

CHAPTER 71

POWERPLANT

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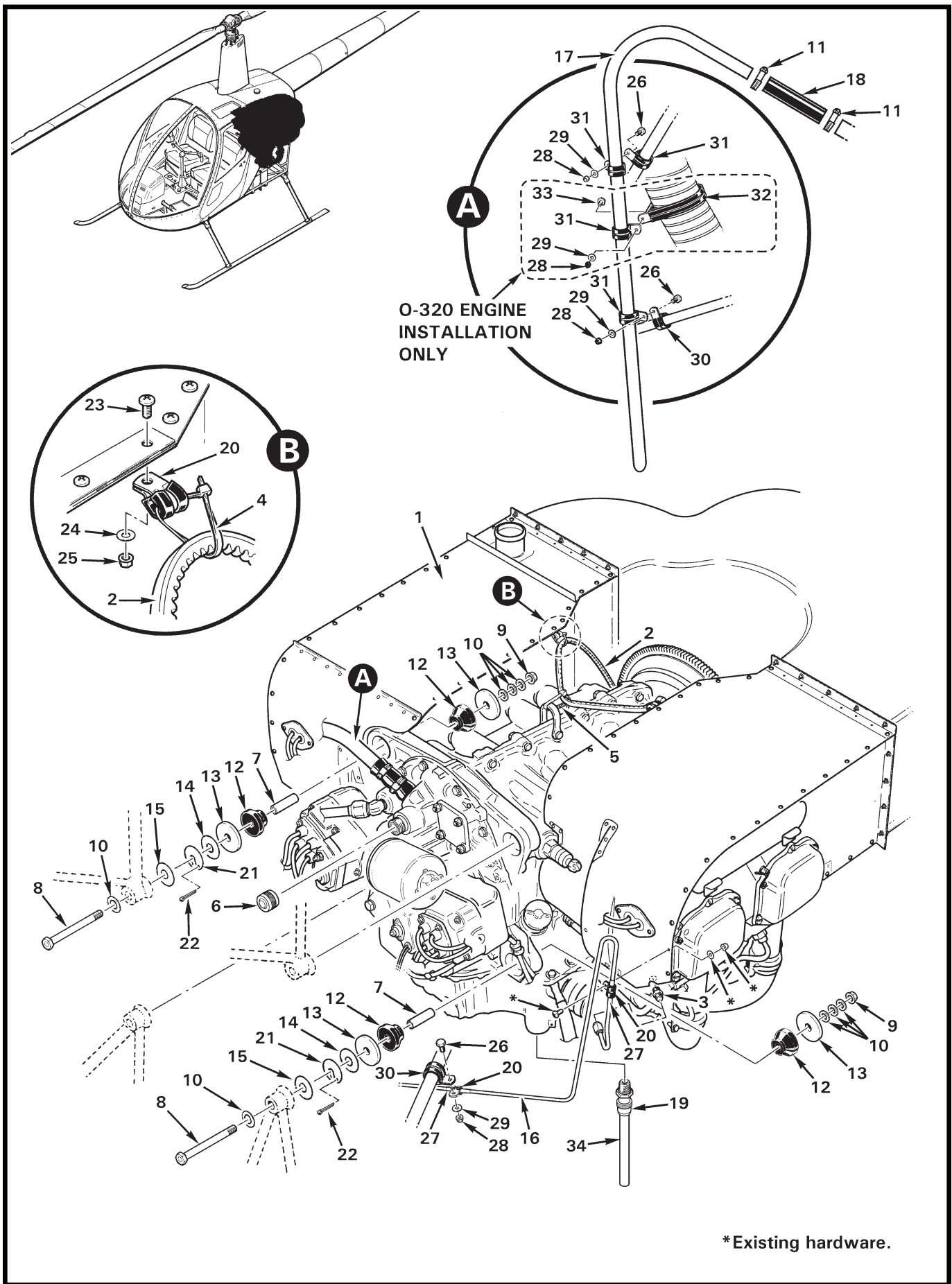


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		ENGINE INSTALLATION		
71-1-1	A145-1	Engine – Textron Lycoming O-320-A2B* (used on Standard) . .	O	1
	A145-2	Engine – Textron Lycoming O-320-A2C* (used on Standard) . .	O	1
	A145-3	Engine – Textron Lycoming O-320-B2C* (used on Alpha, Beta, HP, and Mariner)	O	1
	A145-5	Engine – Textron Lycoming O-360-J2A* (used on Beta II and Mariner II)	X	1
2	B173-1	Belt – Alternator (emergency, earlier R22s)	X	2
3	AN816-3D	Nipple – Manifold Pressure	X	1
4	MS3367-4-9	Ty-Rap	X	2
5	MS3367-3-9	Ty-Rap	X	1
6	62732*	Cap – Tachometer Drive (earlier R22s)	X	1
7	A130-3	Spacer (1.860-inch length)	X	4
8	NAS6606-54	Bolt	X	4
9	D210-6	Nut	X	4
10	NAS1149F0663P	Washer	X	A/R
11	B277-12	Clamp – Engine Breather	X	2
12	71032*	Rubber Pads – Engine Mount	X	8
13	A141-12	Washer (engine alignment; 0.190-inch thick)	X	A/R
14	A141-24	Washer (engine alignment; 0.032-inch thick)	X	A/R
15	A141-25	Washer (engine alignment; 0.063-inch thick)	X	A/R
16	A740-1	Manifold Pressure Line (Incl item 27)	X	1
17	A727-1	Tube – Engine Breather	X	1
18	A729-31	Tube – Engine Breather Coupling	X	1
19	B367-1	Drain Valve – Engine Oil	X	1
20	MS21919WDG3	Clamp	X	4
21	B155-1	Shim (engine alignment; 0.032-inch thick)	X	A/R
22	MS24665-132	Cotter Pin	X	A/R
23	MS27039C0806	Screw	X	2
24	NAS1149FN832P	Washer	X	2
25	MS21042L08	Nut	X	2
26	AN3-3A	Bolt	X	3
27	B158-6	Heat Shrink (black, 3/8 inch dia)	X	A/R
28	D210-3	Nut	X	A/R
29	NAS1149F0332P	Washer	X	A/R
30	MS21919WDG10	Clamp	X	2

NOTES * Lycoming part no.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		ENGINE INSTALLATION (Cont'd)		
71-1-31	MS21919WDG12	Clamp	X	A/R
32	MS21919WDG48	Clamp	X	A/R
33	AN3-4A	Bolt	X	A/R
34	MS20995C32	0.032-inch dia Safety Wire	X	A/R
35	A257-16	Oil – Engine (quart, SAE J1966 20W-50)	X	A/R
NOTES				

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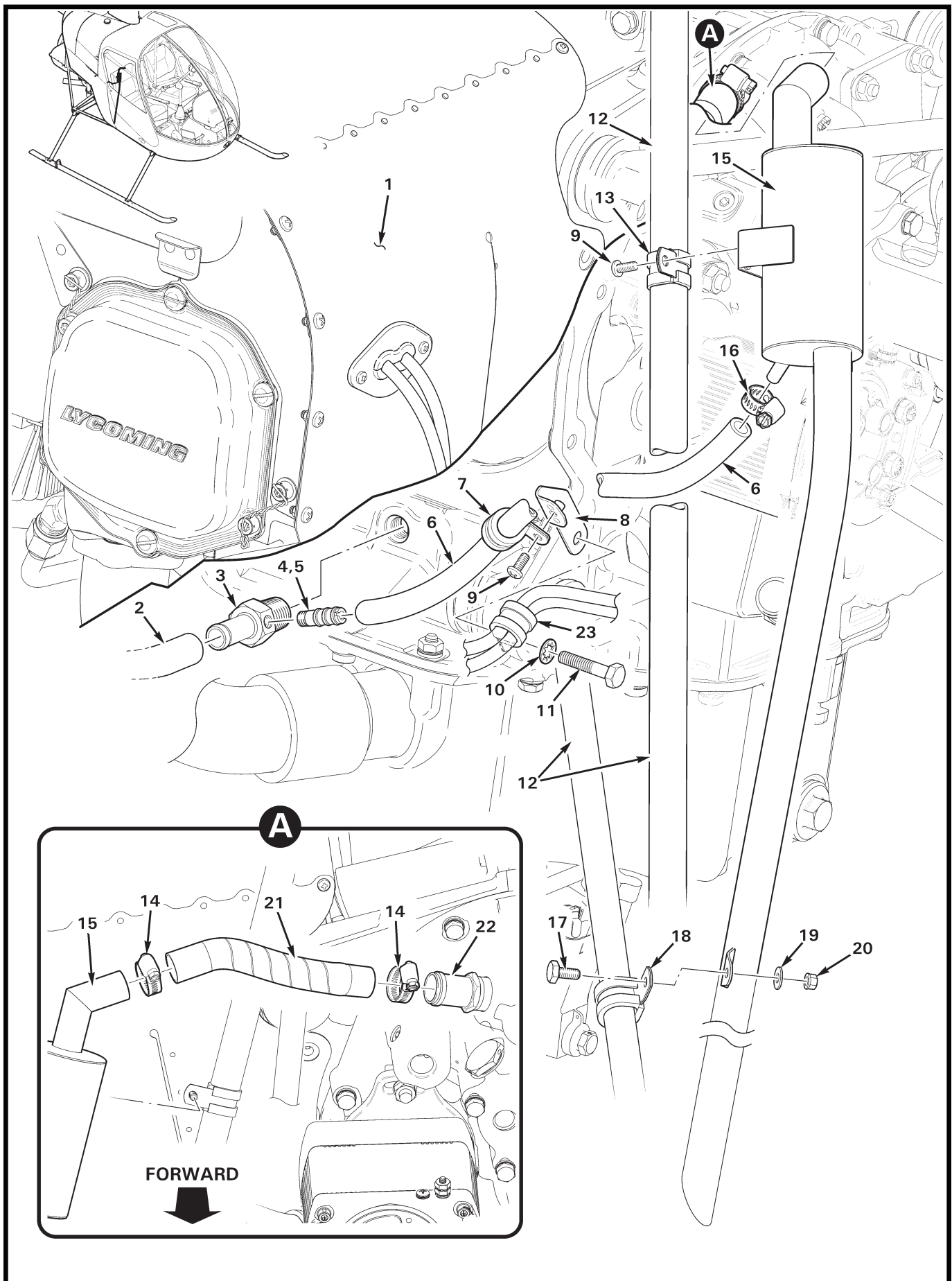


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		AIR/OIL SEPARATOR ASSEMBLY INSTALLATION		
71-3B-1	A145	Engine – Textron Lycoming (Ref; see Figure 71-1)		
2	STD-1821 *	Hose (Ref)		
3	C729-1 **	Adapter	X	1
4	C729-2	Fitting (Install in item 3; apply item 5 to threads and install fully bottomed.)	X	1
5	B270-20	Adhesive	X	A/R
6	A729-76	Tube	X	1
7	MS21919WDG8	Clamp	X	1
8	C729-11	Bracket Assembly (against engine)	X	1
9	MS27039C0806	Screw	X	2
10	STD-160 *	Lockwasher	X	1
11	LW-25-1.25 *	Bolt (250-20 x 1.25-inch length)	X	1
12	A046-2	Frame Assembly – Lower (RH, Ref)		
13	MS21919WDG12	Clamp	X	1
14	B277-12	Clamp	X	2
15	C728-1	Separator Assembly – Air/Oil	X	1
16	B277-4	Clamp	X	1
17	AN3-3A	Bolt	X	1
18	MS21919WDG10	Clamp	X	1
19	NAS1149F0332P	Washer	X	1
20	D210-3	Nut	X	1
21	A785-43	Hose	X	1
22	71140 *	Fitting (Ref, breather)		
23	LW14060 *	Clamp (Ref)		
NOTES * Lycoming part number. ** Install using B270-6 sealant or A701-11 tape on threads.				

