)	RX7 NT & T	1986-91	For right tie rod on 1986-88 RX7 without power steering use Part #FB02-32-240A.
FB02-32-240A	S	1	Tie Rod (Inner/Right)	RX7 NT & T	1986-88	Models without power steering.
8ANI-32-280	S	2	Tie Rod End (Outer)	Miata	1990-97	
NA01-32-240	S	2	Tie Rod (Inner)	Miata	1990-97	Without power steering.
NA02-32-240	S	2	Tie Rod (Inner)	Miata	1990-97	With power steering.

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FRONT WHEEL BEARINGS AND SEALS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0317-33-075	S	2	Wheel Bearing (Outer)	RX2, RX3 & RX4	ALL	
0259-33-047	S	2	Wheel Bearing (Inner)	RX2 & RX3	ALL	
B002-33-075	S	2	Wheel Bearing (Outer)	RX7	1979-83	
I391-33-075	S	2	Wheel Bearing (Outer)	RX7 I2A & I3B	1984-85	
8545-33-047	S	2	Wheel Bearing (Inner)	RX4 RX7	ALL 1979-85	
FB01-49-060E	S	2	Wheel Bearing/Hub	RX7 NT & T	1986-91	Fits models with single piston calipers. Includes wheel seal. Bearing not available separately. 4 lug wheel.
FB05-49-060E	S	2	Wheel Bearing/Hub	RX7 NT & T	1986-91	Non-Turbo models with 4 piston calipers, 1986-88 and all Non-Turbo models (1989-91). Includes wheel seal. Bearing not available separately. 5 lug wheel.
GA5S-26-15X	S	2	Wheel Bearing/Hub	RX7 TT	1993-95	Bearing not available separately.
NA01-33-04X	S	2	Wheel Bearing/Hub	Miata	1990-97	Without ABS. Bearing not available separately.
NA23-33-04XA	S	2	Wheel Bearing/Hub	Miata	1990-97	With ABS. Bearing not available separately.
I312-33-065	S	2	Wheel Seal	RX2 & RX3 RX4 RX7 I2A & I3B	ALL ALL 1979-85	
FB01-33-065A	S	2	Wheel Seal	RX7 NT & T	1986-91	

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REAR WHEEL BEARINGS AND SEALS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0317-99-265B	S	2	Wheel Bearing Seal Set	RX2 & RX3	ALL	Includes bearing, collar, sheet seal and gasket.
1011-99-265	S	2	Wheel Bearing Seal Set	RX4	ALL	Includes bearing, collar, sheet seal and gasket.
8871-26-151A	S	2	Wheel Bearing	RX2 & RX3 RX7	ALL 1979-83	
8595-26-151	S	2	Wheel Bearing	RX7 12A & 13B	1984-85	
FB01-26-151A	S	2	Wheel Bearing	RX7 NT & T	1986-91	
J001-26-151	S	2	Wheel Bearing	RX7 TT	1993-95	
B455-33-047B	S	2	Wheel Bearing	Miata	1990-97	
0187-26-154	S	2	Wheel Seal	RX2, RX3 RX7	ALL 1979-83	
1011-26-154	S	2	Wheel Seal	RX4 RX7 12A & 13B	ALL 1984-85	
FB01-26-065A	S	2	Wheel Seal	RX7 NT & T	1986-91	
G304-33-065	S	2	Wheel Seal	Miata	1990-97	
8545-26-155	S	2	Wheel Bearing Spacer	RX4	ALL	
0259-26-155	S	2	Wheel Bearing Spacer	RX7	1979-83	
FA66-26-155	S	2	Wheel Bearing Spacer	RX7 12A & 13B	1984-85	
8531-26-152	S	2	Wheel Bearing Collar	RX7	1979-83	
8545-26-152	S	2	Wheel Bearing Collar	RX4 RX7	ALL 1984-85	



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WHEEL STUDS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-04-7901	C	16	Wheel Stud	RX7 12A RX2, RX3, RX4	1979-85 1971-78	Studs thread into hub in place of stock lug bolts. Makes changing wheels much easier. Overall length of stud is longer allowing use of alternate wheels. (Use Loctite™ to secure stud into hub.) Overall stud length (1-3/4") /usable thread length (1-1/4"). Use lug nut (Part #0603-26-161).

Engine, Transmission & Differential Mounts

Competition rubber mounts reduce the amount of movement of the major vehicle assemblies under racing conditions. Mounts are molded with 40% stiffer rubber. Competition mounts also are less likely to break under severe conditions.

ENGINE, TRANSMISSION & DIFFERENTIAL MOUNTS						
PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
4352-39-040	C	2	Engine Mount	RX7	1979-85	
FBY1-39-040	C	2	Engine Mount	RX7 NT & T	1986-91	
FI28-39-040	C	1	Engine Mount #1	RX7 TT	1993-95	Right side
FI28-39-050	C	1	Engine Mount #2	RX7 TT	1993-95	Left side
NAY1-39-040	C	2	Engine Mount	Miata	1990-97	
GAYE-39-040	C	1	Engine Mount #1	MX6 V6	1993-97	
GAYE-39-050	C	1	Engine Mount #2	MX6 V6	1993-97	
GAYE-39-060	C	1	Engine Mount #3	MX6 V6	1993-97	
GAYE-39-070	C	1	Engine Mount #4	MX6 V6	1993-97	
GAYE-39-100	C	1	Engine Mount #5	MX6 V6	1993-97	
B2Y2-39-040	C	1	Engine Mount #1	323 GTX	1988-89	
B2Y2-39-050	C	1	Engine Mount #2	323 GTX	1988-89	
B2Y2-39-060	C	1	Engine Mount #3	323 GTX	1988-89	
B2Y2-39-070	C	1	Engine Mount #4	323 GTX	1988-89	
BIY1-39-060	C	1	Engine Mount #3	323 & Protege	1990-94	1.8 DOHC
BIY2-39-070	C	1	Engine Mount #4	323 & Protege	1990-94	1.8 DOHC
4352-39-340	C	1	Transmission Mount	RX7	1979-85	
FBY1-39-340	C	2	Transmission Mount	RX7 NT & T	1986-91	
FI28-28-890	C	2	Differential Mount	RX7 TT	1993-95	
NAY1-28-890	C	2	Differential Mount	Miata	1990-97	
B2Y2-28-680	C	1	Differential Mount (Front)	323 GTX	1988-89	
B2Y2-28-690	C	1	Differential Mount (Rear)	323 GTX	1988-89	



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**BODY KITS
AND WINDOWS**



Miata (E Production) Body Kit

Designed for SCCA E Production Miatas, this is an aerodynamic and aggressive-looking fiberglass body kit. Front fenders and bumpers mount using stock brackets. Rear fender flares must be riveted/molded to stock rear fenders.



Miata (EP) Body Kit



Miata (EP) Body Kit

Complete Kit (Part #K-MX5P-00-000) includes:

- Fiberglass front bumper (with integral air dam)
- Rear bumper
- Front fenders
- Rear fender flares
- Hood

MIATA (E PRODUCTION) BODY KIT

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-07-502	C	1	Hood	Miata	1990-97	Weight: 12 lbs. Headlight doors molded into hood.
0000-07-500	C	1	Front Bumper	Miata	1990-97	
0000-07-501	C	1	Rear Bumper	Miata	1990-97	
0000-07-5111-RF	C	1	Fender (Front/Right)	Miata	1990-97	
0000-07-5112-LF	C	1	Fender (Front/Left)	Miata	1990-97	
0000-07-5113-RR	C	1	Fender (Rear/Right)	Miata	1990-97	
0000-07-5114-LR	C	1	Fender (Rear/Left)	Miata	1990-97	

IMSA GTS-2 Body Kit – 1993-95 RX7

Designed for IMSA GTS-2 competition, this body kit was designed by Dave Lynn at Jim Downing's shop in Atlanta, Georgia. Aerodynamic and lightweight, the kit consists of six (6) components and is available in either fiberglass or carbon-fiber.



1993-95 RX7 IMSA GTS-2-Body Kit



1993-95 RX7 IMSA GTS-2 Body Kit

Complete Kit: Fiberglass – Part #K-RX7F-95-000
Carbon-Fiber – Part #K-RX7C-95-000

- Front nose section (with integral air dam)
- Front fenders and hood
- Left and right doors (with integral rocker panels)
- Roof panel (including A-pillars)
- Rear deck section (with left and right quarter panels and rear valence)

1993-95 RX7 IMSA GTS-2 BODY KIT

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-07-700F	C	1	Front Nose/Air Dam	RX7 TT	1993-95	Use "700C" for carbon/fiber.
0000-07-701F	C	1	Hood/Front Fenders	RX7 TT	1993-95	Use "701C" for carbon/fiber.
0000-07-702F	C	1	Right Door/Rocker Panel	RX7 TT	1993-95	Use "702C" for carbon/fiber.
0000-07-703F	C	1	Left Door/Rocker Panel	RX7 TT	1993-95	Use "703C" for carbon/fiber.
0000-07-704F	C	1	Roof/A-Pillars	RX7 TT	1993-95	Use "704C" for carbon/fiber.
0000-07-705F	C	1	Rear Deck/Quarter Panels/Valence	RX7 TT	1993-95	Use "705C" for carbon/fiber.



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Mark I, II and GTO Body Kit – 1979-85 RX7

Mark I Body Kit – 1979-85 RX7

The RX7 Mark I Body Kit is generally used for SCCA GT3 Class. The front and rear flares are not as wide as the Mark II Body Kit and the rear flare does not extend into the door (as does the Mark II Kit).

Mark II / GTO Body Kit – 1979-85 RX7

The Mark II Kit was used for IMSA GTU Class. The front and rear flares are very wide and the rear flares extend into the doors using a separate “door cap.” Special “GTO” rear fenders, nose panel and whale tail (wing) are also available that can be used with Mark II front fenders.

