

CHAPTER 76  
ENGINE CONTROLS

<i>Figure</i>	<i>Title</i>	<i>Page</i>
76-1	Throttle Control Installation . . . . .	76.0
76-5	Throttle Control Installation . . . . .	76.4
76-9	Carb Heat and Mixture Controls . . . . .	76.8
76-13	Carb Heat Assist Installation . . . . .	76.12
76-17	Mixture Control Installation . . . . .	76.16

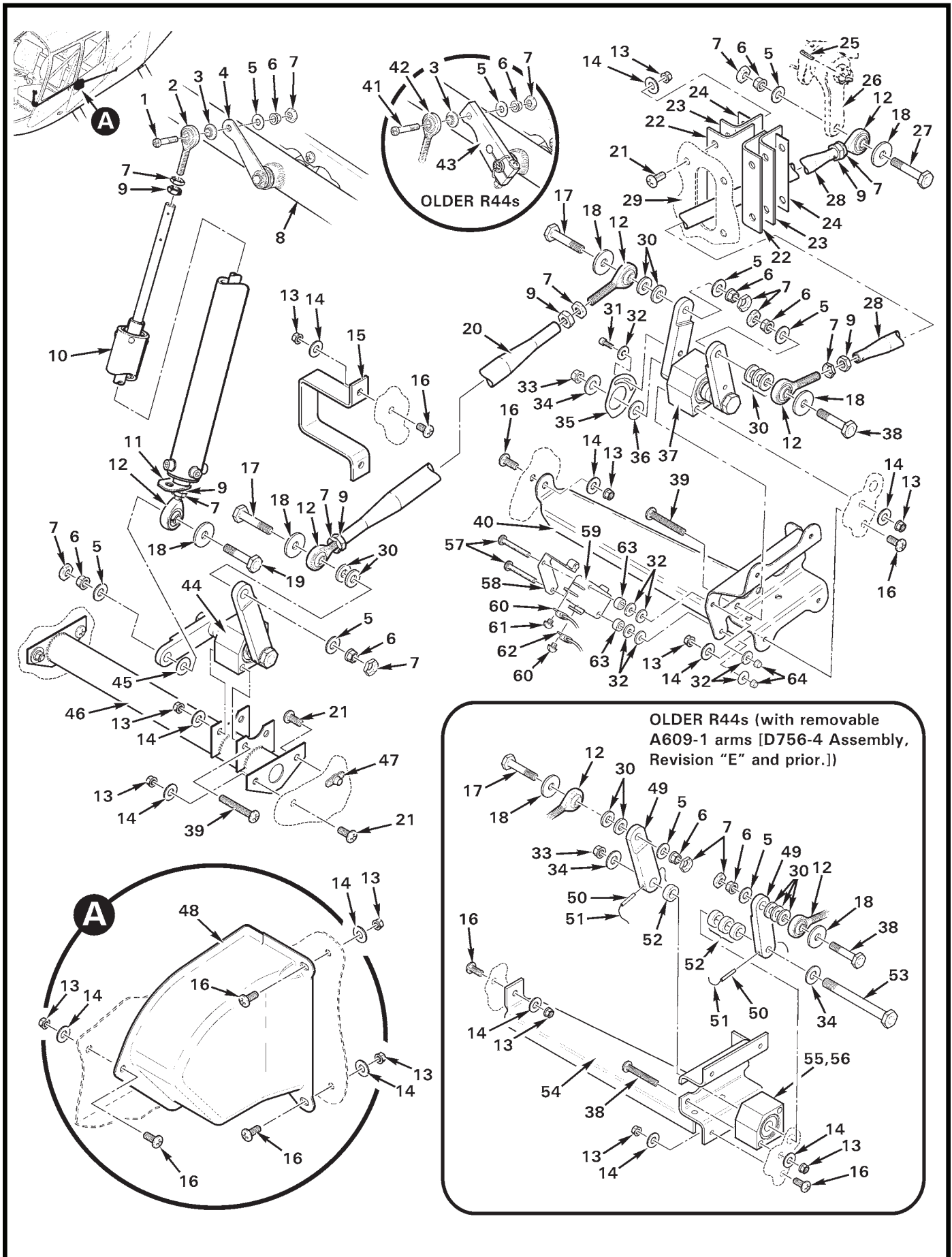


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		<b>THROTTLE CONTROL INSTALLATION*</b>		
76-1-1	A486-4	Screw . . . . .	X	1
2	A127-3	Rod End . . . . .	X	1
3	A341-1	Spacer . . . . .	X	1
4	C341-3	Arm Weldment (Ref)		
5	NAS1149F0332P	Washer . . . . .	X	6
6	D210-3	Nut . . . . .	X	6
7	B330-7	Palnut . . . . .	X	7
8	C758-1	Collective Assembly (Ref)		
9	AN315-3R	Nut . . . . .	X	2
10	A327-1	Overtravel Spring Assembly (Incl items 2, 7, 9, 11, and 12) . .	X	1
11	A697-2	Plate (Ref)		
12	A933-3	Rod End . . . . .	X	4
13	MS21042L08	Nut . . . . .	X	22
14	NAS1149FN816P	Washer . . . . .	X	22
15	C737-1	Restraint . . . . .	X	1
16	MS27039C0805	Screw . . . . .	X	2
17	NAS6603-10	Bolt . . . . .	X	2
18	A141-17	Washer . . . . .	X	5
19	NAS6603-8	Bolt . . . . .	X	1
20	C121-21	Push-Pull Tube Assembly (Incl items 7, 9, and 12) . . . . .	X	1
21	MS27039C0806	Screw . . . . .	X	15
22	A595-2	Seal (white) . . . . .	X	2
23	A595-1	Seal (black) . . . . .	X	2
24	A597-1	Cover . . . . .	X	2
25	MS24665-132	Cotter Pin . . . . .	X	1
26	—	Arm – Carburetor (Ref)		
27	NAS6603-9	Bolt . . . . .	X	1
28	C336-1	Push-Pull Tube . . . . .	X	1
29	NAS1149F0363P	Washer . . . . .	X	7
30	C233-1	Firewall – Vertical (Ref)		
31	91251A107	Screw . . . . .	X	1

NOTES \* Ship S/N 0001 thru 9999.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