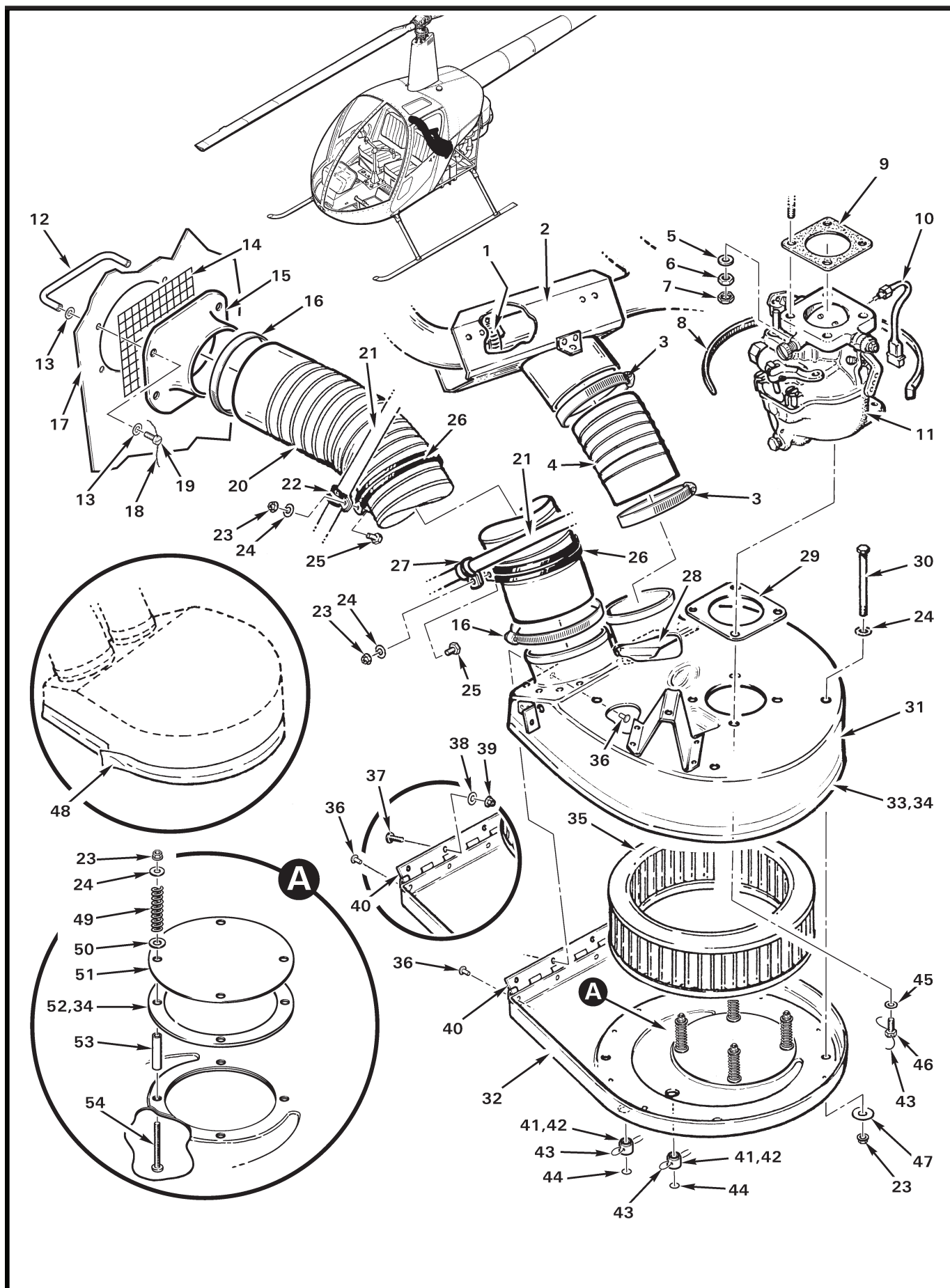


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		AIR INDUCTION SYSTEM*		
71-5-1	B277-024	Clamp	X	2
2	B394-1	Scoop Assembly	X	1
3	B277-32	Clamp	X	2
4	A785-26	Hose	X	1
5	STD-35**	Washer	X	4
6	STD-1410**	Nut	X	4
7	B330-15	Palnut	X	4
8	MS3367-6-0	Ty-Rap	X	1
9	66224**	Gasket (between engine and carburetor)	X	1
10	A058-5	Carb Air Temp Probe	X	1
11	LW-15986**	Carburetor (Ref, Avstar Fuel Systems; part no. AV-6110) . . .	X	1
12	A580-2	Guard	X	2
13	NAS1149FN832P	Washer	X	8
14	A640-2	Screen	X	1
15	C579-2	Inlet	X	1
16	B277-48	Clamp	X	2
17	A378-17	Panel (RH, Ref; see also Figure 53-1)		
18	MS20995C20	0.020-inch dia Safety Wire	X	A/R
19	AN503-8-6	Screw	X	4
20	A785-1	Hose	X	1
21	A046-2	Frame Assembly (lower RH, Ref)		
22	MS21919WDG12	Clamp	X	1
23	D210-3	Nut	X	6
24	NAS1149F0332P	Washer	X	10
25	AN3-4A	Bolt	X	2
26	MS21919WDG48	Clamp	X	2
27	MS21919WDG10	Clamp	X	1
28	A562-1	Slider Valve (carb heat)	X	1
29	A615-1	Gasket	X	1
30	AN3-35A	Bolt	X	4
31	A057-2	Air Box Assembly (Incl items 23 [4], 24 [4], 28, 32 thru 34, 36, and 40)	X	1
32	A057-5	Bottom Cover Assembly (Incl items 42, and 49 thru 54) . . .	X	1
33	A226-8	Seal – Neoprene (4-foot length, install using item 34)	X	1
34	B270-18	Adhesive (5-oz tube)	X	A/R
NOTES * Ship S/N 2665 and subsequent. ** Lycoming part no.				
				Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		AIR INDUCTION SYSTEM (Cont'd)		
71-5-35	B771-1*	Air Filter (cleanable, Rev. D and subsequent; supersedes A771-1 air filter)	X	1
36	MS20470AD3	Rivet	X	4
37	MS35206-227**	Screw	X	4
38	NAS1149FN616P**	Washer	X	4
39	MS21042L06**	Nut	X	4
40	A516-1	Hinge	X	1
41	A290-2	Body	O	2
42	A290-1***	Drain Valve (Incl items 41, 43, and 44)	X	2
43	MS20995C32	0.032-inch dia Safety Wire	X	A/R
44	A290-3	Disc	X	2
45	NAS1149F0463P	Washer	X	4
46	MS20074-04-04	Bolt	X	4
47	AN970-3	Washer	X	4
48	A701-1	Foil Tape (seals A057-5 bottom cover, used on Mariner II) . . .	X	A/R
49	D774-7	Spring	X	4
50	NAS1149F0432P	Washer	X	4
51	C565-2	Door	X	1
52	B425-1	Gasket (install using item 34)	X	1
53	C130-41	Spacer	X	4
54	MS27039DD1-26	Screw	X	4
NOTES * Refer to R22 MM §6.435 for air filter cleaning instructions. ** Earlier R22s. *** Some covers have [1] drain valve only.				

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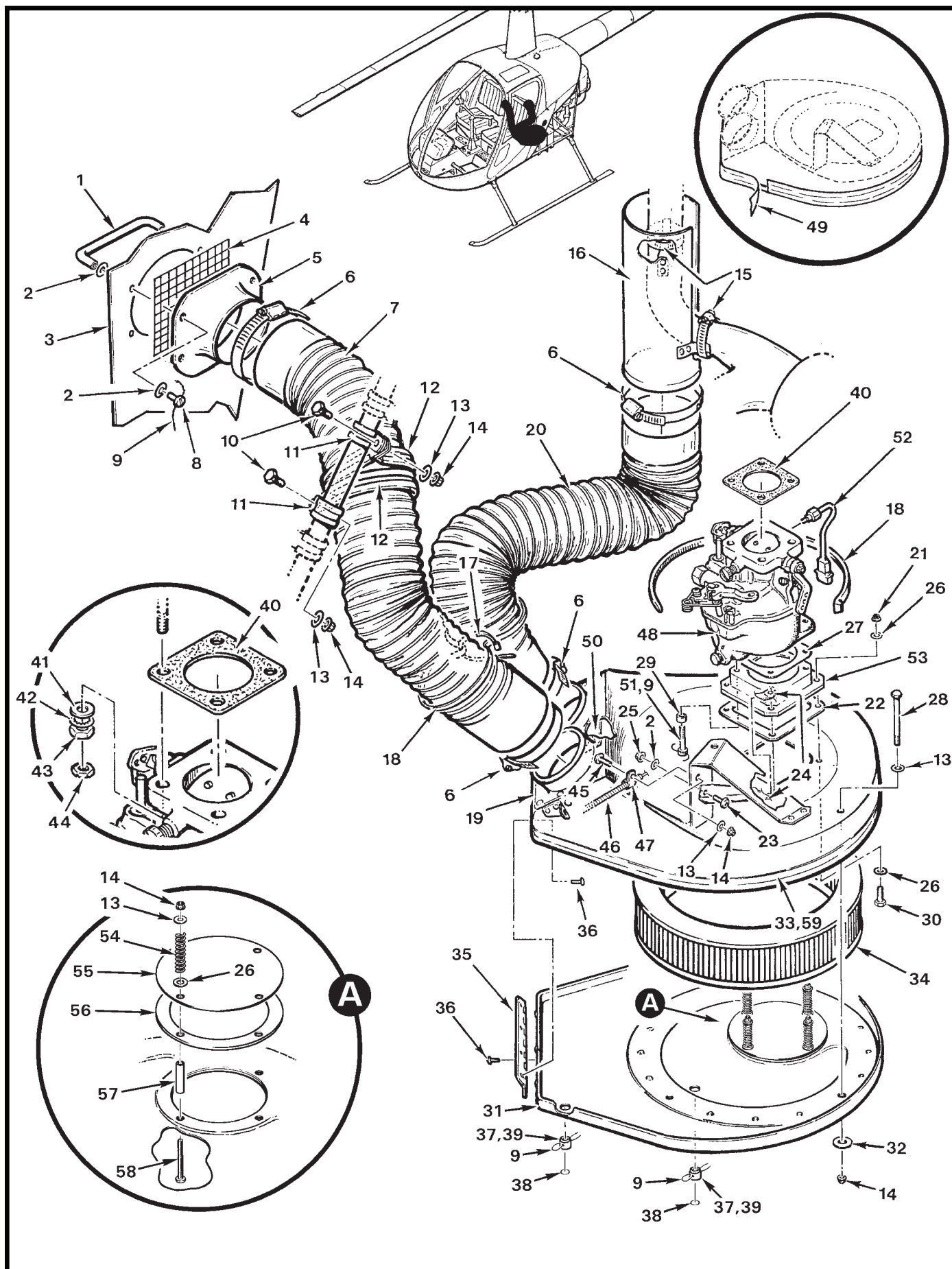


