

CHAPTER 63

MAIN ROTOR DRIVE SYSTEM

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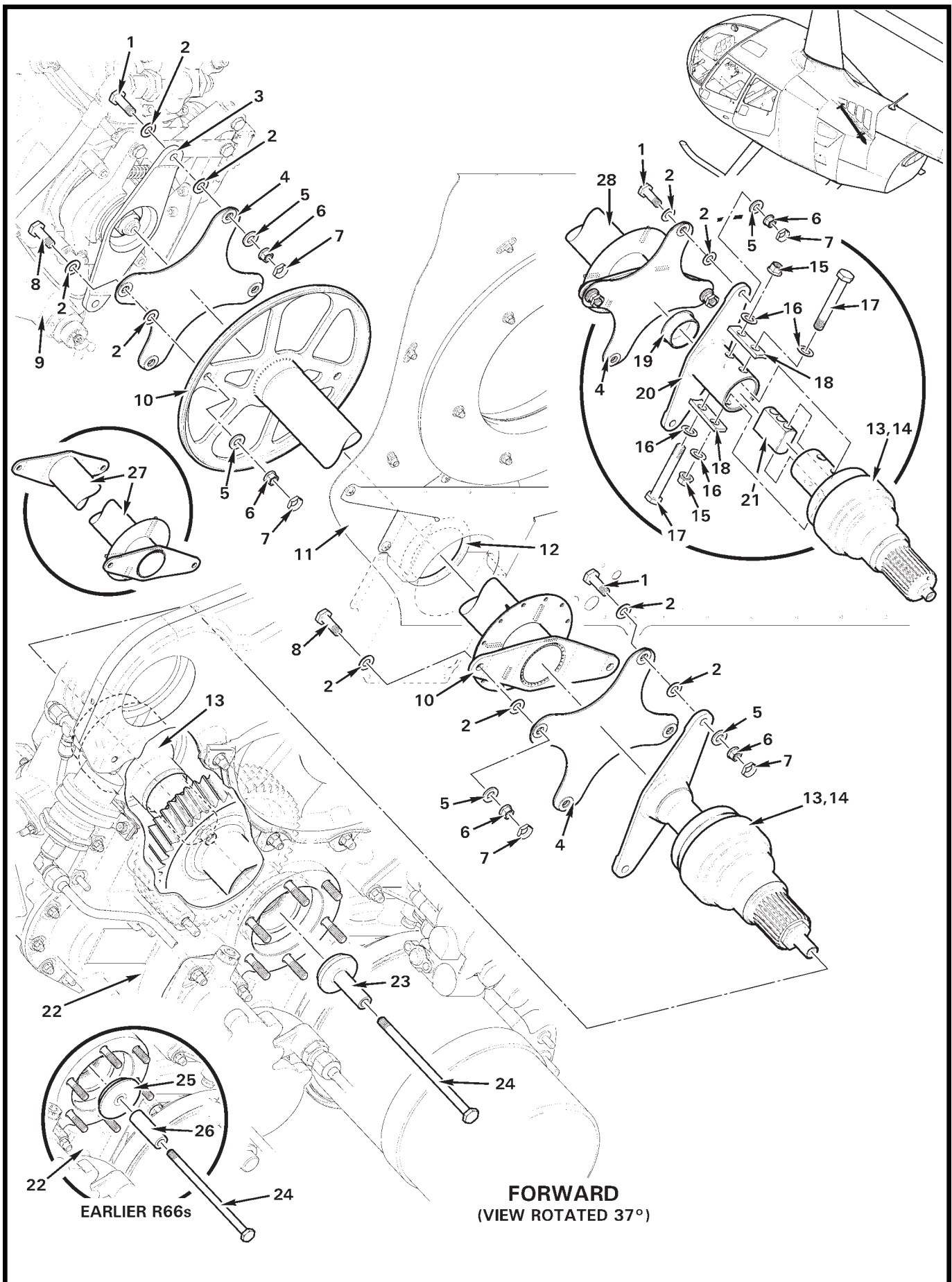


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE SHAFT WELDMENT & CLUTCH ASSEMBLY				
63-1-1	NAS6604-6	Bolt	X	4
2	NAS1149F0432P	Washer (or NAS1149F0463P washer; see R66 Maintenance Manual for shimming requirements)	X	16
3	F910-1	Yoke (Ref, see Figure 63-3)		
4	A947-2	Flex Plate Assembly (revision H or subsequent)	X	2
5	NAS1149F0463P	Washer (or NAS1149F0432P washer; see R66 Maintenance Manual for shimming requirements)	X	8
6	D210-4	Nut	X	8
7	B330-13	Palnut	X	8
8	NAS6604-5	Bolt	X	4
9	F006-1	Main Rotor Gearbox Assembly (Ref; see Figure 63-3)		
10	F642-7	Shaft Assembly (rev. H and subsequent)	X	1
11	F234-1	Firewall (Ref)		
12	NAS557-32A	Grommet	X	1
13	F018-1	Clutch Assembly (coat splines and clamping face with item 14 at installation)	X	1
	F018-1	Clutch Assembly (rev. C and prior include items 15 thru 21; coat splines and clamping face with item 14 at installation) . .	X	1
14	A257-1	Lubricant (also A257-9 or A257-12)	X	A/R
15	MS21042L5	Nut	X	2
16	NAS1149F0532P	Washer	X	4
17	NAS6605-26	Bolt	X	2
18	A191-1	Block	X	2
19	B278-2	Plug	X	1
20	F906-1	Yoke (install using wet primer)	X	1
21	A553-1	Block	X	1
22	F145-1	Engine (Ref)		
23	G732-3	Cap	X	1
24	NAS6604-67	Bolt	X	1
25	G732-2	Cap	O	1
26	C130-62	Spacer	O	1
27	F642-1	Shaft Weldment (Ref; rev. A thru D, no longer available)		
28	F642-6	Shaft Weldment (rev. E thru G, no longer available)	O	1