THROTTLE CONTROL INSTALLATION* (Cont'd)				
76-1-32	NAS1149FN432P	Washer . . . . .	X	7
33	MS21042L4	Nut . . . . .	X	1
34	NAS1149F0432P	Washer . . . . .	X	2
35	A607-2	Cam . . . . .	X	1
36	NAS620-416L	Washer . . . . .	X	1
37	D756-4	Bellcrank Assembly – Aft . . . . .	X	1
38	NAS6603-11	Bolt . . . . .	X	1
39	MS27039C0818	Screw . . . . .	X	7
40	C607-1	Support (Revision “E” and subsequent) . . . . .	X	1
41	A486-1**	Screw . . . . .	X	1
42	A759-1	Rod End . . . . .	X	1
43	C342-1**	Arm . . . . .	X	1
44	D756-3	Bellcrank Assembly – Forward . . . . .	X	1
45	NAS1149D0316J	Washer . . . . .	X	1
46	C608-1	Support . . . . .	X	1
47	MS21069L08	Nutplate . . . . .	X	2
48	C606-5	Cover (clear; earlier covers were black) . . . . .	X	1
49	A609-1	Arm (Ref)		
50	MS16562-15	Roll Pin . . . . .	O	2
51	MS20995C32	0.032 in. dia. Safety Wire . . . . .	X	A/R
52	A130-29	Spacer . . . . .	O	4
53	NAS6604-31	Bolt . . . . .	X	1
54	C607-1**	Support Assembly (Ref; Revision “D” and prior. Used with item 56.)		
55	A605-1	Housing . . . . .	O	1
	C647-17	Bearing . . . . .	O	1
56	D756-4**	Bellcrank Assembly – Aft (Ref; Revision “E” and prior. Used with item 54.)		
57	MS35206-220	Screw . . . . .	X	2
58	JV-5	Actuator . . . . .	X	1
59	V3-1	Switch (full throttle light; includes item 60) . . . . .	X	1
60	—	Screw (includes lockwasher) . . . . .	O	2

NOTES \* Ship S/N 0001 thru 9999.  
 \*\* Installed on earlier R44s.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
THROTTLE CONTROL INSTALLATION* (Cont'd)				
76-1-61	C859-2488	Wire (Ref)		
	B260-1	Terminal .....	X	1
62	C859-2487	Wire (Ref)		
	B260-1	Terminal .....	X	1
63	A130-14	Spacer .....	X	2
64	MS21042L04	Nut .....	X	2

NOTES \* Ship S/N 0001 thru 9999.

