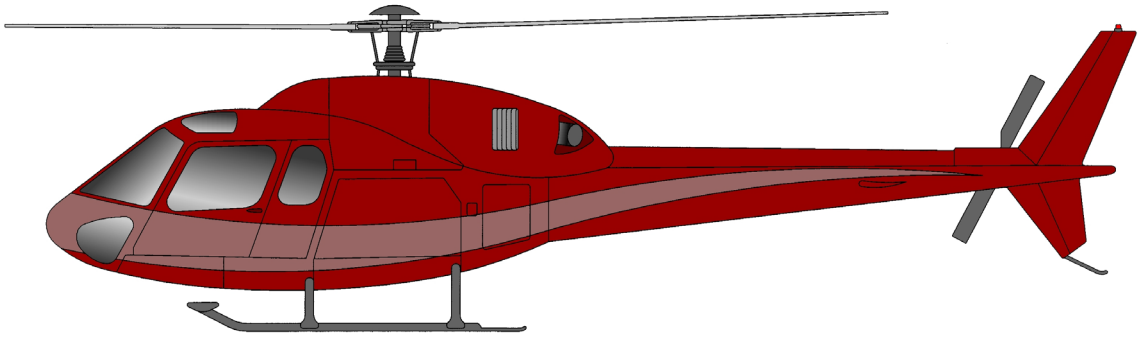
PSG
PRODUCTS INC.

Air Conditioning System Installation Manual

For



355-00-031-HP

Rev. G December 27, 2023

1 KIT INVENTORY

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Notice of Terms and Conditions

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RECORD OF REVISIONS

Revision	Description	Date	Revised By
IR	Initial Release	7/08/08	IFS
A	Added Step 7.12, 500010-1 to Kit List	1/29/2013	RSG
B	Revised Kit List	02/07/2014	RSG
C	Revised Kit List	09/19/2014	RSG
D	Revised Kit List	04/19/2016	RSG
E	Revised Kit List	08/02/2019	RSG
F	Updated Logos & Headers to RSG Products	01/27/2023	RSG
G	Updated Kit List and Part Numbers	12/27/2023	RSG

LIST OF EFFECTIVE PAGES

Rev	Section	Pgs	Description	Date
A	1	Insert	Added Step 7.12, 500010-1 to Kit List	01/29/2013
B	ALL	Insert	Corrected Part Numbers	02/07/2014
C	ALL	Insert	Corrected Part Numbers	09/19/2014
D	1	Insert	Corrected Part Numbers	04/19/2016
E	1	Insert	Corrected p/n quantity on kit list; Step 5.19	08/02/2019
F	ALL	1-172	Changed headers from Integrated Flight Sys to RSG Products, Inc.	01/27/2023
F	1	12-23	Revised kit list	01/27/2023
G	1	12-21	Revised kit list	12/27/2023
G	1	22-31	Added NP specific kit list	12/27/2023
G	5	56	Added drawing to Step 5.19 & corrected switch p/n in Step 5.24	12/27/2023
G	5	58-61	Corrected page count on footer, updated p/n descriptions in Steps 5.4, 5.5, 5.6, 5.8, 5.23 & 5.26	12/27/2023
G	6	79	Corrected stringer p/n in Step 6.7 & added p/n reference in Step 6.9	12/27/2023
G	6	81	Updated blower p/n in Step 6.19	12/27/2023
G	7	89-90	Updated p/n in Step 7.1, Step 7.4 & Step 7.10	12/27/2023
G	9	104	Updated p/n descriptions in Steps 9.0, 9.3, 9.4	12/27/2023
G	10	121	Corrected p/ns in Steps 10.0, 10.1 & 10.2	12/27/2023
F	11	123	Moved RFMS to website www.rotorcraftservices.com/customer-support	01/27/2023
F	13	143-145	Updated Parts Break Down	01/27/2023
F	14	149-154	Updated TCs, Warranty & RMA policies	01/27/2023
G	14	156-162	Updated Warranty Policy, Registration & RMA Form	12/27/2023
F	15	156-168	Updated Maintenance & Troubleshooting Guide	01/27/2023

Getting Started

The air conditioning system installation instructions are laid out step-by-step starting with one (1) thru nine (9) for installation and ten (10) thru fifteen (15) for care and airworthiness, the instructions are designed to be easy – to – use.

The example below is designed to give you a basic overview of how the steps work.

Example: A. In the step below there is a number **5.1** The "**5**" stands for step 5 and the "**1**" stands for direction 1.

Installation of Aircraft Systems

Example: B. When the parts are called out in a step: **5.1**, locate the part and parts that go with this step (5.1). The part or parts have a tag with the step number, part number, part name and quanity of parts. It is best to organize your parts by step numbers so they can be drawn from as needed.

