

CHAPTER 53

FUSELAGE

<i>Figure</i>	<i>Title</i>	<i>Page</i>
53-1	Engine Skirts	53.0
53-3	Mast Fairing Assembly	53.2
53-5	Main Gearbox Compartment Access Doors and Cowling	53.4
53-7	Main Gearbox Compartment Access Doors and Cowling	53.6
53-9	Frame Assemblies	53.8
53-13	Horizontal Firewall	53.12
53-17	Tailcone Assembly (LED Strobe)	53.16
53-21	Tailcone Assembly	53.20
53-25	Empennage Assembly	53.24
53-27	Float Stabilizer Installation	53.26

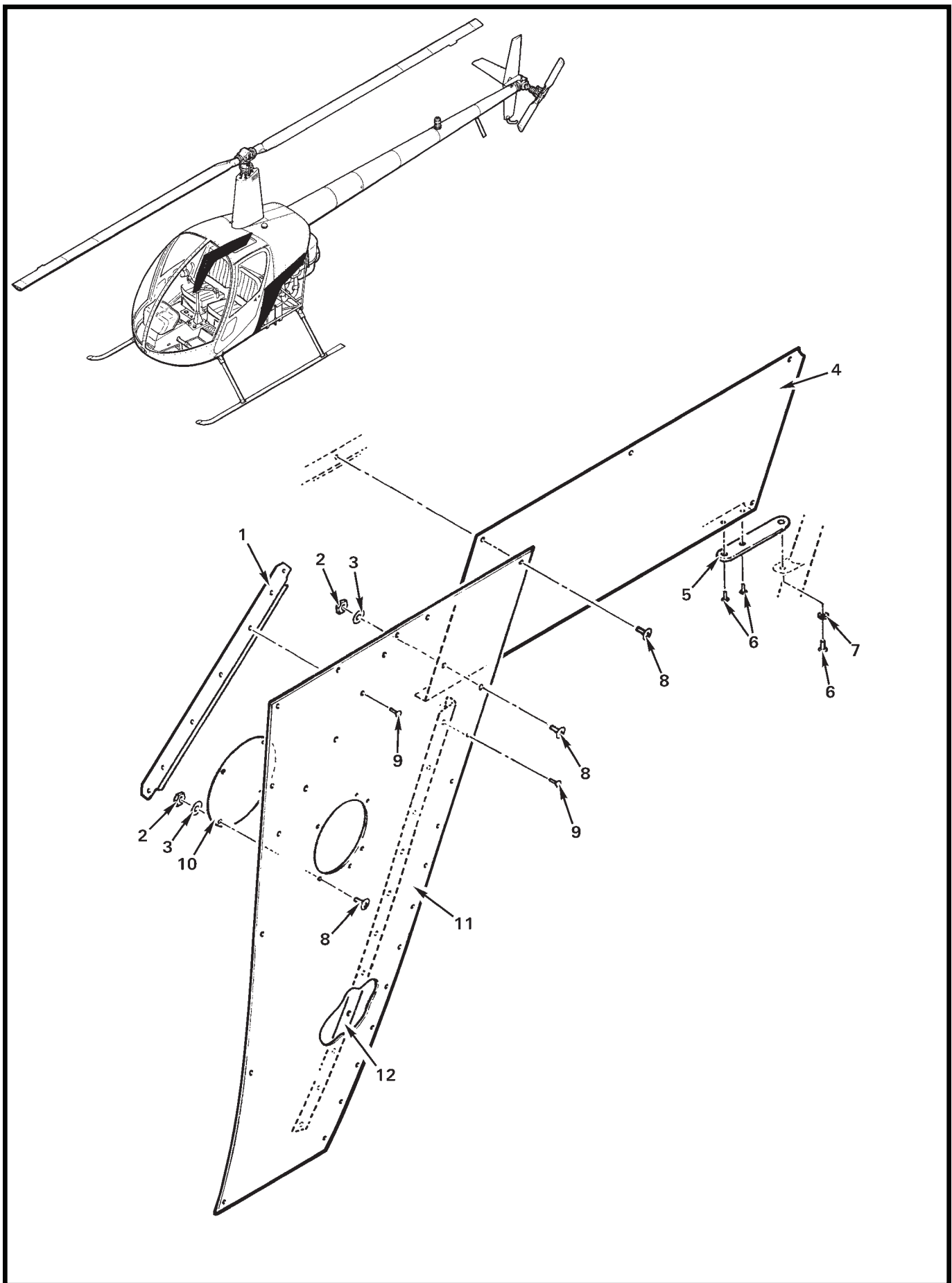


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE SKIRTS				
53-1-1	A378-11	Stiffener (LH and RH)	X	1
2	MS21042L08	Nut	X	A/R
3	NAS1149FN816P	Washer	X	A/R
4	A378-3	Panel (LH)	X	1
	A378-4	Panel (RH)	X	1
5	A378-15	Clip Assembly (Incl items 6 and 7)	X	1
6	MS20470AD4	Rivet	X	3
7	A130-14	Spacer	X	1
8	MS27039C0806	Screw	X	A/R
9	MS20470AD3	Rivet	X	16
10	A676-1	Cover – Heater Inlet (LH only, cabin heater not installed)	X	1
11	A378-5	Skirt (LH)	X	1
	A378-14	Skirt (RH)	X	1
	A378-17*	Skirt (RH)	X	1
12	A378-7	Stiffener (LH)	X	1
	A378-8	Stiffener (RH)	X	1

NOTES * Ship S/N 2571 and subsequent.