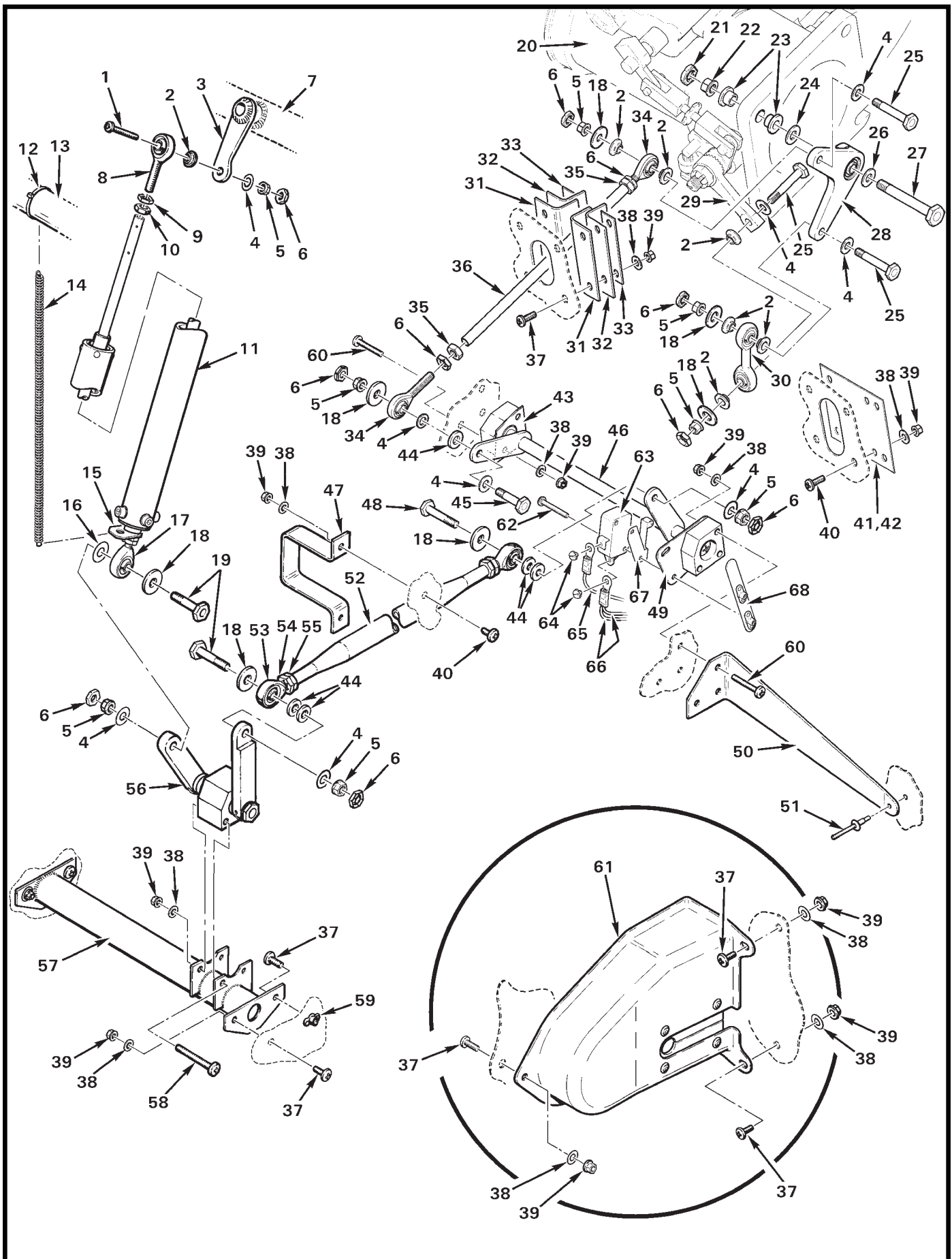


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
<b>THROTTLE CONTROL INSTALLATION*</b>				
76-5-1	A486-4	Screw . . . . .	X	1
2	A341-1	Spacer . . . . .	X	7
3	C341-1	Arm Assembly (Ref)		
4	NAS1149F0332P	Washer . . . . .	X	8
5	D210-3	Nut . . . . .	X	8
6	B330-7	Palnut . . . . .	X	10
7	C758-3	Collective Stick Assembly (Ref)		
8	A127-3	Rod End . . . . .	X	1
9	B330-7	Palnut . . . . .	X	2
10	AN315-3R	Nut . . . . .	X	2
11	A327-1	Overtravel Spring Assembly (Incl items 8 thru 10, 15, and 17) . .	X	1
12	MS3367-4-9	Ty-Rap . . . . .	X	1
13	C348-1	Anchor (Ref)		
14	B774-2	Spring . . . . .	X	1
15	A697-2	Plate (Ref)		
16	NAS1149D0316J	Washer . . . . .	X	1
17	A933-3	Rod End . . . . .	X	1
18	A141-17	Washer . . . . .	X	7
19	NAS6603-10	Bolt . . . . .	X	2
20	2576630-4**	Fuel Control (Ref, see Figure 28-1)		
21	B330-13	Palnut . . . . .	X	1
22	D210-4	Nut . . . . .	X	1
23	D543-2	Spacer . . . . .	X	2
24	NAS1149F0463P	Washer . . . . .	X	1
25	NAS6603-13	Bolt . . . . .	X	3
26	NAS1149F0432P	Washer . . . . .	X	1
27	NAS6604-22	Bolt . . . . .	X	1
28	D731-9	Bellcrank Assembly . . . . .	X	1
29	—	Arm – Fuel Control (Ref)		
30	B564-2	Link . . . . .	X	1
31	A595-2	Seal (white) . . . . .	X	2
32	A595-1	Seal (black) . . . . .	X	2
33	A597-1	Cover . . . . .	X	2
34	A127-3	Rod End . . . . .	X	2
35	AN315-3R	Nut . . . . .	X	2