1979-85 RX7 — MARK I, II and GTO STYLE

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-07-111-RF	C	1	Fender (Front/Right)	RX7	1979-85	Mark I
0000-07-112-LF	C	1	Fender (Front/Left)	RX7	1979-85	Mark I
0000-07-111A-RF	C	1	Fender (Front/Right)	RX7	1979-85	Mark II and GTO
0000-07-112A-LF	C	1	Fender (Front/Left)	RX7	1979-85	Mark II and GTO
0000-07-113-RR	C	1	Fender (Rear/Right)	RX7	1979-85	Mark I
0000-07-114-LR	C	1	Fender (Rear/Left)	RX7	1979-85	Mark I
0000-07-113A-RR	C	1	Fender (Rear/Right)	RX7	1979-85	Mark II
0000-07-114A-LR	C	1	Fender (Rear/Left)	RX7	1979-85	Mark II
0000-07-013-RR	C	1	Fender (Rear/Right)	RX7	1979-85	GTO
0000-07-014-LR	C	1	Fender (Rear/Left)	RX7	1979-85	GTO
0000-07-115	C	1	Air Dam (Front)	RX7	1979-80	Mark I. Does not include bumper. Use with Part #0000-07-120.
0000-07-115A	C	1	Air Dam (Front)	RX7	1981-85	Mark I. Includes bumper.
0000-07-115B	C	1	Air Dam (Front)	RX7	1979-85	Mark II
0000-07-000	C	1	Nose Panel (Front)	RX7	1979-85	GTO
0000-07-120	C	1	Bumper (Front)	RX7	1979-80	Mark I. Does not include air dam. Use with Part #0000-07-115.
0000-07-121-NC	C	1	Bumper (Rear)	RX7	1979-80	Mark I. Does not include bumper end caps.
0000-07-121	C	1	Bumper (Rear)	RX7	1981-85	Mark I. Includes bumper end caps.
0000-07-119	C	1	Hood	RX7	1979-85	Mark I, II, GTO
0000-07-117	C	1	Door (Right)	RX7	1979-85	Mark I, II, GTO
0000-07-118	C	1	Door (Left)	RX7	1979-85	Mark I, II, GTO
0000-07-117P	C	1	Door Cap (Right)	RX7	1979-85	Mark II and GTO
0000-07-118P	C	1	Door Cap (Left)	RX7	1979-85	Mark II and GTO
0000-07-116	C	1	Spoiler (Rear)	RX7	1979-85	Mark I (wrap-around style)
0000-07-116B	C	1	Spoiler (Rear)	RX7	1979-85	Mark II and GTO (whale-tail)

1986-91 RX7 — IMSA GTU/GTS-2 Style

Although no longer legal for IMSA competition, this bodywork was used by many of the Mazda teams. It is available in both fiberglass and carbon fiber/graphite. A lower-profile, more aerodynamic front bodywork was designed by Clayton Cunningham. These components (nose panel, front fenders and air dam) are available in carbon fiber only (“CCR” in notes section).

1986-91 RX7 — IMSA GTU/GTS-2 STYLE

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
M747-07-111-RF	C	1	Fender (Front/Right)	RX7	1986-91	Use “111G-RF” for graphite.
M747-07-111L-RF	C	1	Fender (Front/Right)	RX7	1986-91	CCR (low-profile)
M747-07-112-LF	C	1	Fender (Front/Left)	RX7	1986-91	Use “112G-LF” for graphite.
M747-07-112L-LF	C	1	Fender (Front/Left)	RX7	1986-91	CCR (low-profile)
M747-07-113-RR	C	1	Fender (Rear/Right)	RX7	1986-91	Use “113G-RR” for graphite.
M747-07-114-LR	C	1	Fender (Rear/Left)	RX7	1986-91	Use “114G-LR” for graphite.
M747-07-115	C	1	Air Dam (Front)	RX7	1986-91	Use “115G” for graphite.
M747-07-115L	C	1	Air Dam (Front)	RX7	1986-91	CCR (low-profile)
M747-07-116	C	1	Spoiler (Rear)	RX7	1986-91	Use “116G” for graphite.
M747-07-117	C	1	Door (Right)	RX7	1986-91	Use “117G” for graphite.
M747-07-118	C	1	Door (Left)	RX7	1986-91	Use “118G” for graphite.
M747-07-119	C	1	Hood	RX7	1986-91	Use “119G” for graphite.
M747-07-201A	C	1	Rocker Panel (Right)	RX7	1986-91	Use “201A-GR” for graphite.
M747-07-202A	C	1	Rocker Panel (Left)	RX7	1986-91	Use “202A-GR” for graphite.
M747-07-215	C	1	Nose Panel (Center)	RX7	1986-91	Use “215G” for graphite.
M747-07-215L	C	1	Nose Panel (Center)	RX7	1986-91	CCR (low-profile)
M747-07-250	C	1	Rear Panel (Center)	RX7	1986-91	Use “250G” for graphite.
M747-07-352-LT	C	1	Headlight Lens (Left)	RX7	1986-91	
M747-07-352-RT	C	1	Headlight Lens (Right)	RX7	1986-91	



LEXAN™ and PLEXIGLASS WINDOWS

PART NUMBER	CODE	# REQ.	DESCRIPTION	MODEL/ ENGINE TYPE	YEAR	NOTES
0000-07-7101-LX	C	1	Windshield	RX7	1979-85	Lexan™ mar-resistant
0000-07-7102-LX	C	1	Windshield	RX7	1989-91	Lexan™ mar-resistant
0000-07-7103-LX	C	1	Windshield	RX7	1993-95	Lexan™ mar-resistant
0000-07-301	C	1	Rear Window	RX7	1979-95	Plexiglass
M747-07-300	C	1	Rear Window	RX7	1986-91	Plexiglass. Size matches window and frame assembly. Available while supplies last.
M747-07-300-LX	C	1	Rear Window	RX7	1986-91	Lexan™. Size of window is same as stock window without frame. Available while supplies last.
M747-07-3001-LX	C	1	Rear Window	RX7	1986-91	Lexan™. Same as Part #M747-07-300-LX except size matches window and frame assembly.
M747-07-3002-LX	C	1	Rear Window	RX7	1993-95	Lexan™ mar-resistant
MX03-07-3001-LX	C	1	Rear Window	MX3	1992-95	Lexan™ mar-resistant
MX06-07-300	C	1	Rear Window	MX6	1988-92	Plexiglass
0000-07-302	C	1	Rear Quarter Window (Right)	RX7	1979-85	Plexiglass
0000-07-303	C	1	Rear Quarter Window (Left)	RX7	1979-85	Plexiglass



Mazda Speed Touring Kit RX7 (Call for Information)



TECH TIPS



Rotor Housing Tech Tips

Modifying Rotor Housings

Stock rotor housings must be modified for use in competition engines. On 1974-75 housings, the air injection passages must be blocked. Simply cut off the top 1/4" of the nozzles that stick up into the exhaust port, then weld them shut. If 1976-on rotor housings are being used, we recommend closing off the exhaust port air passage openings by welding a disc of stainless steel inside the exhaust sleeve.

Peripheral-Port Housings

In road racing, the peripheral-port rotor housings are legal only in IMSA GTS-2 and SCCA GT-1/GT-2 classes. In a peripheral-port engine, the intake and the exhaust ports are located in the rotor housing. The surface on these housings is chrome-plated to increase wear-resistance and the coolant passages are designed for superior flow. Use of peripheral-port housings requires use of side housings with epoxy-filled intake ports.



Checking for Wear and Measuring

Before cleaning used rotor housings, you should inspect them carefully as described in the following paragraphs.

1. Replace the housing if any of the following are found:
 - a. Cracks around the trailing spark plug hole on the trochoid inner surface that exceed 8 mm in length.
 - b. Any flaking, dents, scratches or deformation of the surface.
 - c. Galling or small scratches on the side of the rotor housing between the inner O-Ring and the inner trochoid surface.
2. On a flat surface, set the rotor housing on its base (standing vertically). Check to see that the bottom surface of the housing is parallel and that there is no warpage. If warpage on one side is greater than 0.04 mm (0.0016"), replace the housing.
3. Measuring rotor housing width or crush:
 - a. Signs of gas leakage or deposits appearing on the side of the rotor housing (on the combustion side) will indicate a variance in the housing's width or crush.
 - b. Measuring rotor housing width requires a 50-75 mm micrometer for 12A engines or a 75-100 mm micrometer for 13B engines. Measurements should be taken in four (4) places around the housing (see Figure 1). Choose one point at the top of the housing and three (3) other points on the spark plug side. Each of the three (3) measurements should be approximately 3/4" from the other.

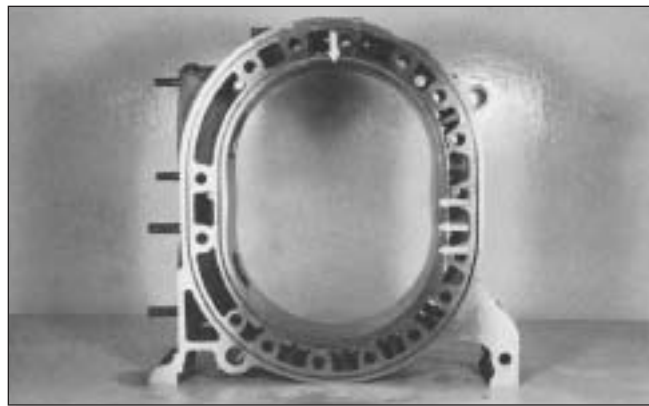


Figure 1

- c. Place the micrometer on the inner side of the water O-Ring groove to take the measurement. Compare the measurement taken at the top of the housing with the smallest measurement taken at the three (3) combustion chamber locations. If the width difference is more than 0.06 mm (.0023"), the housing must be replaced. If within tolerance, use these measurements to check clearance between apex seal and side housing. (See Apex Seal Tech Tips on page TT-13.)

