

CHAPTER 71

POWERPLANT

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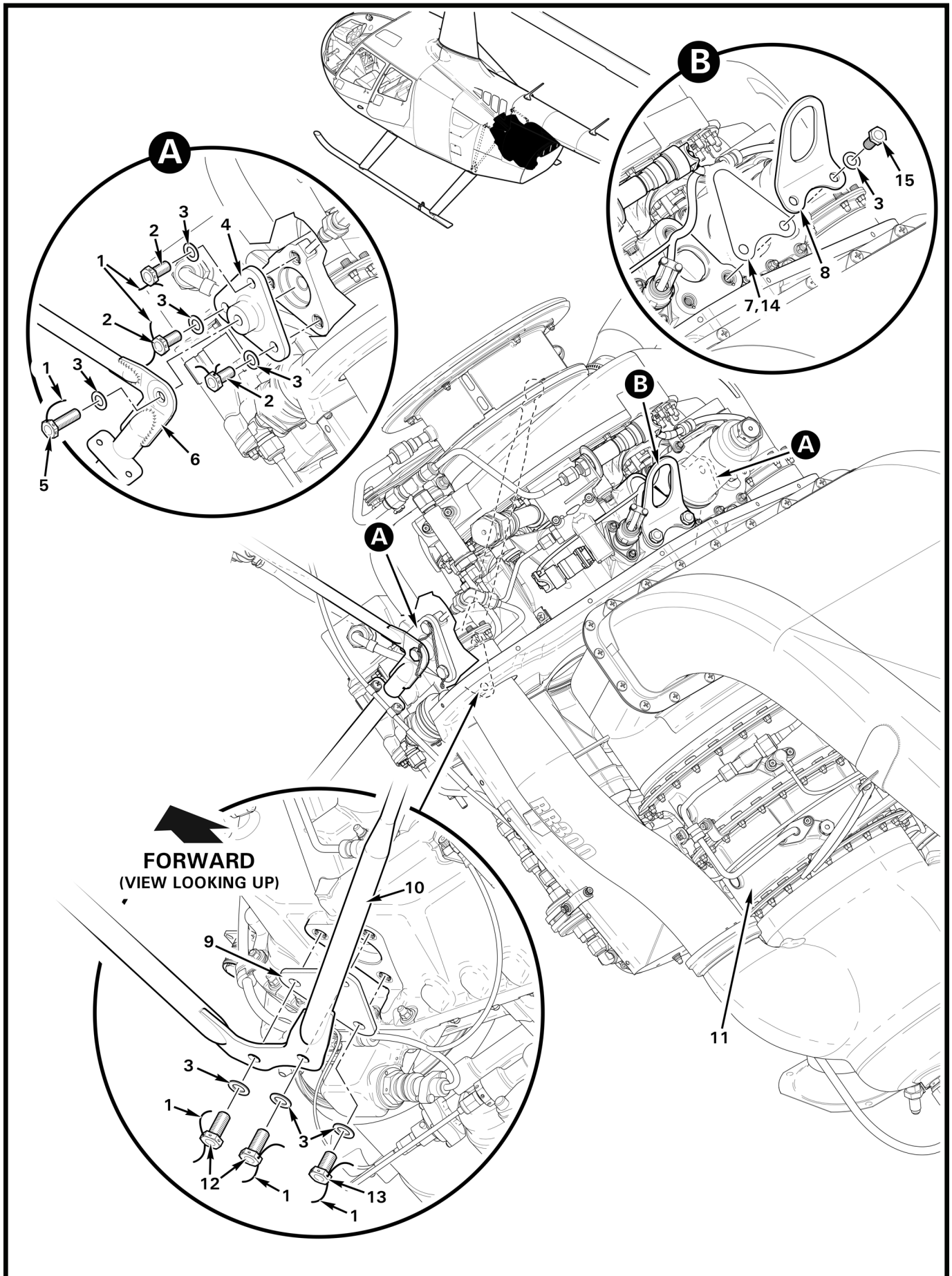


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE INSTALLATION				
71-1-1	MS20995C32	0.032 in. dia Safety Wire	X	A/R
2	NAS6605H3	Bolt	X	6
3	NAS1149F0532P	Washer	X	13
4	F593-1	Support Assembly	X	2
5	NAS6605H9	Bolt	X	2
6	F046-1	Frame Weldment (Ref, see Figure 53-7)		
7	G200-2	Cover (install using item 14; earlier aircraft)	X	1
8	G200-1	Lug (optional)	X	1
9	F593-3	Plate	X	1
10	F174-1	Support Weldment (Ref, see Figure 53-7)		
11	F145-1	Engine (Ref, Rolls-Royce Model 250-C300/A1)		
12	NAS6605H4	Bolt	X	2
13	NAS6605H2	Bolt	X	1
14	B270-1	Sealant	X	A/R
15	NAS6605-3	Bolt	X	2
NOTES				

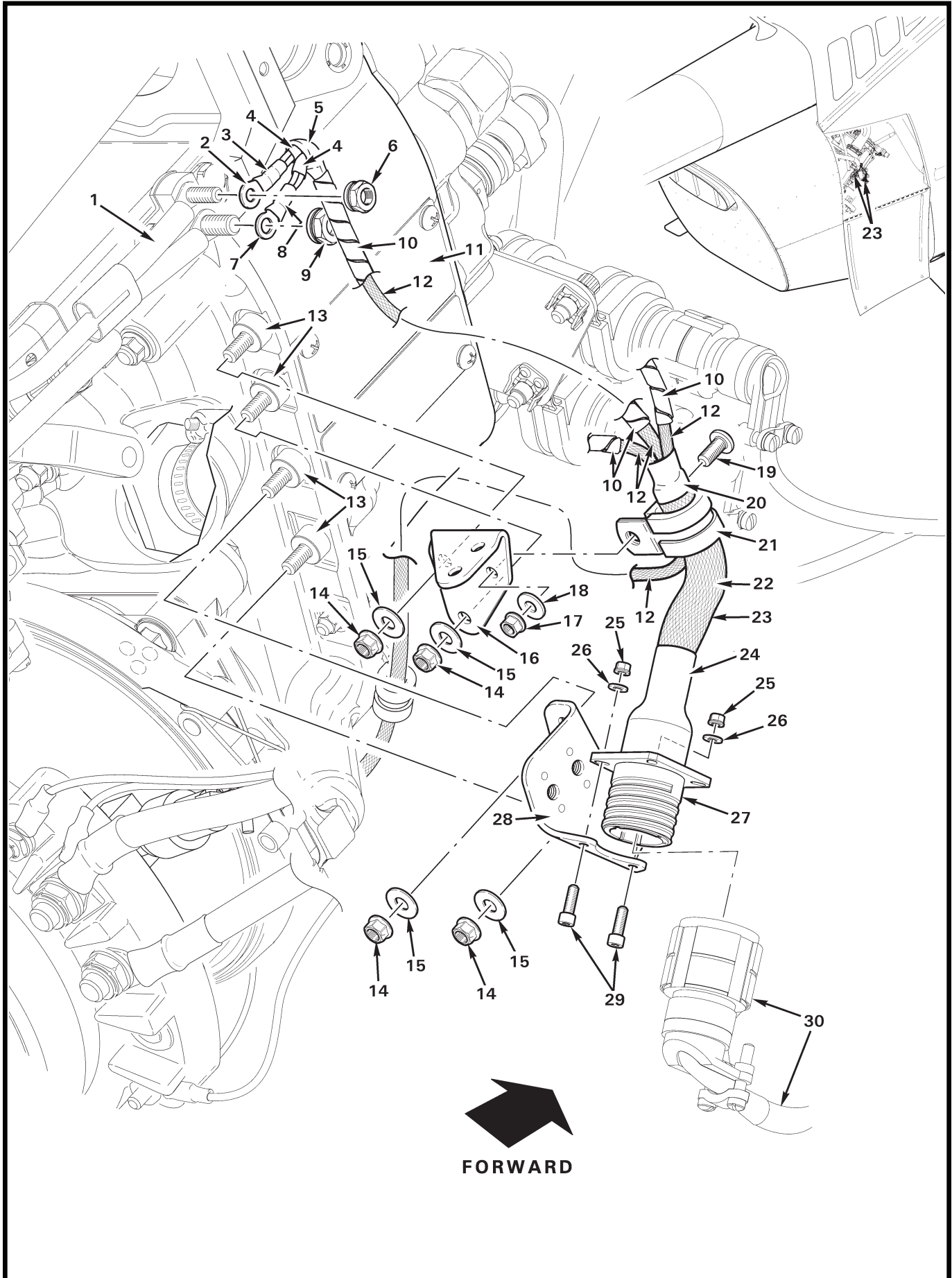


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE COMPONENTS – RIGHT SIDE				
71-3-1	—	Harness* – MGT (Ref)		
2	B260-33	Terminal (small)	X	1
3	B158-4	Heat Shrink (black).	X	A/R
4	B158-2	Heat Shrink (small; 2 places)	X	A/R
5	B158-6	Heat Shrink (large)	X	A/R
6	—	Nut* (small)	O	1
7	B260-34	Terminal (large)	X	1
8	B158-604	Heat Shrink (green).	X	A/R
9	—	Nut* (large)	O	1
10	B161-104	Sleeving (orange; 3 places)	X	A/R
11	—	Engine (Ref)		
12	B266-104	Sleeving	X	A/R
13	—	Spacer*	O	4
14	—	Nut* (Ref)		
15	NAS1149F0332P	Washer	X	4
16	F577-3	Bracket	X	1
17	MS21042L08	Nut	X	1
18	NAS1149FN832P	Washer	X	1
19	MS27039C0806	Screw	X	1
20	B158-812	Heat Shrink (adhesive-lined)	X	A/R
21	MS21919WCH8	Clamp	X	1
22	B266-108	Sleeving	X	A/R
23	F049-012	Harness Assembly – Engine (Incl items 2 thru 5, 7, 8, 10, 12, 20, 22, 24, and 27)	X	1
	F049-09**	Harness Assembly – Engine (Ref, earlier aircraft; no longer available.)		
24	H129-4-J-WM250	Shrink Boot	X	1
25	MS21042L04	Nut	X	2
26	NAS620-4	Washer	X	2
27	D38999/20FC35PN	Receptacle (Ref)		
28	F577-1	Bracket Assembly	X	1
29	NAS1352-04-6P	Screw	X	2
30	F859	Harness Assembly – Electrical (Ref; cabin)		

NOTES * Supplied with engine.
 ** To replace, order KI-223 Engine Electrical Harness Upgrade Kit Instructions revision C and subsequent, for helicopter S/Ns 0003 thru 0274. Order KI-223-2 for helicopter S/Ns 0275 thru 1021.