NOTES

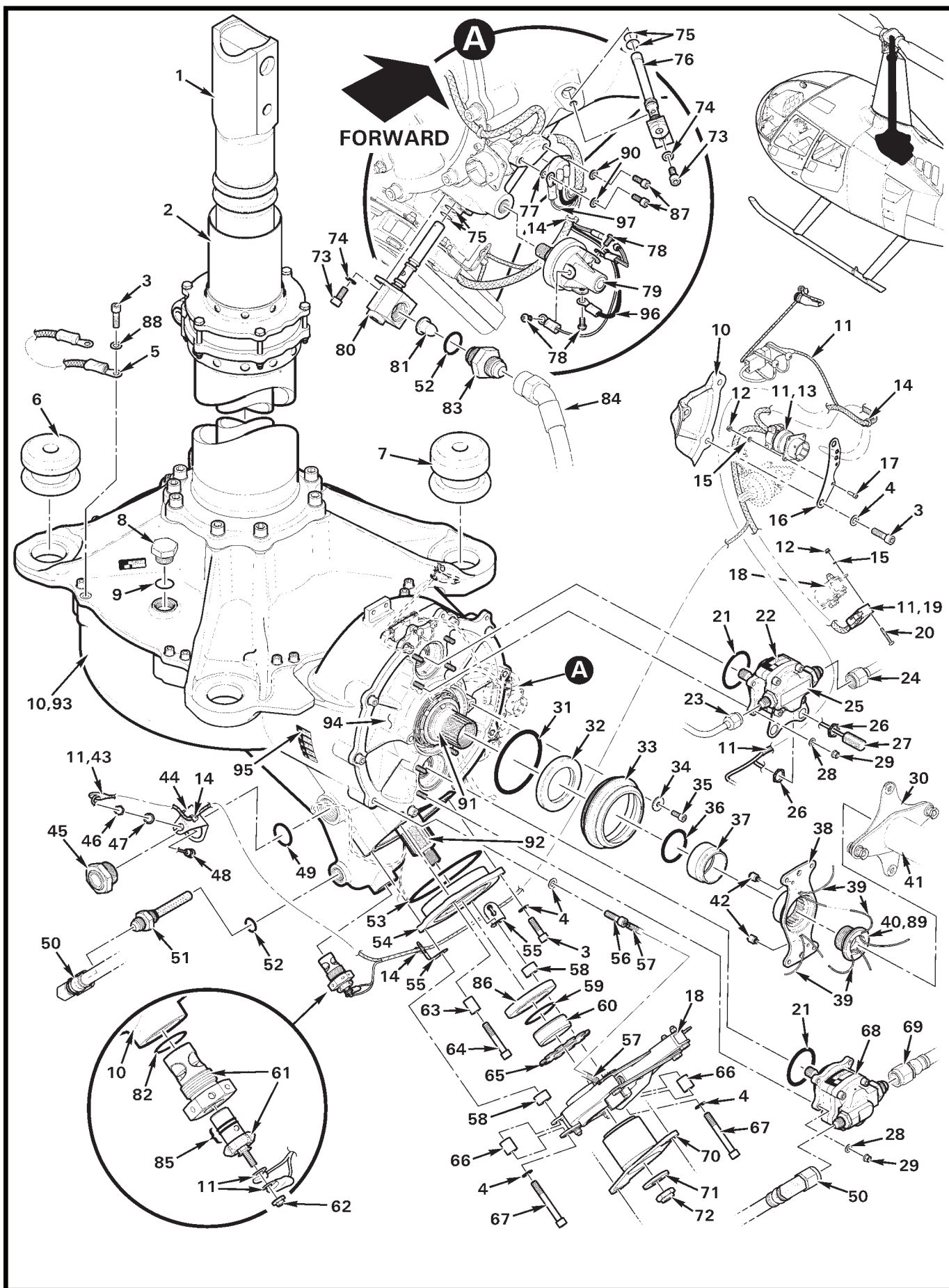


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
MAIN ROTOR GEARBOX & MAST ASSEMBLY				
63-3-1	C251-3	Shaft – Main Rotor Drive	O	1
2	C284-1	Tube Assembly	X	1
3	NAS1352-4-14	Screw	X	4
4	NAS620-416L	Washer	X	9
5	A936-2	Wire Assembly	X	1
6	A653-2*	Mount (fwd)	X	2
7	C653-3*	Mount (aft)	X	2
8	AN814-8D	Plug	X	1
9	A215-017	O-Ring	X	1
10	F006-1**	Main Rotor Gearbox Assembly (Incl items 1 thru 9, 11, 12, 14 thru 18, 21, 22, 25, 28, 29, 31 thru 38, 40, 44, 45, 49 thru 56, 58 thru 61, 63 thru 68, 70 thru 76, 79, 80, 82, and 86 thru 90. Includes rotor brake, yoke, slider tube, and hydraulic pump. See item 95.)	X	1
	F006-6**	Main Rotor Gearbox Assembly (Incl items 1, 3 thru 9, 21, 28, 29, 31 thru 37, 45, 49, 51 thru 56, 59 thru 61, 73 thru 76, 80, 82, and 86 thru 90. <u>Does not</u> include rotor brake, yoke, slider tube, or hydraulic pump.)	X	1
11	F049-01	Harness Assembly (Incl items 13, 19, 26, 27, 43, 46 thru 48, and 77 thru 81)	X	1
12	MS21042L04	Nut	X	4
13	MS3120F14-19P	Receptacle (orient large notch at top)	X	1
14	MS3367-4-9	Ty-Rap	X	A/R
15	NAS620-4	Washer	X	6
16	D114-4	Bracket	X	1
17	NAS1352-04-6P	Screw	X	2
18	G033-1	Rotor Brake Assembly (see Figure 63-9)	X	1
19	D2VW-5-1MS	Switch (rotor brake light)	X	1
20	MS35206-219	Screw	X	2
21	A215-128	O-Ring	X	2
22	D500-2	Pump Assembly (hydraulic)	X	1
23	F902-1	Line Assembly (Ref, see Figure 29-3)		
24	F902-2	Line Assembly (Ref, see Figure 29-3)		
25	F110-4	Telatemp (temperature recorder, 220° – 270° F)	X	1
26	—	Nut	O	4
27	103SR13A-3	Sender	X	2
28	NAS620-10L	Washer	X	8
29	D210-3	Nut	X	8
30	C947-3	Flex Plate Assembly (Ref)		
31	A215-149	O-Ring	X	1
32	C966-8	Seal	X	1

NOTES * Press in using water or A257-8 lube.
 ** Overhaul/exchange components are available, add "R" to the end of the part number.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
MAIN ROTOR GEARBOX & MAST ASSEMBLY (Cont'd)				
63-3-33	F254-1	Cover	X	1
34	A141-17	Washer	X	2
35	NAS1352-3-8	Screw	X	2
36	A215-027	O-Ring	X	1
37	F266-1	Spacer	X	1
38	F908-1	Yoke Assembly (Incl item 42)	X	1
39	MS20995C20	0.020 in. dia Safety Wire	X	2
40	F904-1	Plug (secured in two places with item 39)	X	1
41	F196-1	Shaft Weldment (Ref)		
42	B570-1	Magnet	X	2
43	B158-6	Heat Shrink	X	A/R
44	D494-2	Holder	X	1
45	B563-2	Sight Gage	X	1
46	—	Nut	O	1
47	—	Washer	O	1
48	252-247	Light Assembly (LED; includes items 46 and 47)	O	1
49	A215-020	O-Ring	X	1
50	D205-25	Hose Assembly	X	1
51	B254-3	Strainer	X	1
52	MS28778-6	Packing (o-ring)	X	2
53	A215-152	O-Ring	X	1
54	F255-3	Cover Assembly	X	1
55	D114-5	Bracket	X	2
56	NAS1352-4H14	Screw	X	1
57	B774-3	Spring (Rev I and prior)	X	1
58	C130-3	Spacer	X	2
59	A215-025	O-Ring	X	1
60	F266-2	Spacer	X	1
61	B566-1	Chip Detector (Incl items 62 and 85)	X	1
62	—	Nut	O	1
63	C130-53	Spacer	X	1
64	NAS1352-4-24	Screw	X	1
65	F256-1	Shield	X	1
66	A130-41	Spacer	X	2
67	NAS1352-4-32	Screw	X	2
68	D500-3	Pump Assembly (Oil)	X	1