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		AIR INDUCTION SYSTEM*		
71-9-1	A580-2	Guard	X	2
2	NAS1149FN816P	Washer	X	9
3	A378-17	Panel (Ref)		
4	A640-2	Screen	X	1
5	C579-1	Inlet	X	1
6	B277-56	Clamp	X	4
7	A785-21	Hose	X	1
8	AN503-8-6	Screw	X	4
9	MS20995C32	0.032-inch dia Safety Wire	X	A/R
10	AN3-4A	Bolt	X	2
11	MS21919WDG10	Clamp	X	2
12	MS21919WDG56	Clamp	X	4
13	NAS1149F0332P	Washer	X	11
14	MS21042L3	Nut	X	11
15	B277-24	Clamp	X	2
16	B365-1	Scoop Assembly	X	1
17	MS3367-7-9	Ty-Rap	X	1
18	MS3367-6-0	Ty-Rap	X	2
19	C057-5	Air Box Assembly (Incl items 9, 13 [4], 14 [4], 26 [4], 31, 33, 35 thru 37, 50, and 54 thru 59)	X	1
20	A785-20	Hose	X	1
21	MS21042L4	Nut	X	4
22	C615-1	Gasket	X	1
23	MS27039C0806	Screw	X	1
24	B820-2	Brace	X	1
25	MS21042L08	Nut	X	1
26	NAS1149F0432P	Washer	X	12
27	A615-1	Gasket	X	1
28	AN3-35A	Bolt	X	4
29	A130-28	Spacer	X	4
30	NAS6604-4	Bolt	X	4
31	C956-2	Cover (cover only)	O	1
	C057-8	Cover Assembly (For spares; includes items 13 [4], 14 [4], 26 [4], 31, 35, 37, and 54 thru 59.)	X	1
32	AN970-3	Washer	X	4

NOTES * Ship S/N 2571 thru 2664.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		AIR INDUCTION SYSTEM (Cont'd)		
71-9-33	A226-8	Neoprene Seal (install using item 59)	X	A/R
34	B771-2*	Air Filter (Cleanable, Rev. D and subsequent; supersedes C771-1 air filter.)	X	1
35	A516-1	Hinge	X	1
36	MS20470AD3	Rivet	X	8
37	A290-1	Drain Valve (Incl items 9, 38, and 39)	X	2
38	A290-3	Disc	O	1
39	A290-2	Body	O	1
40	66224**	Gasket	X	1
41	STD-35**	Washer	X	4
42	STD-475**	Washer (internal lock)	X	4
43	STD-1410**	Nut	X	4
44	B330-15	Palnut	X	4
45	MS27039C1-07	Screw	X	1
46	A522-3	Control – Mixture (Ref, see Figure 76-1)		
47	AN742-3	Clamp	X	1
48	LW-15986**	Carburetor (Precision Airmotive Corp. part no. 10-5217)	O	1
	R9128	Carburetor (overhaul exchange)	X	1
49	A701-1	Foil Tape (used on Mariner II)	X	A/R
50	C562-1	Slider Valve (Ref)		
51	NAS1352-4H20P	Cap Screw	X	4
52	A058-5	Carb Air Temp Probe	X	1
53	B819-1	Adapter	X	1
54	12686	Spring	X	4
55	C565-2	Door	X	1
56	B425-1	Gasket (install using item 59)	X	1
57	C130-41	Spacer	X	4
58	MS27039DD1-26	Screw	X	4
59	B270-18	Adhesive (5-oz tube).	X	A/R

NOTES * Refer to R22 MM §6.435 for air filter cleaning instructions.
 ** Lycoming part no.

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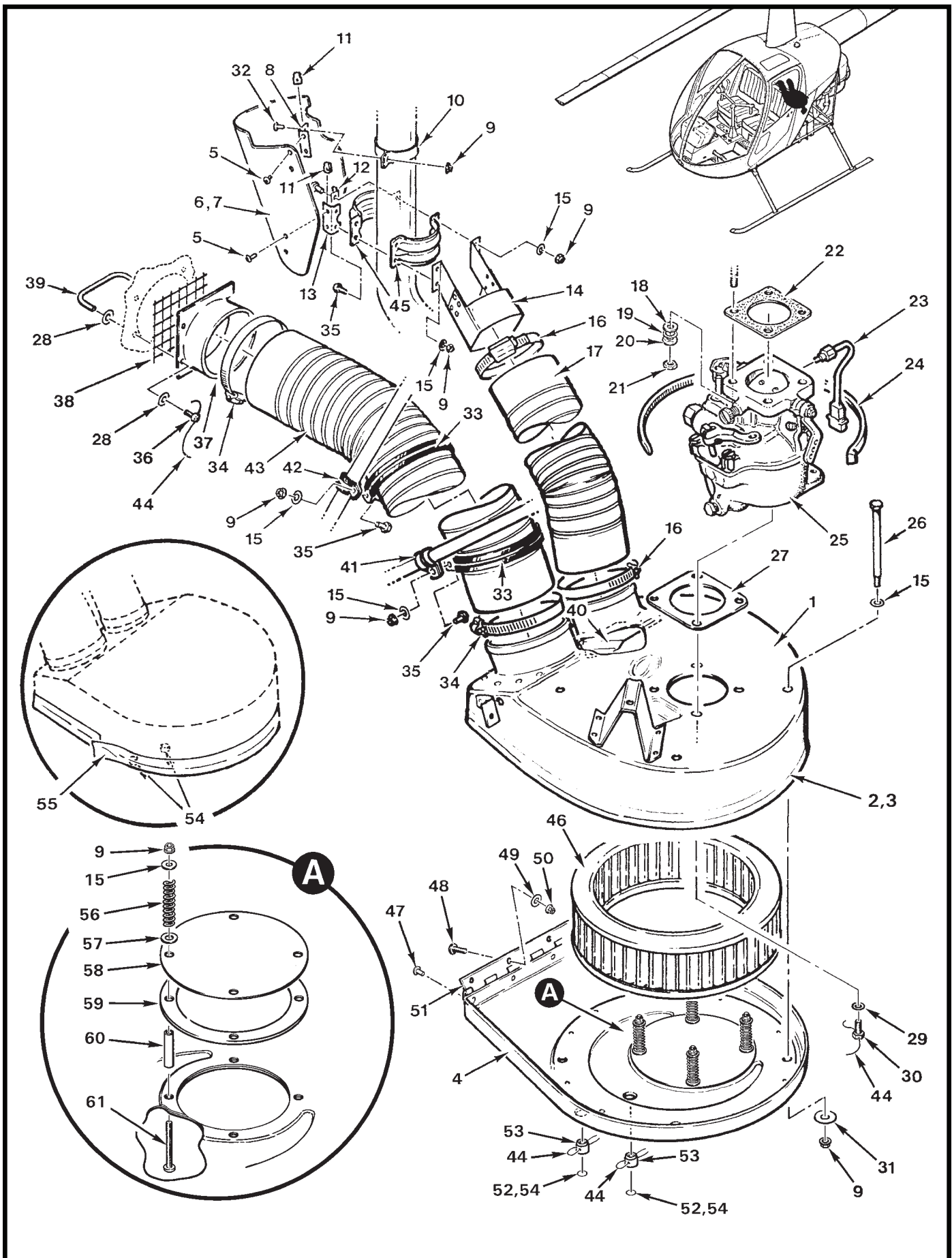


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		AIR INDUCTION SYSTEM*		
71-13-1	A057-2**	Air Box Assembly (Incl items 4, 9 [4], 15 [4], 40, 47 thru 51, 54, and 56 thru 61)	X	1
2	A226-8	Seal – Neoprene (4-foot length, install using item 3)	X	1
3	B270-18	Sealant (5-oz tube)	X	A/R
4	A956-5	Cover (bottom cover only, Ref)		
	A057-5	Bottom Cover Assembly (Incl items 3, 9 [4], 15 [4], 47, 51, 54, and 56 thru 61)	X	1
5	MS35206-228	Screw	X	6
6	A568-1	Scoop Assembly (large, includes items 7, 8, 12, and 13)	X	1
7	A568-5	Sheet	X	1
8	A568-9	Angle	X	1
9	MS21042L3	Nut	X	12
10	A694-1	Clamp (scoop assembly)	X	1
11	B162-1	Clipnut	X	6
12	A568-3	Angle – Carburetor Heat	X	1
13	A568-4	Angle – Carburetor Heat	X	1
14	A568-2	Scoop Assembly – Carb Heat (small)	X	1
15	NAS1149F0332P	Washer	X	10
16	B277-36	Clamp	X	2
17	A785-2	Hose – Hot Air Inlet	X	1
18	STD-35***	Washer	X	4
19	STD-475***	Washer (internal lock)	X	4
20	STD-1410***	Nut	X	4
21	B330-15	Palnut	X	4
22	66224***	Gasket (between engine and carburetor)	X	1
23	A058-5	Carb Air Temp Probe	X	1
24	MS3367-6-0	Ty-Rap	X	1
25	LW-15986***	Carburetor (Ref, Precision Airmotive Corp. part no. 10-5217)		
26	AN3-35A	Bolt	X	4
27	A615-1	Gasket	X	1
28	NAS1149FN816P	Washer	X	8
29	NAS1149F0463P	Washer	X	4
30	MS20074-04-04	Bolt	X	4
31	AN970-3	Washer	X	4
32	MS27039C1-06	Screw	X	2

NOTES * Ship S/N 2570 and prior.
 ** Earlier air box assemblies do not have alternate air door or second drain.
 *** Lycoming part no.