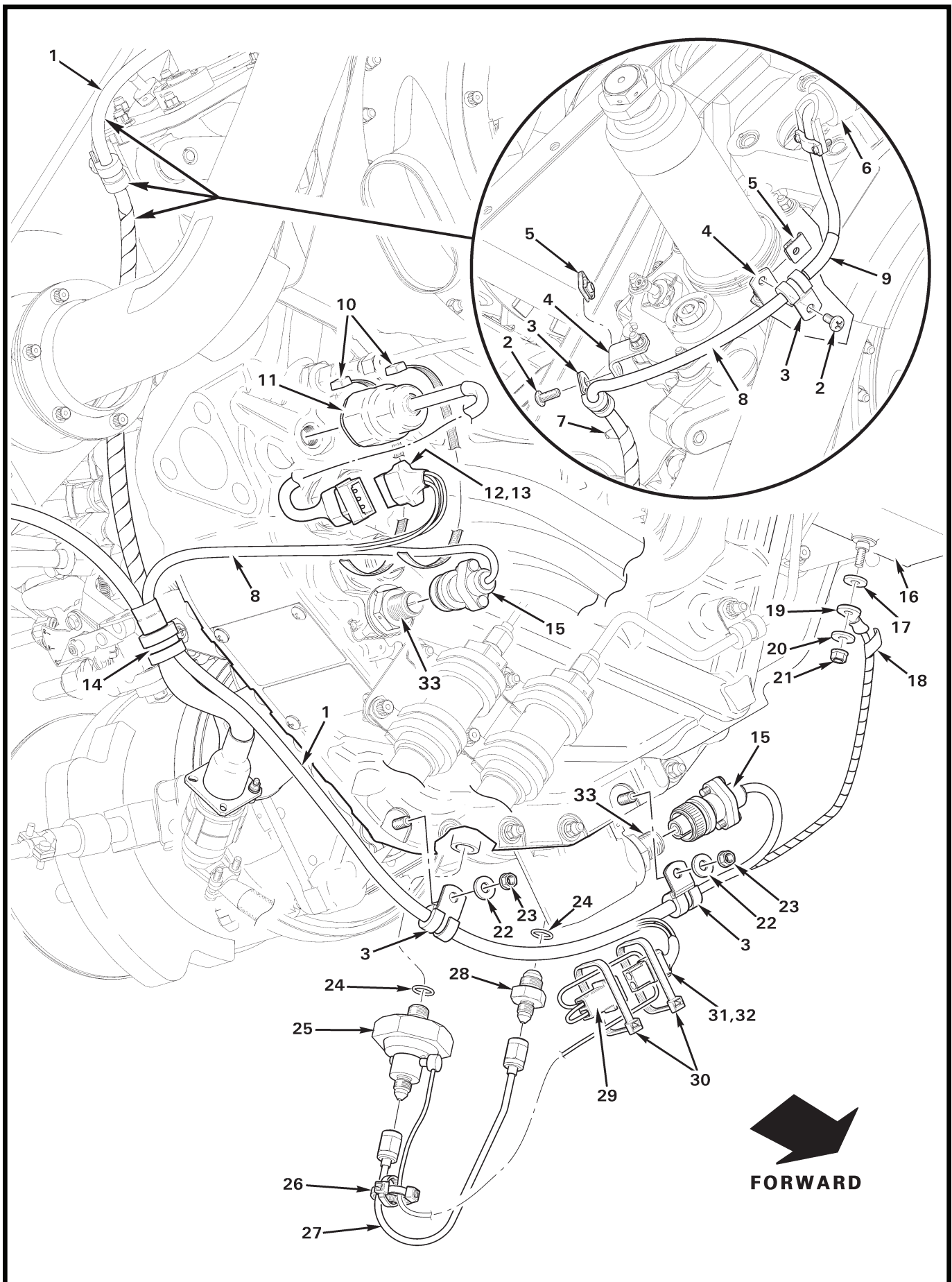


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE COMPONENTS – RIGHT SIDE				
71-5-1	F049-012*	Wire Harness Assembly – Engine (Incl items 6 thru 9, 12, 13, 15, 30, and 31)	X	1
	F049-09*	Wire Harness Assembly – Engine (Ref; earlier ships)		
2	MS27039C0806	Screw	X	2
3	MS21919WCH4	Clamp	X	4
4	MS9592-050*	Bracket	O	2
5	B162-2	Clipnut	X	2
6	MS3456W10SL-3S	Plug (Ref)		
7	B161-104	Spirap	X	A/R
8	B266-104	Sleeving	X	A/R
9	7861K46	Heat Shrink	X	A/R
10	MS3367-7-9	Ty-Rap	X	2
11	D745-3**	Switch Assembly (oil pressure; includes [1]NAS617-3 packing)	X	1
12	B263-15	Housing	X	1
	B263-2	Socket	X	3
13	B158-8	Heat Shrink	X	A/R
14	MS21919WCH8	Clamp (Ref, see Figure 71-3)		
15	MS3106R8S-1S	Plug	X	2
16	—	Ignition Exciter Box (Ref)		
17	NAS1149E0363R	Washer	X	1
18	B161-102	Spirap	X	A/R
19	B260-4	Terminal	X	1
20	—	Washer*	O	1
21	—	Nut*	O	1
22	NAS1149CO363R*	Washer	O	2
23	—	Nut*	O	2
24	MS29512-03	Packing (o-ring)	X	2
25	G426-1	Switch Assembly (differential pressure; includes items 24 & 29)	X	1
26	MS3367-4-9	Ty-Rap	X	2
27	F741-1	Line Assembly	X	1
28	AN919-0D	Reducer	X	1
29	B263-12	Housing	X	1
	B263-1	Pin	X	1
	B263-3	Pin	X	1
30	MS3367-5-9	Ty-Rap	X	2

NOTES * See also Figure 71-7.

** Rolls-Royce part number. See Rolls Royce RR300 Line Illustrated Parts Catalog.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE COMPONENTS – RIGHT SIDE (Cont'd)				
71-5-31	B263-13	Housing	X	1
	B263-2	Socket	X	2
32	B158-6	Heat Shrink	X	A/R
33	6871534*	Oil Plug/Chip Detector	X	2

NOTES * Rolls-Royce part number. See Rolls Royce RR300 Line Illustrated Parts Catalog.