NOTES

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
MAIN ROTOR GEARBOX & MAST ASSEMBLY (Cont'd)				
63-3-69	D205-19	Hose Assembly (Ref, see Figure 63-13)		
70	F910-1	Yoke	X	1
71	A141-10	Washer	X	1
72	MS21245L8	Nut	X	1
73	NAS1352-08-6P	Screw	X	3
74	NAS620-8	Washer	X	3
75	A215-009	O-Ring	X	4
76	F267-2	Nozzle Assembly	X	1
77	A688-1	Switch (MRGB temperature)	X	1
78	—	Screw (supplied with item 79)	O	3
79	B426-3	Switch (MRGB oil pressure)	X	1
80	F267-1	Nozzle Assembly (Incl items 81 thru 83)	X	1
81	FSJA5000080A	Screen	X	1
82	MS28778-8	Packing (o-ring)	X	1
83	D319-2	Fitting	X	1
84	D205-20	Hose Assembly (Ref, see Figure 63-13)		
85	O12C	O-Ring	X	2
86	C966-10	Seal	X	1
87	NAS1352-06-6P	Screw	X	2
88	NAS1149F0463P	Washer	X	1
89	A257-9	Anti-seize	X	A/R
90	NAS620-6	Washer	X	2
91	F146-1	Pinion Gear (power to TRGB; life limited component)	O	1
92	F143-1	Pinion Gear (power input from engine; life limited component)	O	1
93	F263-1	Housing – Main Rotor Gearbox (life limited component)	O	1
94	F270-1	Cartridge – Main Rotor Gearbox (life limited component)	O	1
95	—*	Identification Plate – F006-1 Assy (P/N, rev. letter, S/N)	O	1
	—	Identification Plate – F143-1 Pinion (P/N, rev. letter, S/N)	O	1
	—	Identification Plate – F146-1 Pinion (P/N, rev. letter, S/N)	O	1
	—	Identification Plate – F263-1 Housing (P/N, rev. letter, S/N)	O	1
	—	Identification Plate – C647-1 Bearing (P/N, rev. letter, S/N)	O	1
96	-1897	Wire (Ref; MRGB oil pressure switch ground)		
	-1901	Wire (Ref; MRGB Temperature Switch ground)		
97	-1897	Wire (Ref; MRGB oil pressure switch ground)		
	-630	Wire (Ref; hydraulic solenoid ground)		

NOTES * If modified per SL-11, rev. block will be "MOD -12".