Step	**Procedure**	**Mech**	**Insp**
5.1	Position the aft evaporator doubler, P/N 261370, on the upper transmission deck per the dimensions shown on drawing number 4-1EC130. Mark and remove all existing rivets, bolts, and nut plates to allow the doubler to sit flat on deck. (Ref photo 501)		

Should you have any questions, problems or need technical support, do not hesitate to call, fax, E-mail, or write us:

Phone: 1-888-545-8371 E-Mail: info@rotorcraftservices.com

Tools Required to Complete the Job

1.	Drill ¼ or 3/8 Capacity / Straight and 90 degrees
2.	Rivet Gun - #4 & #5 Rivet Set
3.	Blind Rivet Puller
4.	Assorted Drill Bits - 40, 30, 10, ¼, & 21
5.	Standard Wrenches - ¼, 1-¼
6.	Metric Wrenches - 5mm to 19mm
7.	Standard Sockets - ¼ to ¾ cap Ratchet & Extensions
8.	Metric Sockets - 5mm to 19mm
9.	Torque Wrench (For Coupling) 200inch lbs
10.	Rotary File (Die Grinder)
11.	Drum Sander
12.	Hole Finder - #30 & #10
13.	Cleco - #30, #21 & #40
14.	C-Clamps – Vise Grip Clamps
15.	Wire Cutters
16.	Phillips Screw Driver
17.	Torque-Bite (For Belly Pan) Pan American Tool 170-10 & 170-8 Power Torque
18.	Common Screw Drivers
19.	Cape Chisel
20.	Center Punch

21.	6oz Ballpeen Hammer for Removing Rivets
22.	Assorted Bucking Bars
23.	Safety Wire .032
24.	Wire Twisters
25.	Steel Ruler
26.	Spring scale
27.	Adjust Wrench Cap 1-1/2
28.	Vacuum Pump
29.	Gauge Manifold
30.	Nitrogen
31.	R-134A
32.	Blocks for Supporting Forward Engine
33.	Vacuum Cleaner
34.	Rivnut Puller