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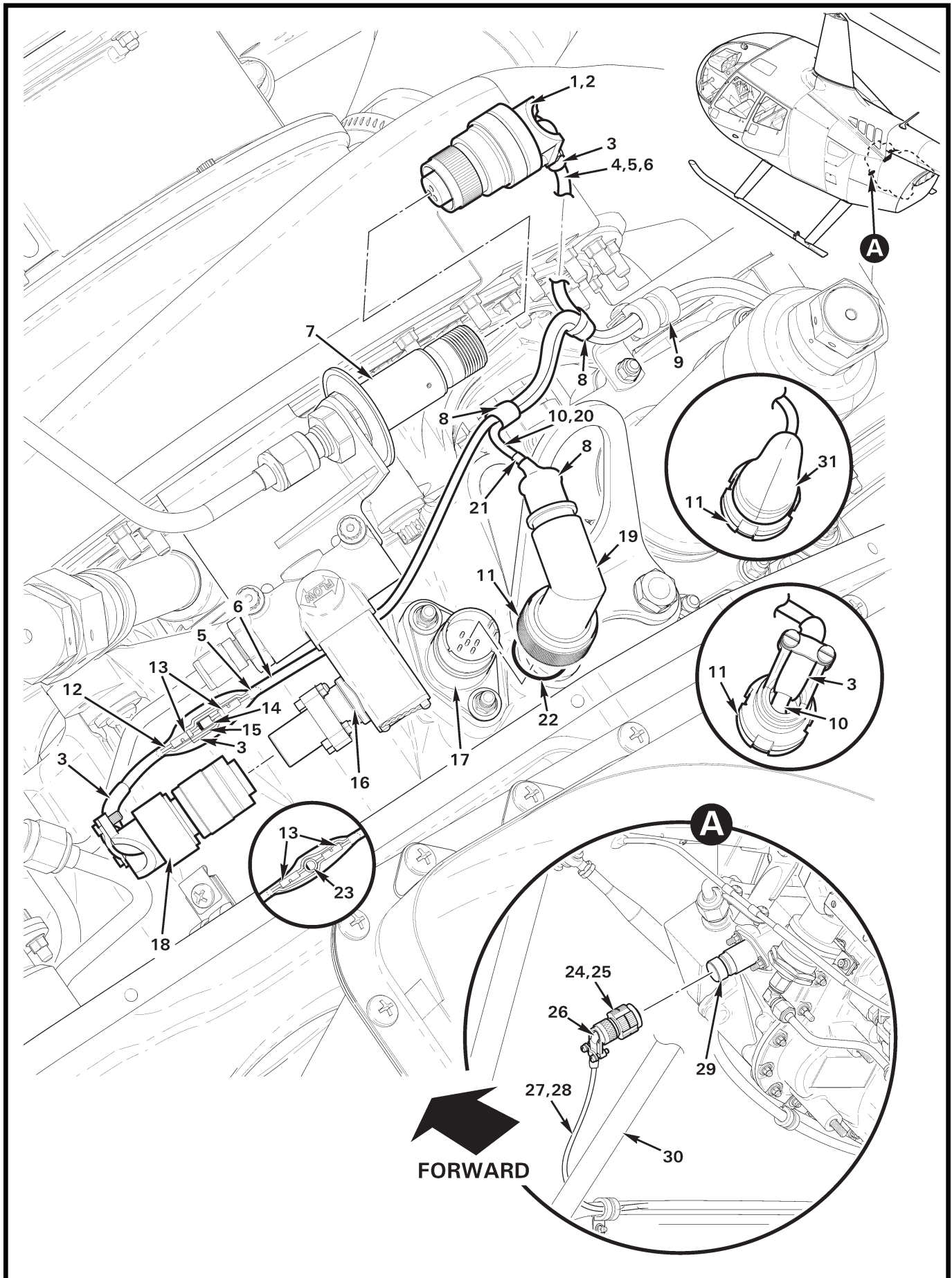


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE COMPONENTS – LEFT SIDE				
71-7-1	F049-012*	Harness Assembly (Incl items 2 thru 6, 8, 10 thru 15, and 18 thru 22)	X	1
	F049-09*	Harness Assembly (Ref; earlier ships)		
	F049-02*	Harness Assembly (Ref; earlier ships)		
2	MS3456W10SL-3S	Plug	X	1
3	B158-6	Heat Shrink	X	A/R
4	-1944,-1945	Wires (Ref)		
5	B158-2	Heat Shrink	X	A/R
6	B266-104	Sleeving	X	A/R
7	RR30000270**	Anti-Ice Pressure Switch (Ref)		
8	202D121-25/225	Boot	X	A/R
	7861K46	Heat Shrink (earlier ships)	O	A/R
9	MS21919WCH4	Clamp (Ref, see Figure 71-5)		
10	-1938,-1939,-1940,-1941	Wires (Ref)		
11	D38999 / 26FB98SA	Plug	X	1
	MS27488-20-2	Sealing Plug (pin E and F)	X	2
	B158-2	Heat Shrink	X	A/R
12	-2037	Wire	X	1
13	B261-2	Splice	X	2
14	D275-102	Diode (3 amp)	X	1
15	-2054	Wire (Ref)		
16	23007827**	Anti-Ice Valve (Ref)		
17	RR30000206**	N1 Speed Sensor (Ref)		
18	M83723 / 75R08036	Plug	X	1
19	M85049/90-11Z03	Backshell	X	1
20	B158-704	Heat Shrink (black)	X	A/R
21	B158-806	Heat Shrink (black, adhesive)	X	A/R
22	1182N111	O-ring	X	1
23	A15A	Diode (15 amp; earlier ships)	X	1
24	F859-03	Harness Assembly (Incl items 23, and 25 thru 28)	X	1
25	D38999 / 26FB98SN	Plug	X	1
26	608036-1	Tape	X	A/R
27	B266-104	Sleeving	X	A/R
28	-1934 thru 1937	Wires (Ref)		

NOTES * KI-223 Engine Electrical Harness Kit to replace -02, and -09, with -012 for helicopter S/Ns 0003 thru 0274. KI-223-2 to replace -09 with -012 for helicopter S/Ns 0275 thru 1021.
 ** Rolls-Royce part number. See Rolls Royce RR300 Line Illustrated Parts Catalog.

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE COMPONENTS – LEFT SIDE (Cont'd)				
71-7-29	23054163*	N2 Sensor (Ref)		
30	F046-1	Frame Weldment (Ref)		
31	222A121-25/225	Boot (earlier ships).....	X	1

NOTES * Rolls-Royce part number. See Rolls Royce RR300 Line Illustrated Parts Catalog.

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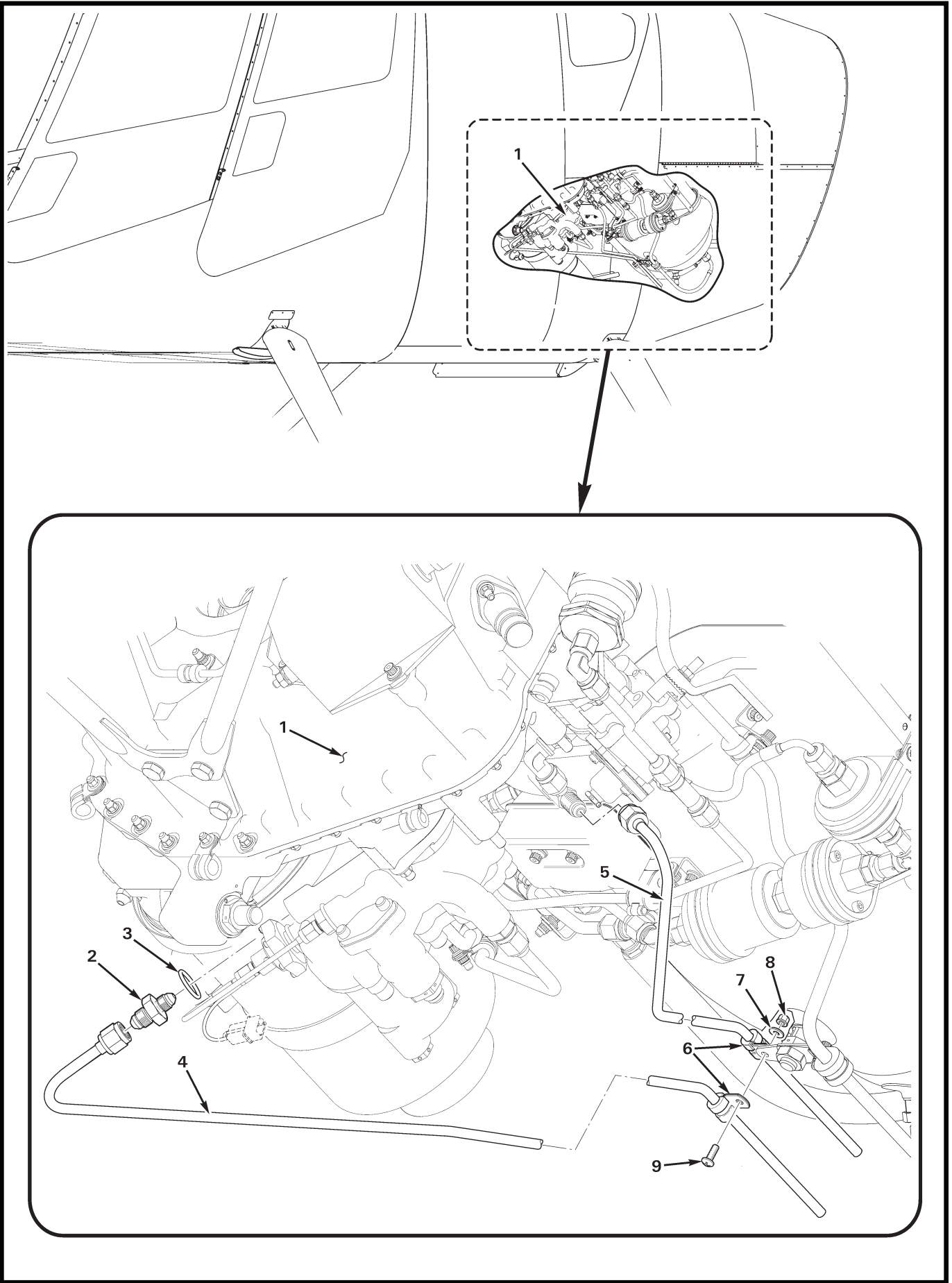


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE COMPONENTS – LEFT SIDE				
71-7D-1	F145-1	Engine (Ref)		
2	AN919-2D	Reducer	X	1
3	MS29512-3	Packing	X	1
4	F727-1	Line Assembly	X	1
5	F727-2	Line Assembly	X	1
6	MS21919WCH4	Clamp	X	2
7	NAS1149FN832P	Washer	X	1
8	MS21042L08	Nut	X	1
9	MS27039C0808	Screw	X	1

