

CHAPTER 22

AUTOPILOT

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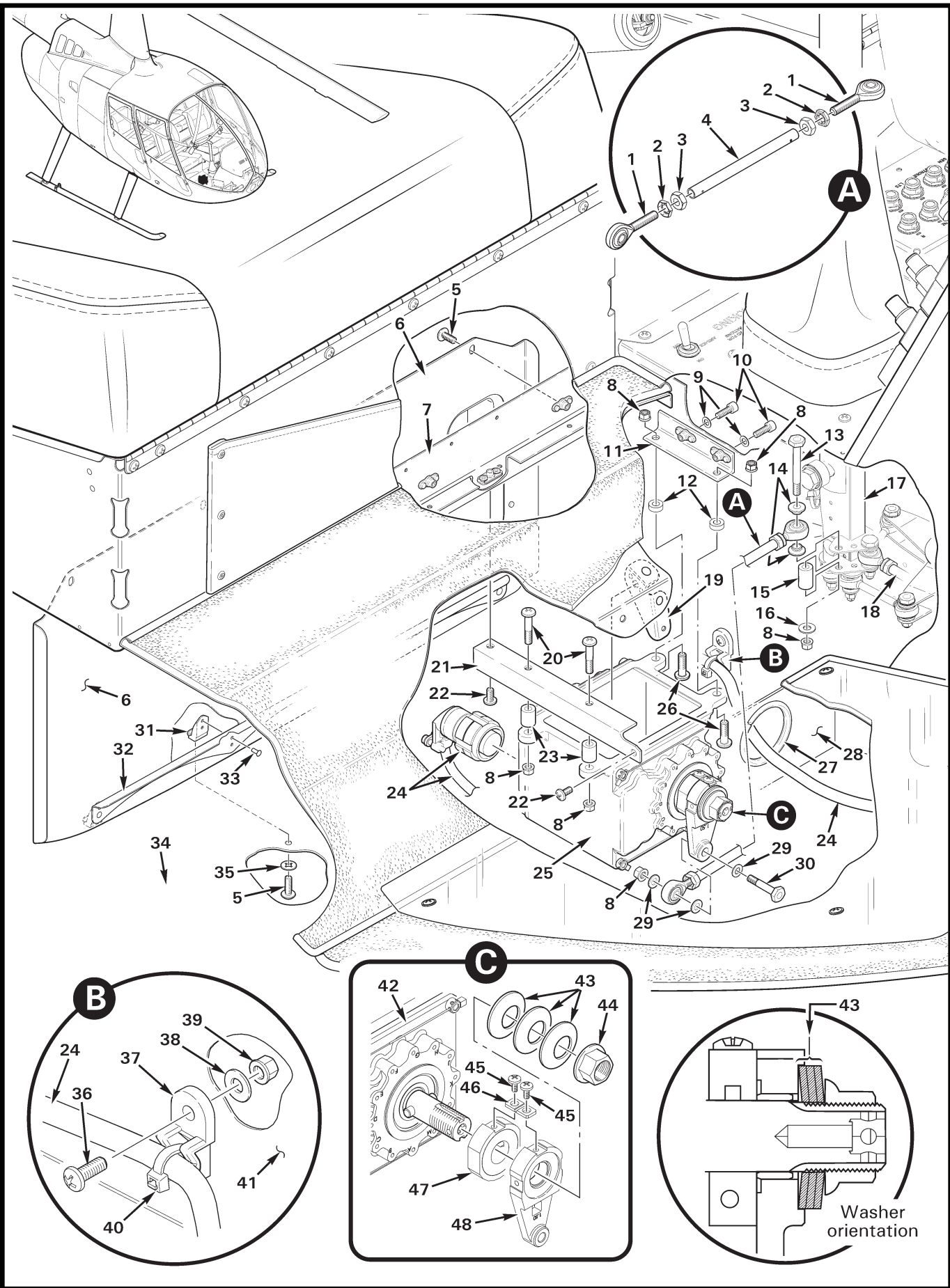


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN FCS – SERVO ASSEMBLY INSTALLATION (ROLL)		
22-1-1	A127-3	Rod End	X	2
2	B330-7	Stamped Nut	X	2
3	AN315-3R	Nut	X	2
4	A336-7	Tube	X	1
5	B526-6	Screw	X	8
6	G702-14	Cover Assembly (incl items 31 thru 33)	X	1
7	F362-5	Beam Assembly (ref)		
8	D210-3	Nut	X	6
9	NAS620-8L	Washer	X	2
10	NAS1352-08-8P	Screw	X	2
11	G353-3	Angle Assembly	X	1
12	A130-20	Spacer	X	2
13	NAS6603-20	Bolt	X	1
14	A341-1	Spacer	X	2
15	C130-51	Spacer	X	1
16	NAS1149F0332P	Washer	X	1
17	C069	Cyclic Control Assembly (ref)		
18	A336-8	Tube (ref; see Figure 22-5)		
19	G353-9	Bracket (ref)		
20	MS27039C1-15	Screw	X	2
21	G353-2	Angle	X	1
22	MS27039C0805	Screw	X	2
23	A130-35	Spacer	X	2
24	G323-1	Harness Assembly (2-axis)	O	1
	G323-2	Harness Assembly (3-axis)	O	1
25	G357-1	Servo Assembly (Roll; includes items 42 thru 48.)	X	1
26	MS27039C1-10	Screw	X	2
27	NAS557-28A	Grommet	X	1
28	G230-2	Bulkhead (ref)		
29	NAS620-10L	Washer	X	3
30	NAS6603-11	Bolt	X	1
31	MF6000-08	Nutplate	X	4
32	G702-12	Stiffener	X	1
33	MS20470AD3	Rivet	X	8
34	F272-1	Chin (ref)		
NOTES				
Continues				

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN FCS – SERVO ASSEMBLY INSTALLATION (ROLL; Cont'd)		
22-1-35	B527-08	Washer	X	4
36	MS27039C0807	Screw	X	1
37	D268-4	Support	X	1
38	NAS1149FN816P	Washer	X	1
39	MS21042L08	Nut	X	1
40	MS3367-5-9	Ty-Rap	X	1
41	F293-2	Panel – Keel (forward, RH; ref)		
42	011-03367-13*	Servo	O	1
43	234-10010-07*	Washer (belleville; convex side towards nut)	O	3
44	D210-8**	Nut	X	1
45	211-A0020-26*	Screw	O	2
46	117-01067-05*	Shear Fuse	O	1
47	117-01065-00*	Output Hub	O	1
48	117-01080-12*	Output Arm	O	1
NOTES * Garmin part number. ** Install per R66 MM § 22-12-4.				