ROTOR HOUSING WIDTH SHOULD BE:

12A ENGINES = 70 mm (2.756")

13B ENGINES = 80 mm (3.149")

Measuring Clearance Between Rotor and Rotor Housing

1. When bearing clearances have been set, install outer oil seals, O-Ring and springs on one side of the rotor. This will prevent the rotor from scuffing the side housing as it is rotated for measurements.
2. Invert the rotor and insert it in the rotor housing. The O-Ring will hold the oil seal in place.
3. Using a feeler gauge, as shown in Figure 2, measure the clearance between the rotor and the rotor housing. There are four (4) measuring points, two on each side of the rotor housing, at approximately 1" below and above the horizontal centerline.

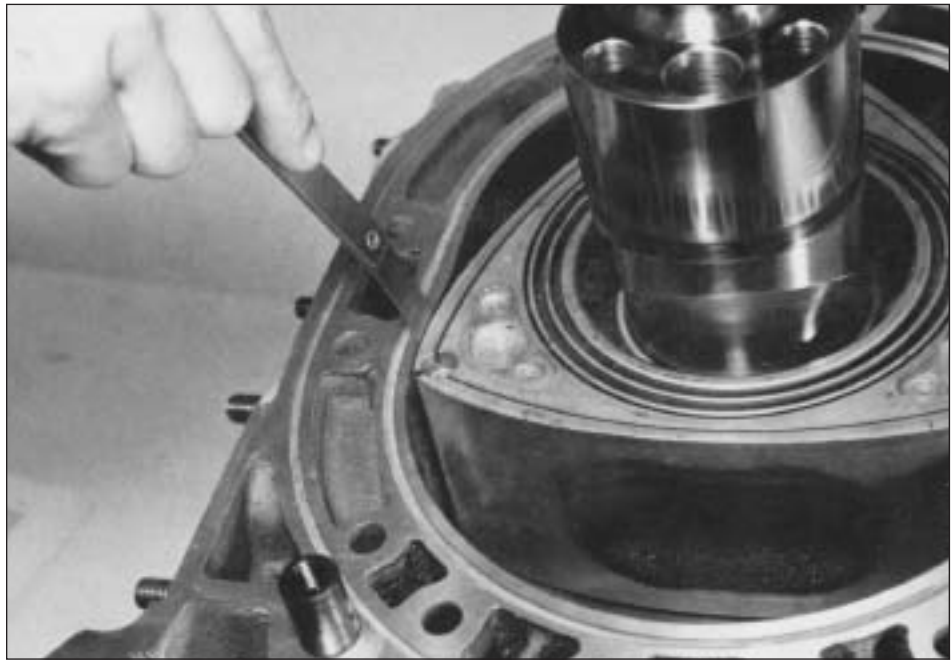


Figure 2

ALLOWABLE ROTOR TO ROTOR HOUSING CLEARANCE IS:

12A ENGINE = 0.40 - 0.70 mm (0.0157" - 0.0276")

13B ENGINE = 0.45 - 0.75 mm (0.0177" - 0.0295")

If the measurement taken at any one of the four (4) points is less than the allowable range, the rotor may contact the housing at high rpm. The housing should be replaced or the rotor can be cleared by grinding the face.

Cleaning

Clean carbon and any other deposits with paint thinner or a similar solvent. Remove all scale and rust from the coolant passages and water jackets.

Side Housing Tech Tips

Modifying Side Housings

For any type of "ported" motor, use a gas-nitrited housing (1979-85). We recommend using the housings with part number prefixes of "8871", as they are less expensive. The gas-nitrited housings have a dull gray finish and a hardened surface that significantly increases their durability and service life.

If you are building a bridgeport engine, we now offer side housings that have been bridge-ported (rough-cut) on a CNC mill, saving approximately 50-75% of the required hand grinding time.

In a peripheral-port engine, because the intake ports are in the rotor housing, you must seal the stock intake ports with an epoxy material. There are a number of products that will work for this procedure. We recommend using either "Devcon® Plastic Steel Epoxy" or "Plastic Steel®." Rough up the inside of the port before applying the material, then plug one end of the port and pour the epoxy material in the other end. Ensure there is a slight recess (approximately 1/16") below the finished housing surface.

Checking for Wear and Warpage

1. Before cleaning the side housings, check the following:
 - a. The area where the side housing contacts the rotor housing. Check around the passages for signs of coolant or gas leakage, surface abrasions and corrosion.
 - b. On the rubbing surface, check for excessive wear or scuffing in the area of the path traced by the rotor seals particularly on the spark plug side of the housing.

NOTE: *On Turbo engines, carefully check the upper tubular dowel bosses for cracking.*

2. Cleaning the side housings:
 - a. Remove any surface deposits with paint thinner or similar solvent. If the deposits cannot be removed using solvent, use #400 to #600 grit sandpaper wet with oil, on a flat block of wood or aluminum.
3. Check for surface flatness (housing distortion):
 - a. Use a straight edge and a set of feeler gauges.
 - b. Check the surface in the four locations shown in Figure 3. The maximum limit for warpage or distortion is 0.04 mm (0.0016"). If distortion exceeds this limit at any point on the housing, it must be replaced.

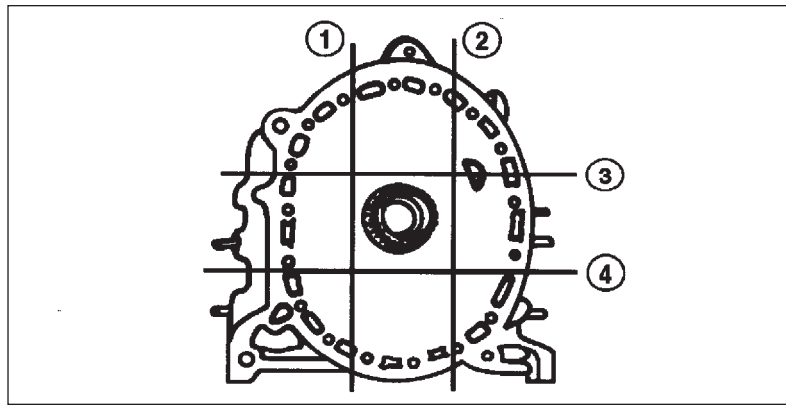


Figure 3

4. Use a dial indicator with a sharp tip and a dial indicator stand (shown in Figure 4). The allowable limit for wear is 0.1 mm (.0039"). If wear exceeds this limit, the housing must be replaced. Although replacing a damaged housing is preferred, it may also be resurfaced. Resurfacing must be done on a surface or blanchered grinder and then lapped to obtain the proper finish.

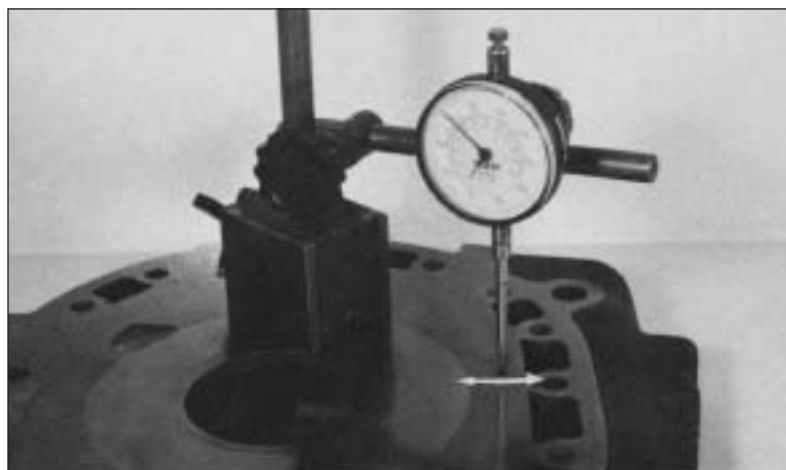


Figure 4

NOTE: If you notice excessive wear over a relatively short period of use (0.1 mm or more after 2000 miles, or less), it may be an indication of dirt or other contaminants in the engine. Use of a highly efficient air filtration system is a must. Filters that allow even minimal amounts of dirt into the engine can quickly damage rotor seals, side housings and rotor housings.

Rotor Tech Tips

Checking for Wear and Measuring the Rotor

Before cleaning, inspect the rotor for gas leakage or any damage. In particular, look for any signs that the rotor has contacted the side housing. These marks are generally found at the tip of the rotor.

Internal Gears

Check the gears for cracks, extreme abrasions, dents, nicks, scratches and other damage to the gears and teeth. Cracks will sometimes appear around the spring pin holes and in the spring pin itself.

Cleaning

Do not use a stone, sandpaper or any tool or abrasives to remove carbon from the apex seal groove. Remove carbon deposits in the groove with a brush and kerosene or soak in carburetor cleaner.

Measurements

Using a 50-75 mm (12A engines) or 75-100 mm (13B engines) micrometer, measure the rotor at the three (3) points shown in Figure 5. To calculate the clearance between the side housing and rotor, use the following formula:

[ROTOR HOUSING WIDTH (TOP OF HOUSING)] – [MAX. ROTOR WIDTH AT ANY POINT MEASURED]

ALLOWABLE RANGE FOR SIDE HOUSING TO ROTOR CLEARANCE IS:

12A ENGINES = 0.13 - 0.17 mm (0.0051" – 0.0067")

13B ENGINES = 0.13 - 0.20 mm (0.0051" – 0.0079")

ROTOR WIDTH (FROM GEAR TO LAND) SHOULD BE:

12A ENGINES = 69.80 mm (2.748")

13B ENGINES = 79.80 mm (3.142")

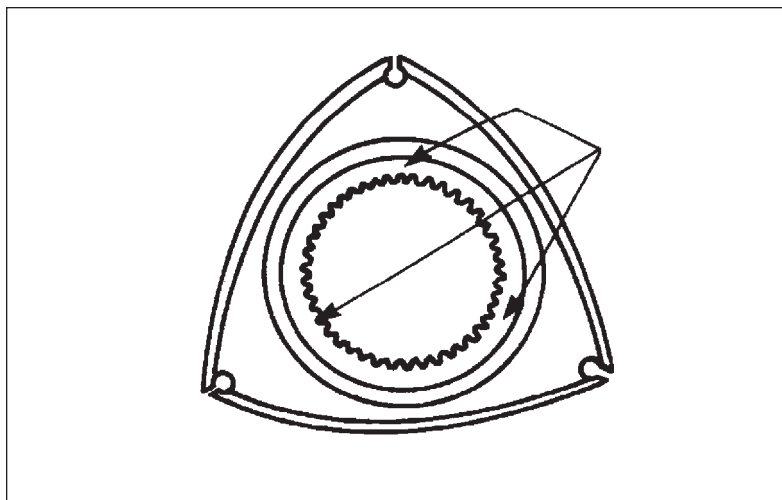


Figure 5

Using a straight edge and a set of feeler gauges, measure the height of the rotor land (or rotor land protection), as shown in Figure 6.