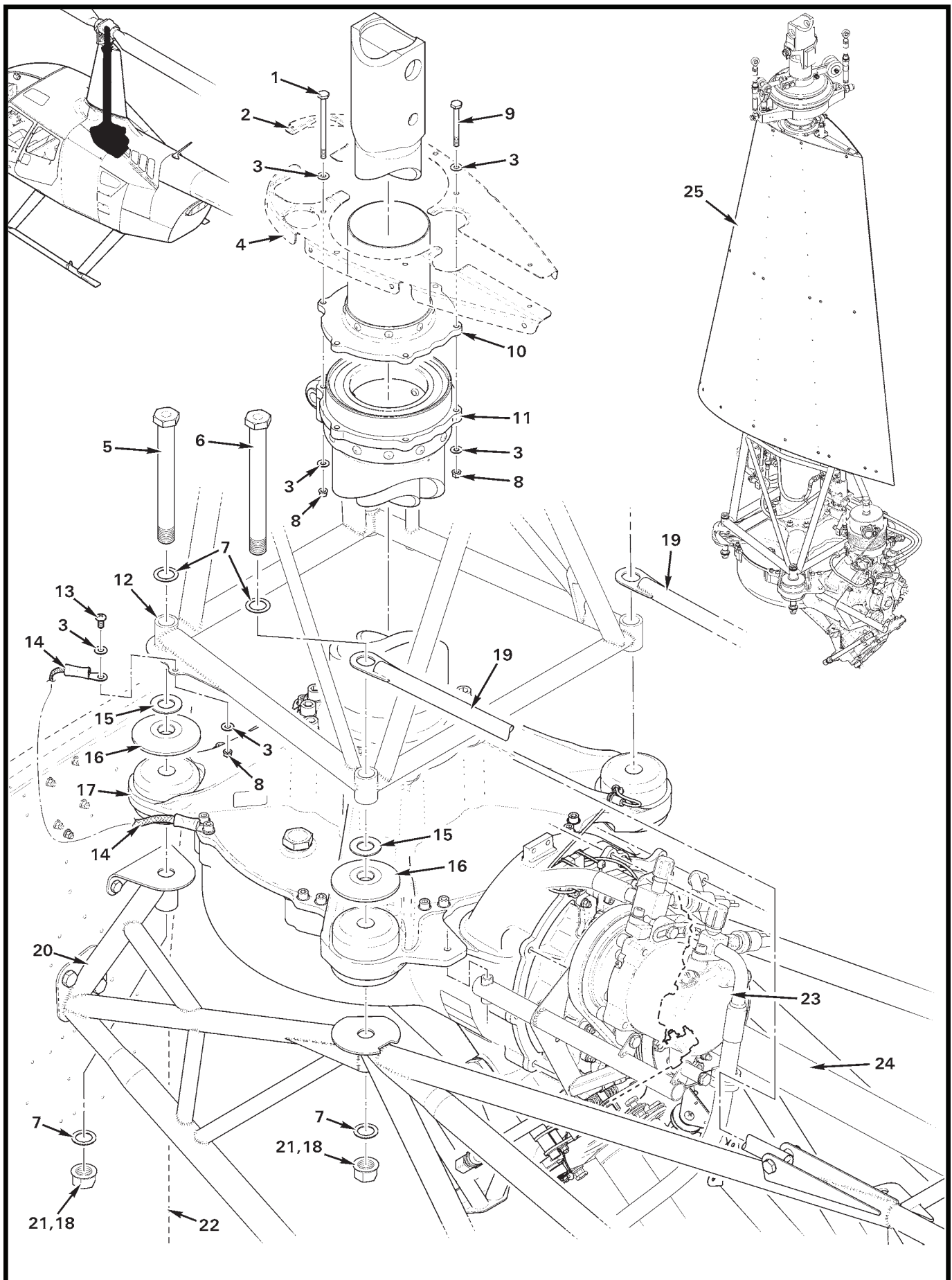


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
MAIN ROTOR GEARBOX & MAST INSTALLATION				
63-7-1	NAS6603-40	Bolt	X	2
2	F261	Rib – Mast Fairing (Ref; see Fig. 53-3)		
3	NAS1149F0332P	Washer	X	14
4	F261	Rib – Mast Fairing (Ref; see Fig. 53-3)		
5	F650-1	Bolt (fwd mount)	X	2
6	F650-2	Bolt (aft mount)	X	2
7	A141-21	Washer	X	8
8	D210-3	Nut	X	7
9	NAS6603-24	Bolt	X	4
10	C284-1	Tube Assembly	X	1
11	C283-5	Mast Assembly	O	1
12	G201-1	Frame Weldment (Ref)		
13	MS27039C1-06	Screw	X	1
14	A936-2	Wire Assembly	X	1
15	NAS1149F1063P	Washer	X	4
16	A267-1	Washer	X	4