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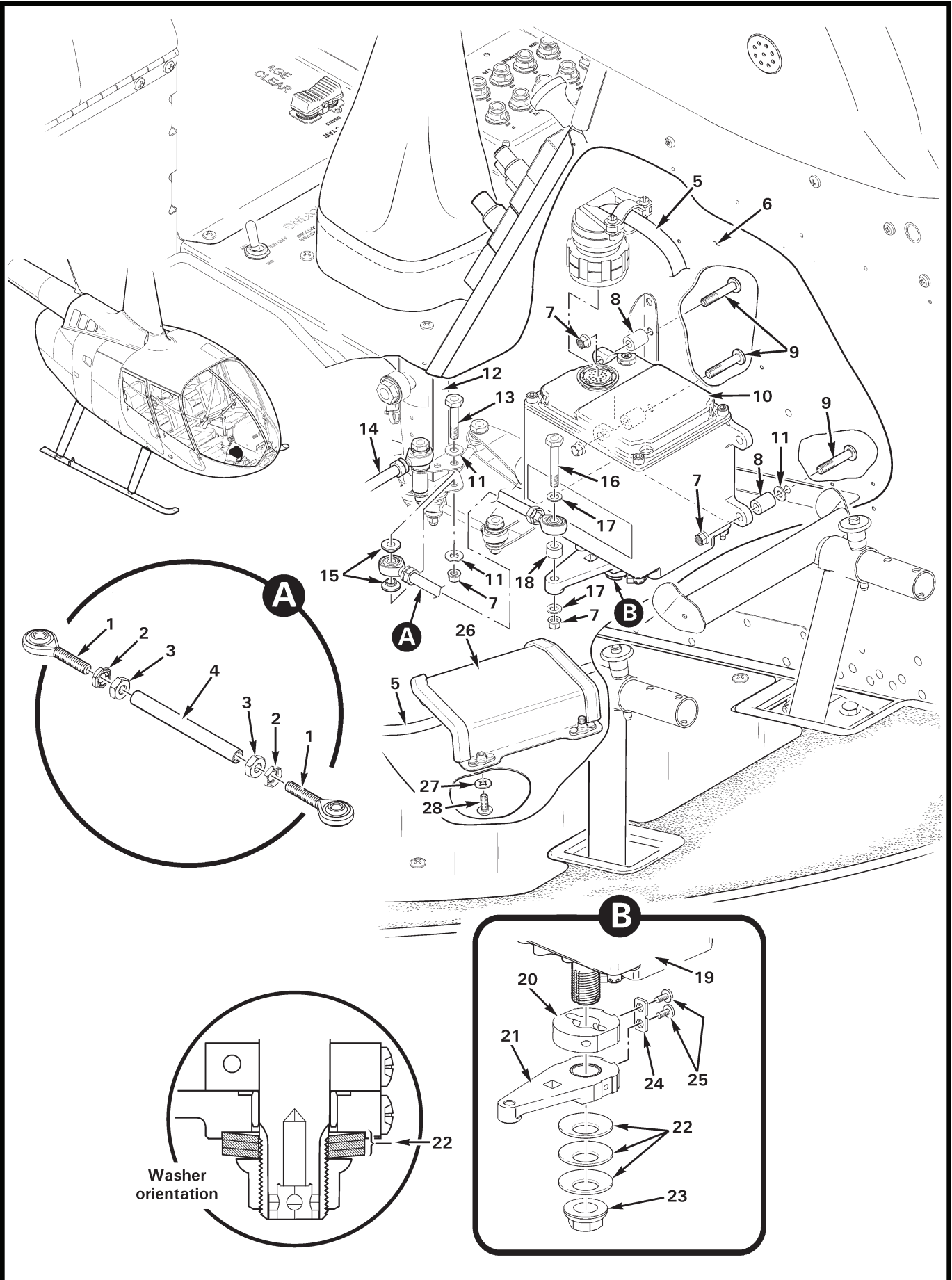


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN FCS – SERVO ASSEMBLY INSTALLATION (PITCH)		
22-5-1	A127-3	Rod End	X	2
2	B330-7	Stamped Nut	X	2
3	AN315-3R	Nut	X	2
4	A336-8	Tube	X	1
5	G323-1	Harness Assembly (2-axis)	O	1
	G323-2	Harness Assembly (3-axis)	O	1
6	F033-1	Console Assembly – Lower (ref)		
7	D210-3	Nut	X	5
8	A130-35	Spacer	X	3
9	MS27039C1-16	Screw	X	3
10	G357-2	Servo Assembly (Pitch; includes items 19 thru 25.)	X	1
11	NAS1149F0332P	Washer	X	3
12	C069	Cyclic Control Assembly (ref)		
13	NAS6603-11	Bolt	X	1
14	A336-7	Tube (ref; see Figure 22-1.)		
15	A341-1	Spacer	X	2
16	NAS6603-15	Bolt	X	1
17	NAS620-10L	Washer	X	2
18	C130-64	Spacer	X	1
19	011-03367-13*	Servo	O	1
20	117-01065-00*	Output Hub	O	1
21	117-01080-14*	Output Arm	O	1
22	234-10010-07*	Washer (belleville; convex side towards nut)	O	3
23	D210-8**	Nut	X	1
24	117-01067-05*	Shear Fuse	O	1
25	211-A0020-26	Screw.	X	2
26	D555-4	Shield Assembly	X	1
27	B527-08	Washer.	X	2
28	B526-6	Screw	X	2
NOTES * Garmin part number. ** Install per R66 MM § 22-12-4.				