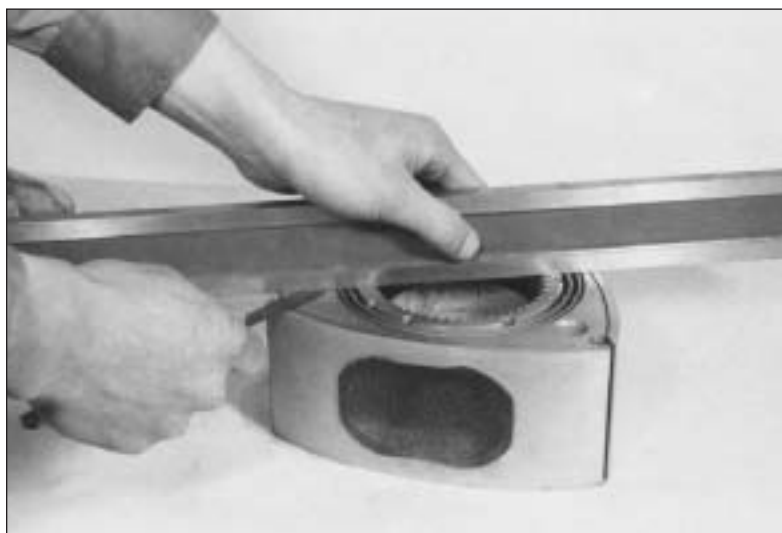


Figure 6

ALLOWABLE RANGE FOR ROTOR LAND PROTECTION IS:

12A ENGINES = 0.15 - 0.20 mm (0.0059" - 0.0079")

13B ENGINES = 0.20 - 0.25 mm (0.0079" - 0.0098")

On stock rotors, since the rotor gears are only pressed into place, carefully check to ensure the gear has not moved or "walked" outward. We recommend that you have a retaining ring installed to hold the stock rotor gears in place. It is very common for stock rotor gears to begin to protrude into the side housing surface at high rpm unless secured.

NOTE: See page TT-17 for Rotary Engine Balancing Tech Tips.

Rotor Bearing Tech Tips

Check for abnormal abrasions or signs of flaking or seizing. The bearing should be replaced if flaking is evident over one-half of its total area. If the old bearing does not have any excessive wear, reuse it, as an old bearing is generally preferred over a new one.

Measurements

Using an inside micrometer, measure the rotor bearing at twelve (12) points (as shown in Figures 7 and 8). Calculate two oil clearance measurements using the following formula:

1. [MINIMUM INSIDE DIAMETER] – [MAXIMUM JOURNAL DIAMETER]
2. [MAXIMUM INSIDE DIAMETER] – [MINIMUM JOURNAL DIAMETER]

ROTOR BEARING OIL CLEARANCE RANGE IS:

0.076 - 0.10 mm (0.0029" – 0.0039")

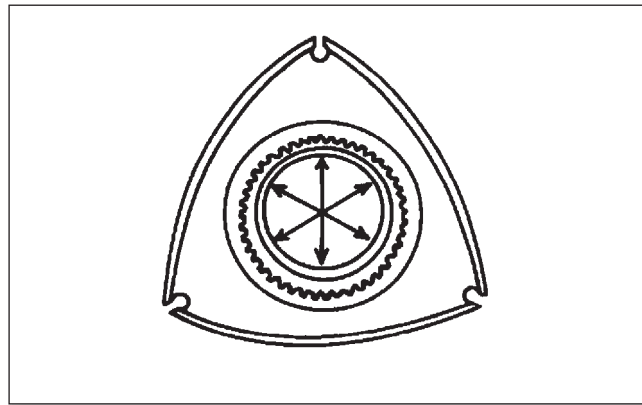


Figure 7

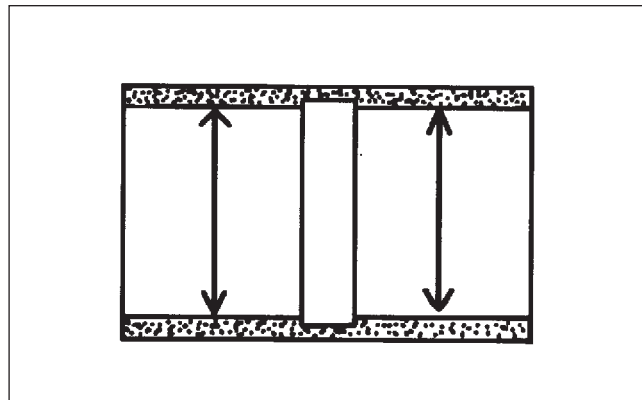


Figure 8

Bearing Removal

Drill out the locking screw with a 7 mm drill. Use the Mazda rotor bearing installer and remover tool (Part #0000-09-0102) to press out the bearing. Be sure to remove the adapter ring from the tool before removing the bearing. Also, be sure to press the bearing out from the side opposite the gear. After removing the bearing, clean the mating surface of the rotor.

Securing Rotor Bearing to Rotor

All rotor bearings used in competition should be modified to keep them from spinning inside the rotor. Competition factory rotors come equipped with three (3) set screws between the bearing and rotor casting. These screws eliminate such spinning. If you are using stock rotors, however, some form of bearing-to-rotor attachment must be used.

There are two methods used to prevent the rotor bearing from spinning inside the rotor. The traditional way is to use a locking screw. This modification is explained below. The other method involves the use of low-viscosity Loctite®.

Bearing Installation and Locking Screw Modification

Install the adapter ring onto the bearing installer tool. Press from the internal (gear) side. Ensure that the clinch lock is properly positioned. Press all the way down until the adapter ring contacts the bearing boss.

Installation of rotor bearings can be made easier by slightly heating rotor (100° F) and freezing bearing (32° F). This allows the rotor to expand and the bearing to shrink, providing more clearance for easier installation.

When installing locking screws, the bearing expander tool must be in place before drilling, to prevent the bearing from deforming. Drill three (3) set-screw holes 3.5 mm (0.137") in diameter, 8 mm (0.315") in depth, equally spaced around the rotor bearing. Holes must be drilled on the side opposite the rotor gear and no set screw should be within 1 inch of the rotor bearing seam. Next tap the three (3) holes with an M4-0.7 tap, then clean the threads with compressed air. Be sure to smooth the surface over the screw, then carefully clean the rotor to eliminate any metal shavings.

Side Seal Tech Tips

Measurement of Clearance Between Corner Seal and Side

With a feeler gauge (as shown in Figure 9), measure the clearance between the corner seal and the side seal.

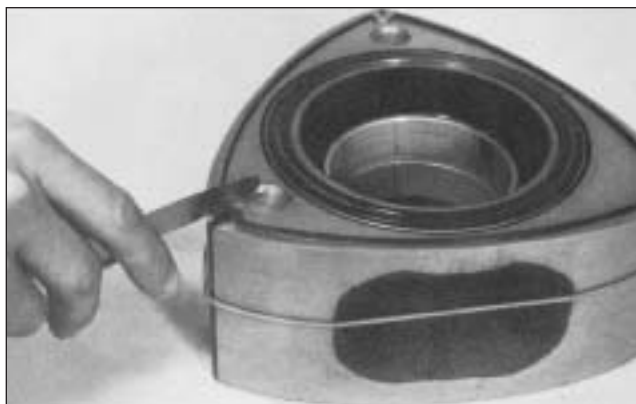


Figure 9

THE ALLOWABLE RANGE IS:

12A ENGINES = 0.05 – 0.15 mm (0.0020" – 0.0059")

13B ENGINES = 0.10 – 0.15 mm (0.0039" – 0.0059")

MAXIMUM UPPER LIMIT FOR REBUILDS IS:

0.20 mm (0.0078")

Clearance can be adjusted by removing material from the ends of the side seal. Purchasing the pre-cut side seals will make this job much easier.

Two different methods can be used:

1. If you have access to a rotary grinder, use a stone the same diameter as the corner seal to remove the material.
2. Use a flat file as shown in Figure 10; file the ends of the side seal so it will fit the corner seal. This angle should be identical to the original angle on the side seal.

Remember:

- Do not bend or alter the curve of the side seal. The curve should match the groove in the rotor.
- If you need to remove a considerable amount of material, cut the seal first, then file it to its final shape.
- For assembly purposes, remember to mark each side seal as you finish fitting them to a particular groove.

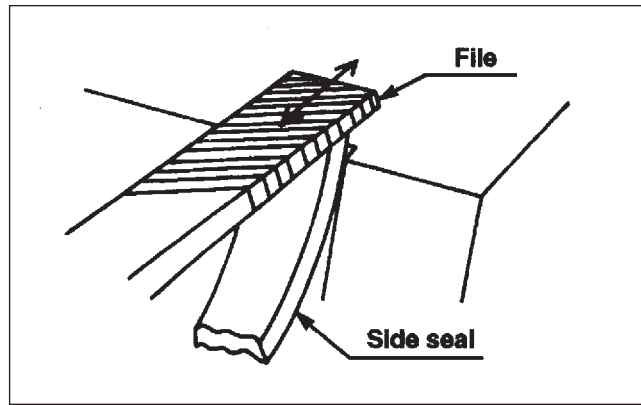


Figure 10

Side Seal Stroke Measurement

The side seal stroke should be checked by measuring the free length of each side seal spring, using a vernier caliper. Side seal springs should have a minimum free height of 0.5 mm (0.0196"). After installation of each spring and seal, ensure that the seal moves smoothly, up and down, within its groove.