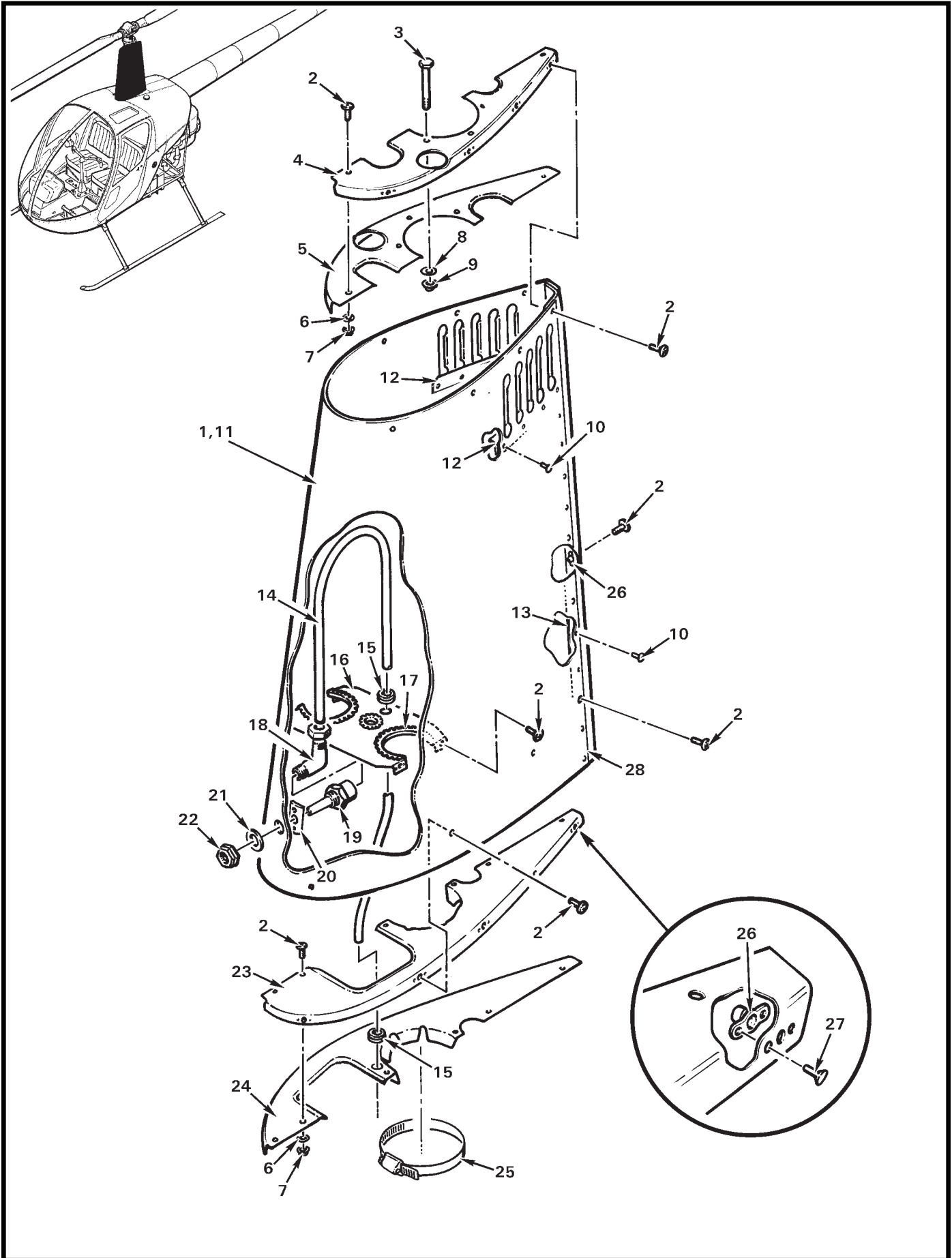


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
MAST FAIRING ASSEMBLY				
53-3-1	A261-1	Mast Fairing Assembly (Includes items 2, 4 thru 7, 10 thru 13, 16, and 23 thru 28. Shipped painted white.)	X	1
2	MS27039C0806*	Screw	X	37
3	AN3-16A	Bolt	X	6
4	A261-5	Rib (LH)	X	1
5	A261-6	Rib (RH)	X	1
6	NAS1149FN816P	Washer	X	7
7	MS21042L08	Nut	X	7
8	NAS1149F0332P	Washer	X	6
9	D210-3	Nut	X	6
10	MS20470AD3	Rivet	X	24
11	A261-2	Skin	X	1
12	A665-3	Scupper	X	2
13	A261-7	Angle	X	1
14	A729-28	Tube – Pitot	X	1
15	MS35489-6	Grommet (or AN931-4-7)	X	2
16	A665-1	Restraint Assembly (Incl items 17, 26, and 27)	X	1
17	MS21266-1N	Grommet (12-inch length)	X	A/R
18	A596-1	Elbow Fitting (with drain hole, includes nut)	X	1
19	A262-1	Fitting – Pitot	X	1
20	A246-3	Spacer	X	1
21	NAS1149D0516J	Washer	X	1
22	MS21083-N5	Nut	X	1
23	A261-3**	Rib (LH)	O	1
24	A261-4**	Rib (RH)	O	1
25	B277-56	Clamp	X	1
26	MS21069L08	Nutplate (used on all ribs and item 13)	X	29
27	MS20426AD3	Rivet	X	60
28	MS21071L08	Nutplate	X	1

NOTES * B526 screws may be used in this location with B527-08 nylon washers (see part interchangeability list, page viii).
 ** Items 23 and 24 must be ordered together as a matched set.