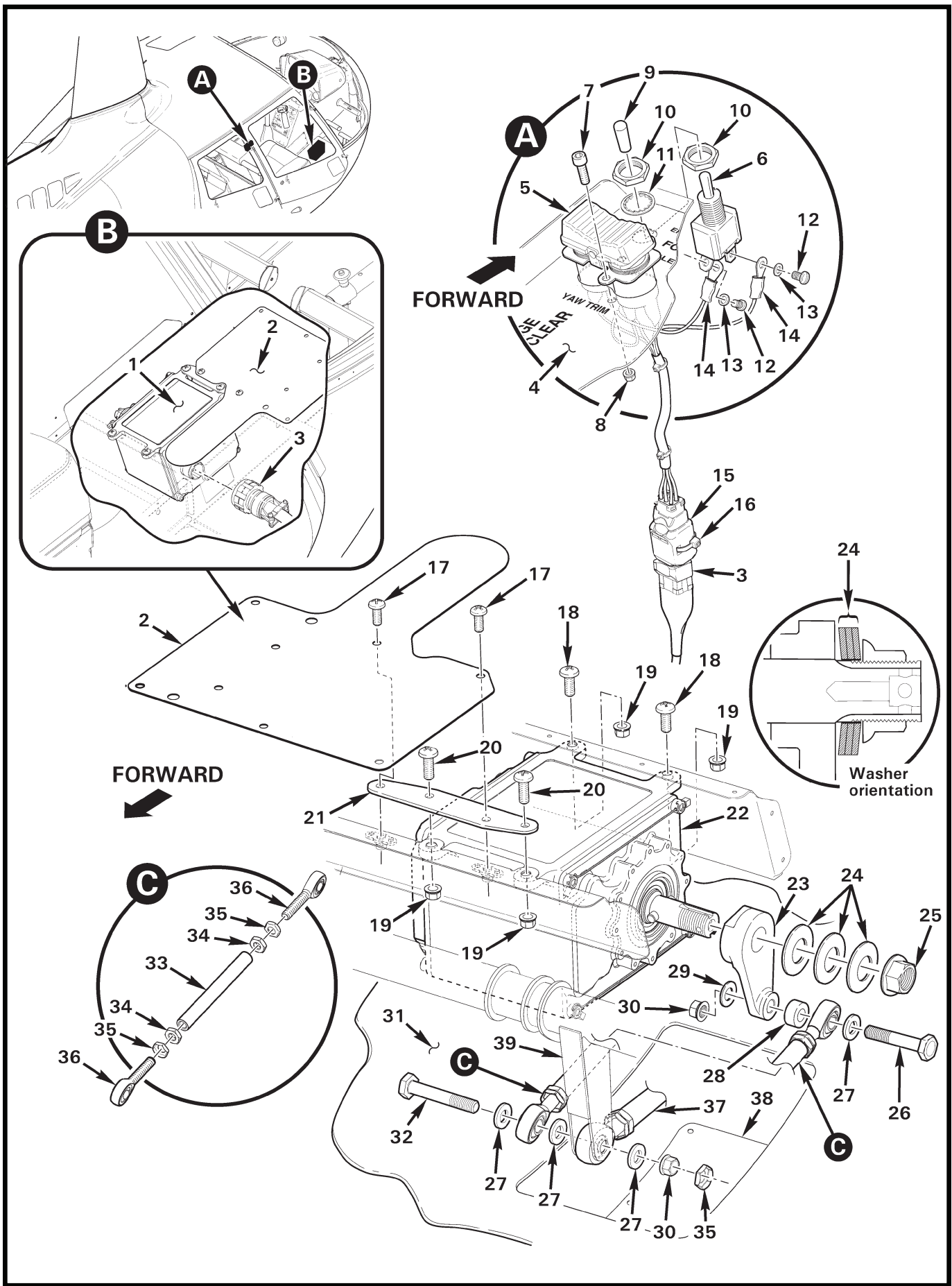


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN FCS – SERVO ASSEMBLY INSTALLATION (YAW)		
22-7-1	G357-3	Servo Assembly (Yaw; includes items 22 thru 25.)	X	1
2	A412-4	Cover (ref; see Figure 67-31)		
3	G323-2	Harness Assembly (3-axis)	O	1
4	F445-5	Cover Assembly (FCS)	X	1
	F445-7	Cover Assembly (FCS with pop-out floats equipped)	X	1
5	B049-13	Switch Assembly (install with green heat shrink inboard; includes items 14 and 15)	X	1
6	B300-4	Switch (incl items 10 thru 13)	X	1
7	NAS1352-04-6	Screw	X	2
8	MS21042L04	Nut	X	2
9	AT406B	Cap	X	1
10	—	Nut	O	2
11	—	Lock washer	O	1
12	—	Screw	O	2
13	—	Washer	O	2
14	B260-2	Terminal	X	2
15	D269-5	Plug (includes [6] M39029/58-360 pins)	X	1
16	MS3367-4-9	Ty-Rap (locks connector)	X	1
17	MS27039C0806	Screw	X	2
18	MS27039C1-07	Screw	X	2
19	D210-3	Nut	X	4
20	MS27039C1-08	Screw	X	2
21	G353-4	Plate	X	1
22	011-03367-00*	Servo	O	1
23	117-01229-02*	Output Arm	O	1
24	234-10010-07*	Washer	O	3
25	D210-8**	Nut	X	1
26	NAS6604-15	Bolt	X	1
27	NAS1149F0463P	Washer	X	4
28	C130-15	Spacer	X	1
29	NAS1149F0432P	Washer	X	1
30	D210-4	Nut	X	2
31	F272-1	Chin (ref)		
32	NAS6604-16	Bolt	X	1
33	G353-5	Tube	X	1
NOTES * Garmin part number. ** Install per R66 MM § 22-12-4.				