Apex Seal Tech Tips

Check for damage or excessive wear in these areas:

1. Apex seal groove. Look at the rotor groove from the side (profile view), check for a V-shape at the top of the groove. This is a sign of excessive seal drag.
2. Apex seals that are broken on the ends (corners chipped off, etc.) or that show signs of any scrubbing against the side housings. Seals will actually expand under excessive rotor temperatures. Improper rotor temperatures are normally the result of:
 - a. Excessive combustion temperatures caused by overly lean mixture or by ignition being too far advanced.
 - b. Insufficient oil flow to the inside of the rotor from the eccentric shaft.
 - c. An improper oil/fuel mixture or defective metering oil pump.

If the apex seal tip shows any signs of uneven or unusual wear (chipping or scarring), it is sign that the rotor housing surface is operating at excessive temperatures. This is an indication that coolant temperatures are also too high. Modify or change the following if you suspect excessive cooling system or rotor housing temperatures:

1. Increase the cooling system flow rate by reducing water pump speed to eliminate cavitation. (See Cooling System Tech Tips, TT-26.)
2. Increase the radiator capacity and efficiency. (See Cooling System Tech Tips, TT-26.)
3. Modify the water jackets of the rotor housing to provide additional surface area for increased cooling efficiency. (See Cooling System Tech Tips, TT-26.)

Apex Seal Measurements

1. After marking each apex seal to denote its location on the rotor, measure each apex seal as in Figure 11.

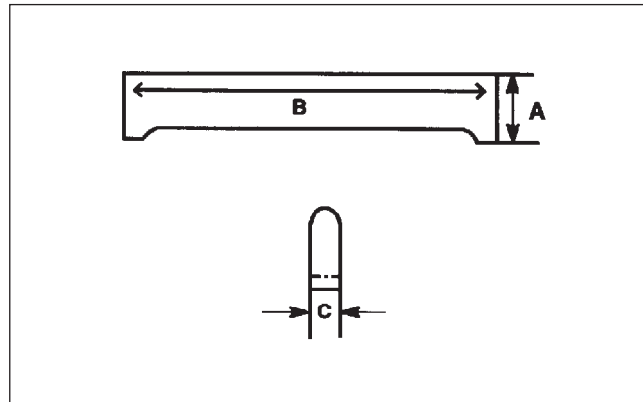


Figure 11

- Measure the height (A) at both ends.
- Measure the length (B).
- Measure the width (C) at both ends.

NOTE: Seals measuring less than 7.0 mm (0.2756") in height must be replaced. When new, the apex seal will be approximately 8.5 mm (0.3347").

2. Using the rotor housing width calculation (see rotor housing measurement - top of housing), calculate the clearance between the apex seal and the side housing as follows:

[ROTOR HOUSING WIDTH (TOP OF HOUSING)] - [APEX SEAL LENGTH] =
CLEARANCE

ALLOWABLE RANGE FOR APEX SEAL TO SIDE HOUSING CLEARANCE IS:

12A ENGINES = 0.09 - 0.10 mm (0.0035" - 0.0039")

13B ENGINES = 0.12 - 0.125 mm (0.0047" - 0.0049")

NOTE: For endurance engines, we recommend additional seal to housing clearance - to a maximum of 0.15 mm (0.006").

- a. Adjust apex seal/side housing clearance. If measured clearance is lower than allowable range, it can be adjusted. However, it is extremely important that the ends be kept square. To ensure the seals are ground absolutely square, we recommend using a surface grinder. Install the apex seal in the seal groove and secure it with a large rubber band. The rotor can then be mounted on the surface grinder to ensure that an accurate cut is made.
- b. Sanding the end of the apex seal with #400 to #600 emery paper is also an alternative way to remove excess material. However, it is very difficult to ensure the edge will remain square using this method. If you do not have access to a surface grinder, use a guide (see Figure 12). Be careful not to remove too much material from the apex seal.

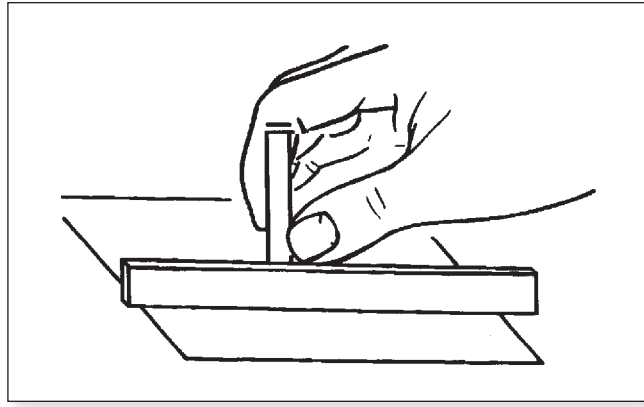


Figure 12

3. Measuring gap between apex seal and apex seal groove.

- a. This measurement requires a feeler gauge. Allowable range for apex seal to groove clearance is: 0.07 - 0.076 mm (0.0027" - 0.0030").

NOTE: For maximum horsepower, some engine builders prefer additional seal-to-groove clearance (0.0889 - 0.1016 mm/0.0035 - 0.0040"). The increased clearance allows combustion gas to enter the gap between the seal and groove, pushing the seal against the rotor housing with greater force. However, this increased clearance also significantly increases apex seal wear.

- b. The apex seal/apex seal groove clearance can be adjusted by sanding the flat sides of the apex seal with #400 to #600 grit sandpaper on a flat surface, such as a piece of glass or side housing. Check the measurement often to avoid removing too much material.

Apex Seal Stroke Measurement

Apex seal stroke is the available travel of the seal spring in its groove, and is a function of the seal spring.

To measure the apex seal stroke, check the free height of the seal spring by placing it (arch upward) on a level surface. Free height should be measured using a vernier caliper.

MINIMUM SEAL (FREE HEIGHT) SHOULD BE:

12A ENGINES = 3.5 mm (0.138")

13B ENGINES = 5.0 mm (0.197")

After installation of each seal and spring, ensure that the seal moves smoothly, up and down, within its groove.

Corner Seal Tech Tips

Corner seals should always be replaced when rebuilding an engine. If necessary, the seal recess should be cleaned out using a 7/16" "AN" bolt, using the unthreaded section of the shank, cut off squarely. In fitting corner seals, generally, the best fit is a tight one. To make sure it is not too tight, depress the seal with your finger; if it pops back up, it is correct.

Calculation of the clearance between the corner seal and groove is:

[INSIDE DIAMETER OR CORNER SEAL RECESS] – [CORNER SEAL DIAMETER]

THE ALLOWABLE RANGE FOR THIS CLEARANCE IS:

0.02 - 0.048 mm (0.0008" - 0.0019")

Corner Seal Stroke Measurement

Corner seal stroke is measured by checking the corner seal spring free length, using a vernier caliper.

MINIMUM FREE LENGTH IS: 0.5 mm (0.020").

After installation of each spring and seal, ensure that the seal moves smoothly, up and down, within the recess.

Counterweight Tech Tips

Counterweights balance the rotors. If you are changing rotor weight, you will also need to change or modify the counterweights. If you are using a lightened flywheel, to keep everything in balance, you will need to use a rear counterweight for an automatic transmission flexplate.

Stock front counterweights used on RX7s after 1980 are smaller and their weight is more concentrated than earlier types. They have a 100° angle instead of the 180° angle found on earlier counterweights, which helps reduce rotating mass weight.

Using the lightest flywheel available will allow your race engine to "rev" more freely and reach its power band more quickly. However, SCCA Improved Touring class and many other classes do not allow changing to a lightened flywheel. It is legal to update or backdate parts from other years of the same model. The 1981-82 RX7 flywheel (Part #N201-11-700) is the lightest stock flywheel available for the 12A, weighting 24 lbs. Early 1974-80 12A flywheels are 32 lbs. and 1983-85 12A flywheels are 27 lbs.

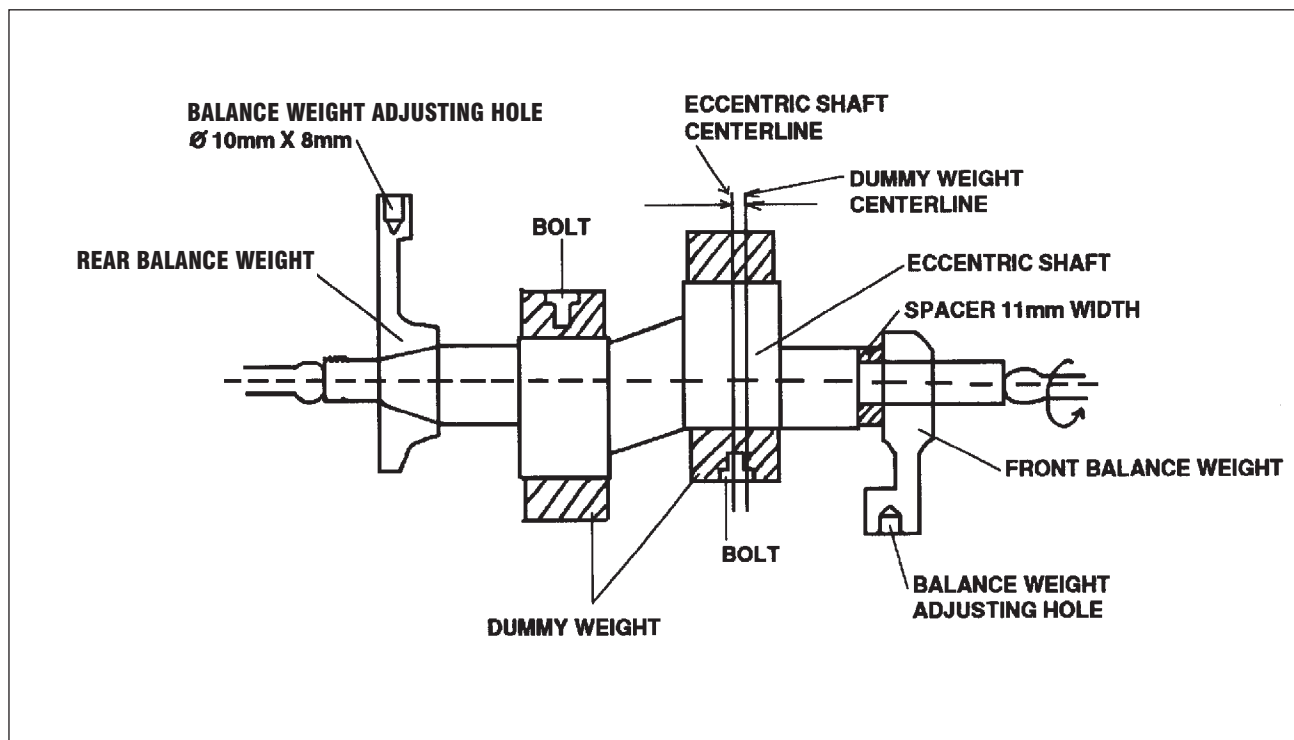
If changing to the 1981-82 12A flywheel (Part #N201-11-700) be aware of these necessary parts/modifications:

- For 1979-80 RX7 or a pre-1979 rotary model: Purchase a 1981-82 RX7 manual transmission front counterweight (Part #N201-11-511). Rotary models prior to 1979 — be advised that changing to an RX7 flywheel may not be legal.