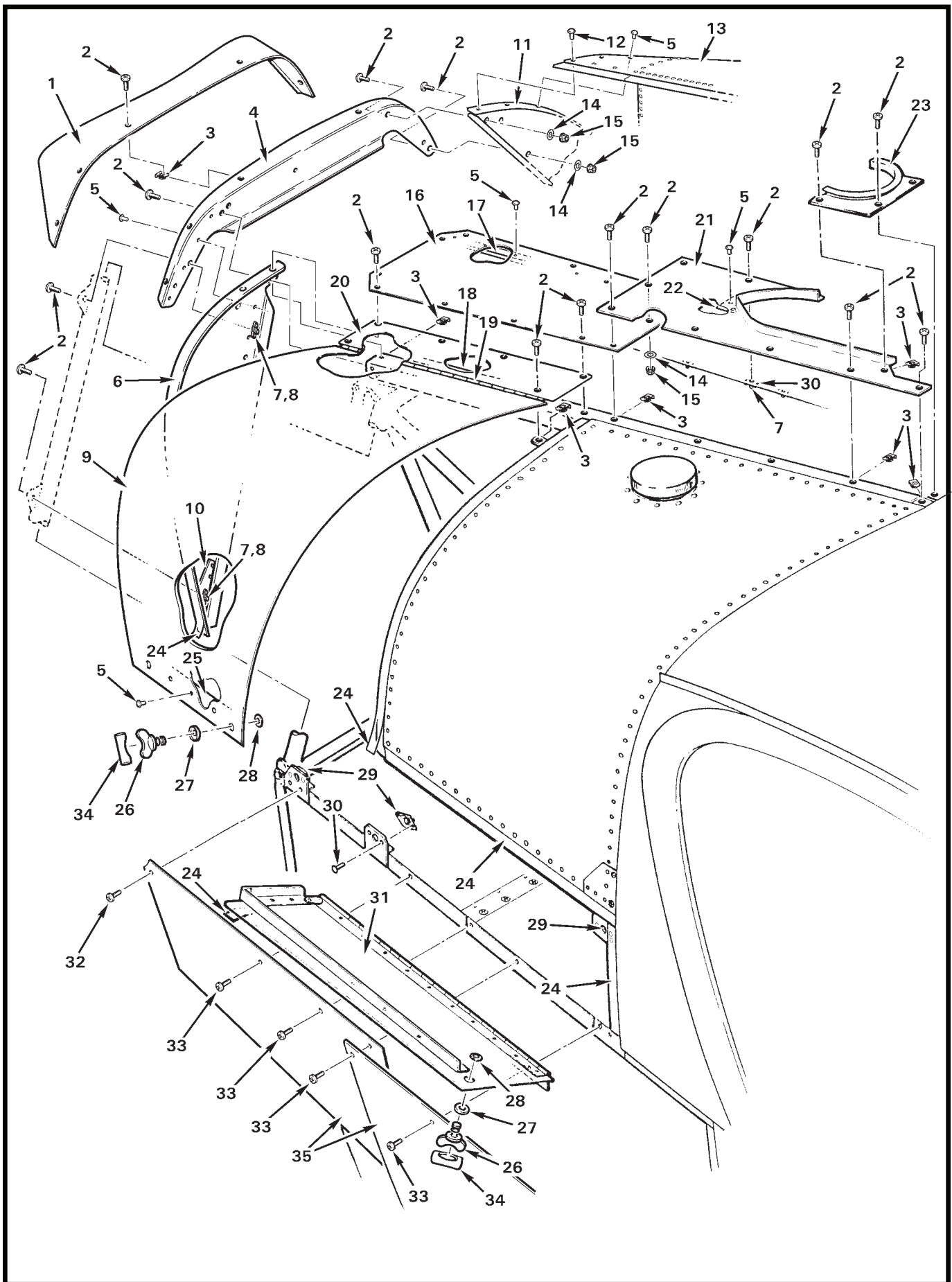


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		MAIN GEARBOX COMPARTMENT ACCESS DOORS AND COWLING		
53-5-1	A706-1	Fairing	X	1
2	MS27039C0806	Screw	X	31
3	B162-3	Clipnut	X	18
4	B428-1	Frame	X	1
5	MS20470AD3	Rivet	X	39
6	B429-5	Frame	X	1
7	MS21069L08	Nutplate	X	6
8	NAS1097AD3	Rivet	X	4
9	B430-3	Door (must be ordered with item 20)	X	1
10	B423-2	Doubler	X	1
11	A028-7	Frame (Ref, see Figure 28-15)		
12	MS20470AD4	Rivet	X	2
13	A028	Fuel Tank Assembly (Ref, see Figure 28-15)		
14	NAS1149FN816P	Washer	X	3
15	MS21042L08	Nut	X	3
16	B429-1	Skin (must be ordered with item 17)	X	1
17	B423-3	Stiffener (must be ordered with item 16)	X	1
18	B424-2	Stiffener	X	1
19	B424-1	Hinge	X	1
20	B430-4	Skin	X	1
21	B429-3	Skin (must be ordered with item 22)	X	1
22	B423-10	Doubler (must be ordered with item 21)	X	1
23	B423-1	Channel	X	1
24	A701-3	Tape – Polychor (108-foot roll)	X	A/R
25	B424-3	Doubler	X	1
26	85-12-140-16	Stud	X	3
27	85-46-101-39	Washer	X	3
28	85-34-201-20	Retaining Ring	X	3
29	85-35-295-15	Receptacle	X	3
30	MS20426AD3	Rivet	X	14
31	B153-6	Door Assembly	X	1
32	MS27039C0808	Screw	X	2
33	MS27039C0807	Screw	X	4
34	A901-1	Cover (clear plastic)	X	3
35	A378-2	Skirt Assembly – RH (Ref, see also Figure 53-1)		

NOTES

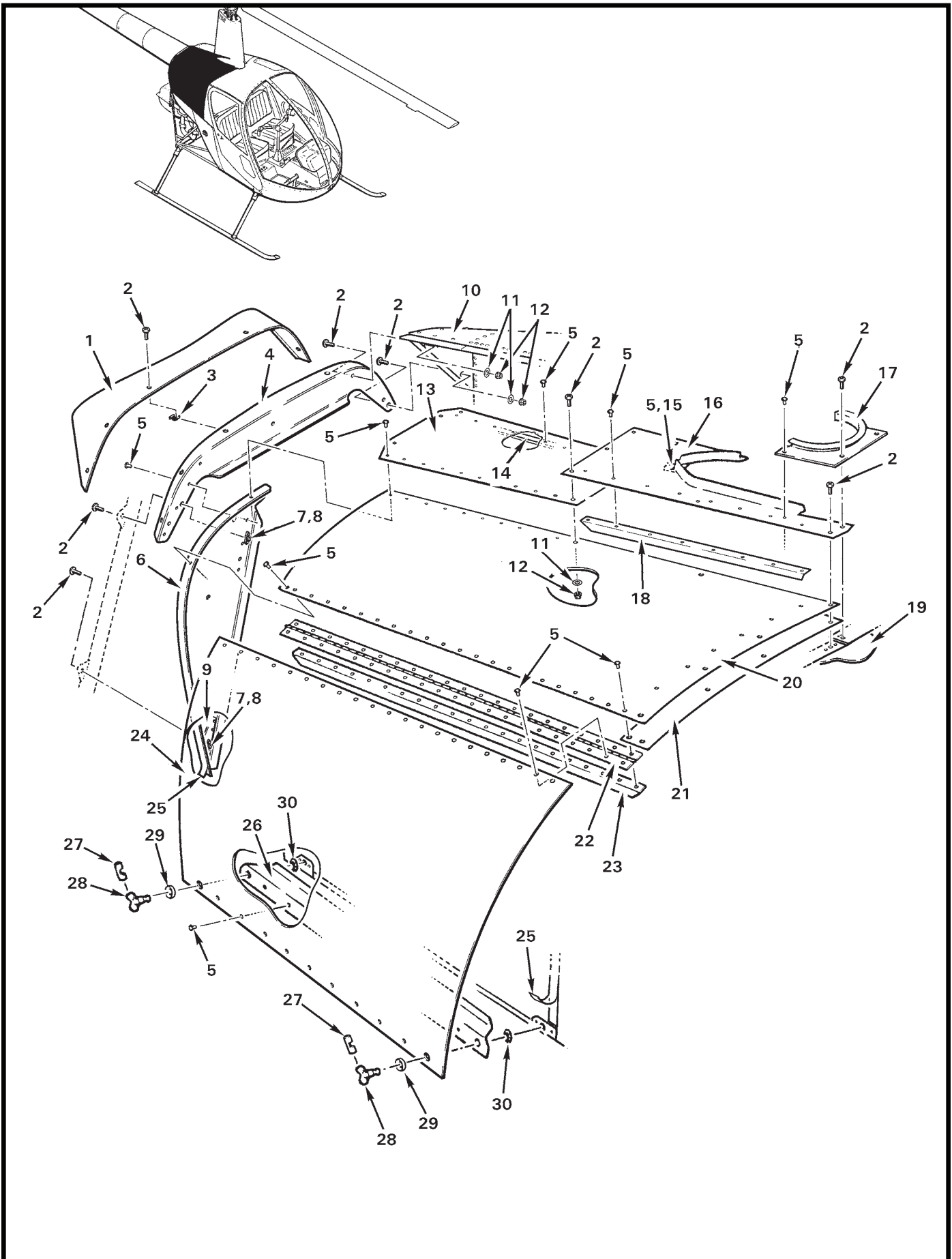


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		MAIN GEARBOX COMPARTMENT ACCESS DOOR AND COWLING*		
53-7-1	A706-1	Fairing	X	1
2	MS27039C0806**	Screw	X	24
3	B162-3	Clipnut	X	6
4	B428-1	Frame	X	1
5	MS20470AD3	Rivet	X	96
6	B429-5	Frame (RH shown, for LH see Figure 53-5)	X	1
7	MS21069L08	Nutplate	X	10
8	NAS1097AD3	Rivet	X	4
9	B423-2	Doubler	X	1
10	A028	Fuel Tank Assembly (Ref, see also Figure 28-15)		
11	NAS1149FN816P	Washer	X	5
12	MS21042L08	Nut	X	5
13	B429-2	Skin (must be ordered with item 14)	X	1
14	B423-3	Stiffener (must be ordered with item 13)	X	1
15	B423-10	Doubler (must be ordered with item 16)	X	1
16	B429-4	Skin (must be ordered with items 15 and 18)	X	1
17	B423-1	Channel Assembly	X	1
18	B423-4	Stiffener (must be ordered with item 16)	X	1
19	A015	Cabin Assembly (Ref)		
20	B430-1	Skin	X	1
21	B423-11	Doubler	X	1
22	B423-8	Hinge	X	1
23	B423-5	Stiffener	X	1
24	B430-2	Door	X	1
25	A701-3	Tape – UHMW Polyethylene (0.5 in. X 108 ft roll)	X	A/R
26	B423-6	Stiffener	X	1
27	A901-1	Cover – Stud (clear plastic)	X	2
28	85-12-140-16	Stud	X	2
29	85-46-101-39	Washer	X	2
30	85-34-201-20	Retaining Ring	X	2

NOTES * Without auxiliary fuel tank.
 ** B526 screws may be used in this location with B527-08 nylon washers (see part interchangeability list, page viii).