17	F006-1	Main Rotor Gearbox Assembly (Ref; see Figure 63-3)		
18	A257-9	Anti-seize	X	A/R
19	F235-13	Strut Assembly (Ref, see Figure 53-13A)		
20	F020-1	Upper Frame Assembly (Ref, see Figure 53-13A)		
21	D210-10	Nut (install using item 26 on threads)	X	4
22	F560-1	Cabin Bulkhead Assembly (Ref)		
23	G777-1	Compressor Assembly (Ref, see Figure 21-3)		
24	F196-1	Fan Shaft – Weldment (Ref, see Figure 65-1)		
25	F001-11	Main Rotor Gearbox Sub-Assembly (Includes items 2, 4, 17, B277-064, C017-5, D114-3, F022-1, MT608-1 plug assembly, and MT608-3 tag.)	X	1

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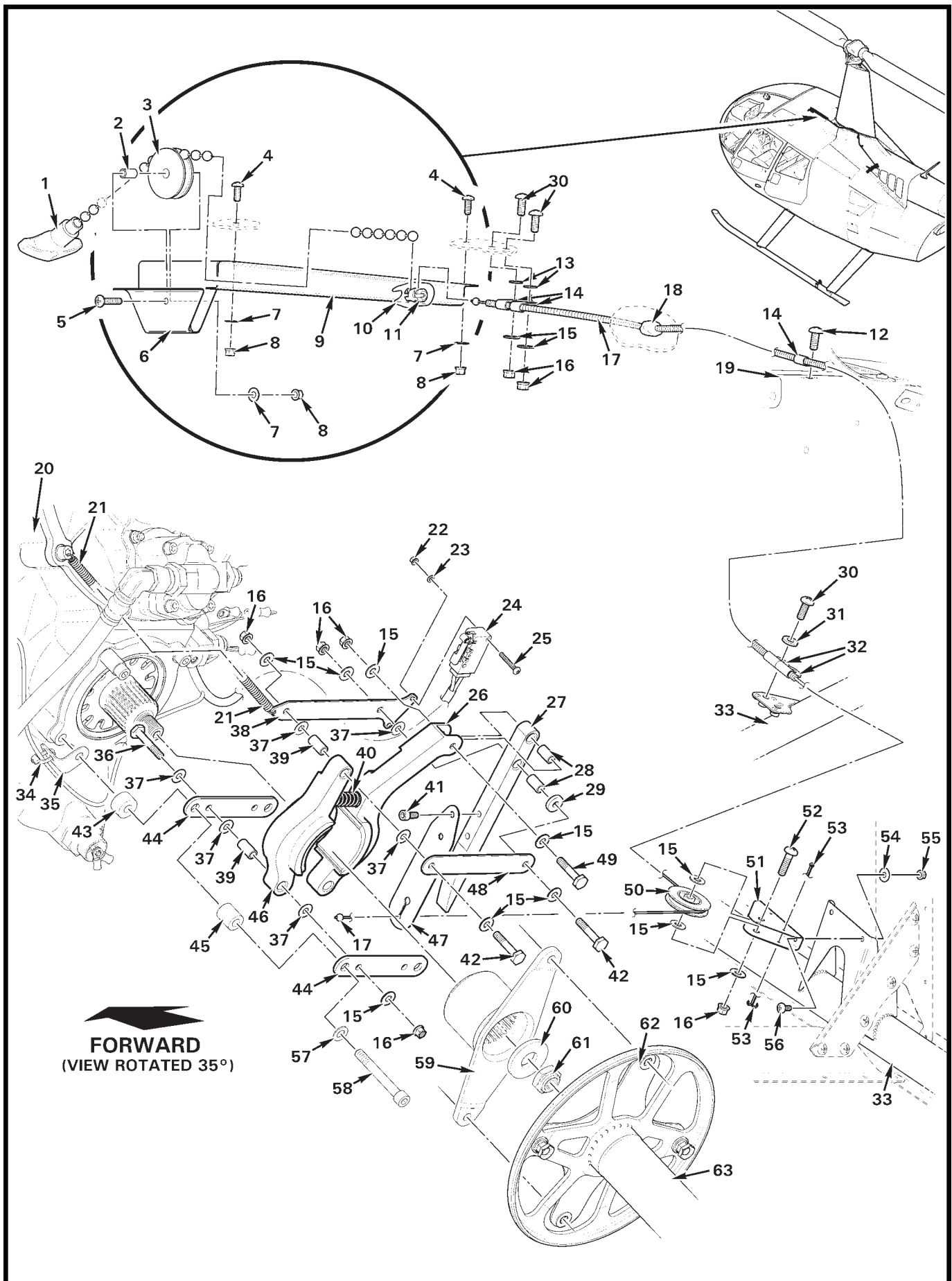