CONFIGURATION CONTROL TABLE

DRAWING NO.	NUMBER OF SHEETS	DRAWING TITLE	REVISION	REVISION DATE	DRAWING DESCRIPTION	AIR CONDITIONING CONFIGURATION DESIGNATION									
						355-00-011					355-00-031				
						EMS	CORPORATE				EMS	CORPORATE	NP		
1-1-AS355	1 OF 1	AIR CONDITIONING OVERVIEW	C	08/06/08	CORPORATE VERSION		X								
1-2-AS355	1 OF 1	AIR CONDITIONING OVERVIEW	B	08/06/08	EMS/LAW ENFORCEMENT	X									
1-3-AS355	1 OF 1	AIR CONDITIONING OVERVIEW	B	08/06/08	CORPORATE AFT MOUNTED							X			
1-4-AS355	1 OF 1	AIR CONDITIONING OVERVIEW	B	08/06/08	EMS AFT MOUNTED						X				
1-5-AS355	1 OF 1	AIR CONDITIONING OVERVIEW	IR	08/06/08	SIDE EVAPORATOR MOUNT							X	X		
2-1-AS355	1 OF 1	ELECTRICAL ROUTING	B	08/06/08	SINGLE CONDENSER BLOWER	X	X								
2-2-AS355	1 OF 1	ELECTRICAL ROUTING	B	08/06/08	DUAL CONDENSER AFT MOUNTED						X	X			
2-8-AS355	1 OF 1	ELECTRICAL ROUTING	C	08/06/08	DYNAMIC AIR (EARLY)	X	X								
2-10-AS355	1 OF 1	ELECTRICAL DIAGRAM	IR	08/06/08	DUAL CONDENSER BLOWERS							X	X		
2-11-AS355	1 OF 1	ELECTRICAL DIAGRAM	B	08/06/08	SINGLE CONDENSER BLOWER	X	X								
2-12-AS355	1 OF 1	ELECTRICAL DIAGRAM	B	08/06/08	DUAL CONDENSER BLOWER AFT MOUNTED						X	X			
2-13-AS355	1 OF 1	ELECTRICAL DIAGRAM	IR	08/06/08	DUAL CONDENSER BLOWER AFT MOUNTED							X	X		
2-18-AS355	1 OF 1	ELECTRICAL DIAGRAM	C	08/06/08	DYNAMIC AIR (EARLY)	X	X								
2-19-AS355	1 OF 1	ELECTRICAL DIAGRAM	B	08/06/08	ENVIRO SYSTEM (EARLY)	X	X								
2-21-AS355	1 OF 1	ELECTRICAL DIAGRAM	B	08/06/08	SINGLE CONDENSER BLOWER	X	X								
2-22-AS355	1 OF 1	ELECTRICAL DIAGRAM	B	08/06/08	DUAL CONDENSER BLOWER AFT MOUNTED						X	X			
2-25-AS355	1 OF 1	ELECTRICAL DIAGRAM	IR	08/06/08	DUAL CONDENSER BLOWER AFT MOUNTED							X	X		
2-28-AS355	1 OF 1	WIRING DIAGRAM	C	08/06/08	DYNAMIC AIR (EARLY)	X	X								
2-29-AS355	1 OF 1	WIRING DIAGRAM	B	08/06/08	ENVIRO SYSTEM (EARLY)	X	X								
3-1-AS355	1 OF 1	PLUMBING DIAGRAM	C	08/06/08	GALAXY HOSE, R12	X	X								
3-2-AS355	1 OF 1	PLUMBING DIAGRAM	B	08/06/08	SIDE CONDENSER	X	X								
3-3-AS355	1 OF 1	PLUMBING DIAGRAM	B	08/06/08	AFT MOUNTED CONDENSER						X	X			
3-10-AS355	1 OF 1	PLUMBING DIAGRAM	IR	08/06/08	AFT MOUNTED CONDENSER							X	X		
3-11-AS355	1 OF 1	PLUMBING ROUTING	C	08/06/08	GALAXY HOSE, R12	X	X								
3-12-AS355	1 OF 1	PLUMBING ROUTING	B	08/06/08	SIDE CONDENSER	X	X								
3-13-AS355	1 OF 1	PLUMBING ROUTING	B	08/06/08	AFT MOUNTED CONDENSER						X	X			
3-14-AS355	1 OF 1	PLUMBING ROUTING	IR	08/06/08	AFT MOUNTED CONDENSER							X	X		
4-1-AS355	1 OF 1	AFT EVAPORATOR INSTALL	C	08/06/08	STANDARD CORPORATE VERSION	X	X				X	X			
4-2-AS355	1 OF 1	AFT EVAPORATOR INSTALL	C	08/06/08	STANDARD CORPORATE VERSION	X	X				X	X			
4-3-AS355	1 OF 1	AFT EVAPORATOR INSTALL	C	08/06/08	STANDARD CORPORATE VERSION	X	X				X	X			
4-4-AS355	1 OF 1	FWD EVAPORATOR INSTALL	C	08/06/08	STANDARD CORPORATE VERSION		X					X	X		
4-14-AS355	1 OF 1	FWD EVAPORATOR INSTALL	B	08/06/08	EMS	X					X				
4-21-AS355	1 OF 4	AFT EVAPORATOR INSTALL	IR	08/06/08	SIDE EVAPORATOR MOUNT							X	X		
4-21-AS355	2 OF 4	AFT EVAPORATOR INSTALL	IR	08/06/08	SIDE EVAPORATOR MOUNT							X	X		
4-21-AS355	3 OF 4	AFT EVAPORATOR INSTALL	IR	08/06/08	SIDE EVAPORATOR MOUNT							X	X		
4-21-AS355	4 OF 4	AFT EVAPORATOR INSTALL	IR	08/06/08	SIDE EVAPORATOR MOUNT							X	X		
5-1-AS355	1 OF 1	AIR DISTRIBUTION	C	08/06/08	CORPORATE VERSION		X					X	X		
5-2-AS355	1 OF 1	AIR DISTRIBUTION	B	08/06/08	EMS LAW ENFORCEMENT	X					X				
5-11-AS355	1 OF 1	AIR DISTRIBUTION	C	08/06/08	CORPORATE VERSION	X	X				X	X			
5-12-AS355	1 OF 1	AIR DISTRIBUTION	IR	08/06/08	CORPORATE VERSION							X	X		
5-21-AS355	1 OF 1	AIR DISTRIBUTION	IR	08/06/08	CORPORATE VERSION							X	X		
6-1-AS355	1 OF 1	COMPRESSOR DRIVE INSTALL	C	08/06/08	STANDARD CORPORATE VERSION	X	X				X	X	X		
7-1-AS355	1 OF 1	CONDENSER INSTALL	C	08/06/08	DYNAMIC AIR	X	X								
7-2-AS355	1 OF 2	CONDENSER INSTALL	C	08/06/08	ENVIRO	X	X								
7-2-AS355	2 OF 2	CONDENSER INSTALL	D	08/06/08	ENVIRO	X	X								
7-11-AS355	1 OF 1	CONDENSER INSTALL	B	08/06/08	STANDARD VERSION	X	X								
7-22-AS355	1 OF 1	CONDENSER INSTALL	B	08/06/08	AFT MOUNTED						X	X	X		
7-23-AS355	1 OF 1	LH AIR EXIT DOUBLER INSTALL	B	08/06/08	AFT MOUNTED						X	X	X		
7-24-AS355	1 OF 1	RH AIR EXIT DOUBLER INSTALL	B	08/06/08	AFT MOUNTED						X	X	X		
7-25-AS355	1 OF 1	AIR INLET DOUBLER INSTALL	B	08/06/08	AFT MOUNTED						X	X	X		
7-26-AS355	1 OF 1	AIR INLET DOUBLER INSTALL	B	08/06/08	AFT MOUNTED						X	X	X		
8-1-AS355	1 OF 1	BAGGAGE COMPARTMENT MOD	C	08/06/08	ALTERNATE AIR INTAKE	X	X								
8-2-AS355	1 OF 2	BAGGAGE COMPARTMENT MOD	B	08/06/08	HIGH AIR INTAKE	X	X								
8-2-AS355	2 OF 2	BAGGAGE COMPARTMENT MOD	B	08/06/08	HIGH AIR INTAKE	X	X								
8-11-AS355	1 OF 1	BAGGAGE COMPARTMENT MOD	B	08/06/08	STANDARD VERSION	X	X								

REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/06/08	ADDED CONFIGURATION FOR AS355NP	-	DWE