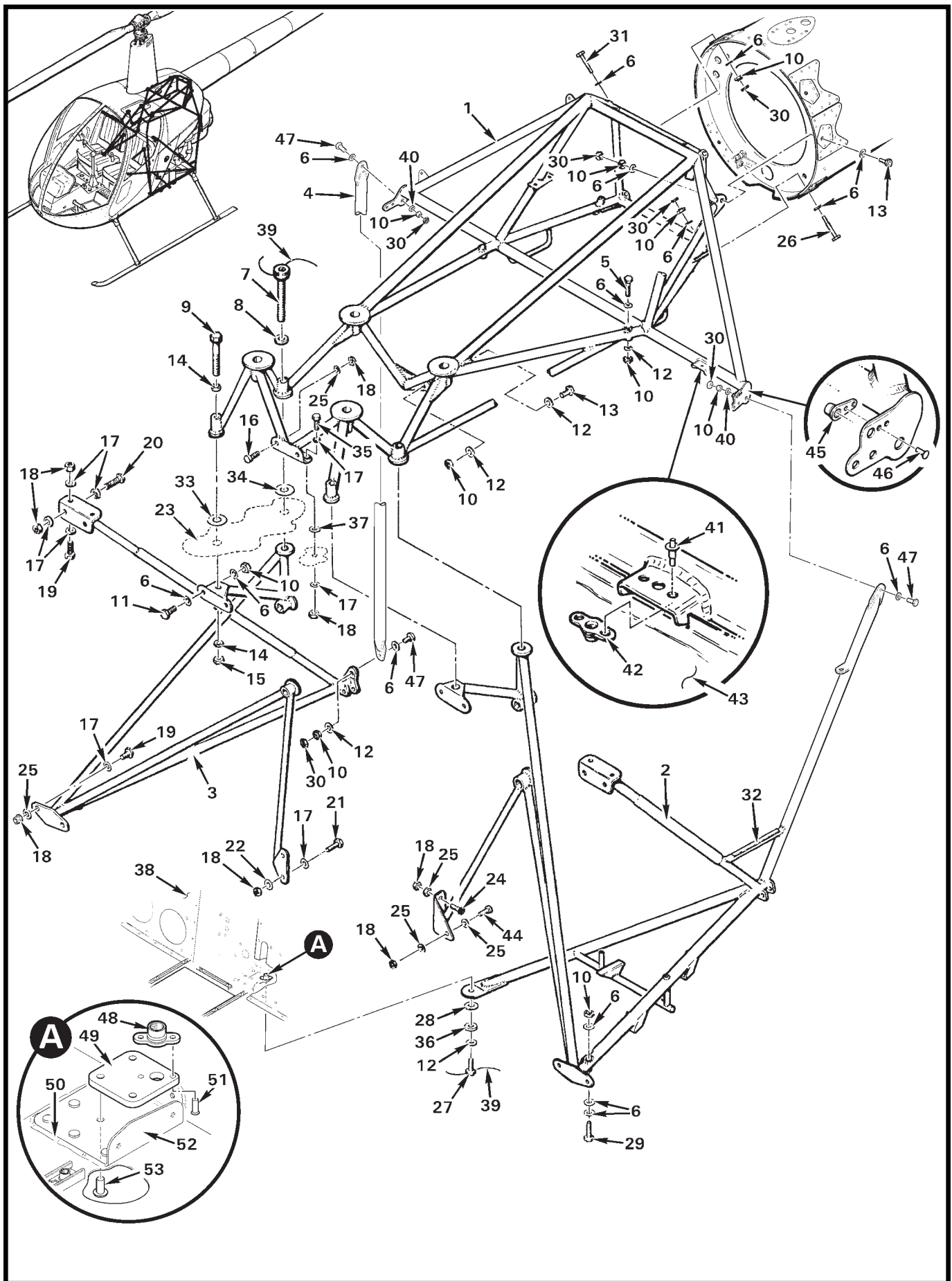


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
FRAME ASSEMBLIES				
53-9-1	A020-90	Frame Assembly – Upper (Revision AN and subsequent. Includes items 45 and 46. Service Letter SL-72 refers.)	X	1
	A020-2*	Frame Assembly – Upper (Revision AM and prior. Includes items 45 and 46.)	X	1
	A047-6	Frame Assembly – Upper (Includes items 45 and 46. Optional on Beta. Includes provision for tie-down installation. See also Figure 10-5.)	X	1
	A047-1	Frame Assembly – Upper (Includes items 45 and 46. Standard on Mariner, optional on Beta. Includes provision for tie-down installation. See also Figure 10-5.)	O	1
2	A020-1	Frame Assembly – Lower (LH, not shown; used on Standard and HP.)	X	1
	A046-1	Frame Assembly – Lower (LH, provision for aft battery; used on Alpha, Beta and Mariner.)	X	1
3	A020-84	Frame Assembly – Lower (RH, not shown; used on Standard and HP.)	X	1
	A046-2	Frame Assembly – Lower (RH; used on Alpha, Beta and Mariner)	X	1
4	A020-3	Strut Assembly (not shown; used on Standard and HP)	X	1
	A046-3	Strut Assembly (used on Alpha, Beta and Mariner)	X	1
5	NAS6604-18	Bolt	X	2
6	NAS1149F0432P	Washer	X	29
7	NAS1351-8H-40P	Screw	X	2
8	MS20002C8	Washer	X	2
9	NAS6606-34	Bolt	X	2
10	D210-4	Nut	X	18
11	NAS6604-4	Bolt	X	4
12	NAS1149F0463P	Washer	X	7
13	NAS6604-3	Bolt	X	3
14	NAS1149F0663P	Washer	X	6
15	D210-6	Nut	X	2
16	B238-1	Bolt	X	2
17	NAS1149F0332P	Washer	X	30
18	D210-3	Nut	X	26
19	NAS6603-3	Bolt	X	8
20	NAS6603-4	Bolt	X	4
21	NAS6603-19	Bolt	X	2

NOTES * When replacing, order new A650-3 fittings if old fitting has a solid shank. When replacing upper frame, tailcone forward bay (or tailcone) usually requires replacement.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
FRAME ASSEMBLIES (Cont'd)				
53-9-22	NAS620-10L	Washer	X	2
23	—	Firewall – Horizontal (Ref)		
24	NAS1351-3-8P	Screw	X	2
25	NAS1149F0363P	Washer	X	10
26	NAS6604-24	Bolt	X	2
27	NAS6604H9	Bolt	X	1
28	AN970-4	Washer	X	1
29	NAS6604-16	Bolt	X	2
30	B330-13	Palnut	X	7
31	NAS6604-23	Bolt	X	2
32	A751-2	Strip – Safety Walk	X	1
33	A141-29	Washer (between upper frame and horizontal firewall; as required for shimming, [2] maximum)	X	A/R
34	A141-30	Washer (between upper frame and horizontal firewall; as required for shimming, [2] maximum)	X	A/R
35	NAS6603-2	Bolt (or NAS6603-3*)	X	2
36	A130-42	Spacer	X	1
37	A141-15	Washer – Shim ([3] maximum per bolt)	X	A/R
38	A015	Cabin Assembly (Ref)		
39	MS20995C32	0.032-inch dia Safety Wire	X	A/R
40	A141-11	Washer	X	2
41	MS20605R3W2	Rivet ([2] per nutplate)	X	4
42	MS21069L3	Nutplate (see Figures 28-1 and 28-15)	X	2
43	A234-3	Firewall – Horizontal (LH, Ref)		
44	NAS6603-2	Bolt	X	1
45	MS21071L3	Nutplate	X	1
46	MS20426AD3	Rivet	X	2
47	NAS6604-3	Bolt (installed with wet B270-1 sealant on bolt shank)	X	3
48	MS21069L4	Nutplate	X	1
49	A443-1	Doubler (install using item 50)	O	1
50	B270-1	Sealant	X	A/R
51	NAS1097AD3	Rivet	X	2
52	A387-1	Doubler (Ref)		
53	MS20470AD4	Rivet	X	3

NOTES * Select bolt length which, after correct torque is applied, exposes 2 to 4 threads beyond nut.