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN FCS – SERVO ASSEMBLY INSTALLATION (YAW; Cont'd)		
22-7-34	AN316-4R	Nut	X	2
35	B330-13	Stamped Nut	X	3
36	A127-4	Rod End	X	2
37	C343-11	Tube Assembly (ref; see Figure 67-29)		
38	C795-1	Cover (ref; see Figure 6-9)		
39	D755-4	Pedal Assembly (right foot, ref; see Figure 67-29)		
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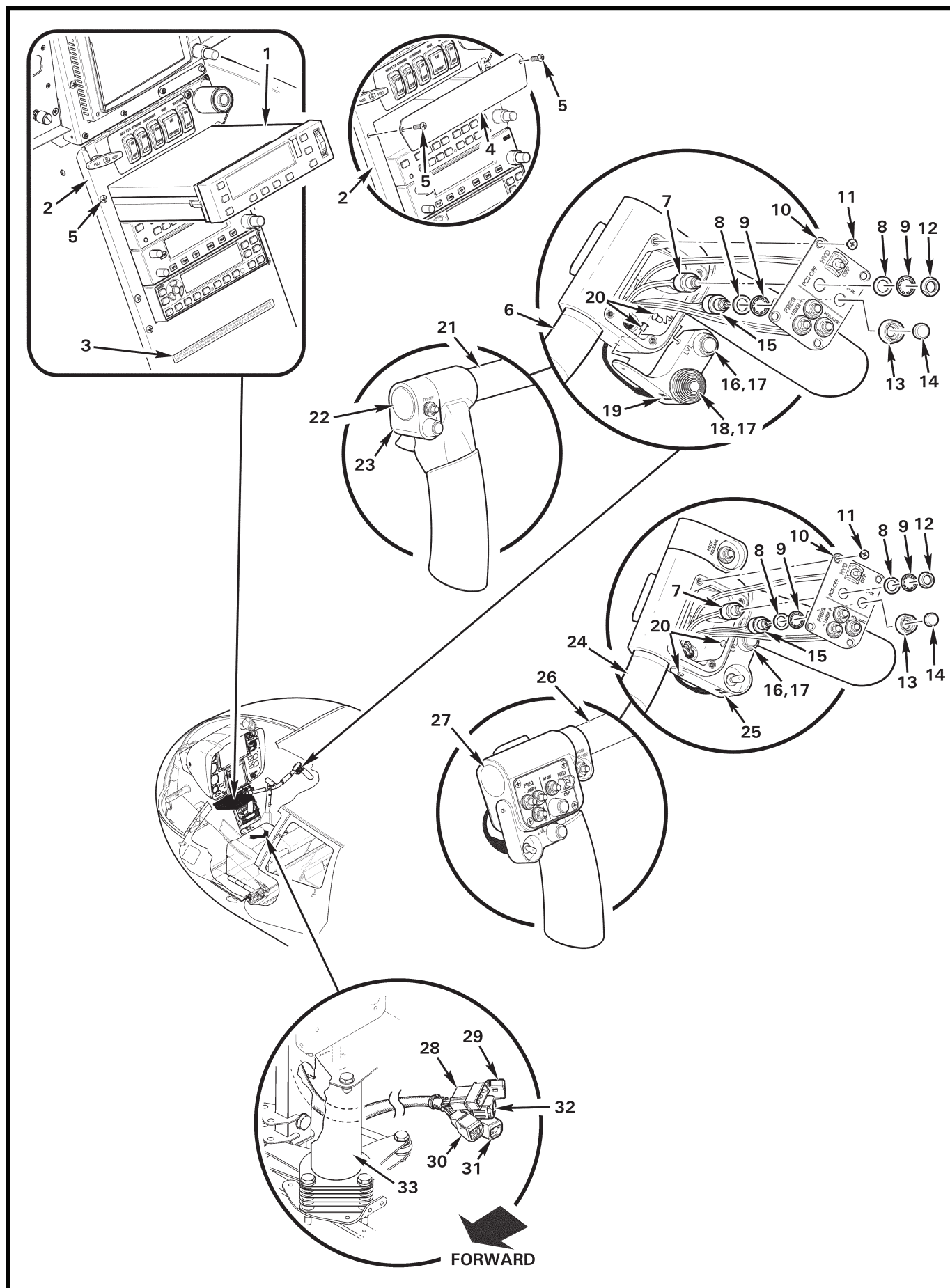


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN FCS – CONTROLLER AND CYCLIC CONTROL SYSTEM		
22-11-1	GMC 605H*	Controller	X	1
2	F640	Face Assembly (ref)		
3	G682-49	Decal – "CYCLIC LIMIT CUEING..."	X	1
4	F640-102	Cover (FCS – Provision equipment)	O	1
5	MS27039C0806	Screw	X	2
6	C058-22	Grip Assembly – Cyclic (FCS)	O	1
7	B227-13	Switch Assembly (incl items 8, 9, and 12)	X	2
8	94773A770	Washer	X	A/R
9	B227-3	Lockwasher	X	A/R
10	C214-28	Plate	X	A/R
11	MS24693-S1	Screw	X	A/R
12	B227-4	Dress Nut	X	2
13	D443-8	Dress Nut	O	2
14	401204-9	Cap	O	2
15	B227-10	Switch Assembly (incl items 8, 9, 13, and 14)	X	2
16	B227-12	Switch (install using item 17)	X	1
17	B270-9	Adhesive	X	A/R
18	T4-TMC3332	Switch (install using item 17)	X	1
19	G136-9	Housing	X	1
20	MS20470AD3	Rivet	X	A/R
21	C058-23	Grip Assembly – Cyclic (Copilot, FCS)	O	1
22	B209-8	Plug	X	1
23	G136-10	Housing	X	1
24	C058-24	Grip Assembly – Cyclic (Cargo Hook w/ FCS)	O	1
25	G136-11	Housing	X	2
26	C058-25	Grip Assembly – Cyclic (Copilot, Cargo Hook w/ FCS)	O	1
27	2703	Plug	X	1
28	B263-14	Housing (ref; see Figure 67-1)		
29	D269-11	Plug (ref; see Figure 67-1)		
30	D269-9	Plug (ref; see Figure 67-1)		
31	D269-5	Plug (includes [6] M39023/58-360 pins)	X	1
32	D269-8	Receptacle (includes [6] M39023/58-354 sockets)	X	1
33	C048-1	Cyclic Friction Assembly (ref; see Figure 67-19)		
NOTES * Garmin part number.				