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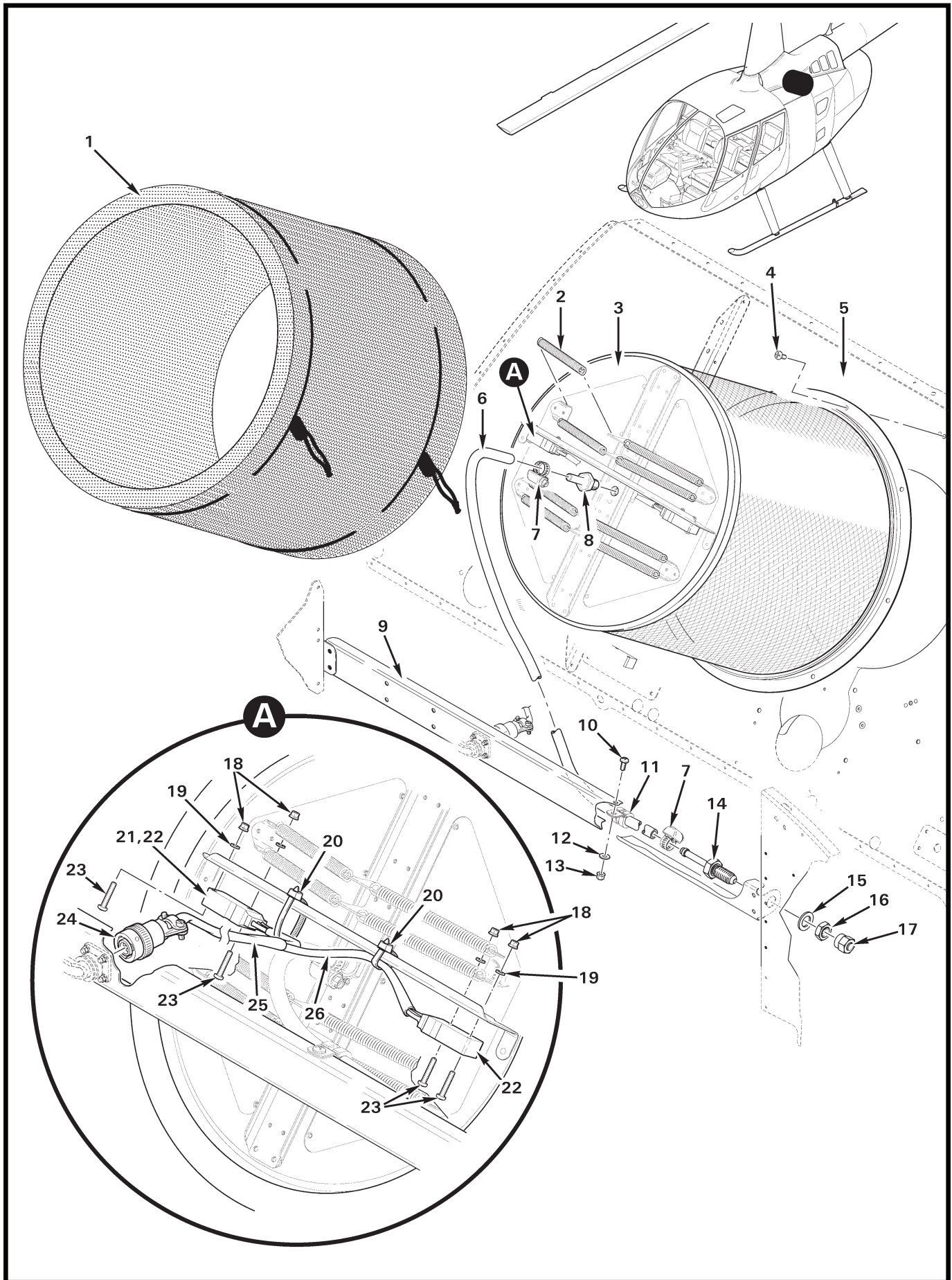


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE AIR INDUCTION – CAGE AND FILTER ASSEMBLIES				
71-9-1	F771-1	Air Filter Assembly	X	1
2	B774-8	Spring	X	8
3	G057-1	Cage Assembly (Incl items 2, 18 thru 21, and 23)	X	1
4	MS27039C0806	Screw	X	7
5	F234-1	Firewall (Ref)		
6	A729-42	Tube	X	1
7	B277-4	Clamp	X	2
8	G738-1	Nozzle	X	1
9	G258-4	Strap (Ref)		
10	MS27039C0807	Screw	X	1
11	MS21919WDG6	Clamp	X	1
12	NAS1149FN816P	Washer	X	1
13	MS21042L08	Nut	X	1
14	AS5180D04	Fitting	X	1
15	NAS1149F0763P	Washer	X	1
16	AN316-7R	Nut	X	1
17	AN929-4	Cap	X	1
18	MS21042L04	Nut	X	4
19	NAS620-4	Washer	X	4
20	MS3367-4-9	Ty-Rap	X	2
21	F049-08	Harness Assembly – Air Filter Switch (Incl items 22, and 24 thru 26)	X	1
22	D2VW-5-1MS	Switch	X	2
23	MS35206-219	Screw	X	4
24	MS3116E8-4P	Plug	X	1
	B158-2	Heat Shrink (around wires; not shown)	X	A/R
25	B158-4	Heat Shrink	X	A/R
26	B158-3	Heat Shrink	X	A/R

NOTES

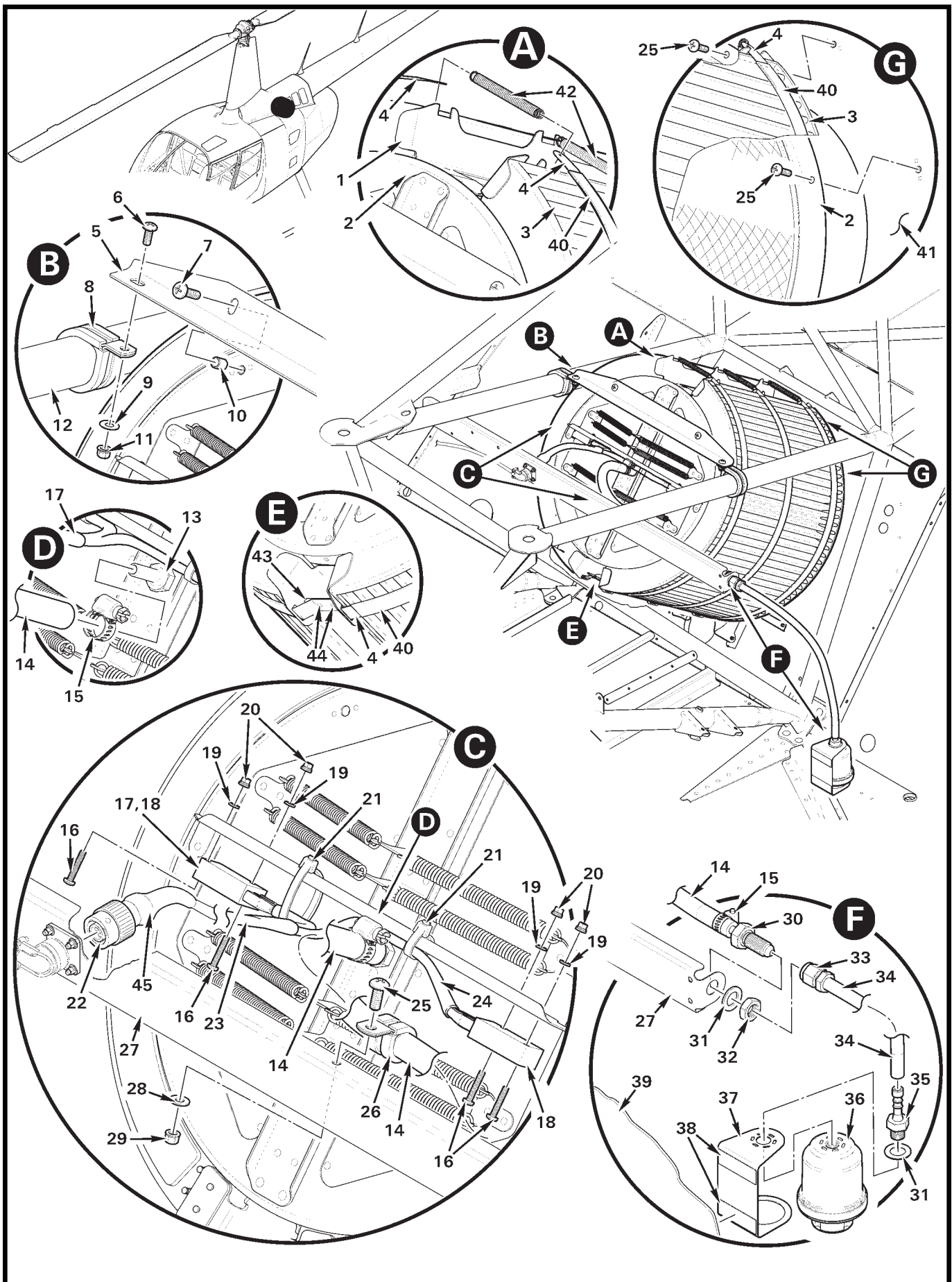


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE AIR INDUCTION – INLET BARRIER FILTER				
71-11-1	G058-2	Cage Assembly (Incl items 2 thru 9, and 10 [2])	X	1
2	G057-1	Cage Assembly (includes items 17, 19 thru 21, 40, 43, and 44; see also Figure 71-9)	X	1
3	146150-101	Filter Assembly	X	2
4	146160-101	Strap Assembly	X	2
5	G735-7	Angle	X	1
6	MS27039C1-07	Screw	X	2
7	MS27039C1-10	Screw	X	2
8	MS21919WDG18	Clamp	X	2
9	NAS1149F0316P	Washer	X	4
10	C130-26	Spacer	X	8
11	D210-3	Nut	X	2
12	F020-1	Upper Frame Assembly (Ref)		
13	G738-1	Nozzle	X	1
14	A729-42	Tube	X	1
15	B277-4	Clamp	X	2
16	MS35206-219	Screw	X	4
17	F049-08	Harness Assembly – Air Filter Switch (Incl items 18, 22 thru 25, and 45)	X	1
18	D2VW-5-1MS	Switch	X	2
19	NAS620-4	Washer	X	4
20	MS21042L04	Nut	X	4
21	MS3367-4-9	Ty-Rap	X	2
22	MS3116E8-4P	Plug	X	1
23	B158-4	Heat Shrink	X	A/R
24	B158-3	Heat Shrink	X	A/R
25	MS27039C0806	Screw	X	2
26	MS21919WDG8	Clamp	X	1
27	G258-4	Strap (Ref)		
28	NAS1149FN816P	Washer	X	1
29	MS21042L08	Nut	X	1
30	AS5180D04	Fitting	X	1
31	NAS1149F0763P	Washer	X	2
32	AN316-7R	Nut	X	1
33	A457-17	Fitting	X	1