Intentionally Blank

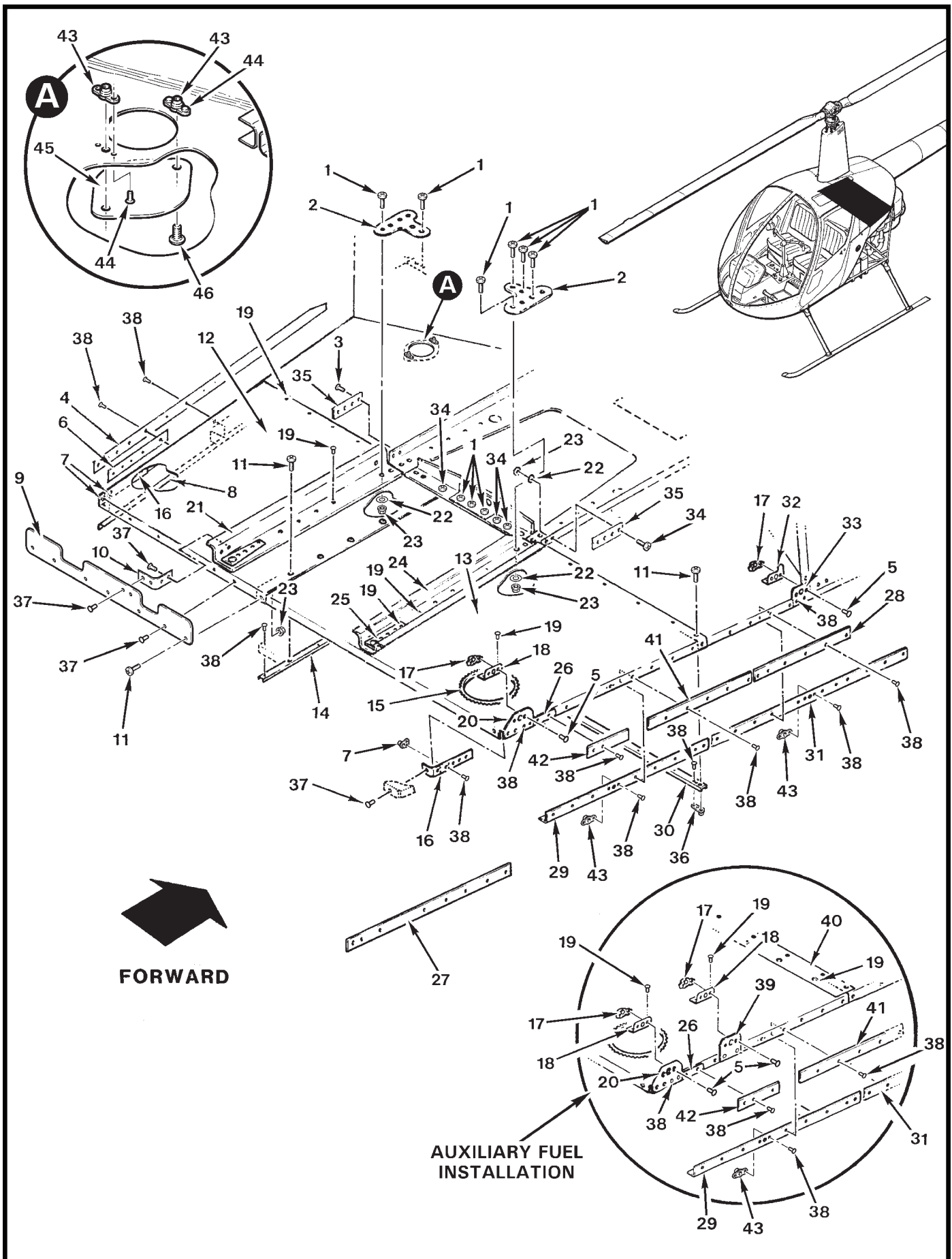


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
HORIZONTAL FIREWALL				
53-13-1	MS27039C0808	Screw	X	13
2	A397-2	Plate	X	2
3	MS20470AD4	Rivet	X	4
4	A419-1	Strip (LH)	X	1
5	MS20426AD4	Rivet	X	A/R
6	A420-1	Spacer	X	1
7	MS21086L08	Nutplate	X	4
8	A557-1	Angle Assembly	X	1
9	A395-1	Scupper	X	1
10	A402-1	Angle	X	1
11	MS27039C0806	Screw	X	10
12	A234-3	Firewall (LH)	X	1
13	A234-2	Firewall (RH, removable)	X	1
14	A738-6	Gang Channel	X	1
15	MS21266-1N	Grommet (12-inch length)	X	A/R
16	A422-1	Angle (LH and RH)	X	2
17	85-35-295-15	Receptacle	X	A/R
18	A379-6	Angle	X	A/R
19	MS20615-3M3	Rivet	X	A/R
20	A379-2	Receptacle Assembly (Incl items 5, 17, and 18)	X	1
21	A394-1	Stiffener	X	1
22	NAS1149FN816P	Washer	X	A/R
23	MS21042L08	Nut	X	A/R
24	A575-1	Stringer	X	1
25	A576-1	Doubler	X	2
26	A420-2	Spacer (shown installed)	X	1
27	A419-3	Strip (RH, for earlier R22s; superseded by items 41 and 42)	X	1
28	A419-2	Strip	X	1
29	A557-3	Angle Assembly (Incl items 38 [4] and 43 [2])	X	1
30	A738-5	Gang Channel	X	1
31	A557-2	Angle Assembly (Incl items 38 [8] and 43 [4])	X	1
32	A379-5	Angle	X	1
33	A379-1	Receptacle Assembly (Incl items 5, 17, and 32)	O	1
34	MS27039C0807	Screw	X	7
35	A397-1	Clip	X	2

NOTES

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
HORIZONTAL FIREWALL (Cont'd)				
53-13-36	MS21071L08	Nutplate	X	4
37	MS20470AD4	Rivet	X	11
38	MS20426AD3	Rivet	X	A/R
39	A379-8	Receptacle Assembly (Incl items 5, 17, and 18)	X	1
40	B142-1	Strip (earlier R22s)	X	1
41	B152-2	Strip	X	1
42	B152-1	Strip	X	1
43	MS21069L08	Nutplate (not shown)	X	8
44	MS20427M3	Rivet	X	4
45	A401-2	Cover	X	1
46	MS27039C0805	Screw	X	2
47	B270-1	Sealant (not shown)	X	A/R
* * *				
48	KI-181	Firewall Access Hole Field Installation Kit (Incl items 43 thru 47)	X	1