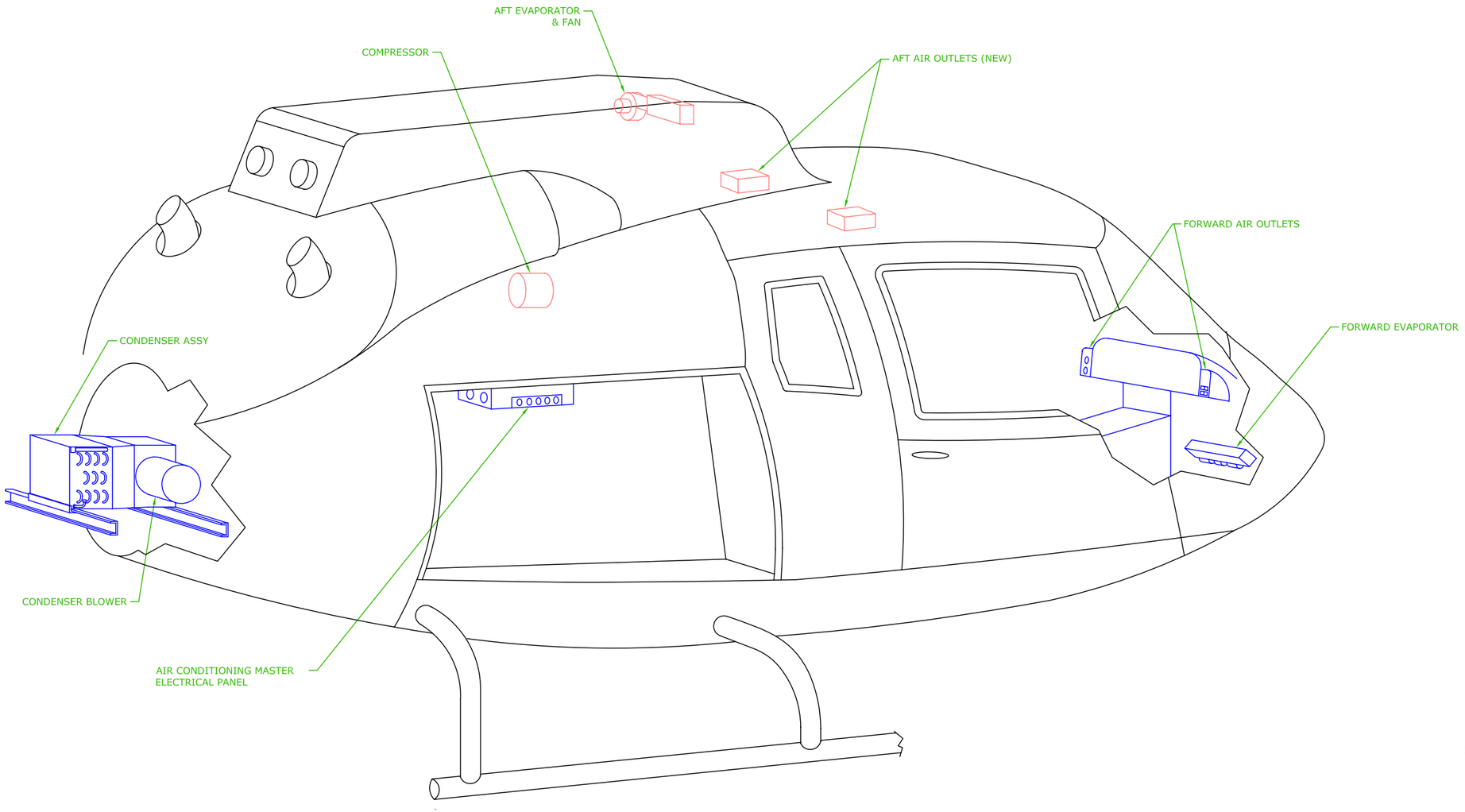
INTEGRATED Flight Systems

TITLE: AIR CONDITIONING OVERVIEW

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
BRP	05/30/85	A	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	1-0-AS355

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	REVISED DRAWING NUMBER, WAS 1-AS355.	JHK	MAH
B	08/06/08	UPDATED WITH NEW TITLE BLOCK.		DWE



CORPORATE VERSION

AFT CONDENSER LOCATION

(B)