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ROTOR BRAKE ASSEMBLY				
63-9-1	B033-6	Knob Assembly	X	1
2	A130-34	Spacer	X	1
3	BP4100	Pulley	X	1
4	AN526C832R6	Screw	X	2
5	MS27039C0812	Screw	X	1
6	D118-1	Bracket Assembly	X	1
7	NAS1149FN816P	Washer	X	3
8	MS21042L08	Nut	X	3
9	D117-2	Guard	X	1
10	B158-8	Heat Shrink	X	A/R
11	B125-2	Connector	X	1
12	MS27039C1-07	Screw	X	1
13	NAS620-10L	Washer	X	2
14	AN742-3	Clamp	X	3
15	NAS1149F0332P	Washer	X	13
16	D210-3	Nut	X	8
17	D126-2	Cable Assembly	X	1
18	B270-1	Sealant	X	A/R
19	F560-1	Cabin Bulkhead Assembly (Ref)		
20	F006-1	Main Rotor Gearbox (Ref; see Figure 63-3)		
21	B774-3	Spring (Ref; rev. I and prior)		
22	MS21042L04	Nut (Ref)		
23	NAS620-4	Washer (Ref)		
24	D2VW-5-1MS	Switch (Ref)		
25	MS35206-219	Screw (Ref)		
26	G110-1	Arm Assembly	X	1
27	B112-2	Lever	X	1
28	A130-40	Spacer	X	2
29	A141-27	Washer	X	1
30	MS27039C1-08	Screw	X	4
31	NAS1149F0363P	Washer	X	2
32	MS21333-2	Clamp	X	2
33	F020-1	Upper Frame (Ref)		
34	MS3367-4-9	Ty-Rap (Ref)		
35	D114-5	Bracket (Ref)		

NOTES

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ROTOR BRAKE ASSEMBLY (Cont'd)				
63-9-36	NAS6603-12	Bolt	X	2
37	NAS1149D0316J	Washer	X	9
38	G113-2	Link	X	1
39	A130-39	Spacer	X	3
40	D774-4	Spring	X	1
41	NAS1352-08LE6P	Screw	X	2
42	NAS6603-11	Bolt	X	2
43	C130-3	Spacer (Ref)		
44	G111-1	Bar	X	2
45	A130-41	Spacer (Ref)		
46	G109-1	Arm Assembly	X	1
47	B112-3	Spring	X	1
48	G113-1	Link (rev. I and prior)	X	1
49	NAS6603-10	Bolt	X	1
50	MS24566-1B	Pulley	X	1
51	B157-1	Mount	X	1
52	MS27039C1-11	Screw	X	1
53	MS24665-134	Cotter Pin	X	2
54	NAS1149FN616P	Washer	X	2
55	MS21042L06	Nut	X	2
56	MS35206-227	Screw	X	2
57	NAS620-416L	Washer	X	2
58	NAS1352-4-32P	Screw	X	2
59	F910-1	Yoke (Ref, see Figure 63-3)		
60	A141-10	Washer (Ref)		
61	MS21245L8	Nut (Ref)		
62	A947-2	Flex Plate Assembly (Ref)		
63	F642-7	Shaft Weldment (Ref, see Figure 63-1)		