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		AIR INDUCTION SYSTEM (Cont'd)		
71-13-33	MS21919WDG48	Clamp	X	2
34	B277-48	Clamp	X	2
35	AN3-4A	Bolt	X	6
36	AN503-8-6	Screw	X	4
37	A579-1	Inlet – Outside Air	X	1
38	A640-1	Screen	X	1
39	A580-1	Guard	X	2
40	A562-1	Slider Valve (carb heat)	X	1
41	MS21919WDG10	Clamp	X	1
42	MS21919WDG12	Clamp	X	1
43	A785-1	Hose	X	1
44	MS20995C32	0.032-inch dia Safety Wire	X	A/R
45	A169-14	Bead Clamp	X	2
46	B771-1*	Air Filter (Cleanable, Rev. D and subsequent; supersedes A771-1 air filter.)	X	1
47	MS20470AD3	Rivet	X	4
48	MS35206-227**	Screw	X	4
49	NAS1149FN616P**	Washer	X	4
50	MS21042L06**	Nut	X	4
51	A516-1	Hinge	X	1
52	A290-3	Disc	O	1
53	A290-2	Body	O	1
54	A290-1	Drain Valve (Includes items 44, 52, and 53. Some covers only have one [1] drain valve.)	X	2
55	A701-1	Foil Tape (seals A057-5 bottom cover, used on Mariner)	X	A/R
56	12686***	Spring	X	4
57	NAS1149F0432P***	Washer	X	4
58	C565-2***	Door	X	1
59	B425-1***	Gasket (install using item 3)	X	1
60	C130-41***	Spacer	X	4
61	MS27039DD1-26***	Screw	X	4

NOTES * Refer to R22 MM §6.435 for air filter cleaning instructions.
 ** Earlier R22s.
 *** If installed.

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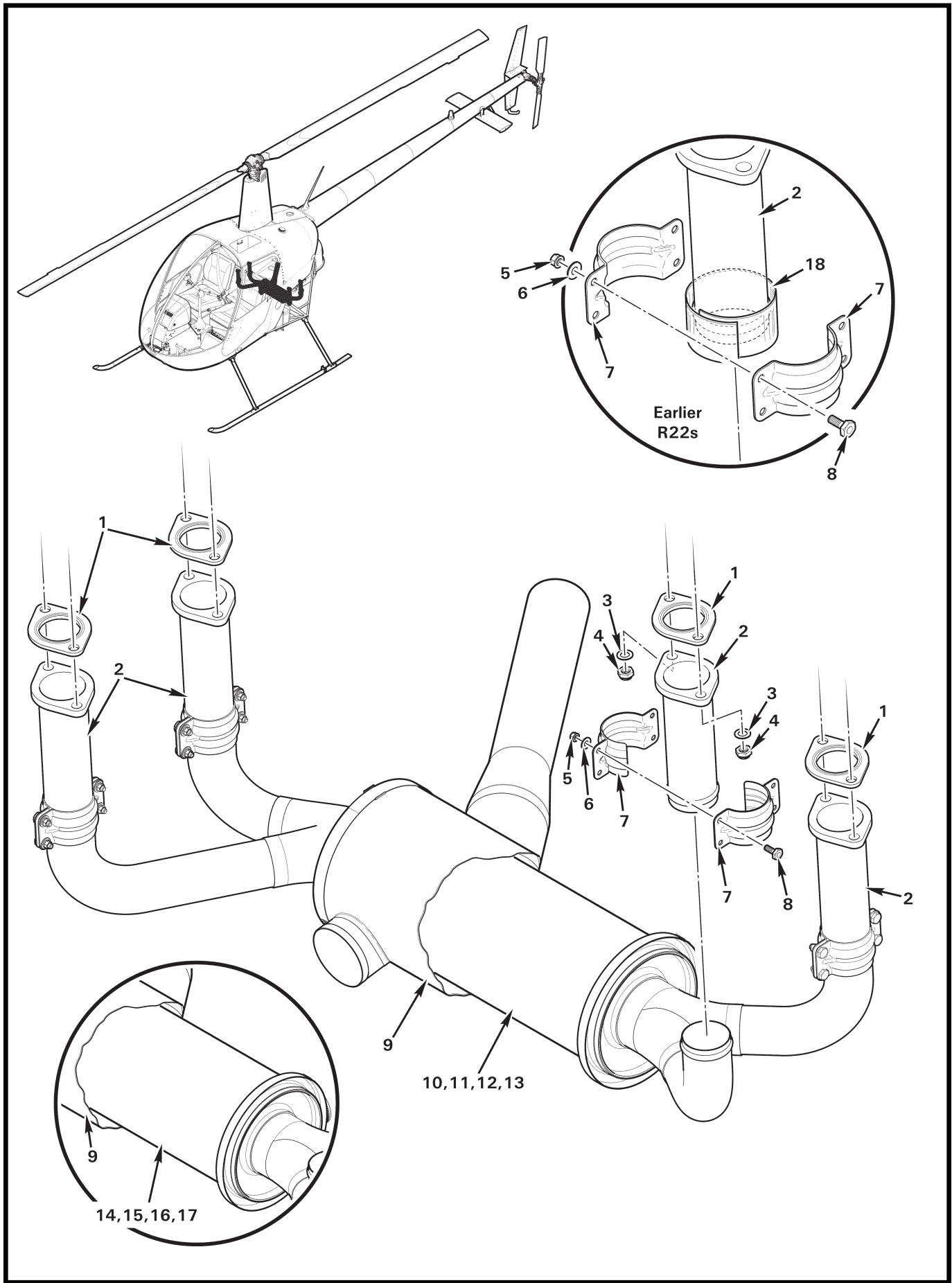


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		EXHAUST MUFFLER ASSEMBLY		
71-17-1	77611*	Gasket	X	4
2	A169-23	Riser	X	4
3	NAS1149F0532P	Washer	X	8
4	21FKF-518	Nut	X	8
5	D210-3	Nut (or MS21043-3 or MS21043-3N)	X	16
6	NAS1149F0332P	Washer	X	16
7	A169-14	Bead Clamp	X	8
8	AN3-4A	Bolt (or AN3C4A)	X	16
9	A169	Shroud Assembly – Muffler (Ref, for use with cabin heater. See Figures 21-3 and 21-7.)		
10	A169-35	Muffler Assembly (6-inch diameter, for O-320 engine; includes items 2, 5 thru 8, and 11.)	X	1
11	A169-36	Muffler Sub-Assembly (6-inch diameter, for O-320 engine; welded muffler assembly only.)	X	1
12	A169-37	Muffler Assembly (6-inch diameter, for O-360 engine; includes items 2, 5 thru 8, and 13.)	X	1
13	A169-38	Muffler Sub-Assembly (6-inch diameter, for O-360 engine; welded muffler assembly only.)	X	1
14	A169-6	Muffler Assembly (5-inch diameter, for O-320 engine; includes items 2, 5 thru 8, 15, and 18.)	O	1
15	A169-8	Muffler Assembly (5-inch diameter, for O-320 engine; welded muffler assembly only.)	X	1
16	A169-24	Muffler Assembly (5-inch diameter, for O-360 engine; includes items 2, 5 thru 8, 17, and 18.)	O	1
17	A169-25	Muffler Sub-Assembly (5-inch diameter, for O-360 engine; welded muffler assembly only.)	O	1
18	A701-10	Tape (stainless steel; do not use beneath exhaust bead clamps which incorporate integral barriers.)	X	A/R
NOTES * Lycoming part number.				