- For a 1983-85 RX7; purchase a 1981-82 RX7 manual transmission front counterweight (Part #N201-11-511). The combination of 1981-82 flywheel and 1983-85 rotors is recommended because they are the lightest stock components available.

The complete rotational component group (eccentric shaft, rotors, flywheel, counterweight) must be re-balanced when changing any of the components.

Rotary Engine Balancing Tech Tips (Procedures and Specifications)



Engine Balance Procedure

ENGINE BALANCE SPECIFICATIONS

	12A COMPETITION ENGINE	13B COMPETITION ENGINE	20B COMPETITION ENGINE	NOTES
ROTOR				
Rotor Weight Including Rotor Gear	4260 grams	4920 grams	3750 grams	
Maximum Rotor Unbalance	50 grams	50 grams	50 grams	
Maximum Balance Weight Unbalance	50 grams	50 grams	50 grams	
Balance rpm	720 rpm	720 rpm	720 rpm	
Dummy Weight	4797 grams	5474 grams	4304 grams	Includes weight of rotor, all seals, springs and rotor bearing.
Center Offset	2.05 mm	2.70 mm	2.75 mm	Difference of center offset to each gear side.

Stationary Gear/Main Bearing Tech Tips

Check for any indications of unusual wear, cracking or damage on the teeth. Any cracks will normally appear at the root of the gear teeth.

Measurements

1. With an inside micrometer, measure the inside diameter of the main bearing at the eight (8) points shown in Figures 13 and 14.

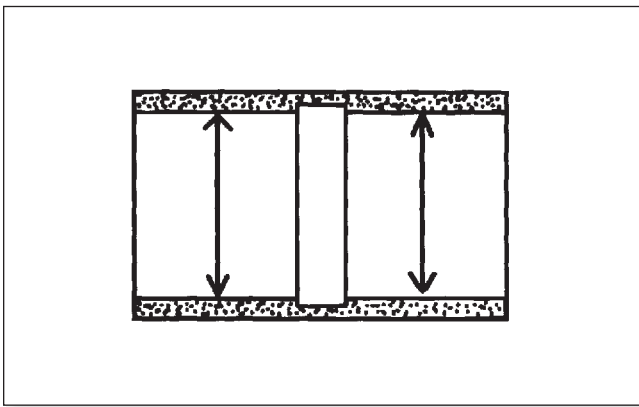


Figure 13

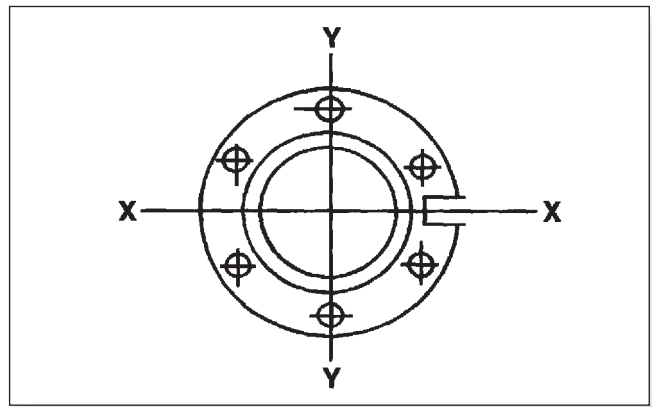


Figure 14

2. Determine the oil clearance using the following calculations:

$$A = (\text{MINIMUM INSIDE DIAMETER}) - (\text{MAXIMUM DIAMETER OF BEARING JOURNAL})$$

$$B = (\text{MAXIMUM INSIDE DIAMETER}) - (\text{MINIMUM DIAMETER OF BEARING JOURNAL})$$

THE CLEARANCE OF DIMENSIONS A & B FOR ENGINES OPERATING UP TO 8500 RPM SHOULD BE 0.076 - 0.089 MM (0.0030" - 0.0035"). CLEARANCE FOR ENGINES OPERATING ABOVE 8500 RPM SHOULD BE 0.101 MM (0.0040"), PARTICULARLY AT THE REAR JOURNAL BECAUSE OF ECCENTRIC SHAFT FLEX CAUSED BY THE COUNTERWEIGHTS.

NOTE: When using a stock eccentric shaft, allow an additional 0.013 mm (0.005") of clearance at the rear half of the rear journal.

Bearing Replacement

1. To remove the bearing, use a press and main bearing puller (Part #0000-09-0103). Remove the adapter ring from the puller and press from the gear side (as shown in Figure 15).

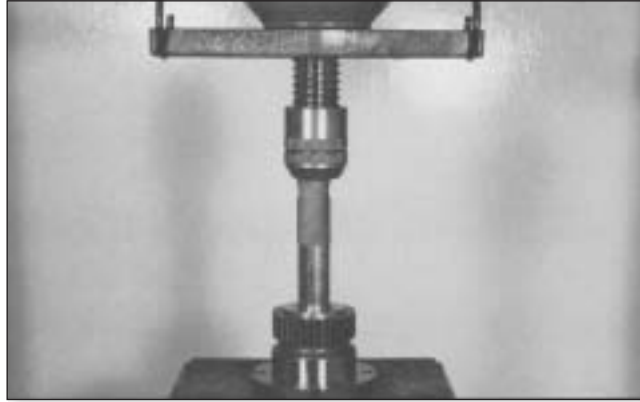


Figure 15

2. When installing a new bearing, follow these procedures:
 - a. Attach the adapter ring to the press tool.
 - b. Make certain the clinch lock section of the bearing is in the proper location. In addition, to prevent galling of the bearing or gear, lubricate the outside of the bearing with an anti-seize lubricant or Loctite® Sleeve Retainer. Slightly heating the gear (100° F) and freezing the bearing (32° F) will ease installation.
 - c. Press the bearing all the way down until the adapter contacts the gear flange. (See Figure 16.)



Figure 16

Eccentric Shaft Tech Tips

Modifications

If a stock eccentric shaft is being used in a high rpm engine, replace the stock oil jet with a competition oil jet (Part #8553-11-411). This modification is not recommended for street use.

Inspecting the Eccentric Shaft

Journals: Look for scratches, nicks, scuffing or any other abnormal signs of damage.

Oil galley: If the blind plug is removable, unscrew the plug with an allen wrench and clean the oil galley with a brush and solvent. Then blow compressed air into the galley to remove all contaminants. If the shaft has a pressed-in blind plug and there has been any bearing failure, the shaft must be replaced.

Blind plug: Check to ensure the blind plug is tight. A loose plug will allow oil leakage.

Needle bearing: Insert the transmission input shaft and note the fit. Check for any seal damage and replace if necessary.

Measuring Eccentric Shaft Journal Diameter

1. Measure across each journal in two (2) directions, X and Y, as shown in Figure 17. Measure each journal in this way at four (4) points along its axis. Always replace thermo-pellet valve assembly when overhauling your engine (1986-95 models).

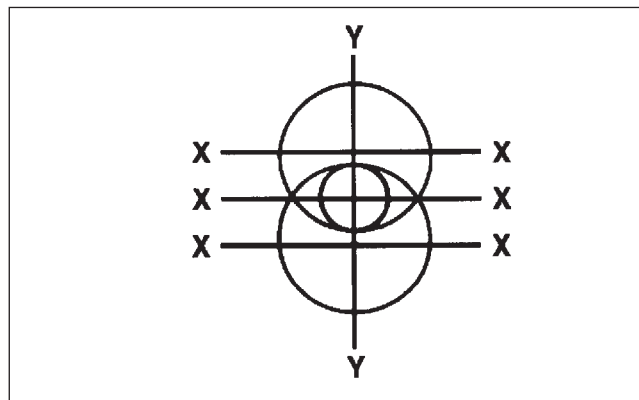


Figure 17

2. Measure the run-out using V-blocks, a dial indicator and a stand. Find a flat surface and measure as shown in Figure 18. The allowable limit for run-out is 0.05 mm - 0.1 mm. The shaft should be replaced if this limit is exceeded.

ALLOWABLE RANGE FOR ECCENTRIC SHAFT END PLAY IS:

0.04 - 0.07 mm (0.0016" - 0.0028")

NOTE: Remember to put a dab of grease in the pilot bearing.