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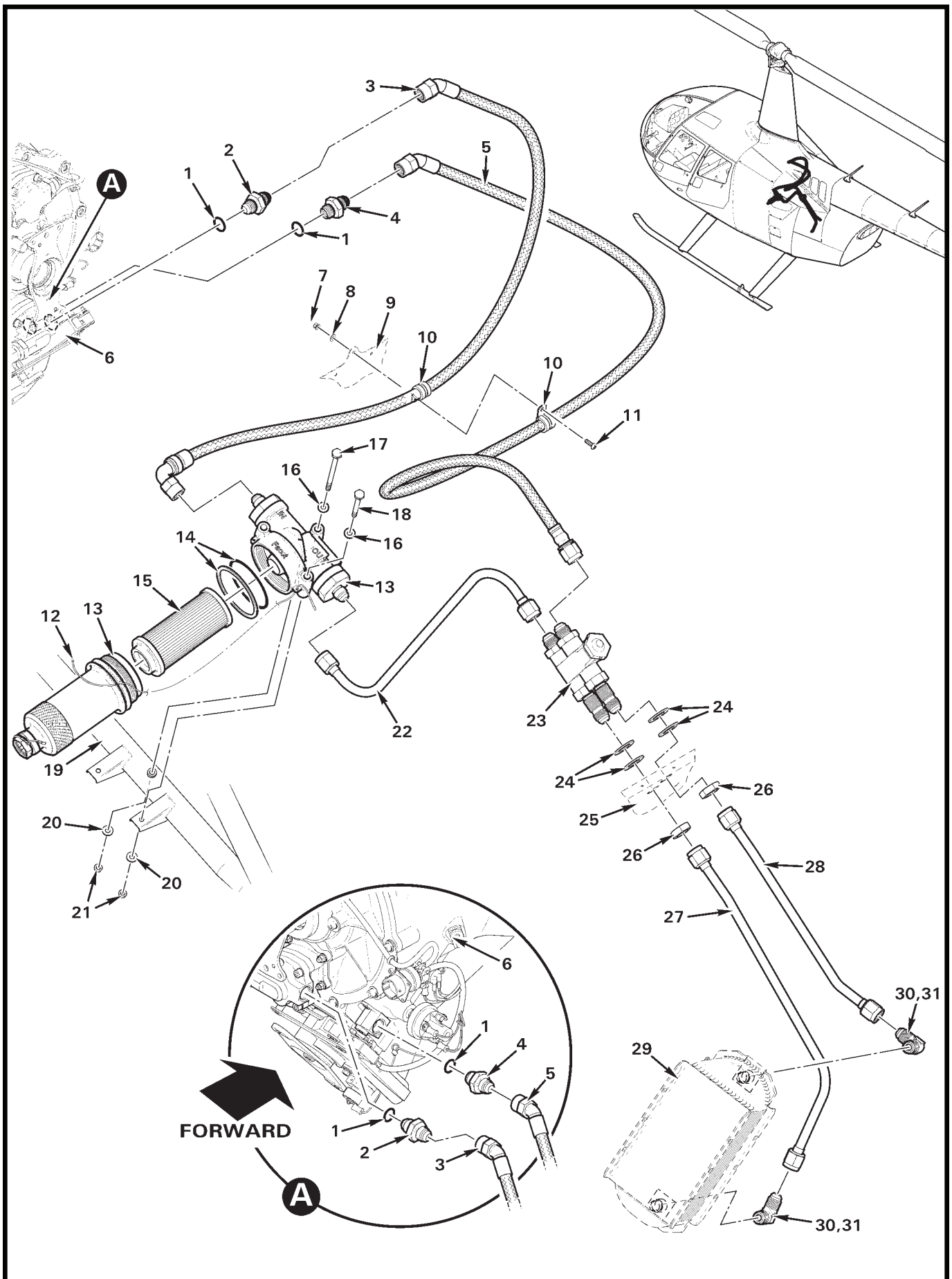


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
MAIN ROTOR GEARBOX – OIL SYSTEM				
63-13-1	MS28778-6	Packing (o-ring)	X	1
2	AN815-6D	Union	X	1
3	D205-19	Hose Assembly	X	1
4	D319-2	Fitting	X	1
5	D205-20	Hose Assembly	X	1
6	F006-1	Main Rotor Gearbox Assembly (Ref; see Figure 63-3)		
7	MS21042L08	Nut	X	1
8	NAS1149FN816P	Washer	X	1
9	G233-1	Panel (Ref)		
10	MS21919WDG6	Clamp	X	2
11	MS27039C0807	Screw	X	1
12	MS20995C32	0.032 in. dia Safety Wire	X	A/R
13	F651-1	Oil Filter (Incl head assembly, bowl assembly, and items 14 and 15)	X	1
	1742161-10*	Head Assembly	O	1
	1740839*	Bowl Assembly	O	1
14	F651-3	Seal Kit (includes o-ring and backup ring)	X	1
15	F651-2	Filter Element	X	1
16	NAS1149F0332P	Washer	X	3
17	AN3-32A	Bolt	X	1
18	NAS6603-25	Bolt	X	2
19	F020-1	Frame Weldment (Ref)		
20	NAS1149F0363P	Washer	X	3
21	MS21042L3	Nut	X	3
22	F724-1	Line Assembly	X	1
23	F823-1	Thermostat Assembly	X	1
24	MS20002-9	Washer ([4] max at each of [2] unions)	X	A/R
25	F234-1	Firewall (Ref)		
26	AN924-8D	Nut	X	2
27	F274-2	Line Assembly	X	1
28	F724-3	Line Assembly	X	1
29	C649-4	Oil Cooler (main rotor gearbox, Ref)		
30	A880-666	Elbow (install using item 31)	X	2
31	B270-6	Sealant	X	A/R

NOTES * Purolator Facet Inc. part number.