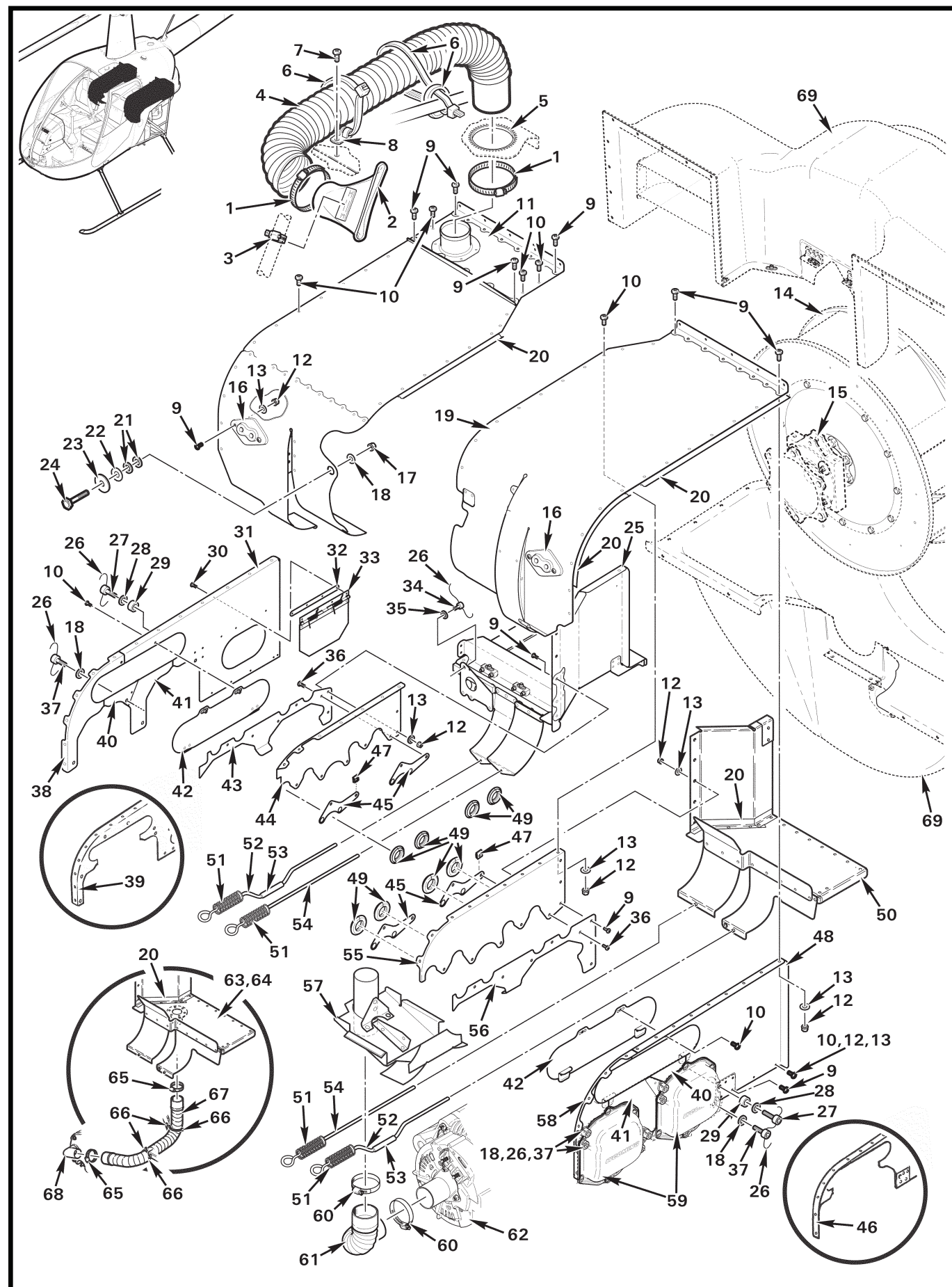


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		COOLING PANELS		
71-19-1	B277-28	Clamp (main rotor gearbox cooling hose)	X	2
2	A747-1	Nozzle Assembly	X	1
3	B277-8	Clamp	X	1
4	A785-6	Hose	X	1
5	MS21266-1N	Grommet (12-inch length)	X	1
	B270-8QT	Adhesive (use to install MS21266-1N grommet)	X	A/R
6	MS3367-3-9	Ty-Rap (main rotor gearbox cooling hose)	X	3
7	AN525-832R6	Screw	X	1
8	MS21919WDG5	Clamp	X	1
9	MS27039C0806	Screw	X	13
10	MS27039C0805	Screw (or AN525-832R6; earlier R22s)	X	A/R
11	A308-1 *	Cover (RH, O-320 engine)	X	1
	A308-6 *	Cover (RH, O-360 engine)	X	1
12	MS21042L08	Nut	X	A/R
13	NAS1149FN816P	Washer	X	A/R
14	B174-1	Fanwheel Assembly (Ref, see Figure 71-21)		
15	A007-6	Fanshaft and Bearing Assembly (Ref, see Figure 63-11)		
	A007-5	Fanshaft and Bearing Assembly (Ref, see Figure 63-11)		
16	LW-M-2375	Harness Plate	X	2
17	D210-4	Nut	X	1
18	NAS1149F0432P	Washer	X	15
19	A312-1 *	Cover Assembly (LH, O-320 engine)	X	1
	A312-6 *	Cover Assembly (LH, O-360 engine)	X	1
20	A701-1 *	Foil Tape	X	A/R
21	A141-11	Washer (under A141-14 washer)	X	2
22	A141-32	Washer	X	1
23	A141-14	Washer	X	1
24	NAS6604-6 **	Bolt (or NAS6604-7)	X	1
25	A309-1 *	Panel Assembly (RH, O-320 engines. Required for small [A649-1] oil cooler. Originally installed on Standard, HP, and Alpha.)	O	1
	A309-15 *	Panel Assembly (RH, O-320 engines. Required for large [A649-2 or C649-1] oil cooler. Originally installed on Beta and Mariner.)	X	1
	C309-4 *	Panel Assembly (RH, O-360 engine. Used on Beta II and Mariner II.)	X	1
NOTES * Install item 20 as required at all internal baffle relief holes, gaps, and mating edges of noted items. ** Select bolt which, after correct torque is applied, exposes 2 to 4 threads beyond nut.				

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
COOLING PANELS (Cont'd)				
71-19-26	MS20995C32	0.032-inch dia Safety Wire	X	A/R
27	NAS1352-4H14P	Screw	X	2
28	A141-11	Washer	X	2
29	C130-9	Spacer	X	2
30	MS20470AD3	Rivet	X	4
31	A305-14*	Panel Assembly – Outboard RH	X	1
32	A775-3	Spacer	O	1
33	A775-1	Cover Assembly (oil cooler access)	X	1
34	NAS1352-3H6P	Screw (thru A309 panel to cylinder head)	X	1
35	AN960-10L	Washer	X	A/R
36	AN525-832R6	Screw	X	8
37	NAS1352-4H10P	Screw	X	14
38	A305-18*	Panel – Forward (RH)	X	1
39	A305-6*	Panel Assembly – Outboard (RH; Ref, no longer available. Replace with items 31, 38, 40 & 41.)		
40	A305-8	Panel (LH and RH)	X	2
41	A305-7	Panel Assembly (LH and RH)	X	2
42	A449-1	Cover Assembly (spark plug access, LH and RH)	X	2
43	A306-2*	Panel – Lower (RH)	X	1
44	A306-1*	Panel – Upper (RH)	X	1
45	A484-3	Attach Plate	X	4
46	A305-5*	Panel Assembly – Outboard (LH; Ref, no longer available. Replace with items 40, 41, 48, and 58.)		
47	B162-2	Clipnut	X	8
48	A305-13*	Panel Assembly – Outboard (LH)	X	1
49	B401-1	Grommet (push rod housing; install small diameter inboard)	X	8
50	A313-9*	Panel Assembly (LH; ship S/N 3689 and subsequent)	X	1
51	D774-13	Spring	X	4
52	A487-2	Retainer	X	2
53	B161-102	Spirap (2 places, length as required)	X	A/R
54	A487-1	Retainer	X	2
55	A310-1*	Panel – Upper (LH)	X	1
56	A310-2*	Panel – Lower (LH)	X	1
57	D754-4	Baffle Assembly (for O-360 engine)	X	1
	D754-7	Baffle Assembly (for O-320 engine)	X	1

NOTES * Install item 20 as required at all internal baffle relief holes, gaps, and mating edges of noted items.

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		COOLING PANELS (Cont'd)		
71-19-58	A305-17*	Panel – Forward (LH)	X	1
59	61247**	Cover – Rocker Box (Ref)		
60	B277-24	Clamp	X	2
61	A785-32	Hose (1.5-inch diameter)	X	1
62	D748-4	Alternator – Lightweight (Ref, see Figure 71-31)		
63	A313-1*	Panel Assembly (LH, O-320 engine)	X	1
64	A313-7*	Panel Assembly (LH, O-360 engine)	X	1
65	B277-12	Clamp	X	2
66	MS3367-4-9	Ty-Rap (alternator cooling hose)	X	4
67	A785-7	Hose – Alternator Cooling (1.0-inch diameter)	X	1
68	D747-5	Shroud – Alternator Cooling (Ref, see Figure 71-23)		
	ALU-1062A***	Shroud – Alternator Cooling (Ref, used only with item 67)		
69	R7156	Scroll Set (Ref, see Figure 71-21)		
NOTES * Install item 20 as required at all internal baffle relief holes, gaps, and mating edges of noted items. ** Lycoming part number. *** Kelly Aerospace part number.				

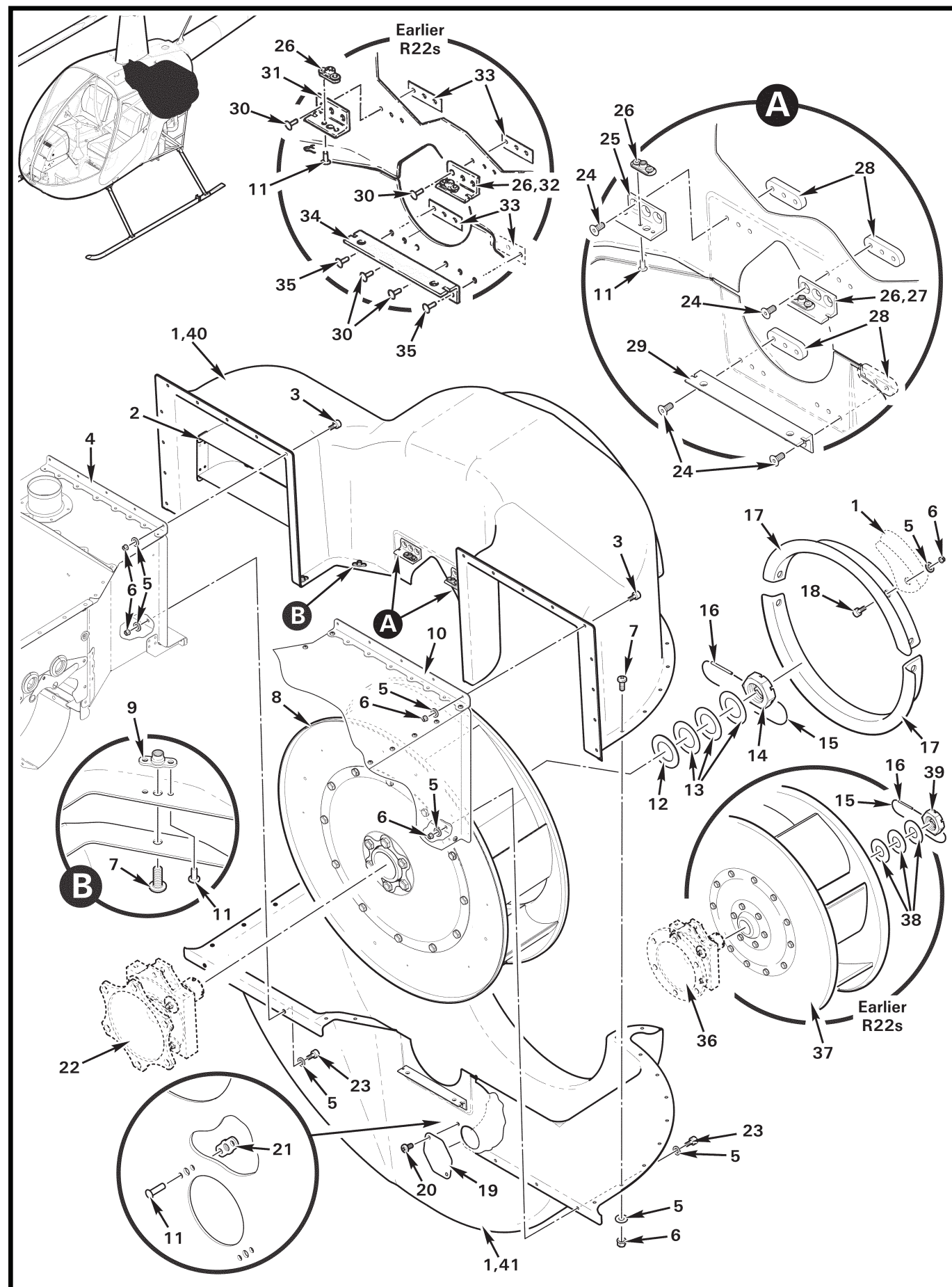


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		FANWHEEL & SCROLL ASSEMBLY INSTALLATION		
71-21-1	R7156	Scroll Set (For R22s with large [A649-2 or C649-1] oil cooler. Includes items 5 [8], 6 [8], 11 [4], 17 thru 20, 24 thru 29, 40, and 41.)	X	1
2	B169-5	Vane Assembly (install using MS20470AD4 rivets)	X	1
3	AN525-832R6	Screw	X	18
4	A308-1	Cover (Ref; see Figure 71-19)		
	A308-6	Cover (Ref; see Figure 71-19)		
5	AN960-8L	Washer	X	56
6	MS21042L08	Nut	X	51
7	AN525-832R6	Screw (or AN525-832R7 or AN525-832R8 as required for proper thread engagement)	X	24
8	B174-1*	Fanwheel Assembly (Revision F and subsequent)	X	1
9	MS21069L08	Nutplate	X	4
10	A312-1	Cover (Ref; see Figure 71-19)		
	A312-6	Cover (Ref; see Figure 71-19)		
11	MS20426AD3	Rivet	X	16
12	MS20002-18	Washer (against fanwheel hub)	X	1
13	NAS1149F1832P	Washer (or AN960-1816L)	X	A/R
14	AN320-18	Nut	X	1
15	MS20995C41	0.041-inch dia. Safety Wire	X	A/R
16	B350-2	Spring Pin (or MS9048-112)	X	1
17	B229-2	Lip	X	2
18	MS27039C0805	Screw	X	8
19	D229-4	Cover	X	1
20	MS35206-227	Screw	X	2
21	MS21069L06	Nutplate	X	2
22	A007-6	Fanshaft and Bearing Assembly (Ref, see Figure 63-11)		
	A007-5	Fanshaft and Bearing Assembly (Ref, see Figure 63-11)		
23	NAS1352-08-8P	Screw	X	5
24	91266A192	Screw	X	12
25	A185-8	Bracket	X	1
26	MS21075L3E	Nutplate (install using item 11 [4])	X	2
27	A185-9	Bracket (without nutplate)	X	1
28	A185-7	Plate	X	4
29	A185-6	Bracket	X	1
NOTES * Compatible with item 22 only.				