NOTES \* Ship S/N 10001 and subsequent.  
 \*\* Avstar Fuel Systems part no.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
THROTTLE CONTROL INSTALLATION* (Cont'd)				
76-5-36	A336-6	Push-Pull Tube (6.25-inch length) . . . . .	X	1
	A336-9	Push-Pull Tube (5.90-inch length) . . . . .	X	1
37	MS27039C0806	Screw . . . . .	X	12
38	NAS1149FN816P	Washer . . . . .	X	23
39	MS21042L08	Nut . . . . .	X	23
40	MS27039C0805	Screw . . . . .	X	6
41	D731-6	Cover . . . . .	X	1
42	B270-1	Sealant (2-oz tube) . . . . .	X	A/R
43	D731-5	Retainer (Ref)		
44	NAS1149F0363P	Washer . . . . .	X	5
45	NAS6603-8	Bolt . . . . .	X	2
46	D731-1	Bellcrank Assembly . . . . .	X	1
47	C737-1	Restraint . . . . .	X	1
48	NAS6603-9	Bolt . . . . .	X	1
49	D731-8	Retainer (Ref)		
50	D731-7	Strut . . . . .	X	1
51	NAS9301B-4-02	Rivet . . . . .	X	1
52	C121-21	Push-Pull Tube Assembly (Incl items 53 thru 55) . . . . .	X	1
53	A933-3	Rod End . . . . .	X	2
54	B330-7	Palnut . . . . .	X	2
55	AN315-3R	Nut . . . . .	X	2
56	D756-1	Bellcrank Assembly . . . . .	X	1
57	C608-1	Support Weldment . . . . .	X	1
58	MS27039C0818	Screw . . . . .	X	2
59	MS21069L08	Nutplate (Ref)		
60	MS27039C0813	Screw . . . . .	X	6
61	C606-2	Cover Assembly (Rev. K and subsequent [clear], Rev. J and prior [black]) . . . . .	X	1
62	MS35206-219	Screw . . . . .	X	2
63	V3-1	Switch (full throttle light; includes item 64) . . . . .	X	1
64	—	Screw (includes lockwasher) . . . . .	O	2
65	C859-2487	Wire (Ref)		
	B260-1	Terminal . . . . .	X	1

NOTES \* Ship S/N 10001 and subsequent.

Continues



FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
<b>THROTTLE CONTROL INSTALLATION* (Cont'd)</b>				
76-5-66	C859-2488	Wire (Ref)		
	C859-2490	Wire (Ref)		
	B260-1	Terminal . . . . .	X	1
67	JV-5	Actuator . . . . .	X	1
68	D731-11	Plate Assembly . . . . .	X	1

NOTES \* Ship S/N 10001 and subsequent.