NOTES

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FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE AIR INDUCTION – INLET BARRIER FILTER (Cont'd)				
71-11-34	A729-78	Tube	X	1
35	A457-16	Fitting	X	1
36	100460-201	Gage	X	1
37	G735-1	Bracket Assembly (Incl Item 38)	X	1
38	A701-7	Tape	X	2
39	G235-1	Bulkhead (Ref)		
40	B158-6	Heat Shrink	X	6
41	F234-1	Firewall (Ref)		
42	B774-10	Spring	X	3
43	G735-9	Stop	X	3
44	MS20470AD3	Rivet (3 locations)	X	6
45	B158-2	Heat Shrink	X	A/R

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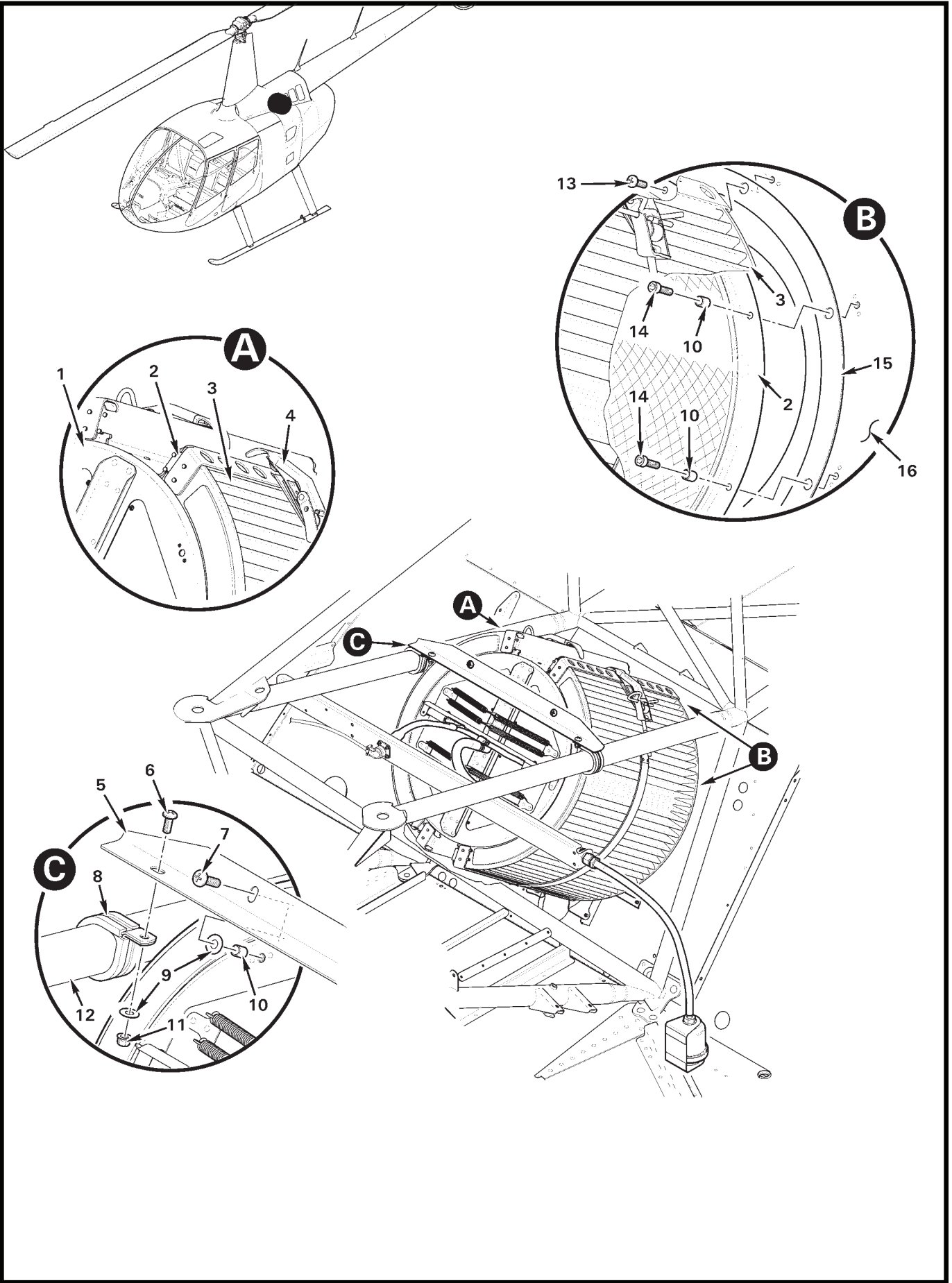


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE AIR INDUCTION – INLET BARRIER FILTER (EARLIER SHIPS)				
71-15-1	G058-1	Cage Assembly (Incl items 2 thru 9, and 10 [2])	X	1
2	G057-1	Cage Assembly (includes items 17, and 19 thru 21; see also Figures 71-9, and 71-11)	X	1
3	146150-101	Filter Assembly	X	2
4	146160-101	Strap Assembly	X	2
5	146171-201	Stiffener	X	1
6	MS27039C1-07	Screw	X	2
7	MS27039C1-10	Screw	X	2
8	MS21919WDG18	Clamp	X	2
9	NAS1149F0316P	Washer	X	4
10	146121-201	Spacer	X	8
11	D210-3	Nut	X	2
12	F020-1	Upper Frame Assembly (Ref)		
13	MS27039C0806	Screw	X	1
14	NAS1352-08-12P	Screw	X	6
15	165201-201	Seal	X	1
16	F234-1	Firewall (Ref)		
NOTES				