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		FANWHEEL & SCROLL ASSEMBLY INSTALLATION (Cont'd)		
71-21-30	MS20470AD5	Rivet	X	8
31	A185-2	Bracket	X	1
32	A185-5	Bracket (without nutplate)	X	1
33	A185-3	Plate	X	4
34	A185-1	Bracket	X	1
35	MS20426AD5	Rivet	X	4
36	A007-3 *	Fanshaft and Bearing Assembly (Ref, no longer available)		
37	B174-1 *	Fanwheel Assembly (Revision E and prior. Ref, no longer available)		
38	AN960-1616L	Washer (spares)	X	A/R
39	AN320-15	Nut (spares)	X	A/R
40	A236-1	Scroll – Upper Half (includes items 2, 9 [4], and 11 [8])	O	1
41	A236-3	Scroll – Lower Half (includes items 11 [4], and 21)	O	1
NOTES * To replace, order items 8, 12 thru 16, and 22.				

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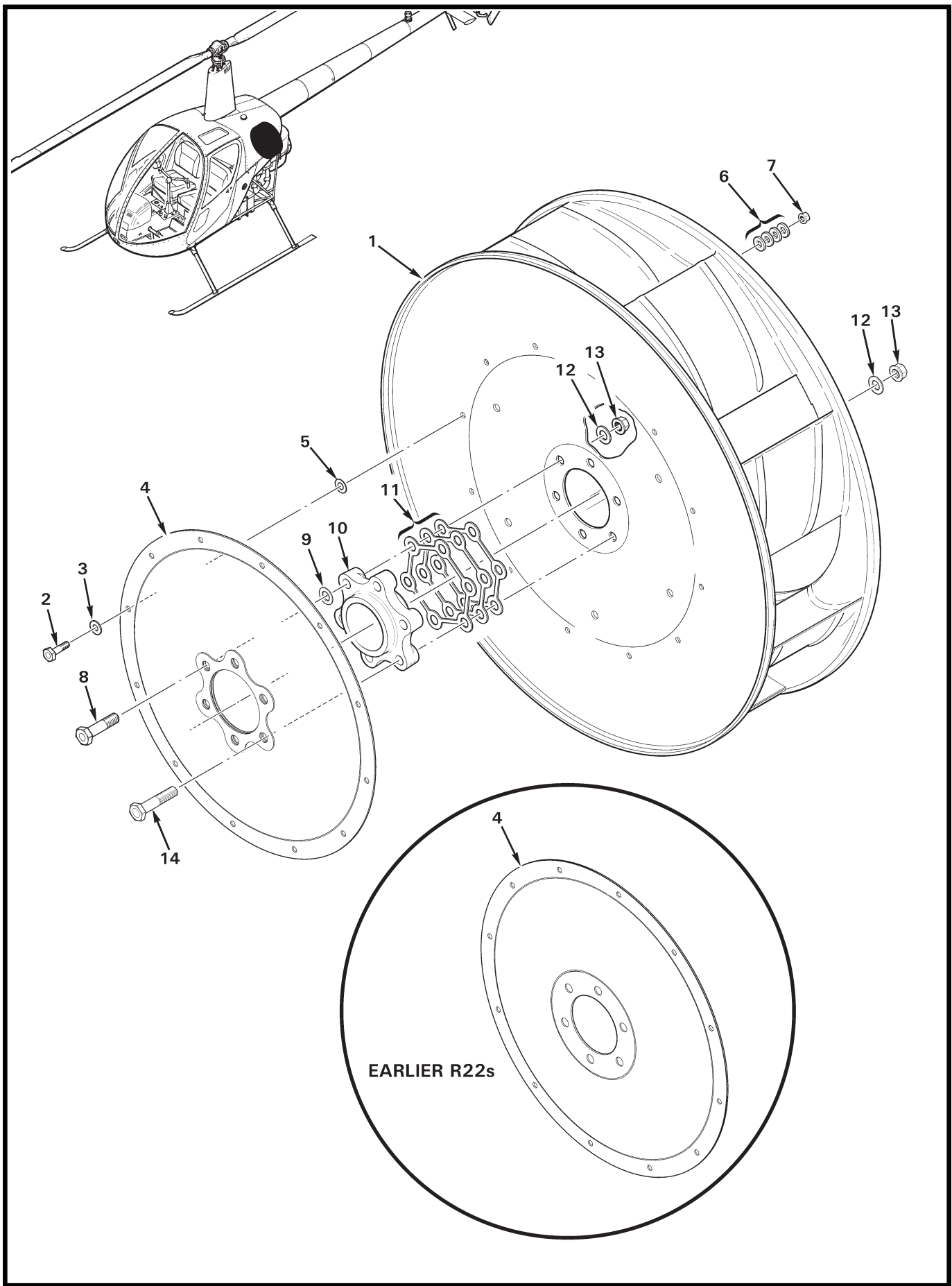


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
71-21D-1	B174 FANWHEEL ASSEMBLY			
	B174-1 *	Fanwheel Assembly (Incl A524-3 Fanwheel, and items 2 thru 14)	X	1
	A524-3	Fanwheel (Ref)		
	2 NAS6603-6	Bolt	X	12
	3 NAS1149F0332P	Washer	X	12
	4 A187-4	Cone Assembly	O	1
	5 NAS1149F0316P	Washer	X	12
	6 NAS1149D0363J	Washer (wet prime between washer and fanwheel)	X	48
	7 D210-3	Nut	X	12
	8 NAS6605-12	Bolt (or NAS6605-13 or -14 as required for 2–4 threads exposed beyond nut)	X	3
	9 NAS1149C0516R	Washer	X	6
	10 A186-2	Hub (wet prime between hub and adjacent components and in bolt hole)	X	1
	11 A178-2	Spacer (1–3 as required for shimming; wet prime between spacer and fanwheel)	X	A/R
	12 NAS1149F0532P	Washer (wet prime between washer and fanwheel)	X	6
	13 D210-5	Nut	X	6
	14 B660-1 **	Bolt (Installed 120° apart. Exposed thread limits do not apply.)	X	3
NOTES * See R22 MM § 6.240 for dynamic balance procedure. ** Originally installed on B174-1 Revision Q and subsequent fanwheels. May also be installed on Revision P and prior fanwheels.				