NOTES

Intentionally Blank

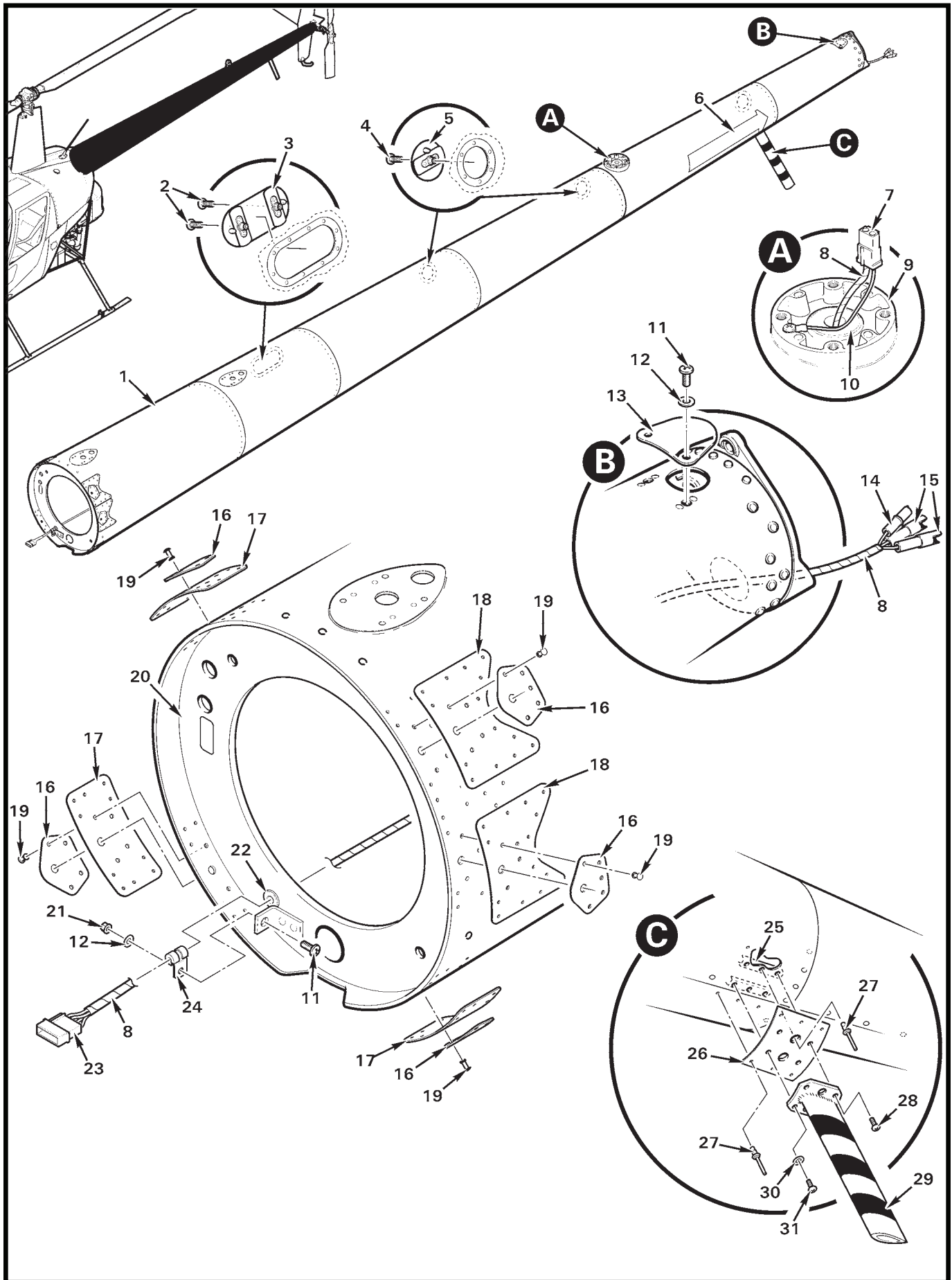


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		TAILCONE ASSEMBLY (LED STROBE)		
53-17-1	A023-22.CS**	Tailcone Assembly* (Includes items 3, and 5 thru 24; painted white. Used on Standard, HP, and Mariner.)	X	1
	A023-23.CS**	Tailcone Assembly* (Includes items 3, and 5 thru 24; painted white. Used on Alpha and Beta.)	X	1
2	MS27039C0807	Screw	X	2
3	A231-10	Plug Assembly – Inspection (Incl item 2)	X	1
4	MS27039C0807	Screw	X	1
5	A231-1	Plug Assembly – Inspection (Incl item 4)	X	3
6	A654-3	Decal – “Danger” (tailcone)	X	2
7	B263-13	Housing	X	1
	B263-2	Socket	X	2
8	B161-2	Spirap	X	A/R
9	B528-1	Mount – Strobe Light (Ref)		
10	MS35489-15	Grommet	X	1
11	MS27039C0806	Screw	X	10
12	NAS1149FN816P	Washer	X	4
13	A558-1	Cover – Inspection (transparent)	X	1
14	B263-11	Housing	X	1
	B263-2	Socket	X	1
15	B263-10	Housing	X	2
	B263-1	Pin	X	2
16	B288-3	Doubler	X	5
17	B288-1	Doubler	X	3
18	B288-2	Doubler	X	2
19	MS20470AD4	Rivet	X	85
20	B070-1	Bulkhead – Forward (Ref)		
21	MS21042L08	Nut	X	1
22	B401-4	Grommet	X	6
23	B263-16	Housing	X	1
	B263-1	Pin	X	4
24	MS21919WDG2	Clamp	X	1
25	A738-27	Gang Channel	X	2
26	B805-1	Doubler	X	1
27	NAS9301B-4-02	Rivet	X	8
28	MS27039C1-06	Screw	X	2
29	B312-1	Guard – Tail Rotor	X	1
30	NAS1149F0332P	Washer (on tailcone seam)	X	2

NOTES * If ordering a new tailcone and upper frame for the same helicopter, RHC can drill tailcone and install doublers.
 ** Ship S/N 2571 and subsequent. Ship S/N 0002 thru 2570 must order Figure 53-21 item 41 when replacing tailcone, unless previously accomplished.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
TAILCONE ASSEMBLY (LED STROBE; Cont'd)				
53-17-31 32	MS27039C1-07 A654-80	Screw (on tailcone seam)	X	2
		Decal – "Danger" (For stabilizer; not shown. See Figure 11-1.)	X	2
NOTES				