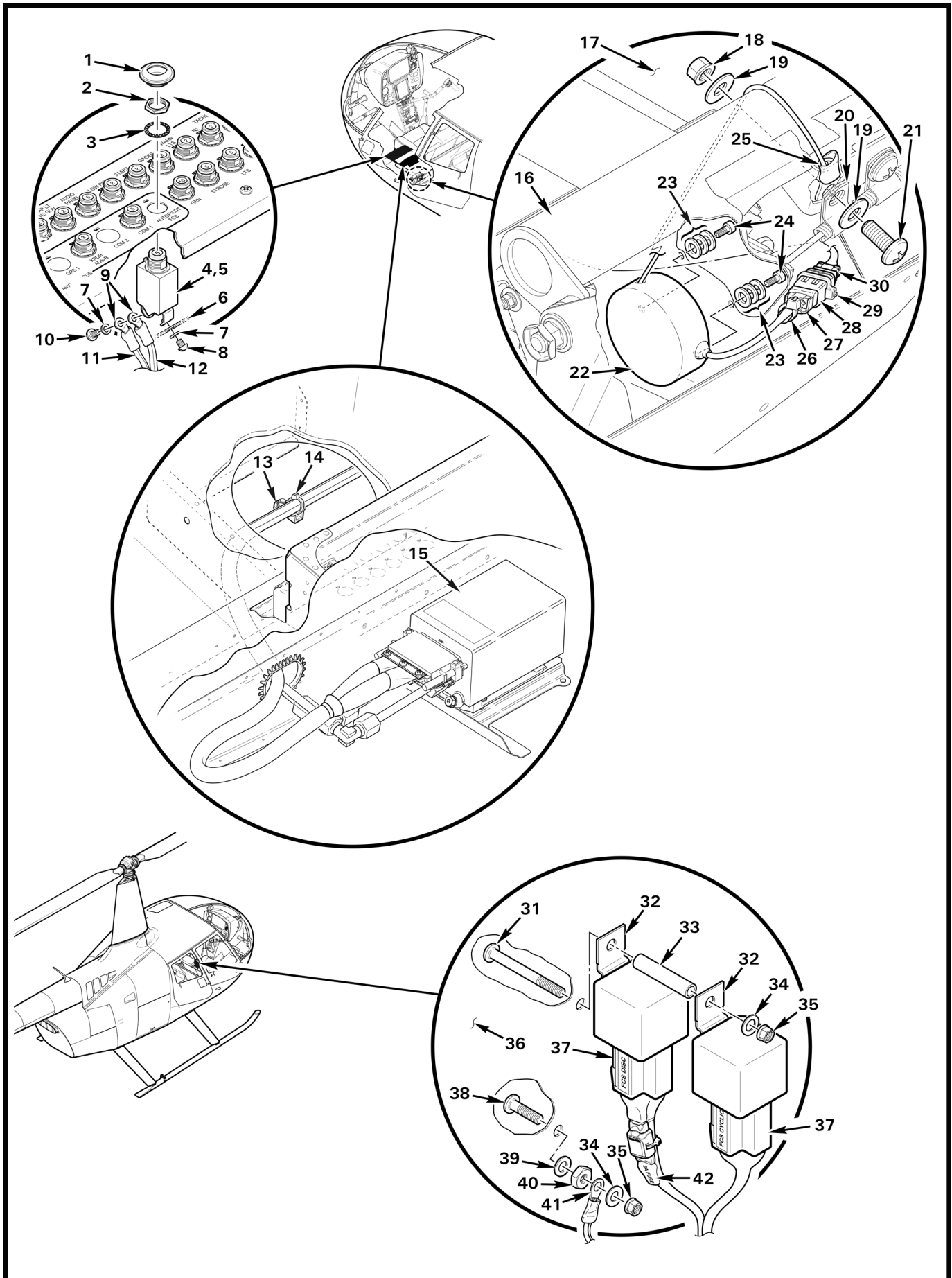


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN FCS – COMPONENTS INSTALLATION		
22-13-1	D271-1	Cap	X	1
2	—	Nut	O	1
3	—	Lockwasher	O	1
4	MS26574-5	Circuit Breaker (5-amp; do not substitute)	O	1
5	B297-5 *	Circuit Breaker (incl items 2 thru 4, 7, and 8.)	X	1
6	A448	Bus Bar (ref)		
7	—	Washer	O	2
8	—	Screw	O	1
9	B260-2	Terminal (ref)		
10	MS35206-226	Screw	X	1
11	G323-2931	Wires (ref)		
	G323-2940	Wires (ref)		
12	G323-2945	Wires (ref)		
	G323-2949	Wires (ref)		
13	D268-4	Support	X	1
14	MS3367-4-9	Ty-Rap	X	1
15	GSU 75H **	ADAHRS (ref; see Figure 97-11B)		
16	F758-1	Stick Assembly – Collective (ref; see Figure 67-21.)		
17	F297-1	LH forward seat (ref)		
18	D210-3	Nut	X	1
19	NAS1149F0332P	Washer	X	2
20	AN742-3	Clamp (ref; see Figure 67-21)		
21	MS27039C1-07	Screw	X	1
22	G356-1	Transducer Assembly (incl items 24 thru 28; discard [2] washers supplied with assembly and replace using item 23)	X	1
23	NAS1149FN232P	Washer	X	6
24	—	Screw	O	2
25	B260-4	Terminal	X	1
26	MS3367-4-9	Ty-Rap	X	1
27	D269-21	Backshell	X	1
28	D269-1	Plug (includes [3] M39029/58-360 pins)	X	1
29	MS3367-4-9	Ty-Rap (locks connector)	X	1
30	D269-2	Receptacle (includes [3] M39029/57-354 sockets; ref)		
31	MS27039C0825	Screw	X	1
NOTES * Revision G or subsequent; circuit breaker is made from MS26574-5 circuit breaker. ** Garmin part number.				