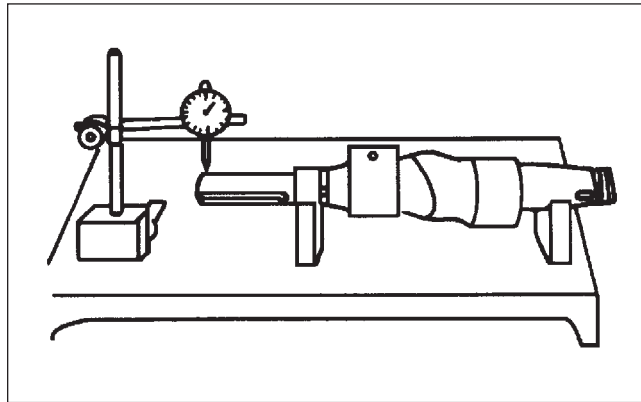


Figure 18

Dry Sump Tech Tips

Fitment of the Factory Dry Sump System requires use of a Competition Dry Sump Regulator (Part #4801-14-250) and Dry Sump Oil Pan Plate (13B-Part #4801-10-701A/12A-Part #0000-01-9201).

Extensive modifications to the front and intermediate side housings and rotor housings are necessary for fitment of the suction tubes for the dry sump system. Please contact us for further information on these modifications. In addition, alternate engine mounting is required when using the dry sump system. Please call for information about these modifications.

Remote dual oil filters (without an internal bypass) are recommended for any dry sump system. Be sure to mount the remote filter mount so that the filters are screwed on with the open end up. Oil filters should always be filled with oil before installation.

Rotary Engine Tech Tips – Miscellaneous

The information provided in this catalog is intended for use by individuals with some knowledge of rotary engine rebuilding. There are many experienced high-performance rotary engine rebuilders across the country. Please contact us for the locations of these shops.

Engine Assembly Notes

Once you have determined that all clearances are correct, be sure to coat all surfaces with petroleum jelly. Seals can also be kept in position using petroleum jelly. Using Hylomar® is recommended on and around the water and tubular dowel O-Rings. Petroleum jelly will tend to expand these rubber O-Rings quickly.

Engine Break-In Procedures

A proper and careful break-in period for a newly rebuilt engine is extremely important. The break-in procedures listed on the following page may seem excessive. However, an engine that has been broken in properly will see more power across the engine's rpm range and longer service life than a comparable engine that has not. If using the old bearings, please note the difference in hours and mileage requirements for the break-in period.

When breaking in any engine (race or stock), use a low ash content, mineral-based racing oil (20 w or 30 w). After the break-in period, change to a mineral or synthetic racing oil (30 w or 40 w).

Race Engine Break-In

Using a dynamometer for engine break-in is preferred. If you do not have access to a "Dyno," use the mileage break-in figures on the next page. The engine should first be run at idle for 30-45 minutes. During this time, be sure to check for leaks and keep an eye on the gauges. Ideally, for the first 100 miles (depending on use of new or used bearings), avoid operating the engine above 5000 rpm or under heavy load.

From 100-200 miles, gradually increase rpm, but never allow the engine to approach red line. Beyond 200 miles we recommend only short bursts of power approaching red line for 100 miles. At this point, change the break-in engine oil. The engine break-in period is now complete.

TIME & MILEAGE RECOMMENDATIONS

DYNO HOURS			MILEAGE	
RPM	NEW BEARINGS	OLD BEARINGS	NEW BEARINGS	OLD BEARINGS
1500	0.5	-	-	-
2000	0.5	0.5	-	-
2500	0.5	-	-	-
3000	0.5	-	-	-
4000	1.0	0.5	-	-
5000	1.0	0.5	60	-
6000	1.5	0.5	60	25
6500	1.5	0.5	-	-
7000	-	-	60	25
8000	-	-	60	25
8500	-	-	60	25
TOTAL	7.0	2.5	300	100

RECOMMENDED TEMPERATURE, PRESSURE & COMPRESSION

	BREAK-IN RANGE	NORMAL RANGE	MAXIMUM LIMIT
Coolant Temperature (Outlet Side)	160° - 175° F	160° - 195° F	205° F
Oil Temperature (Oil Pan)	160° - 175° F	195° - 230° F	250° F
Oil Pressure Stock Pressure Regulator Early (Pre-1979) Engines with Shimmed Pressure Regulator Competition Pressure Regulator		70 psi @ 3000 rpm 80-85 psi @ 3000 rpm 105-115 psi @ 3000 rpm	
Engine Compression (1976-85 Engines) Range for earlier engine will be slightly lower. Difference between chambers should not exceed 20 psi (hot).		105-150 psi @ (HOT) 80-100 psi @ (HOT) (w/carbon seals)	
Engine Timing* (Factory Recommended Settings)		20° BTC leading 20° BTC trailing	

NOTE: The use of a tell-tale tachometer or an engine rpm cutoff for race engines is highly recommended.

*Some modified (ported) engines may require alternate engine timing.

TIGHTENING TORQUES

ITEM	TORQUE	
	FOOT LBS.	KG-m
Tension Bolts	25	3.5
Drive Pulley	65-100*	9-14*
Locknut (counterweight)	290-360	40-50
Flywheel	27-40	1.6-2.3
Front Cover	12-17	1.6-2.3
Stationary Gear	12-17	1.6-2.3
Oil Pan	5-7	0.7-1.0
Water Pump	12-17	1.6-2.3
Water Pump Pulley	5-7	0.7-1.0
Pressure Regulator	22-29	3-4
Spark Plug	9-13	1.2-1.8
Intake Manifold	12-17	1.6-2.3
Exhaust Manifold	32-43	4.4-5.9
Pressure Plate	13-20	1.8-2.7

*Specific torque is determined by end play measurement.

CLEARANCES & MEASUREMENTS

ITEM	STANDARD		ENGINE TECH TIPS REFERENCE PAGE NUMBER
	12A	13B	
Rotor Housing Width	70 mm (2.756")	80 mm (3.149")	TT-4
Clearance Between Rotor and Rotor Housing Surface	0.4 - 0.7 mm (0.0257" - 0.0276")	0.45 - 0.75 mm (0.0177" - 0.0295")	TT-5
Maximum Permissible Difference in Width of Rotor Housing	0.06 mm (0.0024")		TT-4
Spark Plug Hole Crack Limit	0.08 mm (0.31")		TT-4
Clearance Between Side Housing and Rotor	0.13 - 0.17 mm (0.0051" - 0.0067")	0.13 - 0.2 mm (0.0051" - 0.0079")	TT-8
Side Housing Step Wear	0.1 mm (0.0039")		TT-7
Rotor Width (Gear to Land)	69.80 mm (2.748")	79.80 mm (3.142")	TT-8
Rotor Land Protection	0.15 - 0.2 mm (0.0059" - 0.0079")	0.2 - 0.25 mm (0.0079" - 0.0098")	TT-9
Clearance Between Apex Seal and Apex Seal Groove	0.07 - 0.076 mm* (0.0027" - 0.0030")	0.13 - 0.2 mm (0.0051" - 0.0079")	TT-15
Clearance between Apex Seal and Side Housing	0.09 - 0.1 mm* (0.0035" - 0.0039")	0.120 - 0.125 mm (0.0047" - 0.0049")	TT-14

CLEARANCES & MEASUREMENTS, continued ...

	STANDARD		ENGINE TECH TIPS REFERENCE PAGE NUMBER
	I 2A	I 3B	
Clearance Between Side Seal and Corner Seal	0.05 - 0.15 mm (0.0020" - 0.0059")	0.1 - 0.15 mm (0.0039" - 0.0059")	TT-12
Rotor Bearing Oil Clearance	0.076 - 0.10 mm (0.0029" - 0.0039")		TT-10
Main Bearing Oil Clearance	0.076 - 0.089 mm* (0.0030" - 0.0035")		TT-18
Maximum Permissible Run-Out of Eccentric Shaft	0.05 mm (0.002")		TT-19
Eccentric Shaft End Play	0.04 - 0.07 mm (0.0016" - 0.0028")		TT-20

*Check Tech Tips Section for Alternative Specifications.

SEAL SPRING STROKE (FREE HEIGHT)

	STROKE MORE THAN	ENGINE TECH TIPS REFERENCE PAGE NUMBER
Apex Seal, I 2A	3.5 mm (0.138")	TT-15
Apex Seal, I 3B	5.0 mm (0.197")	TT-15
Corner Seal	0.5 mm (0.020")	TT-16
Side Seal	0.5 mm (0.020")	TT-13
Oil Seal	0.5 mm (0.020")	

Cooling System Tech Tips

A common problem with the rotary engine when used in sustained, high rpm use (road racing) is that of overheating. The following recommended modifications are intended for racing use ONLY. Unfortunately, a single modification usually will not solve an overheating problem. It generally takes a few (if not all) modifications to solve a serious overheating problem, depending on the conditions (temperature, etc.) you race under.

Pulleys

Changing to competition drive and water pump pulleys will significantly reduce, if not eliminate, water pump cavitation. Water pump cavitation on a rotary engine (with stock pulleys) is unavoidable at rpms above 6500-7000 and is a significant contributor to engine overheating. Cavitation is defined as a disruption of the water/coolant flow through the water pump. It is created when the water pump impeller spins at such a high speed that it is actually churning instead of pushing the coolant through the pump. Changing to a larger water pump pulley and a smaller drive pulley, allows the water pump to spin at lower rpms, effectively transporting the fluid through the pump. (NOTE: An alternate size alternator pulley is available that reduces the speed at which your alternator spins, providing longer alternator life.)

Water Pump/Thermostat

If you are using a stock (cast-iron) water pump, we recommend "gutting" the stock thermostat, leaving just the thermostat casing. Because some "restriction" is helpful, generally removing the thermostat is not as effective as using a gutted thermostat or restrictor. It is also important to plug the thermostat housing's water bypass. This can be done very easily by tapping the hole (1/2" pipe tap) and installing a plug.

Radiator/Oil Cooler

In general, we have found that for road racing, rotaries need a heavy duty radiator and oil cooler to improve engine cooling. We offer competition aluminum radiators, heavy duty oil coolers and water/oil heat exchangers for rotary applications.

A water/oil heat exchanger can be used with, or in place of an oil cooler. They are very effective in bringing down oil temperatures.