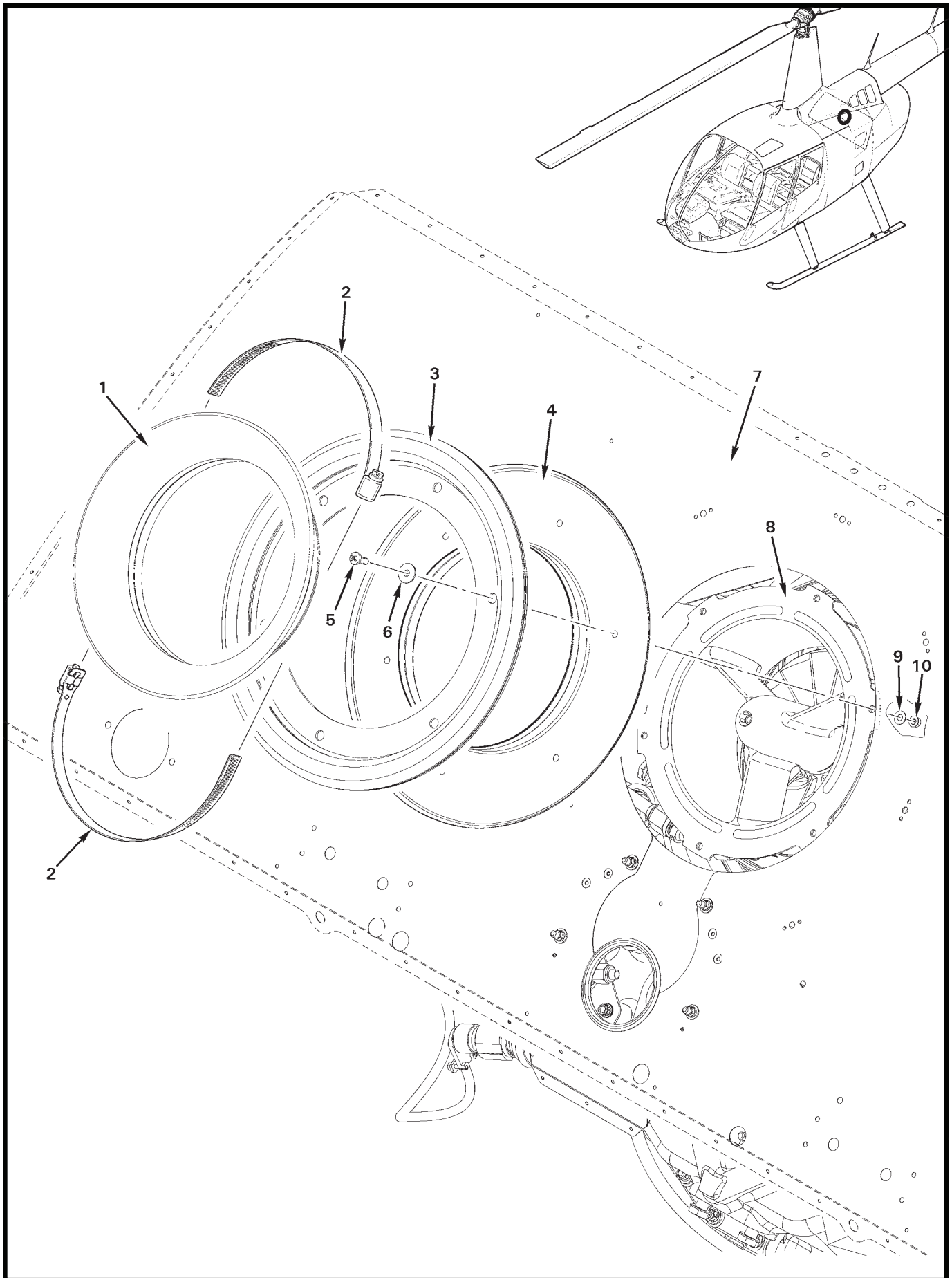


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
BELLMOUTH INSTALLATION				
71-17-1	F579-1	Bellmouth	X	1
2	B277-36	Clamp	X	2
3	F597-1	Seal	X	1
4	F580-1	Inlet	X	1
5	MS27039C0807	Screw	X	6
6	F453-5	Retainer	X	6
7	F234-1	Firewall (Ref)		
8	—	Engine Front Support (Ref)		
9	NAS1149FN832P	Washer	X	6
10	MS21042L08	Nut	X	6

NOTES

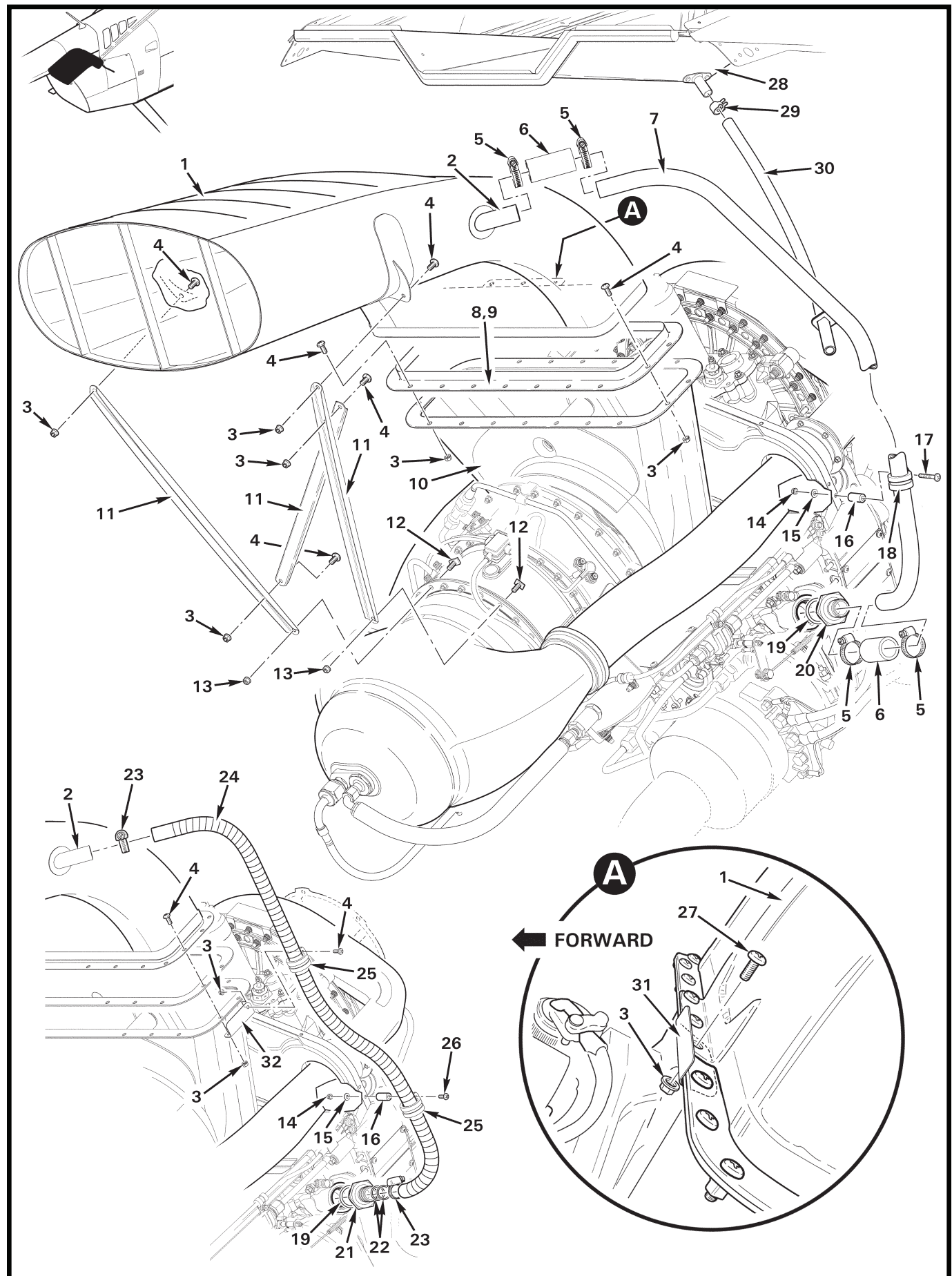


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		EXHAUST WELDMENT AND STRUT INSTALLATION		
71-19-1	F169-1	Exhaust Weldment (includes item 2)	X	1
2	F169-9	Vent (Ref)		
3	D210-3	Nut	X	24
4	MS27039C1-06	Screw	X	24
5	B277-12	Clamp (install with screw on top within 30 degrees).	X	4
6	A729-68	Tube	X	2
7	G727-3	Tube (required if item 30 is installed; refer to KI-258)	X	1
	G727-1*	Tube (no provision for firewall drain tube)	X	1
8	F169-2	Base (install using item 9)	X	1
9	7020-3	Putty	X	A/R
10	—	Engine Exhaust Collector (Ref)		
11	F173-1	Strut	X	3
12	—	Tee Bolt (Ref, supplied with engine)		
13	—	Nut (Ref, supplied with engine)		
14	MS21042L08	Nut	X	1
15	NAS1149FN832P	Washer	X	1
16	C130-51	Spacer	X	1
17	MS27039C0816	Screw	X	1
18	MS21919WCH12	Clamp	X	2
19	NAS617-12	Packing (o-ring)	X	1
20	F170-2	Fitting	X	1
21	F170-1	Fitting (Ref, superseded by item 20)	O	1
22	A215-016	O-Ring	X	2
23	B277-8*	Clamp (install with screw on top within 30 degrees).	X	2
24	A785-36*	Hose (superseded by item 7)	O	1
25	MS21919WCH14*	Clamp	X	2
26	MS27039C0816*	Screw (alternate part no. AN525-10R16)	X	1
27	MS27039C1-07	Screw	X	3
28	G929-1	Cover (Ref)		
29	D277-8	Clamp	X	1
30	A729-80	Tube	X	1
31	F173-2	Shield	X	1
32	F577-5*	Bracket	X	1
		* * *		
33	KI-258	R66-series Firewall Drain Installation Kit (Incl items 29 and 30)	X	A/R

NOTES * Earlier R66s.