INTEGRATED Flight Systems

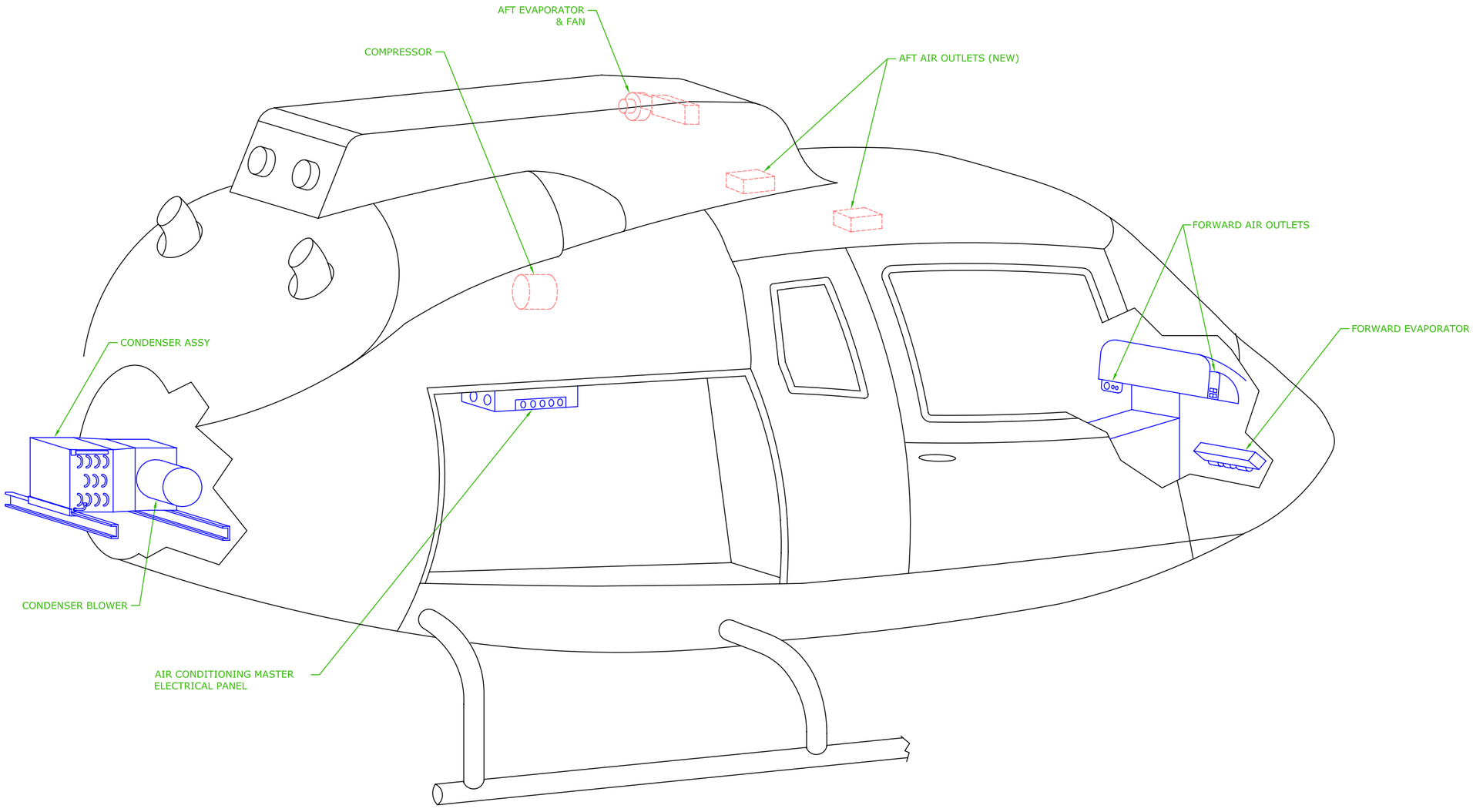
(A)

TITLE: AIR CONDITIONING OVERVIEW

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MAH	11/10/96	B	NONE	1 OF 1
APPLICATION: AS355			DWG No. 1-3-AS355	

REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	REVISED DRAWING NUMBER, WAS 1-AS355.	JHK	MAH
B	08/06/08	UPDATED WITH NEW TITLE BLOCK.		DWE



EMS VERSION

AFT CONDENSER LOCATION

(B)

INTEGRATED Flight Systems

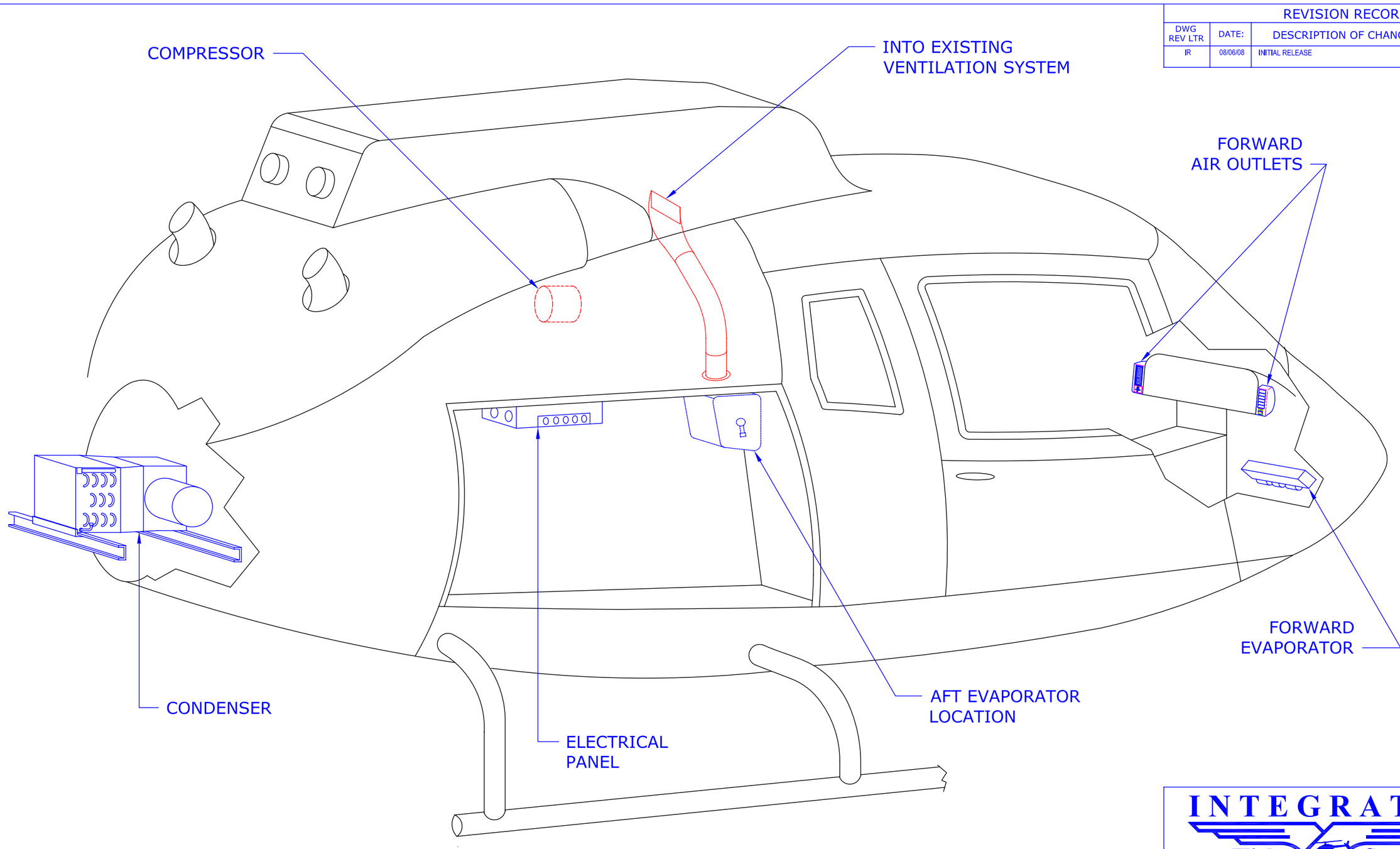
(A)