Intentionally Blank

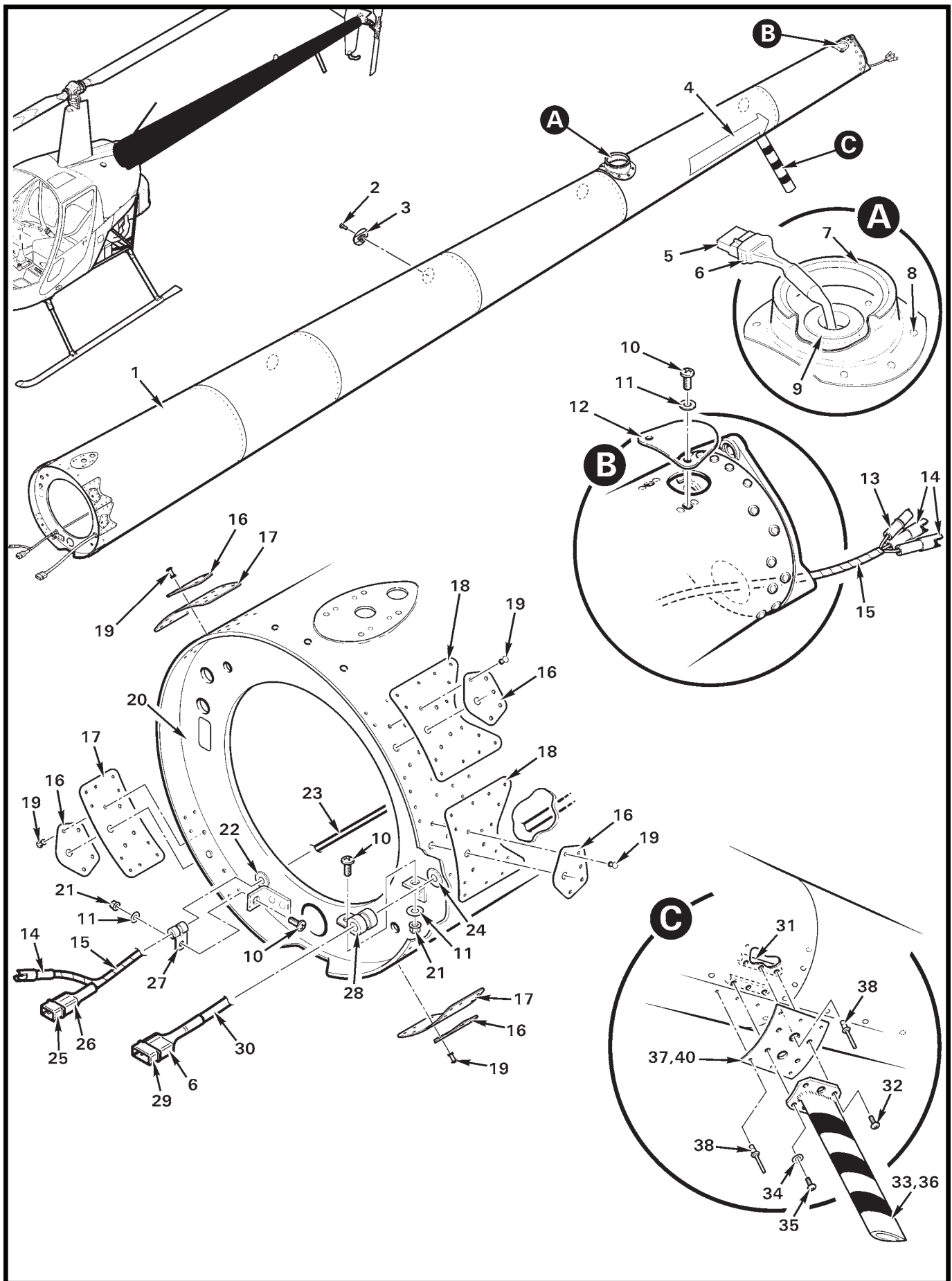


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
TAILCONE ASSEMBLY				
53-21-1	A023-22.CS*	Tailcone Assembly (Includes items 3 thru 31, and 37; painted white. Used on Standard, HP, and Mariner.)	X	1
	A023-23.CS*	Tailcone Assembly (Includes items 3 thru 31, and 37; painted white. Used on Alpha and Beta.)	X	1
	A023-1	Tailcone Assembly (Ref, no longer available. Earlier Standard, HP, and Mariner.)		
	A023-20	Tailcone Assembly (Ref, no longer available. Earlier Alpha and Beta.)		
2	MS27039C0807	Screw	X	4
3	A231-1	Plug Assembly – Inspection	X	4
4	A654-3	Decal – “Danger” (tailcone)	X	2
5	B263-15	Housing	X	1
	B263-4	Socket	X	3
6	B158-6	Heat Shrink (around wires)	X	A/R
	B158-8	Heat Shrink (around housing)	X	A/R
7	C528-1	Mount – Strobe Light (flash-tube type)	X	1
8	NAS9301B-4-02	Rivet	X	6
9	MS35489-18	Grommet	X	1
10	MS27039C0806	Screw	X	10
11	NAS1149FN816P	Washer	X	4
12	A558-1	Cover – Inspection (transparent)	X	1
13	B263-11	Housing	X	1
	B263-2	Socket	X	1
14	B263-10	Housing	X	3
	B263-1	Pin	X	3
15	B161-2	Spirap	X	A/R
16	B288-3	Doubler	X	5
17	B288-1	Doubler	X	3
18	B288-2	Doubler	X	2
19	MS20470AD4	Rivet	X	85
20	B070-1	Bulkhead – Forward (Ref)		
21	MS21042L08	Nut	X	2
22	MS35489-4	Grommet (or AN931-3-5)	X	7
23	A023-22A	Wire Harness (Ref; tail rotor gearbox chip and tail light wires)		
24	MS35489-6	Grommet (or AN931-4-7)	X	4

NOTES * Revision "AM" and prior.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
TAILCONE ASSEMBLY (Cont'd)				
53-21-25	B263-12	Housing	X	1
	B263-1	Pin	X	2
26	B158-6	Heat Shrink (around housing and wire harness)	X	A/R
27	MS21919WDG2	Clamp	X	2
28	MS21919WDG4	Clamp	X	2
29	B263-14	Housing	X	1
	B263-3	Pin	X	3
30	B274-450	Wire	X	1
31	A738-27	Gang Channel	X	2
32	MS27039C1-06	Screw	X	2
33	B312-1*	Guard – Tail Rotor	X	1
34	NAS1149F0332P	Washer (on tailcone seam)	X	2
35	MS27039C1-07	Screw (on tailcone seam)	X	2
* * *				
36	KI-64A	Tail Rotor Guard Installation Kit (Ship S/N 0002–1889 without previously-installed guard; includes items 31 thru 35, and 37 thru 39.)	X	1
37	B805-1	Doubler	X	1
38	NAS9301B-4-02	Rivet	X	8
39	A654-80	Decal – “Danger” (For stabilizer; not shown. See Figure 11-1.)	X	2
* * *				
40	KI-73	Tail Rotor Guard Doubler Installation Kit (Ship S/Ns 0002 thru 2073 with B312-1 guard installed but without B805-1 doubler installed. Includes items 34, 35, 37, and 38.)	X	1
* * *				
41	KI-94	Damper Conversion Kit (Not shown; ship S/N 2570 and prior. Allows installation of B224-1 tail rotor drive shaft into A023-22 or -23 tailcone. See Figure 65-5.)	X	1

NOTES * Ship S/N 0002 thru 1889, order item 36.