1983-85 12A RX7s

The oil cooler on these RX7s is mounted under the oil filter. It should not be used for competition purposes. Early model (1979-82 RX7s) use a shorter radiator than the 1983-1985 RX7s that allows room for the oil cooler to be mounted underneath. Although an oil cooler can be mounted in front of the 1983-1985 RX7 full length radiator, this set-up seems to significantly restrict air flow to the radiator, which can cause overheating.

Cooling System Pressure

Increasing the cooling system pressure by changing the cap will raise the boiling point of the fluid and will also keep the fluid from being expelled into the overflow tank. We recommend use of a radiator cap with a pressure rating no higher than 17-18 lbs.

Cooling System Fluid

We recommend using a 90% water to 10% glycol mix. Water has superior heat transfer properties (2-1/2 times better) than glycol-based coolant products. Using distilled or purified water will reduce scale build-up.

It's important to remember to change back to a 50/50 water/glycol mix when storing the car, especially if you live in severe winter climates.

Quarter Master Clutch Tech Tips

“Moment of Inertia”

Moment of inertia, with respect to rotation, is called angular momentum. Angular momentum is the force that has to be overcome to spin a circular component (e.g., a flywheel and clutch). It is a function of the mass of the part and the radius on which the mass is positioned. The more centered the mass is on a circular part, the lower the angular momentum, and the less horsepower is needed to spin the part. This translates to the flywheel/clutch assembly being able to accelerate faster at every rpm range.

For example, Quarter Master's aluminum flywheel and 7-1/4" aluminum clutch unit together are rated at 146.3 inch-pounds. In other words, the assembly requires approximately 146.3 inch-pounds of force to initiate movement. In comparison, Quarter Master's aluminum flywheel and the new compact 5-1/2" aluminum clutch unit require approximately 101 inch-pounds of force to initiate movement (a 30% reduction).

Installation Tips

Check for any oil leaks

If any trace of oil is found within the bellhousing or at the back of the engine, determine the source and replace the seal or gasket.

Pilot bearing inspection

Before installing your new Quarter Master clutch, carefully inspect the pilot bearing for wear. Replace the bearing if any wear is found.

Bellhousing alignment inspection

To prevent input shaft and clutch hub spline wear, check to ensure that the transmission face of the bellhousing is square to the eccentric shaft face (within .002" indicated runout). The bellhousing must be machined flat if outside of this measurement.

The transmission receiver hole of the bellhousing should be concentric to the eccentric shaft (within .006" indicated runout). If not within specifications, you will need to relocate the dowel pins on the engine block.

Input shaft inspection

Be sure the clutch discs slide all the way down the input shaft without binding. Check for any signs of twisting or bending of the input shaft. Quarter Master does not recommend using anti-seize compound or any other lubricant on the input shaft splines.

Flywheel installation

Insert the 5/16" (grade 8) bolts into the flywheel from the back side. (This is not required of flywheels with spline nuts.) Bolt the flywheel to the eccentric shaft and torque as required. Use Loctite® and/or safety wire to secure these bolts (do not use star washers).

Clutch housing installation

Install the clutch housing over the 5/16" bolts, placing it squarely onto the flywheel. Index one 5/16" bolt head against the lip of the back side of the flywheel. Check to ensure the bolt fits freely into the housing. Any binding of these bolts can cause serious damage to the clutch, clutch pack and floater plate installation.

Quarter Master clutch packs for rotary applications include one end disc and one center disc. The hub of the end disc protrudes from only one side. The hub on the center disc has a flat hub which protrudes from both sides of the disc. Install the clutch pack and floater plate in this order:

- 1) Install the center clutch disc (in either direction).
- 2) Install the floater plate (in either direction).
- 3) Install the end disc with rivet heads (stamped Q.M.I.) facing the engine.

Pressure plate and clutch cover installation

With clutch pack and floater plate in position, install the pressure plate into the housing with the flat side against the disc. Then, install the clutch cover onto the housing, checking dowel pin alignment (7-1/4" clutch only). The cover fits on one way. Install the washers and tighten (finger tight) the nuts onto the clutch bolts. Using an alignment tool or input shaft, align the clutch discs and torque to 20 foot-lbs.

Release bearing

Use a Quarter Master radius-faced release bearing — **do not use a stock bearing**. Minimum clearance between the release bearing and clutch fingers should be .125". Be sure to install a return spring to keep the bearing from riding on the clutch fingers. In addition, a stop should be installed to limit clutch pedal travel. Over-traveling the diaphragm spring (clutch fingers) will shorten the life of the clutch and lead to premature failure of the engine thrust bearing.

Maintenance Information

Flywheels

Check for ring gear damage, including cracks. Carefully check for broken or cracked welds on flywheels with welded-on ring gears.

Check disc surface for warpage. The maximum allowable warpage is .006". If resurfacing the flywheel, maintain a step height of .100" (+.000"/-.002").

Housing *(7-1/4" and 5-1/2" clutches)*

Check to be sure the pressure plate and floater plate(s) slide through the housing freely. Otherwise, the clutch will not release properly. Check for cracks, broken teeth, discoloration (caused by excessive heat) or grooves cut into teeth by the friction disc. If any damage is found, check for misalignment or a worn pilot bearing. Replace any component that shows wear.

■ 7-1/4" clutches

The housing register measures 7.356" – 7.357" when new. The minimum measurement should never be less than 7.355" to maintain proper location of the housing.

■ 5-1/2" clutches

The housing register measures 5.616" – 5.617" to maintain proper locating of the housing.

Clutch discs *(7-1/4" and 5-1/2" clutches)*

Check for cracked or warped discs or hubs, loose rivets and excessive spline wear. Replace the clutch discs when needed, according to the following specifications.

Minimum disc thickness: 2-DISC (GOLD) = .090"

Floater plates *(7-1/4" and 5-1/2" clutches)*

Check for broken teeth and significant warpage. Maximum allowable warpage is .006". Floater plate thickness measures .179" – .18" when new. The minimum allowable thickness is .177".

Pressure plate *(7-1/4" and 5-1/2" clutches)*

Check for broken teeth and significant warpage. Maximum allowable warpage is .006". The two-disc pressure plate measures .534" when new. The minimum allowable thickness is .528".

Clutch cover *(7-1/4" and 5-1/2" clutches)*

Check for diaphragm discoloration and excessive wear on diaphragm fingers. Quarter Master can rebuild your clutch cover if it shows excessive wear and cannot be serviced elsewhere.

For additional information regarding Quarter Master clutches, please contact them directly at (847) 540-8999.

Differential/Drive Train Tech Tips

Differential Information

As a rule, differential temperatures should stay below 200° Fahrenheit range. Consistent temperatures above this level can reduce the service life of the limited slip and differential significantly.

A new differential and limited-slip unit should be broken in over a period of approximately 200-300 miles. Operating temperatures that slightly exceed 200° F during this period are normal. A 90W hypoid gear oil should be used for the break-in period. Thereafter, we recommend switching to a synthetic gear lube that is compatible with limited-slip differentials. Torsen-Gleason differentials do not require limited-slip gear oil.

Setting Up the Ring & Pinion

Use the stock factory specifications in your shop manual for adjusting the ring & pinion. Attaining the proper tooth contact pattern is essential to obtaining the optimum service life from the ring & pinion. For racing purposes, a tooth pattern that contacts at the edge or "toe" side of the teeth is preferred. This type of contact pattern will make more noise than a "centered" contact pattern; however, it will reduce the chance of teeth breakage. Gear marking compound will provide the most accurate display of the ring-to-pinion gear tooth pattern.

After obtaining the desired tooth pattern, follow the recommended preload specifications in your factory service manual. We recommend use of a new crush collar each time you rebuild the differential. Replacing the pinion bearings is also recommended. See the Mazda Special Tool section in Appendix A of this catalog for a listing of differential tools available.

Installation Tips

When installing a limited-slip unit, new side bearings should be purchased, as old bearings are normally damaged when removed.

If you are installing the competition limited-slip unit in a 1980 or earlier model, the axle shafts must be modified. Remove 1/8" from the inner end of each axle.

Maintenance

The limited-slip friction plates and discs should be checked periodically for wear and replaced, if necessary. Oversize friction discs are available for Competition units and some stock units. Friction discs and plates should be replaced when they reach approximately .0748". Their thickness when new will be approximately .0787" +/- .0008".





**APPENDIX:
SPECIAL TOOLS**



Appendix A

MAZDA SPECIAL TOOLS

MAZDA SPECIAL TOOLS				
PART NUMBER	CODE	# REQ.	DESCRIPTION	NOTES
0000-09-0101	S	I	Ring Gear Brake	Part #49F0-11-101
0000-09-0102	S	I	Rotor Bearing Puller and Installer	Part #4908-13-240
0000-09-0103	S	I	Main Bearing Puller and Installer	Part #4908-13-235
0000-09-0104	S	I	Flywheel Box Wrench	Part #4908-20-035
0000-09-0105	S	I	Pilot Bearing Puller	Part #4912-85-071
0000-09-0106	S	I	Pilot Bearing Installer	Part #4908-23-072A
0000-09-0107	S	I	Dowel Pin Remover	Part #4908-13-21A
0000-09-0201	S	I	Manual Transmission Bearing Puller Set	Part #4908-39-45C
0000-09-0202	S	I	Differential Gauge Block	Part #4903-05-555
0000-09-0203	S	I	Differential Gauge Body	Part #4907-27-570
0000-09-0204	S	I	Differential Side Bearing Wrench	Part #4902-59-720
0000-09-0205	S	I	Differential Pinion Model	Part #4985-31-565
0000-09-0206	S	I	Differential Drain Plug Wrench	Part #4902-59-730
0000-09-0207	S	I	Differential Gauge Block (Miata)	Part #49N0-27-001
0000-09-0208	S	I	Oil Filter Wrench (Miata)	Part #49G0-14-0010
0000-09-0209	S	I	Digital Code Checker	Part #49H0-18-9A1A
0000-09-0210	S	I	System Selector	Part #49B0-19-9A0

NOTE: Please call (800-435-2508) if you need a Mazda Special Tool not shown here.

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