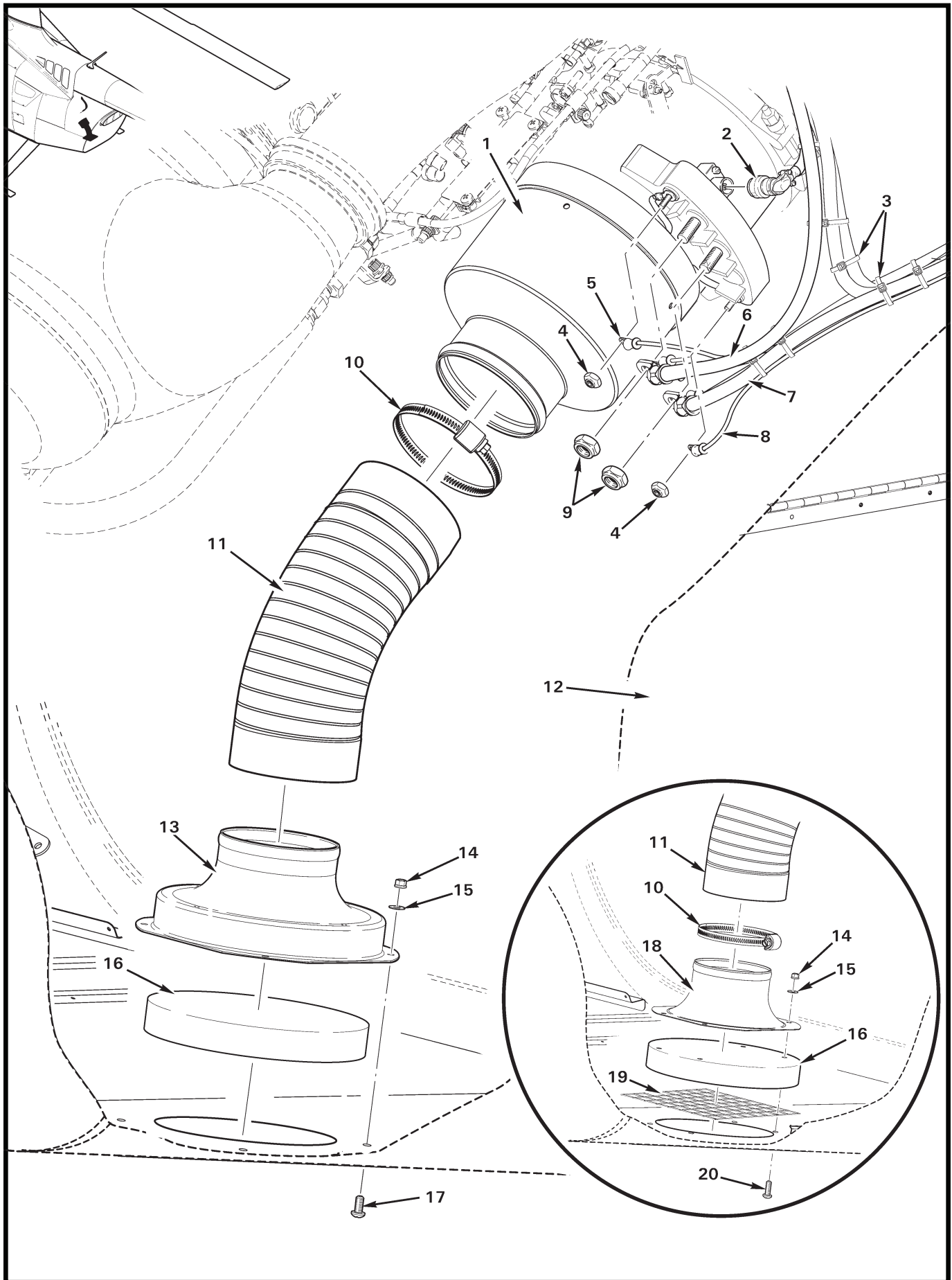


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
STARTER-GENERATOR INSTALLATION				
71-21-1	—	Starter-Generator (Ref; supplied with engine)		
2	MS3116J8-3S*	Plug (wire no. F049-1989 and -1990)	X	1
3	MS3367-5-9	Ty-Rap	X	A/R
4	—	Nut (small, supplied with item 1)	O	2
5	F049-1985	Wire (Ref)		
6	A780-51	Cable Assembly (wire no. 1969)	X	1
7	A780-50	Cable Assembly (wire no. 1982)	X	1
8	F049-1988	Wire (Ref)		
9	—	Nut (large, supplied with item 1)	O	2
10	B277-48	Clamp	X	1
11	A785-38	Hose	X	1
12	G040-1	Cowling Assembly (Ref; aft)		
13	C579-4	Inlet (2.5 in. tall)	X	1
14	MS21042L08	Nut	X	4
15	NAS1149FN816P	Washer	X	4
16	F771-4	Foam	X	1
17	MS27039C0806	Screw	X	4
18	C579-2**	Inlet (2 in. tall, installed using item 10)	X	1
19	A640-2**	Screen	X	1
20	MS27039C0808**	Screw	X	4

NOTES * Included with F049-013 harness assembly.
 ** Earlier R66s.

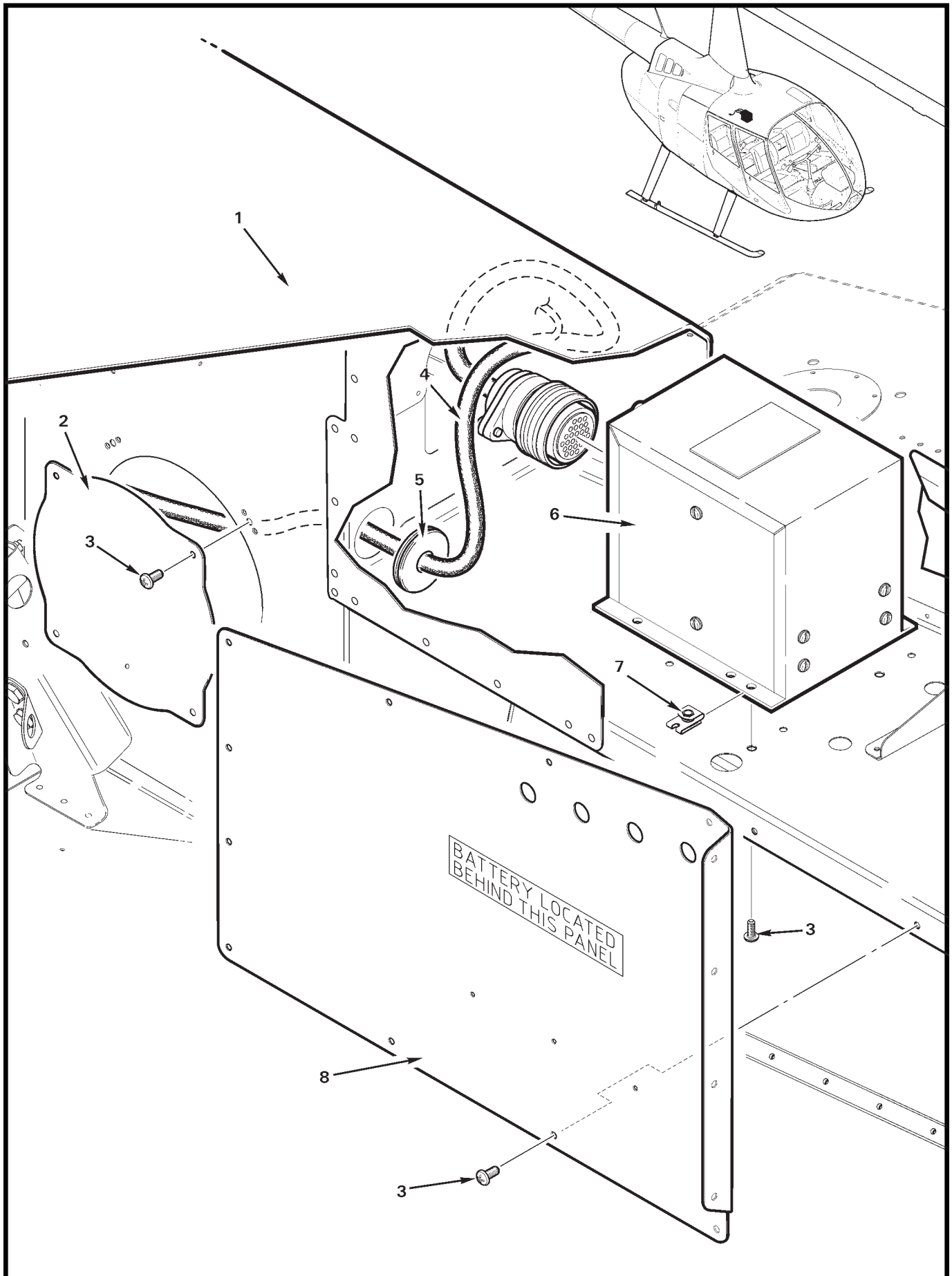


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
GENERATOR CONTROL UNIT INSTALLATION				
71-23-1	G252-1	Panel (Ref; baggage compartment)		
2	G248-2	Cover (access)	X	1
3	MS27039C0806	Screw	X	22
4	F049-013	Wire Harness Assembly (Incl item 5)	X	1
	F049-010	Wire Harness Assembly (Incl item 5; earlier aircraft)	O	1
	F049-03	Wire Harness Assembly (Incl item 5; earlier aircraft)	O	1
5	MS35489-15	Grommet	X	1
6	RR30000466	Generator Control Unit (supplied with engine)	O	1
7	B162-3	Clipnut	X	4
8	G248-1	Cover Assembly (access)	X	1