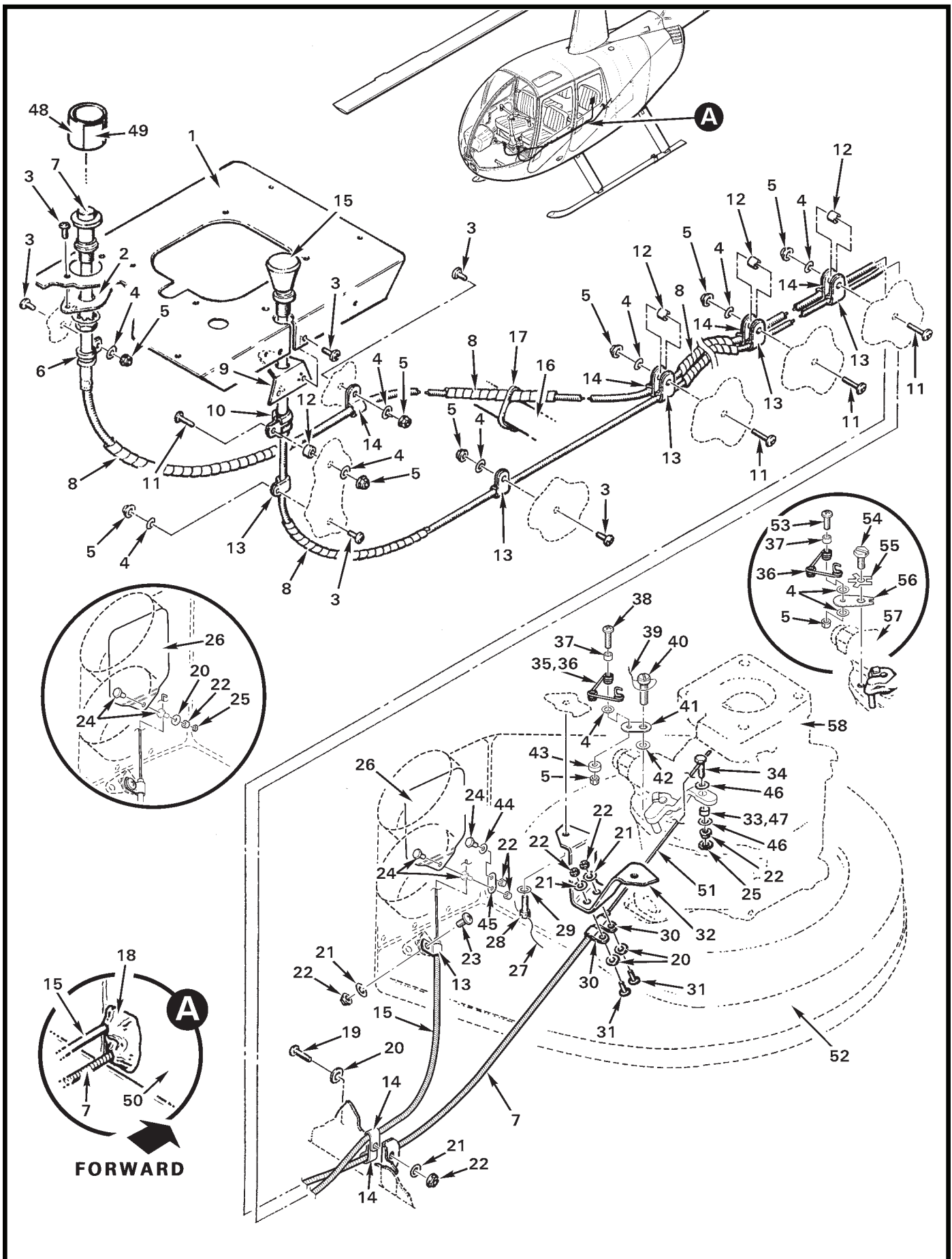


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		<b>CARB HEAT AND MIXTURE CONTROLS</b>		
76-9-1	C444-1	Cover Assembly (Ref, see Figure 67-1)		
2	A518-2	Cover Assembly . . . . .	X	1
3	MS27039C0806	Screw . . . . .	X	9
4	NAS1149FN816P	Washer . . . . .	X	9
5	MS21042L08	Nut . . . . .	X	9
6	MS21919WDG6	Clamp . . . . .	X	1
7	A522-7	Control – Mixture (Incl item 51) . . . . .	X	1
8	B161-4	Spirap . . . . .	X	A/R
9	C518-1	Cover Assembly . . . . .	X	1
10	MS21919WDG4	Clamp . . . . .	X	1
11	MS27039C0809	Screw . . . . .	X	4
12	A130-21	Spacer . . . . .	X	4
13	AN742-3	Clamp . . . . .	X	7
14	AN742-4	Clamp . . . . .	X	5
15	A522-6	Control – Carb Heat (ship S/N 0001 thru 0201) . . . . .	X	1
16	C608-1	Support (Ref; see Figure 76-1)		
17	MS3367-7-9	Ty-Rap . . . . .	X	1
18	B270-5	Sealant (White, 7.5-oz tube; also used around wire harness at firewall [not shown]) . . . . .	X	A/R
19	MS27039C1-08	Screw . . . . .	X	1
20	NAS1149F0363P	Washer . . . . .	X	4
21	NAS1149F0332P	Washer . . . . .	X	4
22	D210-3	Nut . . . . .	X	7
23	MS27039C1-06	Screw . . . . .	X	1
24	A462-1	Fitting . . . . .	X	2
25	B330-7	Palnut . . . . .	X	2
26	C562-1	Slider Valve . . . . .	X	1
27	MS20995C32	0.032 in. dia. Safety Wire . . . . .	X	A/R
28	NAS1352-4H6P	Screw . . . . .	X	2
29	NAS1149F0432P	Washer . . . . .	X	2
30	AN735-4	Clamp . . . . .	X	2
31	MS27039C1-07	Screw . . . . .	X	2