TITLE: AIR CONDITIONING OVERVIEW

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MAH	11/10/96	B	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	1-4-AS355

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-



INTEGRATED Flight Systems

TITLE: AIR CONDITIONING OVERVIEW				
DRAWN BY: JTYE	DATE: 08/06/08	REV IR	SCALE: NONE	SHEET: 1 OF 1
APPLICATION: AS355			DWG No. 1-5-AS355	

Step 1

Kit Inventory

AS355E
AS355F
AS355F1
AS355F2
AS355N

Sales Order Number:_____

Shipping Date:_____

Kit S/N Number:_____

Model Number:_____E / F / F1 / F2 / N (CIRCLE ONE)

Customer:_____

Customer PO:_____

Kit Specifics:_____

_____

_____

KIT INVENTORY LIST

STEP	PART NAME	PART #	QTY.	CHECKED BY	VERIFIED BY
5.2	Aft Evaporator Assembly	560024-O	1		
5.8	Blower Assembly	490014	1		
5.8	Expansion Valve	090002-O	1		
5.8	Drain Fitting	100100-1	1		
5.8	Drain Hose ½ Inch I.D, 60 Inches	090018-1	5 FT		
5.8	Return Air Collar	250015	1		
5.8	Screw	AN525-10R8	3		
5.8	Washer	AN960-D10	6		
5.13	3” Cat Tubing	060024	5 FT		
5.13	4” Cat Tubing	060012	2 FT		
5.13	3” Band Clamp	060036	4		
5.13	4” Band Clamp	060040	2		
5.19	Aft Louver Housing, Top, R.H.	250018	1		
5.19	Aft Louver Housing, Top, L.H.	250021	1		
5.19	Aft Louver Housing, Bottom, L.H.	250019	1		
5.19	Aft Louver Housing, Bottom, R.H.	250020	1		
5.20	Return Air Collar	250015	1		
5.21	Louver	030011	4		
5.22	Return Air Screen	080019	1		
5.24	Switch Assembly	540026-3	1		
6.2	Air Inlet Doublers	261013	2		
6.7	O/B Stringer	261012	4		
6.10	Rivnuts	MS27130-A13K	10		
6.10	Screws	AN525-832R12	10		
6.10	Straps	261014	2		
6.10	Nuts	MS21044N08	6		
6.10	Screws	AN525-832R8	6		
6.10	Washers	AN970-3	6		

STEP	PART NAME	PART #	QTY.	CHECKED BY	VERIFIED BY
6.11	L.H. Air Exit Doubler	261101	1		
6.11	R.H. Air Exit Doubler	261100	1		
6.11	Air Outlet Screen	080039	2		
6.11	Filler Strip, Upper	261094	2		
6.11	Angle, Upper R.H.	261096	1		
6.11	Angle Upper, L.H.	261097	1		
6.11	Filler Strip, Lower	261095	2		
6.11	Angle, Lower R.H.	261098	1		
6.11	Angle, Lower L.H.	261099	1		
6.12	Support Channel, Forward	261080	1		
6.13	Support Channel, Aft	261081	1		
6.15	Bolts	AN3-5A	8		
6.15	Washers	AN960-416	16		
6.15	Nuts	MS21044N4	8		
6.15	Condenser Assembly	550022	1		
6.16	Bolts	AN3-5A	2		
6.16	Washers	AN960-10	2		
6.16	Nuts	MS21044N3	2		
6.17	Exit Air Collar	250324	2		
6.21	Aft Baggage Closeout Panel	250301	1		
7.1	Forward Evaporator Assembly	560023-1	1		
7.1	Bolts	AN3-4A	3		
7.1	Washers	AN960-10L	6		
7.6	Rivets	CR3242-4-02	10		
7.7	Bolts	AN3-4A	1		
7.7	Washers	AN960-10L	1		
7.9	Hose Assy. AFT Evap. to FWD Evap. to Rec/Drier (#6)	570069-O-A	1		
7.9	Hose Assy. AFT Evap. to FWD Evap. to Compressor (#10)	570073-O-A	1		