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		GARMIN – COMPONENTS INSTALLATION (Cont'd)		
22-13-32	D260-4	Relay	X	2
33	C130-19	Spacer	X	1
34	NAS1149FN816P	Washer	X	2
35	MS21042L08	Nut	X	2
36	F293-1	Panel – Keel (forward, LH; ref)		
37	D260-6	Connector	X	2
	B262-6	Receptacle	X	A/R
38	B567-43	Screw	X	1
39	NAS1149DN832H	Washer	X	1
40	B301-8	Nut	X	1
41	B260-3	Terminal	X	1
	G323-2934	Wire (ref)		
	G323-2936	Wire (ref)		
42	B304-25	Fuse Assembly (3 amp)	X	1
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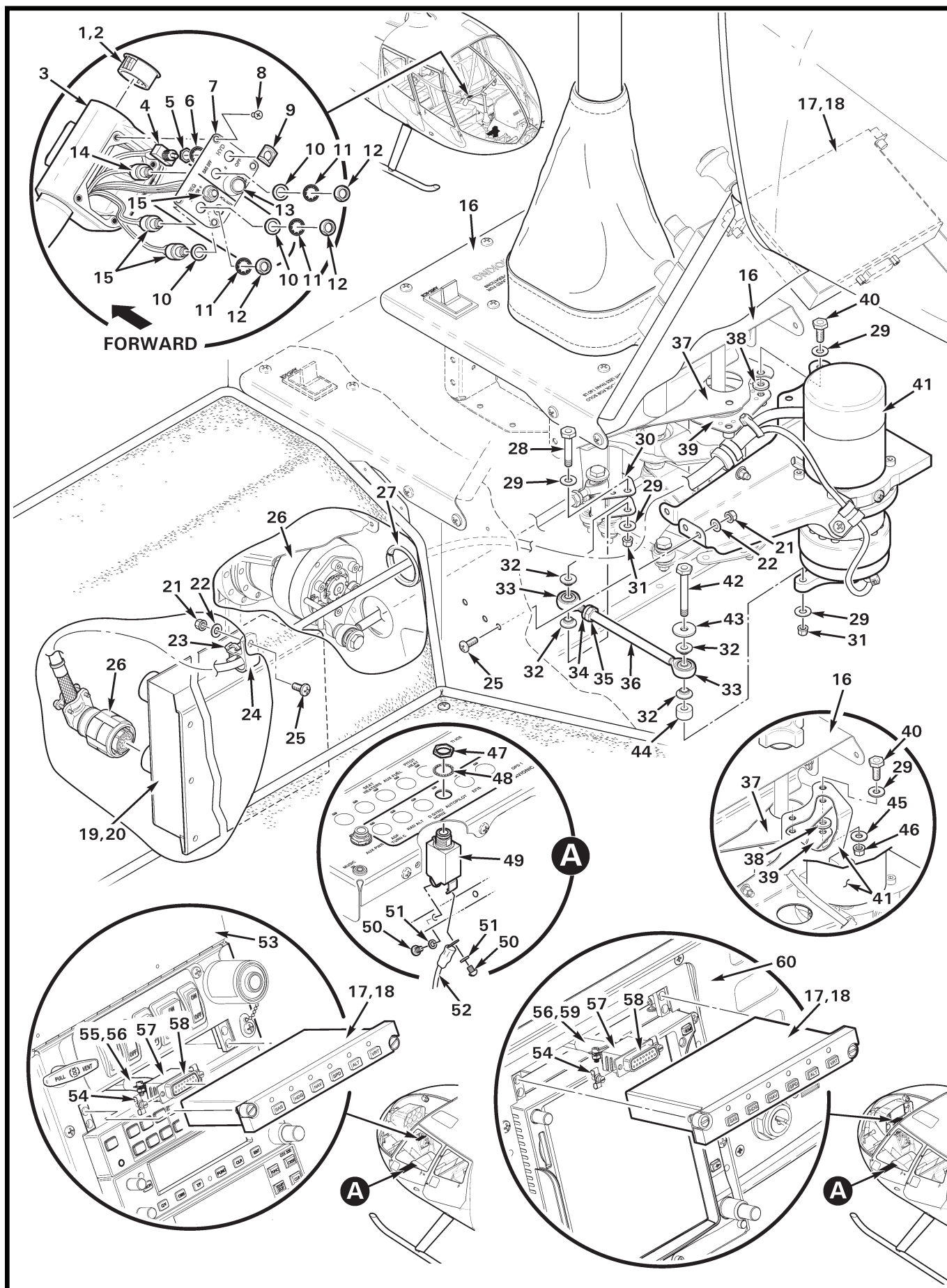


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		HELISAS – (PITCH) SERVO ASSEMBLY AND COMPONENTS INSTALLATION		
22-17-1	2703	Hole Plug (install using item 2)	X	1
2	B270-15	Adhesive	X	A/R
3	C058-16	Grip Assembly (incl items 1, 2, 4, 7 thru 9, and 13 thru 15) . .	X	1
4	B300-3	Switch Assembly – “HYD OFF” (incl items 5 and 6)	X	1
5	—	Nut	O	1
6	—	Lockwasher	O	1
7	C214-27	Plate	X	1
8	MS24693-S1	Screw	X	4
9	D443-7	Guard	X	1
10	94773A770	Washer	X	5
11	B227-3	Lockwasher	X	5
12	B227-4	Dress Nut	X	4
13	B227-8	Switch Assembly – “TRIM” (includes items 10 [1], 11 [1] P/N 702501201 dress nut, and P/N 801801000 cap)	X	1
14	B227-7	Switch Assembly – “AP OFF” (incl items 6, 10 [1], 11 [1], and 12 [1])	X	1
15	B227-2	Switch Assembly – “FREQ” (incl items 10 [1], 11 [1], and 12 [1])	X	3
16	F444	Cover Assembly – Cyclic (ref)		
17	01309-03-01 *	Control Panel (For Software Version 52; used only with item 19.)	X	1
18	01309-01-01 *	Control Panel (For Software Version 51; used only with item 20, not shown.)	X	1
19	01311-02-111 *	Flight Control Computer (For Software Version 52; used only with item 17, ref.)		
20	01311-03-11 *	Flight Control Computer (For Software Version 51. Used only with item 18, not shown; ref.)		
21	MS21042L08	Nut	X	4
22	NAS1149FN832P	Washer	X	4
23	MS3367-5-9	Ty-Rap	X	A/R
24	M23190/1-2	Clamp	X	1
25	MS27039C0806	Screw	X	4
26	01317-4 *	Servo Assembly (Roll, ref; see Figure 22-21)		
27	NAS557-16A	Grommet	X	1
28	NAS6606-11	Bolt	X	1
29	NAS1149F0332P	Washer	X	4
30	C069	Cyclic Control Assembly (ref)		
NOTES * Genesys-Aerosystems part number				
				Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		HELISAS – (PITCH) SERVO ASSEMBLY AND COMPONENTS INSTALLATION (Cont'd)		
22-17-31	D210-3	Nut	X	2
32	A341-1	Spacer	X	4
33	A127-3	Rod End	X	2
34	B330-7	Stamped Nut	X	1
35	AN315-3R	Nut	X	1
36	A336-8	Tube	X	1
37	F338-1	Box Assembly (ref)		
38	NAS1149F0363P	Washer	X	2
39	D337-1	Tube Assembly (ref)		
40	NAS6603-3	Bolt	X	2
41	01317-3*	Servo Assembly (Pitch)	X	1
42	NAS6603-18	Bolt	X	1
43	A141-17	Washer	X	1
44	C130-50	Spacer	X	1
45	NAS1149F0332P	Washer (earlier R66s this location)	X	2
46	D210-3	Nut (earlier R66s this location)	X	1
47	—	Nut	O	1
48	—	Lockwasher	O	1
49	B297-5	Circuit Breaker (5 amp; includes items 47, 48, 50, and 51) . .	X	1
50	—	Screw	O	2
51	—	Washer	O	2
52	-2103	Wire (ref)		
53	G050	Console Assembly (or G070, not shown; ref)		
54	B269-31	Screw Lock (male)	X	2
55	D323-2	Harness Assembly (incl items 54, and 56 thru 58)	X	1
56	B158-6	Heat Shrink	X	A/R
57	B269-22	Backshell	X	1
58	B269-8	Receptacle	X	1
59	D323-14	Harness Assembly (incl items 54, and 56 thru 58)	X	1
60	G060	Console Assembly (ref)		
NOTES * Genesys-Aerosystems part number.				