NOTES

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
<b>CARB HEAT AND MIXTURE CONTROLS (Cont'd)</b>				
76-9-32	C577-2	Bracket . . . . .	X	1
33	A130-48	Spacer . . . . .	X	1
34	A462-4	Fitting . . . . .	X	1
35	C071-1	Spring Assembly (Incl items 4 [1], 5 [1], 36 thru 38, 41, and 43) . . . . .	X	1
36	A930-1	Spring . . . . .	X	1
37	A130-13	Spacer . . . . .	X	1
38	MS27039C0810	Screw . . . . .	X	1
39	MS20995C20	0.020 in. dia. Safety Wire . . . . .	X	A/R
40	AV15-B98*	Screw (supplied with item 58) . . . . .	O	1
41	C071-3	Bracket . . . . .	X	1
42	—	Washer (supplied with item 58) . . . . .	O	1
43	A130-37	Spacer . . . . .	X	1
44	NAS1149F0316P	Washer . . . . .	X	1
45	A696-3	Plate . . . . .	X	1
46	NAS1149E0363R	Washer . . . . .	X	2
47	A257-1	Grease . . . . .	X	A/R
48	A950-1	Guard – Mixture Control (Incl item 49) . . . . .	X	1
49	A654-45	Decal . . . . .	X	1
50	—	Firewall (Ref)		
51	A-641R1	Inner Wire . . . . .	X	1
52	C057-5	Air Box Assembly (Ref, see Figure 71-13)		
53	MS27039C0807	Screw . . . . .	X	1
54	AV15-B126	Screw (Ref; used with item 57)		
55	AV78-A97*	Locking Tab (one-time-use part) . . . . .	X	1
56	C071-2	Bracket (used with item 57) . . . . .	X	1
57	10-6035-11**	Carburetor (Ref; Lycoming part no. 62C22451; installed on earlier R44s)		
58	AV10-6035-11*	Carburetor (Ref; Lycoming part no. 61C26050)		

NOTES \* Avstar Fuel Systems, Inc. part no.  
 \*\* Precision Airmotive part no.

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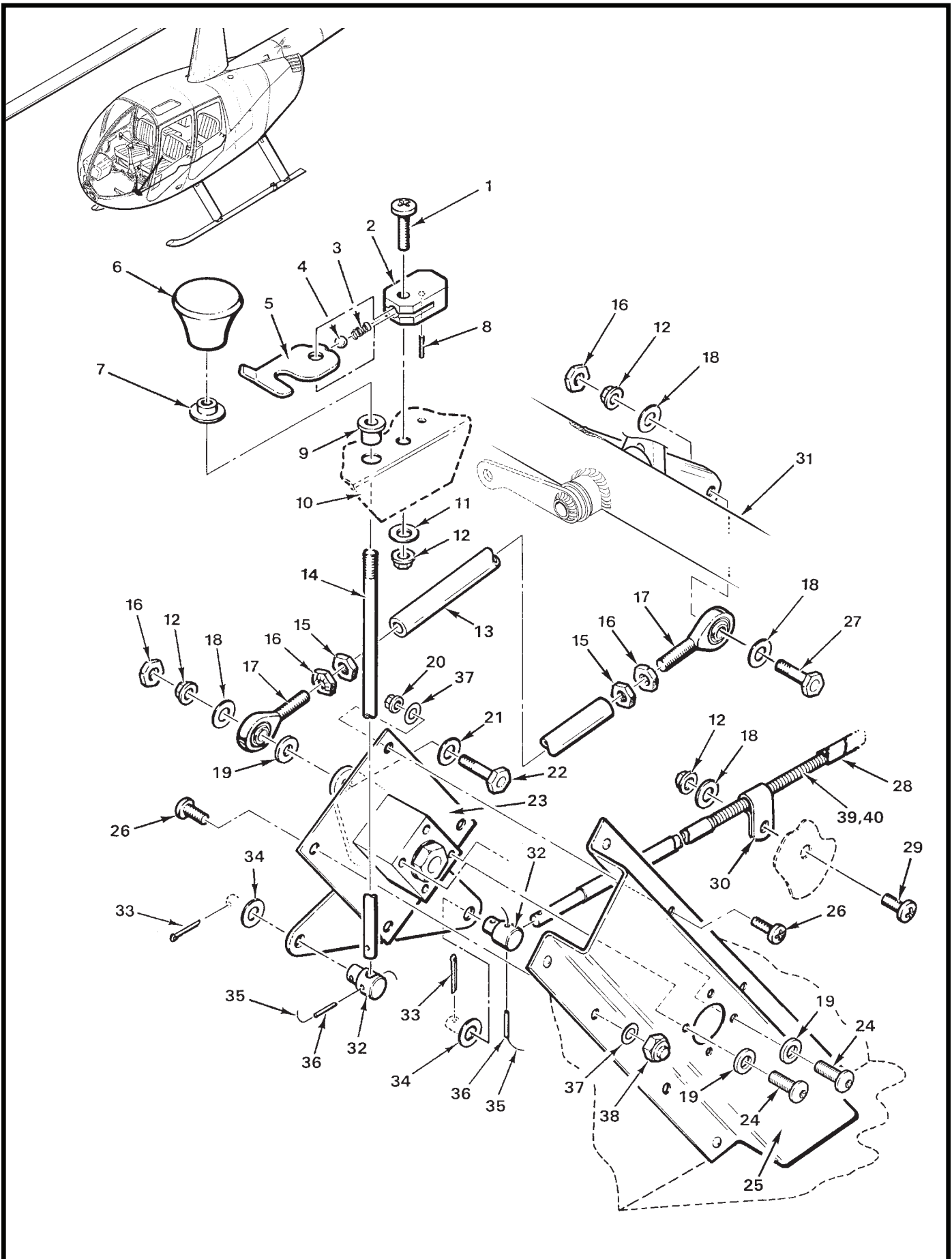