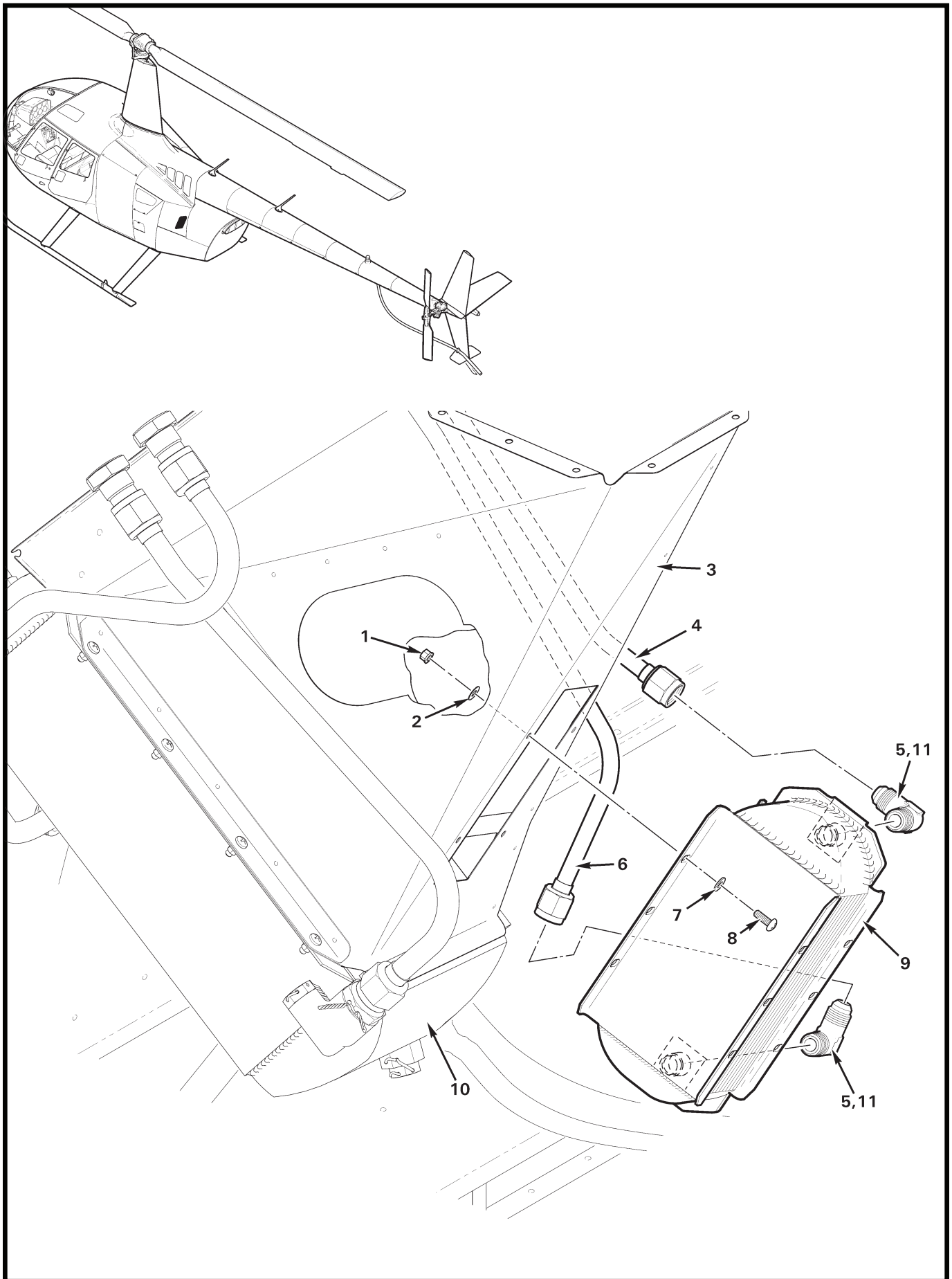


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
MAIN ROTOR GEARBOX – OIL COOLER INSTALLATION				
63-15-1	MS21042L08	Nut	X	4
2	NAS1149FN816P	Washer	X	4
3	F309-1	Box Assembly (Ref)		
4	F724-3	Line Assembly (Ref)		
5	A880-666	Elbow (install using item 11)	X	2
6	F724-2	Line Assembly (Ref)		
7	NAS1149FN832P	Washer	X	4
8	MS27039C0806	Screw	X	4
9	C649-4	Oil Cooler (main rotor gearbox)	X	1
10	F649-1	Oil Cooler (Ref, engine)		
11	B270-6	Sealant	X	A/R

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