STEP	PART NAME	PART #	QTY.	Checked By	Verified By
7.10	Drain Hose 3/8” Inch I.D. (alt: 090018)	070005	10 FT		
7.12	L.H. Forward Louver Housing Assembly ✱ (post-1991)	500009-1	1		
7.12	L.H. Forward Louver Housing Assembly ✱ (alternate)	500011-1	1		
7.12	R.H. Forward Louver Housing Assembly (post-1991)	500008-1	1		
7.12	R.H. Forward Louver Housing Assembly ✱ (alternate)	500010-1	1		
8.3	Compressor Bracket Assembly	530032	1		
8.3	Compressor Shoe Assembly	530035	1		
8.3	Compressor Mount Bolt Assembly	530034	1		
8.4	Bolt	NAS1305-15	3		
8.4	Nuts (Alt: MS21045-5)	MS20365-524C	5		
8.4	Bolts	NAS1305-16	3		
8.4	Bolts	NAS1305-17	2		
8.4	Washers	AN960-516	6		
8.6	Compressor	010001-3-O	1		
8.6	Washer (Shim)	AN960-616	2		
8.6	Bolts	AN6-10A	4		
8.6	Washers	AN960-616	8		
8.6	Nuts (Alt: MS21042-6)	MS20364-624C	4		
8.6	Washers	AN970-6	3		
8.6	Nuts	MS21042-6	3		
8.6	Vee Belt	060010	1		
8.9	Belt Tension Assembly	530036	1		
8.9	Screw (Alt: MS24693-S274)	AN507-10R12	1		
8.9	Washer	AN960-10	2		
8.9	Nuts	MS21044N3	2		
8.9	Belt Guard Assembly	510038	1		
9.0	Electrical Box Assembly	540028-C-1-A Rev. IR	1		
9.1	Harness Assembly	540045-1	1		

✱ Indicates it has alternate or optional configuration.

STEP	PART NAME	PART #	QTY.	Checked By	Verified By
9.3	Wire Harness ✱ (used with F model)	540044-3 Rev. B	1		
9.3	Wire Harness ✱	540044-10	1		
10.1	Receiver Drier Bottle (O-Ring Type)	090016-5	1		
10.2	Receiver Drier Mount	260123-2	1		
10.3	Switch, Low Pressure	050107	1		
10.4	Switch, High Pressure	090004	1		
10.7	Hose Assy. Cond. To Rec./Drier (6#)	570067-O-A	1		
10.9	Hose Assembly, Comp. to Condenser	570068-O-A	1		
	Caterpillar Grommet 1/16” I.D.	GM1	18”in		
	Tie Wraps (10” Length min.)	63128	100		
	Splice 16-14	050020-1	2		
	Knife Splice 16-14	050020-2	6		
	Screw #8 Counter Sunk	050020-4	1		
	Washer #8 Counter Sunk	050020-5	1		
	Knife Splice 22-16	050020-6	2		
	Ring Terminal 16-14 #10	050020-8	2		
	Ring Terminal 8GA #10	050020-9	1		
	5” Scat Tube	060004	18”in		
	2.5” Cat Tubing	060025	10 FT		
	6” Band Clamp	060035	8		
	1” Band Clamp	060037	1		
	Aluminum Foil Tape	070076	30 FT		
	¼” White Heat Shrink	070077	24”in		
	Foam Insulation Tape	070078	30 FT		
	PT-1 Cork Insulation Tape	070078-O	6 FT		
	Air Inlet Assembly	080040	2		

✱ Indicates it has alternate or optional configuration.

STEP	PART NAME	PART #	QTY.	Checked By	Verified By
	#6 R134 O-Ring	090092	5		
	#8 R134 O-Ring	090093	2		
	#10 R134 O-Ring	090094	4		
	Expansion Valve Cover	250012	1		
	6” Natural Cable Tie (100 per pack)	63123	1		
	Rivets	A10K80	5		
	Rivets	AD44ABS	25		
	Bolt ¼ - 28 .188G	AN4-5A	8		
	Screw	AN525-10R6	12		
	Screw	AN525-10R7	28		
	Screw	AN525-10R10	13		
	Bolt Hex Drive	AN6-12A	12		
	Washer	AN960-516L	6		
	Washer	AN960-616L	2		
	Ring Terminal 16-14 x 5/16	AP320575	1		
	Ring Terminal 12-10 x 1/4	AP35110	2		
	Rivet	CR3243-4-02	20		
	Butt Splice	M7928/5-4	2		
	Nut	MS21044N3	2		
	Nut	MS21044N6	7		
	Nut	MS21044N5	6		
	Nut	MS21044N06	1		
	Nut	MS21045-5	5		
	Adel Clamp	MS21919WDG10	8		
	Adel Clamp	MS21919WDG11	6		
	Adel Clamp	MS21919WDG12	8		
	Rivet (Solid)	MS20470AD5-6	44		
	Rivet (Solid)	MS20470AD5-5	30		
	Rivet (Solid)	MS20470AD4-6	115		
	Rivet (Solid)	MS20470AD4-5	114		
	Rivet	MS20470AD4-4	92		
	Rivet	MS20470AD3-5	2		
	Screw	MS24693-S274	1		
	Ring Terminal 16-14 x #10	MS25036-108	2		
	Ring Terminal 12-10 AWG x ¼”	MS25036-157	2		
	Washer	NAS1149F0332P	39		
	Tie Blocks (Alt: CR4HM)	ZZCR4HM	25		