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
CARB HEAT ASSIST INSTALLATION*				
76-13-1	MS27039C1-11	Screw . . . . .	X	1
2	D333-8	Block . . . . .	X	1
3	D774-3	Spring . . . . .	X	1
4	9529K13	Ball . . . . .	X	1
5	D333-6	Catch . . . . .	X	1
6	3704-SE	Knob . . . . .	X	1
7	D333-5	Collar . . . . .	X	1
8	MS16562-23	Spring Pin . . . . .	X	1
9	2010	Bushing . . . . .	X	1
10	C444-3	Cover Assembly - Cyclic (Ref)		
11	NAS620-10L	Washer . . . . .	X	1
12	MS21042L3	Nut . . . . .	X	4
13	A336-3	Push-Pull Tube . . . . .	X	1
14	A587-3	Stem . . . . .	X	1
15	AN315-3R	Nut . . . . .	X	2
16	B330-7	Palnut . . . . .	X	4
17	A933-3	Rod End . . . . .	X	2
18	NAS1149F0332P	Washer . . . . .	X	8
19	NAS1149F0363P	Washer . . . . .	X	1
20	MS21042L08	Nut . . . . .	X	4
21	AN960PD10L	Washer . . . . .	X	5
22	NAS6603-8	Bolt . . . . .	X	1
23	D334-3	Bellcrank Assembly (Incl items 12, 14, 16, 18, 19, 21, 22, 24, and 32 thru 36) . . . . .	X	1
24	A142-4	Screw . . . . .	X	2
25	D335-2	Stiffener (Ref)		
26	MS27039C0806	Screw . . . . .	X	3
27	NAS6603-6	Bolt . . . . .	X	1
28	B161-4	Spirap . . . . .	X	A/R
29	MS27039C1-06	Screw . . . . .	X	1
30	AN742-3	Clamp . . . . .	X	1
31	C758	Collective Stick Assembly (Ref)		

NOTES \* Ship S/N 0202 thru 9999.

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
<b>CARB HEAT ASSIST INSTALLATION* (Cont'd)</b>				
76-13-32	D333-3	Fitting . . . . .	X	2
33	MS24665-210	Cotter Pin . . . . .	X	2
34	NAS1149F0432P	Washer . . . . .	X	2
35	MS20995C20	0.020 in. dia. Safety Wire . . . . .	X	A/R
36	MS16562-4	Spring Pin . . . . .	X	2
37	NAS1149FN816P	Washer . . . . .	X	3
38	B340-4	Nut . . . . .	X	3
39	C522-7	Control Assembly (Includes item 40. See Figure 76-9 for complete installation.) . . . . .	X	1
40	A-912R	Inner Wire (not shown) . . . . .	X	1

NOTES \* Ship S/N 0202 thru 9999.