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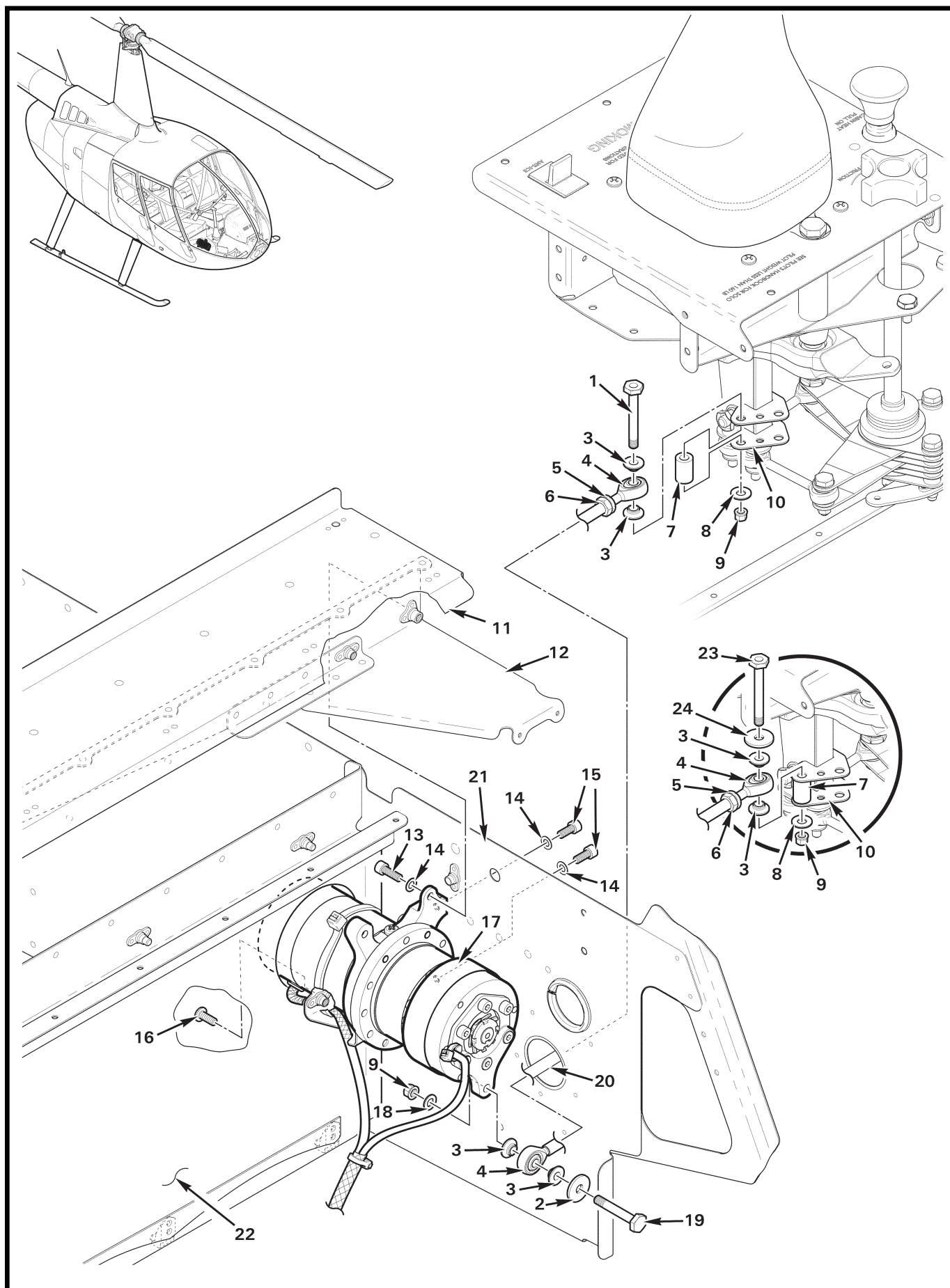


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		HELISAS – (ROLL) SERVO ASSEMBLY INSTALLATION		
22-21-1	NAS6603-20	Bolt	X	1
2	A141-17	Washer	X	1
3	A341-1	Spacer	X	4
4	A127-3	Rod End	X	2
5	B330-7	Stamped Nut	X	2
6	AN315-3R	Nut	X	2
7	C130-51	Spacer	X	1
8	NAS1149F0332P	Washer	X	1
9	D210-3	Nut	X	3
10	D320-8	Stick Assembly – Cyclic (ref)		
11	F391-1	Cover Assembly (ref)		
12	D353-5	Brace Assembly (ref)		
13	NAS1352-08-8P	Screw	X	2
14	NAS620-8L	Washer	X	4
15	NAS1352-08-6P	Screw	X	2
16	B526-6	Screw	X	1
17	01317-4*	Servo Assembly (Roll)	X	1
18	NAS620-10L	Washer	X	1
19	NAS6603-14	Bolt	X	1
20	A336-8	Tube	X	1
21	F293-2	Keel Panel – Forward (ref, LH)		
22	G702-7	Cover Assembly (ref, see Figure 22-23)		
23	NAS6603-21	Bolt (earlier R66s)	X	1
24	A141-17	Washer (earlier R66s)	X	1
NOTES * Genesys-Aerosystems part number				