NOTES

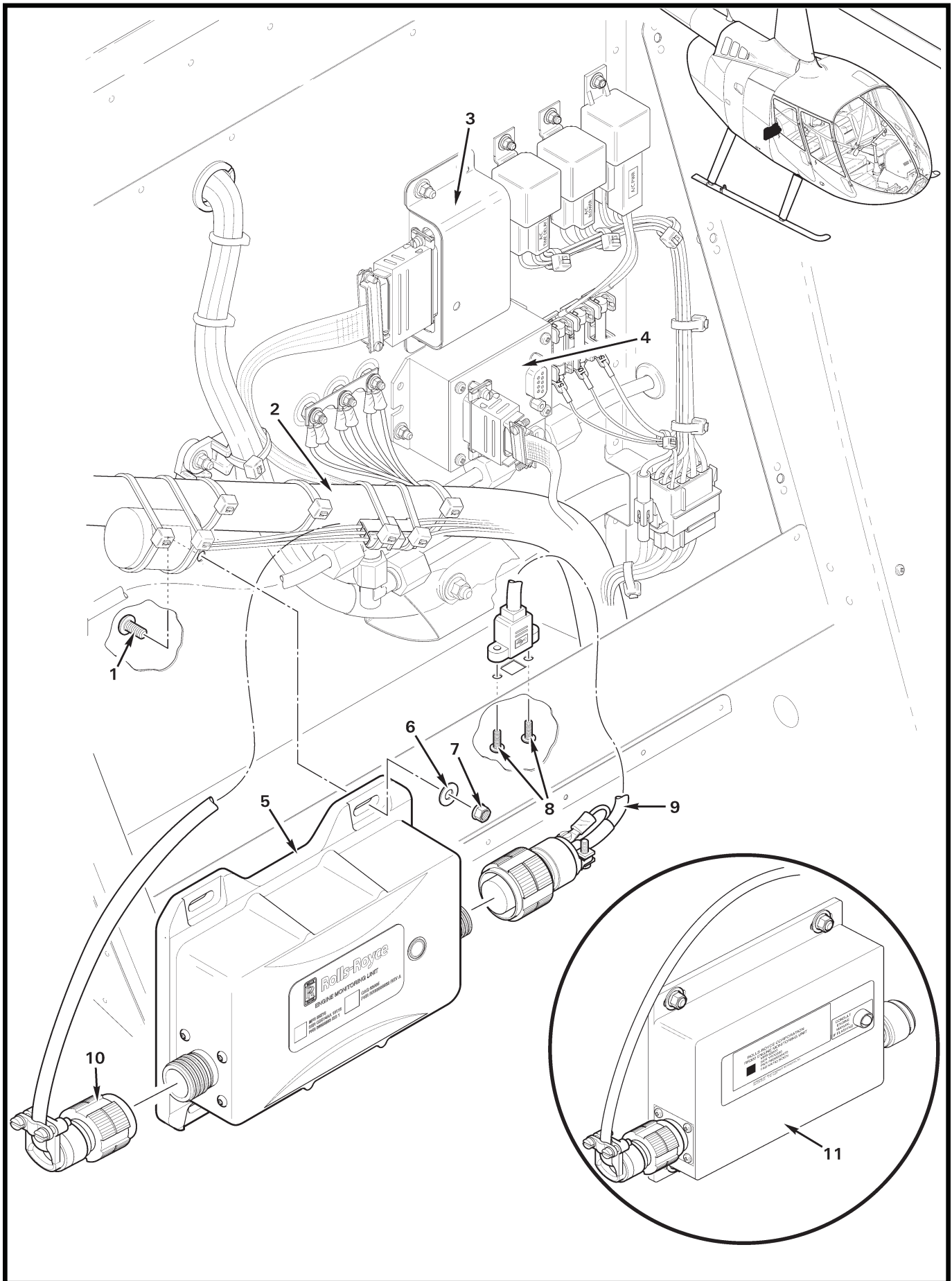


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
ENGINE MONITORING UNIT INSTALLATION				
71-25-1	MS27039C1-07	Screw	X	4
2	F859-01	Wire Harness Assembly (Ref; cabin)		
3	F695-4	Tester Assembly (Ref)		
4	B240-3	Blind Encoder (Ref)		
5	RR30000470*	Engine Monitoring Unit (supplied with engine)	O	1
6	NAS1149F0332P	Washer	X	4
7	MS21042L3	Nut	X	4
8	—	Screw	O	2
9	F049-07**	Harness Assembly (USB B-female; includes item 8)	X	1
10	—	Connector (Ref; "EMU" plug)		
11	EX183707*	Engine Monitoring Unit (supplied with engine; earlier ships) . .	O	1

NOTES * Rolls-Royce part number. See RR300 Line Illustrated Parts Catalog for latest EMU information.

** USB 2.0 cable, A-male to B-male, required to access EMU.

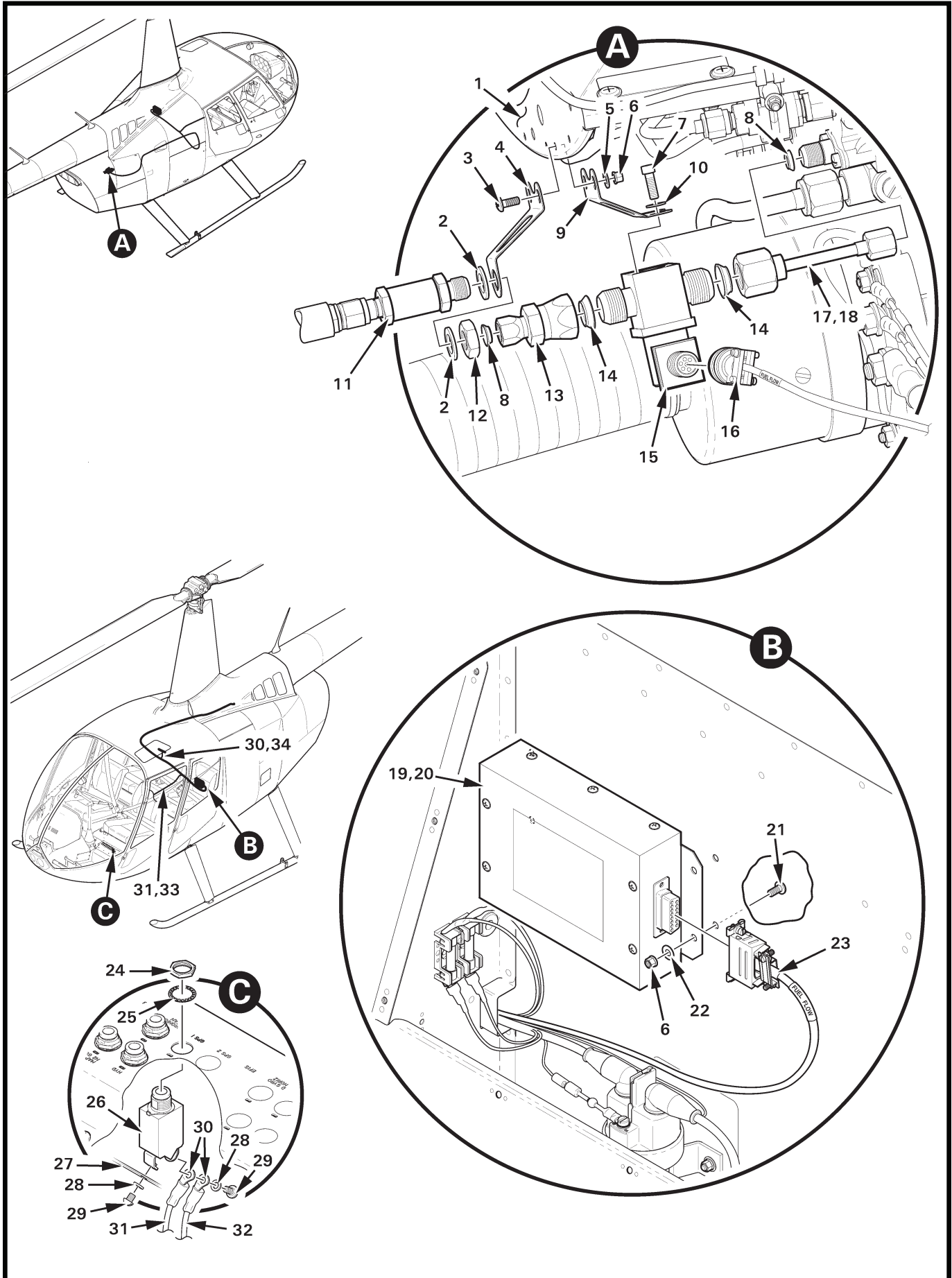


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		G090 FUEL FLOW METER INSTALLATION*		
71-27-1	F145-1	Engine (Ref, Rolls Royce Model 250-C300/A1)		
2	—	Washer – Existing (locate as required for best fit)	O	2
3	MS27039C0806	Screw	X	2
4	G155-1	Bracket (aft)	X	1
5	NAS1149FN832P	Washer	X	2
6	MS21042L08	Nut	X	6
7	NAS1351-3LE6P	Screw	X	2
8	AS4824N04	Seal (one time use, discard previous)	O	2
9	G155-2	Bracket (forward)	X	1
10	NAS1149F0332P	Washer	X	2
11	—	Fuel Check Valve (Ref)		
12	—	Nut – Existing	O	1
13	SS6565-8-4	Reducer Fitting	X	1
14	AS4824N08	Seal	X	2
15	660534HR-01	Transducer Assembly	X	1
16	MS27467T9B35S	Plug	X	1
	M85049/49-2S8W	Backshell	X	1
	-3046	Wire (Ref)		
	B158-704	Heat Shrink	X	A/R
17	564601	Tube Assembly	X	1
18	—	Tube Assembly – Original Equipment (see RR300 LIPC; see R66 MM for installation.)	O	1
19	833811-01**	AIS-380 Adapter (Incl item 20)	X	1
20	CK833811-01	Configuration Kit (Ref, supplied with helicopter. Includes software and cable.)	O	1
21	MS27039C0805	Screw	X	4
22	NAS1149FN816P	Washer	X	4
23	B269-82	Receptacle	X	1
	B269-23	Backshell	X	1
	B269-31	Screw – Locking	X	2
	B158-4	Heat Shrink	X	A/R
	B267-5	Splice	X	1
	B267-2	Terminator	X	1
	B267-3	Terminator	X	1
	—	Wires (Ref; -3043, -3044, -3045, -3046, & -3047)		

NOTES * Fuel flow meter installation requires a compatible GPS device with display; verify GPS compatibility during maintenance.

** Configure fuel flow adapter per R66 MM Chapter 28.

Continues

FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
G090 FUEL FLOW METER INSTALLATION (Cont'd)				
71-27-24	—	Nut	O	1
25	—	Washer	O	1
26	B297-5	Circuit Breaker (5 amp; includes items 24, 25, 28, and 29) . .	O	1
27	A448	Bus Bar (Ref)		
28	—	Washer	O	2
29	—	Screw	O	2
30	B260-2	Terminal	X	1
31	-3043	Wire (Ref; power)		
32	-466	Wire (Ref, GPS)		
33	-3045	Wire (Ref; to GTN or IFD)		
34	-3044	Wire (Ref; ground)		
	-3047	Wire (Ref; chassis ground)		

NOTES