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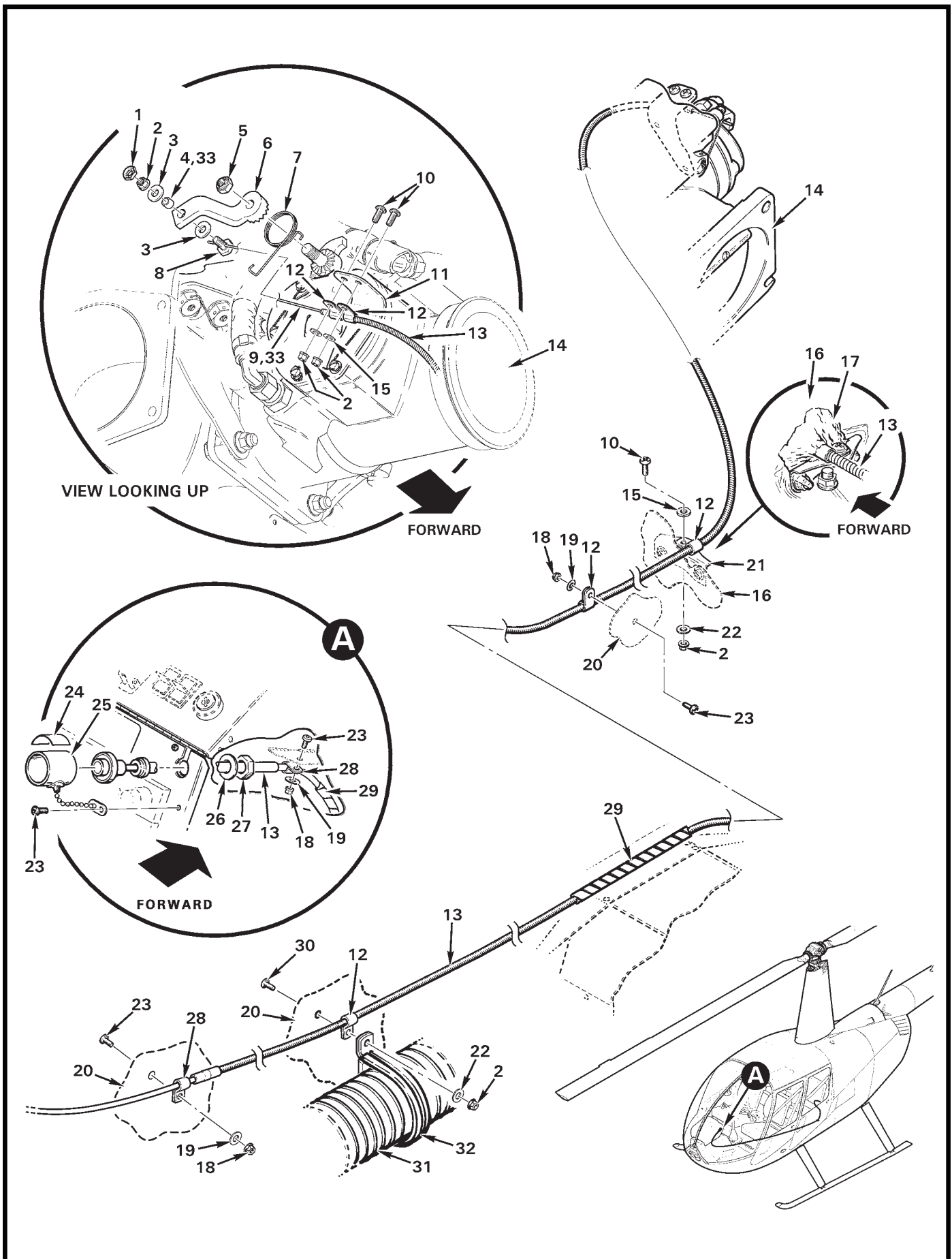


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
<b>MIXTURE CONTROL INSTALLATION*</b>				
76-17-1	B330-7	Palnut . . . . .	X	1
2	D210-3	Nut . . . . .	X	4
3	NAS1149E0363R	Washer . . . . .	X	2
4	A130-48	Spacer (install using item 33) . . . . .	X	1
5	—	Locknut** . . . . .	O	1
6	—	Arm** . . . . .	O	1
7	D930-1	Spring . . . . .	X	1
8	A462-4	Fitting . . . . .	X	1
9	A-641R1	Inner Wire . . . . .	X	1
10	MS27039C1-07	Screw . . . . .	X	3
11	D732-11**	Bracket (Ref)		
12	AN742-4	Clamp . . . . .	X	5
13	A522-13	Control – Mixture (Supersedes A522-7; Incl items 9, 26, and 27) . . . . .	X	1
14	2576630-4	Control – Fuel (Ref)		
15	NAS1149F0363P	Washer . . . . .	X	3
16	—	Firewall – Vertical (Ref)		
17	B270-5	Sealant (at firewall) . . . . .	X	A/R
18	MS21042L08	Nut . . . . .	X	3
19	NAS1149FN816P	Washer . . . . .	X	3
20	—	Keel Panel (Ref)		
21	D732-10	Angle . . . . .	X	1
22	NAS1149F0332P	Washer . . . . .	X	2
23	MS27039C0806	Screw . . . . .	X	4
24	A654-45	Decal (guard instruction) . . . . .	X	1
25	A950-3	Guard Assembly (Incl item 24) . . . . .	X	1
26	—	Washer . . . . .	O	1
27	—	Nut . . . . .	O	1
28	AN742-3	Clamp . . . . .	X	2
29	B161-4	Spirap . . . . .	X	A/R
30	MS27039C1-08	Screw . . . . .	X	1
31	A785-29	Hose – Heater (Ref, see Figure 21-37)		
32	MS21919WDG48	Clamp (Ref)		

NOTES \* Ship S/N 10001 and subsequent.  
 \*\* Supplied with fuel control.

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
76-17-33	A257-1	<p style="text-align: center;">MIXTURE CONTROL INSTALLATION*</p> <p>Grease .....</p>	X	A/R

NOTES \* Ship S/N 10001 and subsequent.