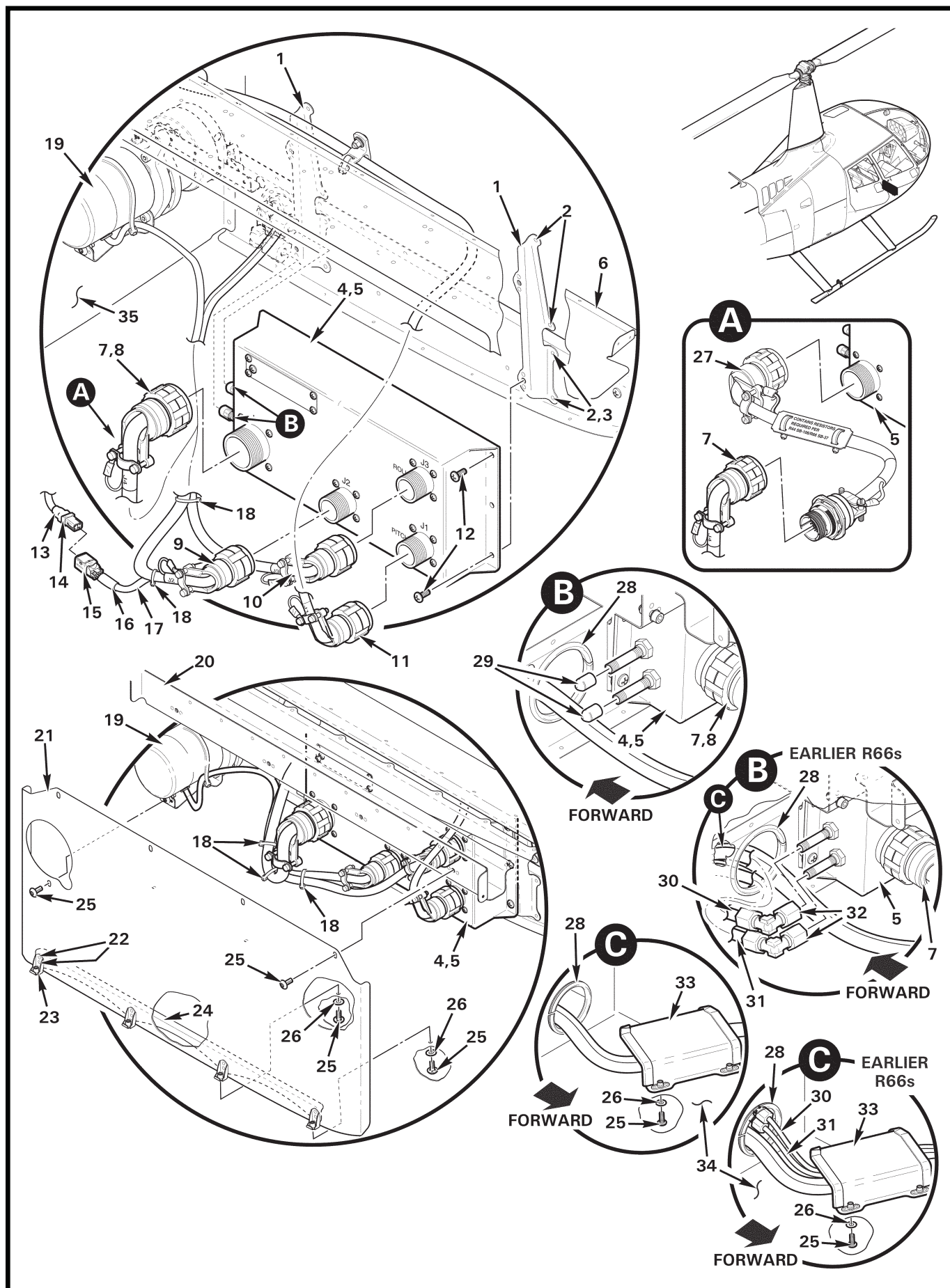


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		HELISAS – FLIGHT CONTROL COMPUTER INSTALLATION		
22-23-1	D358-1	Support Assembly	X	2
2	MS20470AD3	Rivet	X	8
3	MS20604R3W2	Rivet (optional)	X	2
4	01311-02-111*	Flight Control Computer (For Software Version 52; used only with Figure 22-17 item 17.)	X	1
5	01311-03-11*	Flight Control Computer (For Software Version 51; used only with Figure 22-17 item 18.)	X	1
6	F391-1	Panel (ref)		
7	D323-12	Harness Assembly (G500H, for use with item 5 only)	X	1
8	D323-13	Harness Assembly (J4 or Aspen)	X	1
9	D323-2	Harness Assembly (Autopilot, Std; Incl items 15 thru 17)	X	1
	D323-14	Harness Assembly (Autopilot, Long; Incl items 15 thru 17)	X	1
10	01317-4*	Servo Wire Harness Assembly (Roll, ref)		
11	01317-3*	Servo Wire Harness Assembly (Pitch, ref)		
12	MS27039C0806	Screw	X	4
13	D323-15	Harness Assembly (EFIS, G500H; Incl items 14, 16, 17, B268-3 Lacing Tape, and wires)	X	1
	D323-10	Harness Assembly (EFIS, G500H; Incl items 14, 16, 17, B268-3 Lacing Tape, and wires; for use with item 5 only)	X	1
	D323-11	Harness Assembly (EFIS, Aspen; Incl items 14, 16, 17, B268-3 Lacing Tape, and wires)	X	1
14	D269-12	Receptacle (includes [9] M39029/58-360 pins)	X	1
15	D269-11	Plug (includes [9] M39029/57-354 sockets)	X	1
16	B158-6	Heat Shrink	X	A/R
17	B266-4	Sleeving	X	A/R
18	MS3367-5-0	Ty-Rap	X	A/R
19	01317-4*	Servo Assembly — Roll (ref)		
20	F362-5	Beam Assembly (ref)		
21	G702-7	Cover Assembly (incl items 22 thru 24)	X	1
22	MS20470AD3	Rivet	X	8
23	MF6000-08	Nutplate	X	4
24	G702-12	Stiffener	X	1
25	B526-6	Screw	X	11

NOTES * Genesys-Aerosystems part number

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		HELISAS – FLIGHT CONTROL COMPUTER INSTALLATION (Cont'd)		
22-23-26	B527-08	Washer	X	6
27	D840-1 *	Harness Assembly (incl items 28 and 29)	X	1
28	NAS557-28A	Grommet	X	1
29	VC-240-8	Cap	X	2
30	A729-23	Static Tube (ref)		
31	A729-23	Pitot Tube (ref)		
32	50-4-N-O	Elbow	X	2
33	D555-4	Shield Assembly	X	1
34	F272-1	Chin (ref)		
35	F293-2	Keel Panel — Fwd (RH, ref; see Figure 22-21)		
NOTES * Harness may be installed between items 5 and 7 as an alternate method of compliance with R66 SB-37.				