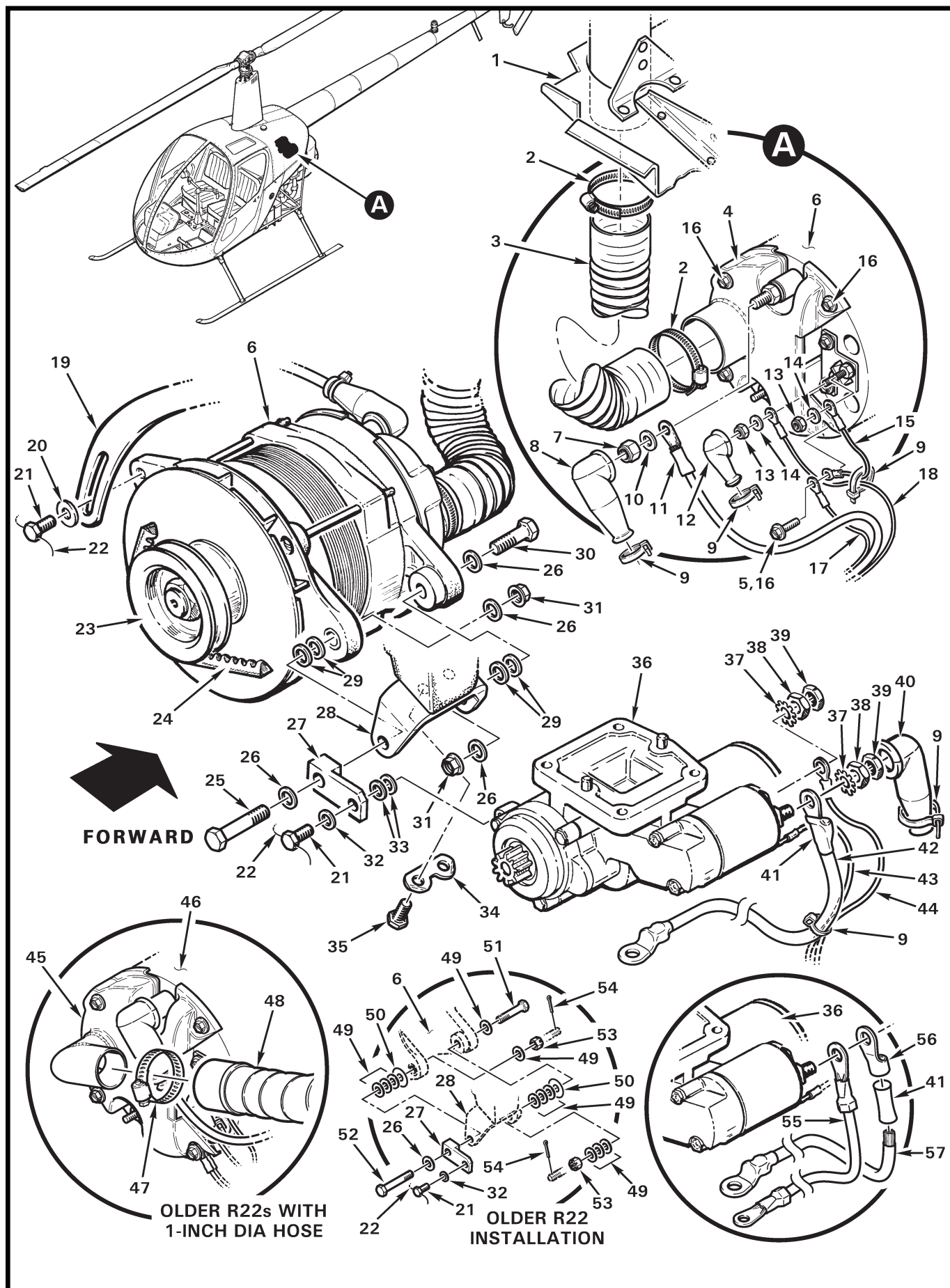


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		ALTERNATOR AND STARTER INSTALLATION		
71-23-1	D754-4	Baffle Assembly (Ref; see Figure 71-19)		
2	B277-24	Clamp (Ref; see Figure 71-19)		
3	A785-32	Hose (1.50-inch dia, Ref; see Figure 71-19)		
4	D747-5	Shroud Weldment (install with item 16; O-360 only)	X	1
5	B270-20	Adhesive	X	A/R
6	D748-3	Alternator Assembly (Includes [new] ALY-8520LS** alternator, items 4, 5, 7, 10, 13, 14, 16, and 23 [pulley]; O-360 only.)	X	1
	LW-14371*	Alternator Assembly (Includes [new] ALY-8520LS** alternator and item 23 [pulley].)	X	1
	ALY-8520LS**	Alternator – 60 Amp (new, without pulley)	X	1
	D748-3R	Alternator – ALY-8520RS** (Overhaul exchange, without pulley [retain pulley from core unit].)	X	1
7	MS21044N4	Nut	X	1
8	MS25171-2S	Nipple	X	2
9	MS3367-4-9	Ty-Rap	X	3
10	NAS1149F0432P	Washer	X	1
11	A059-22	Cable Assembly	X	1
12	MS25171-1S	Nipple	X	1
13	MS21044N06	Nut	X	2
14	NAS1149FN616P	Washer	X	2
15	A059-24	Wire (Ref)		
16	—	Screw (supplied with alternator; install using item 5)	O	4
17	A059-33	Wire (Ref)		
18	A059-23	Wire (Ref)		
19	B200-3	Arm	X	1
20	STD-1727*	Washer	X	1
21	LW-31H0.75*	Bolt (Ref; supplied with engine)		
22	MS20995C32	0.032-inch dia Safety Wire	X	A/R
23	36B19484*	Pulley	X	1
24	B173-1	V-Belt	X	1
25	AN6-16A	Bolt (or AN6-15A, AN6-17A as required for shimming)	X	1
26	NAS1149F0632P	Washer	X	4
27	B299-1	Link	X	1
28	B200-1	Bracket	X	1
29	NAS1149F0663P	Washer (or NAS1149F0632P, NAS1149D0616J as required for shimming)	X	A/R
NOTES * Lycoming part no. ** Kelly Aerospace part no.				

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		ALTERNATOR AND STARTER INSTALLATION (Cont'd)		
71-23-30	AN6-11A	Bolt (or AN6-12A as required for shimming)	X	1
31	D210-6	Nut	X	2
32	STD-35*	Washer	X	1
33	NAS1149F0532P	Washer (or NAS1149F0516P as required for shimming)	X	A/R
34	73383*	Lockplate	X	1
35	LW-31-0.94*	Bolt (supplied with engine)	X	2
36	BC315-100-2**	Starter (Incl items 37 and 38)	X	1
37	—	Lockwasher (Ref; supplied with starter)		
38	—	Nut (Ref; supplied with starter)		
39	B330-16	Palnut	X	2
40	MS25171-2S	Nipple (aft battery only)	X	1
	MS25171-4S	Nipple (forward battery, not shown)	X	1
41	B158-8	Heat Shrink	X	A/R
42	A067-581	Cable Assembly (aft battery)	X	1
43	A059-582	Wire (Ref)		
44	A059-591	Wire (Ref)		
45	ALU-1062A	Shroud Weldment (Ref)		
46	32B19549*	Alternator Assembly (Includes [new] ALX-8521LS*** alternator and item 23 [pulley]; discontinued option.)	O	1
	ALX-8521LS***	Alternator – 70 Amp (New, without pulley; discontinued option.)	O	1
	D748-2R	Alternator – ALX-8521RS*** (Overhaul exchange, without pulley; discontinued option.)	X	1
47	B277-12	Clamp (Ref; see Figure 71-19)		
48	A785-7	Hose (1.00-inch dia, Ref; see Figure 71-19)		
49	STD-690*	Washer (0.063-inch thick as required for shimming)	X	A/R
50	76534*	Shim (0.005-inch thick as required for shimming)	X	A/R
51	AN6-16	Bolt	X	1
52	AN6-21	Bolt	X	1
53	STD-872*	Nut	X	2
54	STD-713*	Cotter Pin	X	2
55	A067-673	Wire (forward battery)	X	1
56	B260-20	Terminal	X	1
57	A067-587	Wire (forward battery)	X	1
NOTES * Lycoming part no. ** B&C Specialty Products part no. *** Kelly Aerospace part no.				

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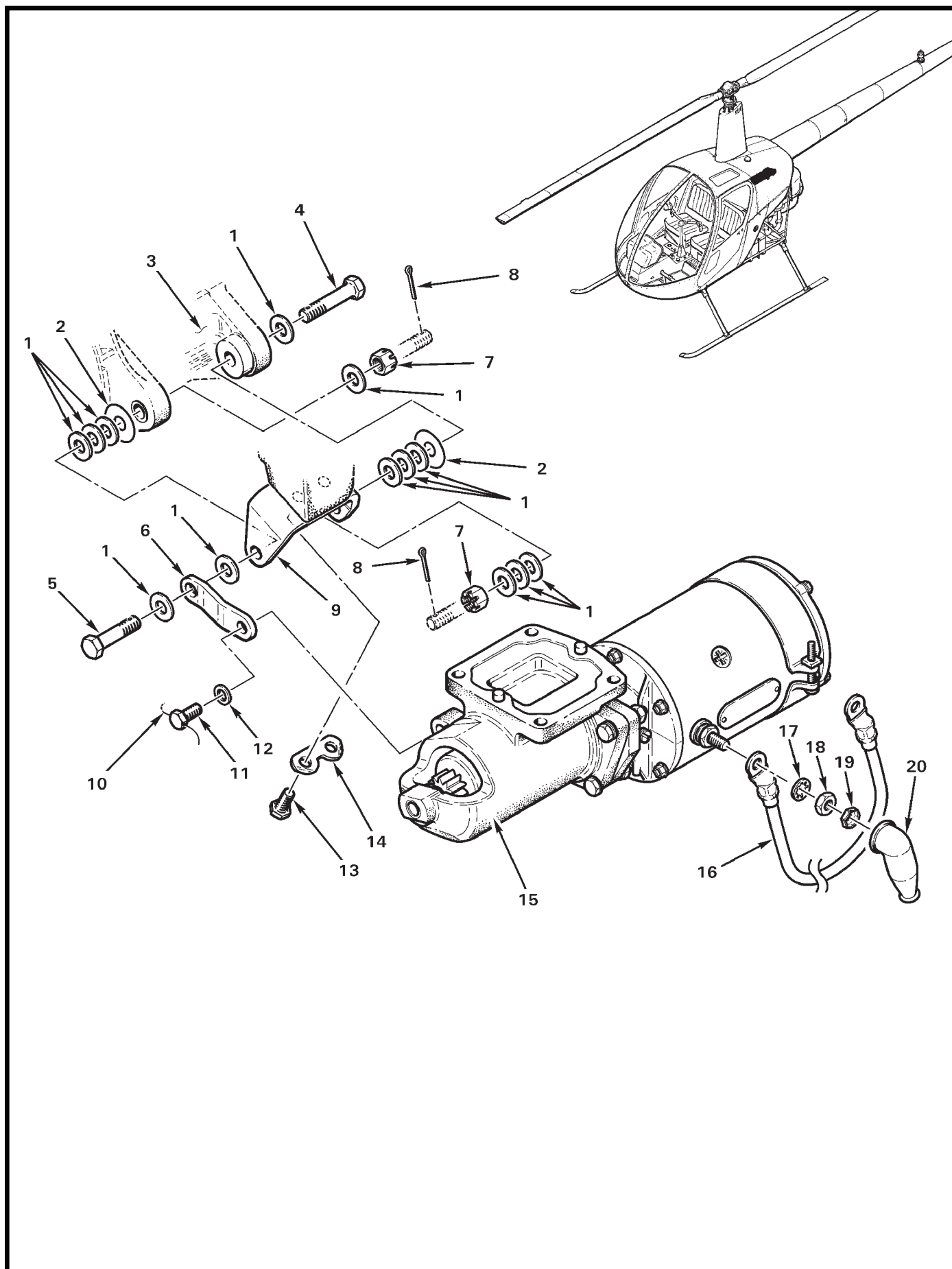