Intentionally Blank

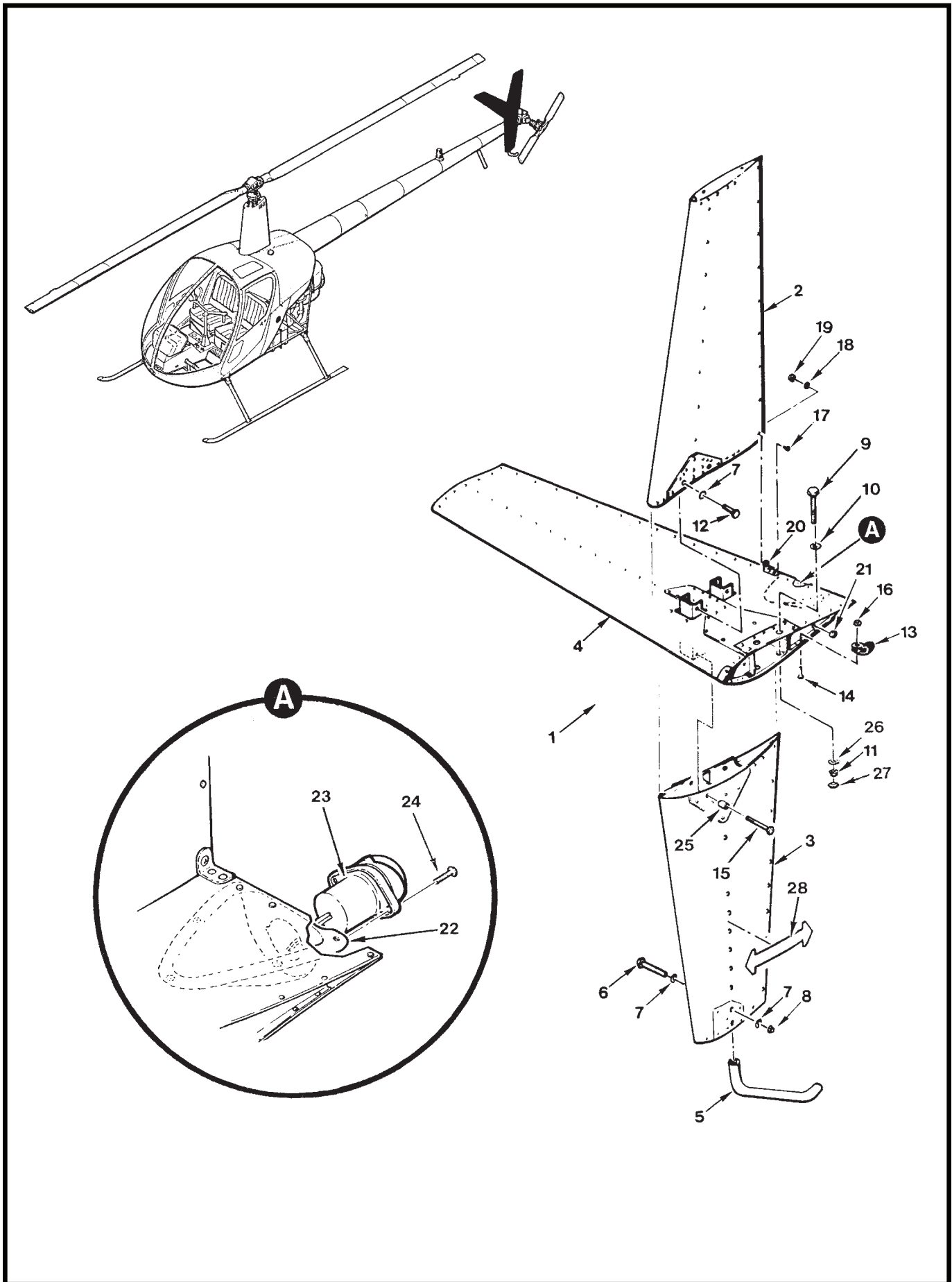


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
EMPENNAGE ASSEMBLY				
53-25-1	A004-2*	Empennage Assembly (Includes items 2 thru 8, 12, 15, 17 thru 20, and 25; also order item 28.)	X	1
2	A042-1*	Stabilizer – Upper Vertical	X	1
3	A043-1*	Stabilizer – Lower Vertical (also order item 28)	X	1
4	A044-1*	Stabilizer – Horizontal (Includes items 13, 14, 16, and 21 thru 23; as required order item 20 and MT068-1 Horizontal Stabilizer Rigging Tool.)	X	1
5	A470-1*	Skid Tube	X	1
6	AN3-12A	Bolt	X	2
7	NAS1149F0332P	Washer	X	8
8	D210-3	Nut	X	2
9	NAS1304-28	Bolt	X	2
10	NAS1149F0432P	Washer (under head)	X	2
11	D210-4	Nut	X	2
12	NAS6603-2	Bolt	X	4
13	MS21919WDG2	Clamp	X	1
14	MS27039C0806	Screw	X	1
15	NAS6603-5	Bolt	X	4
16	MS21042L08	Nut	X	1
17	MS35206-228	Screw	X	2
18	NAS1149FN616P	Washer	X	2
19	MS21042L06	Nut	X	2
20	A554-1	Clip	X	2
21	MS35489-4	Grommet (or AN931-3-5)	X	2
22	A529-1	Mount – Tail Light	X	1
23	A698-1	Tail Light Assembly (includes item 24, see also Figure 33-7) . .	X	1
24	—	Screw	O	2
25	A130-51	Spacer	X	4
26	NAS1149F0463P	Washer	X	2
27	B330-13	Palnut	X	2
28	A654-80	Decal – “Danger” (see also Figure 11-1)	X	2

NOTES * Painted white.

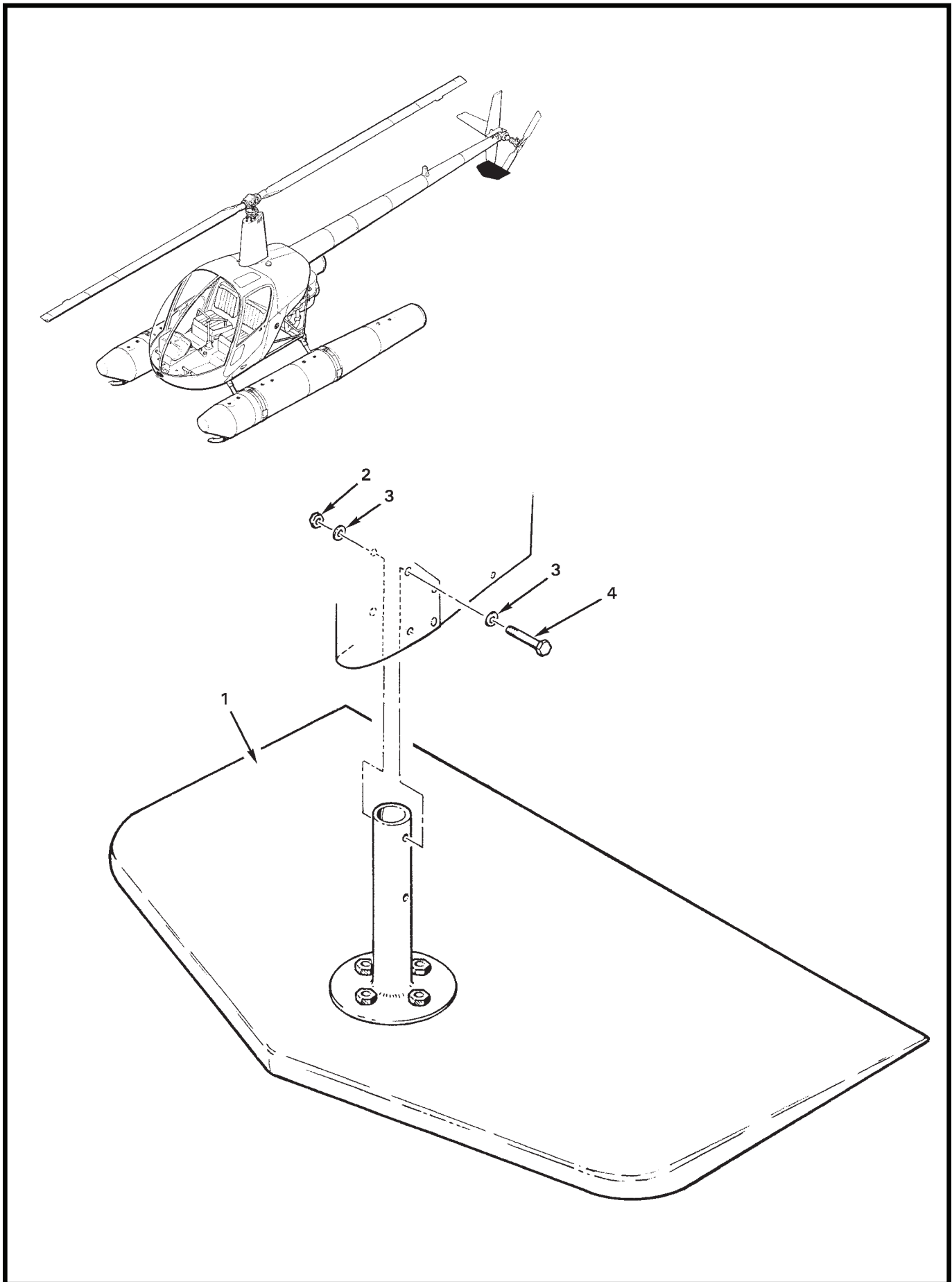


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
FLOAT STABILIZER INSTALLATION				
53-27-1	A050-1 *	Float Stabilizer Assembly (includes items 2 thru 4; used on Mariner)	X	1
2	D210-3	Nut	X	2
3	NAS1149F0332P	Washer	X	4
4	AN3-12A	Bolt	X	2

NOTES * Painted white.

Intentionally Blank