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		KELLY AEROSPACE STARTER INSTALLATION		
71-27-1	STD-690*	Washer (0.063-inch thick as required for shimming)	X	A/R
2	76534*	Shim (0.005-inch thick as required for shimming)	X	A/R
3	—	Alternator (Ref)		
4	AN6-16	Bolt	X	1
5	AN6-14	Bolt	X	1
6	74323*	Strut	X	1
7	STD-872*	Nut	X	2
8	STD-713*	Cotter Pin	X	2
9	07A19474*	Bracket	X	1
10	MS20995C32	0.032-inch dia Safety Wire	X	A/R
11	LW-31H0.75*	Bolt (Ref; supplied with engine)		
12	STD-35*	Washer	X	1
13	LW-31-0.94*	Bolt (supplied with engine)	X	1
14	73383*	Lockplate	X	1
15	MZ4224**	Starter (Incl items 17 and 18)	X	1
16	A059-21	Cable (starter relay-to-starter; Kelly Aerospace starter only) . . .	X	1
17	—	Lockwasher (Ref; supplied with starter)		
18	—	Nut (Ref; supplied with starter)		
19	B330-16	Palnut	X	1
20	MS25171-2S	Nipple	X	1
NOTES * Lycoming part no. ** Kelly Aerospace part no.				
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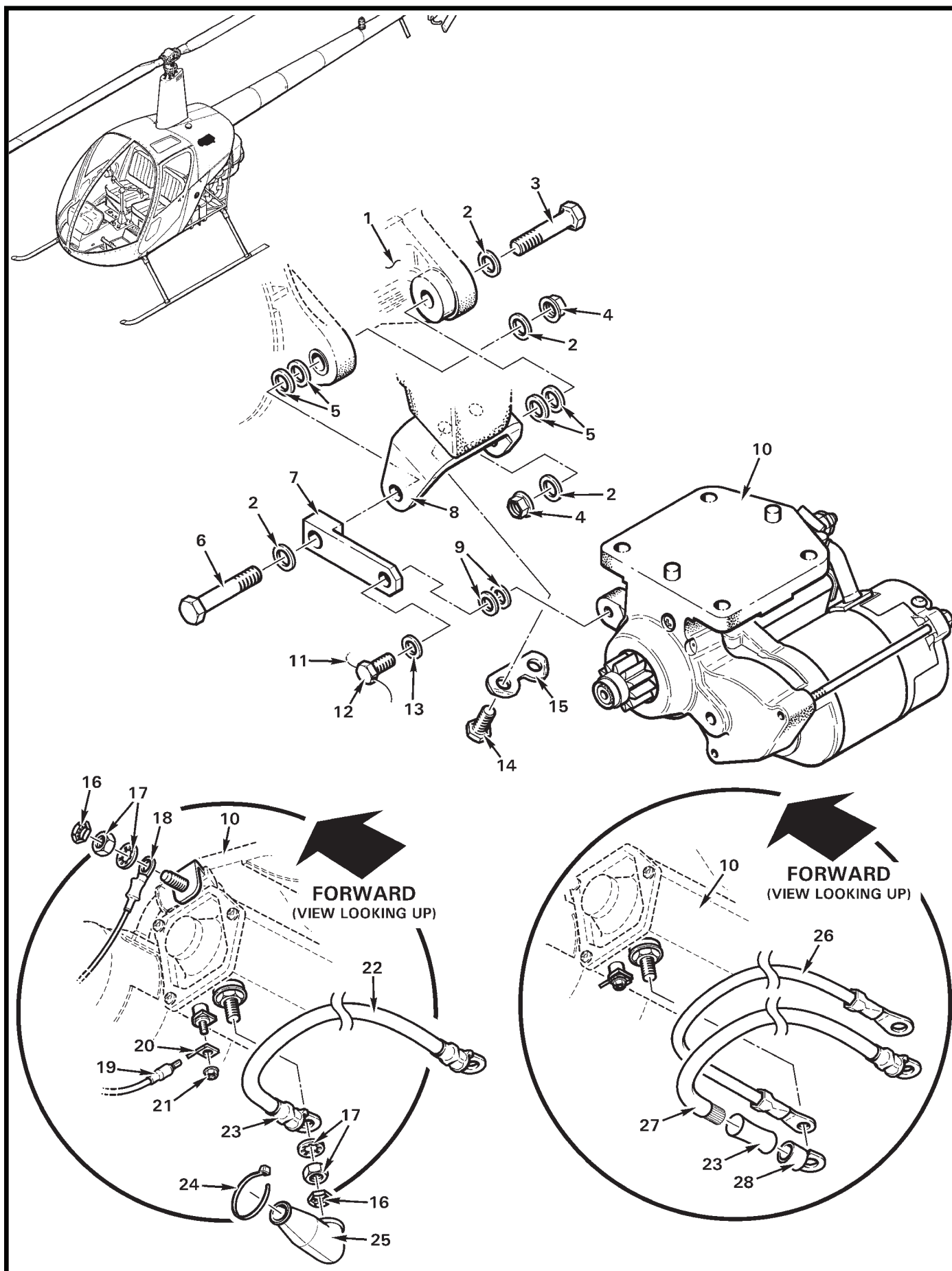


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		SKY-TEC STARTER INSTALLATION		
71-29-1	D748	Alternator Assembly (Ref, see Figure 71-23)		
2	NAS1149F0632P	Washer	X	4
3	AN6-11A*	Bolt (or AN6-12A; as required for shimming)	X	1
4	D210-6	Nut	X	2
5	NAS1149F0663P*	Washer (or NAS1149F0632P, NAS1149D0616J; as required for shimming)	X	A/R
6	AN6-16A*	Bolt (or AN6-15A or AN6-17A)	X	1
7	B299-3	Link	X	1
8	B200-1	Bracket	X	1
9	NAS1149F0532P*	Washer (or NAS1149F0516P; as required for shimming)	X	A/R
10	149-12HT/H**	Starter (Incl items 17, 20, and 21)	X	1
11	MS20995C32	0.032-inch dia. Safety Wire	X	A/R
12	LW-31H0.75***	Bolt (Ref, supplied with engine)		
13	STD-35***	Washer	X	1
14	LW-31-0.94***	Bolt (supplied with engine)	X	1
15	73383***	Lockplate	X	1
16	B330-16	Palnut	X	2
17	—	Washer and Nut (Ref, supplied with starter)		
18	A059-591	Wire (Ref)		
19	A059-582	Wire (Ref)		
20	—	Terminal (Ref, supplied with starter)		
21	—	Nut (Ref, supplied with starter)		
22	A067-581	Cable Assembly (aft battery)	X	1
23	B158-8	Heat Shrink	X	A/R
24	MS3367-4-9	Ty-Rap	X	1
25	MS25171-2S	Nipple (aft battery)	X	1
	MS25171-4S	Nipple (forward battery; not shown)	X	1
26	A067-673	Wire (forward battery)	X	1
27	A067-587	Wire (forward battery)	X	1
28	B260-20	Terminal	X	1
NOTES * Select hardware which, after correct torque is applied, exposes 2 to 4 threads beyond nut. ** Sky-Tec part number. *** Lycoming part number.				

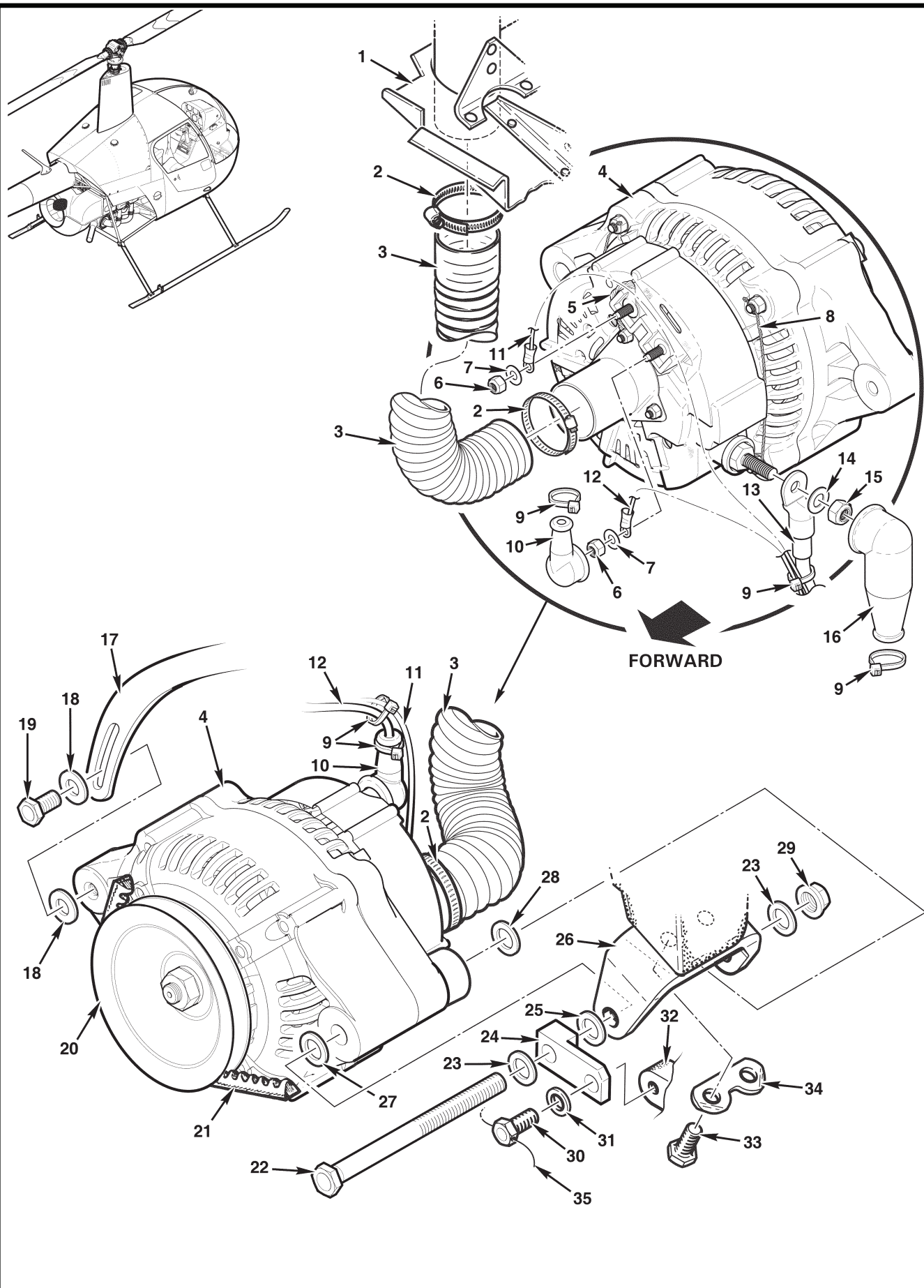


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		LIGHTWEIGHT ALTERNATOR INSTALLATION*		
71-31-1	D754-4	Baffle Assembly (Ref, see Figure 71-19)		
2	B277-24	Clamp (Ref, see Figure 71-19)		
3	A785-32	Hose (Ref, 1.50-inch dia., see Figure 71-19)		
4	D748-4	Alternator Assembly (Includes items 5 thru 8, 14, 15, and 20.)	X	1
5	—	Jumper (supplied with alternator)	O	1
6	90576A103	Nut	X	2
7	NAS1149FN816P	Washer	X	2
8	—	Safety Wire (supplied with alternator)	O	1
9	MS3367-4-9	Ty-Rap	X	A/R
10	MS25171-1S	Nipple	X	1
11	A859-33	Wire (Ref)		
12	A859-23	Wire (Ref)		
13	A780-54	Wire	X	1
14	NAS1149F0432P	Washer	X	1
15	94645A205	Nut	X	1
16	MS25171-2S	Nipple	X	1
17	B200-3	Arm	X	1
18	STD-1727**	Washer ([1] under item 19, [1] between items 4 and 17)	X	2
19	NAS6605-5	Bolt (Ref)		
20	B200-6	Pulley	X	1
21	B173-1	V-Belt	X	1
22	AN6-42A	Bolt (use with B299-1 link [B & C starter])	X	1
	AN6-43A	Bolt (use with B299-3 link [Skytech starter])	X	1
23	NAS1149F0632P	Washer	X	2
24	B299-1	Link (shown; use with B & C starter)	X	1
	B299-3	Link (use with Sky-Tec starter)	X	1
25	NAS1149F0632P	Washer (or NAS1149D0616J as required to fill gap)	X	A/R
26	B200-1	Bracket	X	1
27	STD-690**	Washer (as required to align belt grooves)	X	1
28	STD-690**	Washer (may be replaced with NAS1149F0632P, NAS1149F0663P, or NAS1149D0616J as required to fill gap)	X	A/R
29	D210-6	Nut	X	1
30	LW-31HO.75**	Bolt (Ref, supplied with engine)		
31	STD-35**	Washer (Ref, supplied with engine)		
NOTES * O-360 engine only. ** Lycoming part number.				
Continues				

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		LIGHTWEIGHT ALTERNATOR INSTALLATION (Cont'd)		
71-31-32	–	Starter (Ref, see Figures 71-23 and 71-29)		
33	LW-31-0.94**	Bolt (supplied with engine)	X	2
34	73383**	Lockplate	X	1
35	MS20995C32	Safety Wire (0.032-inch dia.)	X	A/R
NOTES ** Lycoming part number.				