DRAWING LIST

DRAWING LIST	DRAWING #	QTY.	Checked By	Verified By
Configuration Control Drawing	1-0-AS355	1		
Air Conditioning Overview (Corporate)	1-3-AS355	1		
Air Conditioning Overview (EMS)	1-4-AS355	1		
Electrical Routing (Corporate & EMS)	2-2-AS355	1		
Electrical Routing (Corporate & EMS)	2-12-AS355	1		
Electrical Diagram (Corporate & EMS)	2-22-AS355	1		
Plumbing Diagram (Corporate & EMS)	3-3-AS355	1		
Plumbing Routing (Corporate & EMS)	3-13-AS355	1		
Aft Evaporator Install (Corporate & EMS)	4-1-AS355	1		
Aft Evaporator Install (Corporate & EMS)	4-2-AS355	1		
Aft Evaporator Install (Corporate & EMS)	4-3-AS355	1		
Forward Evaporator Install (Corporate & NP)	4-4-AS355	1		
Forward Evaporator Install (EMS)	4-14-AS355	1		
Aft Evaporator Install (NP)	4-21-AS355	1		
Air Distribution (Corporate & NP)	5-1-AS355	1		
Air Distribution (EMS)	5-2-AS355	1		
Air Distribution (Corporate & EMS)	5-11-AS355	1		
Air Distribution (Corporate & NP)	5-12-AS355	1		
Air Distribution (NP)	5-21-AS355	1		
Compressor Drive Install (Corporate, EMS & NP)	6-1-AS355	1		
Condenser Install (Corporate, EMS & NP)	7-22-AS355	1		
L.H. Air Exit Doubler Install (Corporate, EMS & NP)	7-23-AS355	1		
R.H. Air Exit Doubler Install (Corporate, EMS & NP)	7-24-AS355	1		
Air Inlet Doubler Install (Corporate, EMS & NP)	7-25-AS355	1		
Air Inlet Doubler Install (Corporate, EMS & NP)	7-26-AS355	1		

DOCUMENT LIST

DOCUMENT LIST	DOCUMENT #	QTY.	Checked By	Verified By
Kit Inventory List	Sect 1	1		
Aircraft Preparation and Inspection	Sect 2 - 4	1 ea.		
Installation Instructions	Sect 5 - 10	1 ea.		
Supplemental Type Certificate (SH5947SW)	Sect 11	1		
Instructions for Continued Airworthiness	Sect 12	1		
Master Parts List	Sect 13	1		
TCs/Warranty/RMA	Sect 14	1		
Maintenance and Troubleshooting Guide	Sect 15	1		

MAJOR COMPONENTS SERIAL NUMBERS:

CONDENSER BLOWER S/N: _____

FORWARD EVAPORATOR S/N: _____

AFT EVAPORATOR BLOWER S/N:_____

COMPRESSOR S/N: _____

KIT INVENTORY LIST

Sales Order Number:_____

Shipping Date:_____

Kit S/N Number:_____

Kit Model Number:___355-00-031HP NP_____

Customer:_____

Customer PO:_____

Kit Specifics:_____

_____

_____

STEP	PART NAME	PART #	QTY.	CHECKED BY	VERIFIED BY
5.1	Aft Evaporator Fan Doubler (NP CONFIG ONLY)	260328-2	1		
5.4	Evaporator Mount Bracket, FWD (NP CONFIG ONLY)	261541	1		
5.5	Rivets (NP CONFIG ONLY)	MS20470AD4-5	31		
5.5	Rivets (NP CONFIG ONLY)	MS20470AD4-4	56		
5.5	Rivets (NP CONFIG ONLY)	MS20426AD4-4	24		
5.6	Evap Mnt Brkt, AFT (NP CONFIG ONLY)	261540	1		
5.7	AFT Evap Assembly (NP CONFIG ONLY)	560016-O-2	1		
5.8	Aft Evap Transition (NP CONFIG ONLY)	520300	1		
5.9	Nut Plates (NP CONFIG ONLY)	MS21059-L3	10		
5.9	Rivets (NP CONFIG ONLY)	CCR264SS3-03	30		
5.10	Bolts (NP CONFIG ONLY)	AN3-5A	5		
5.10	Washers (NP CONFIG ONLY)	AN960-10	5		
5.11	Doubler, Return Air (NP CONFIG ONLY)	260322-3	1		
5.13	Rivets (NP CONFIG ONLY)	MS20470AD4-6	21		
5.13	Rivets (NP CONFIG ONLY)	MS20470AD4-5	42		
5.13	Rivets (NP CONFIG ONLY)	MS20470AD4-4	42		
5.13	3” Band Clamp	060036	4		
5.14	Return Air Screen (NP CONFIG ONLY)	080022-1	1		
5.15	Return Air Connector (NP CONFIG ONLY)	250166-1	1		
5.15	Connector Angle Assembly (NP CONFIG ONLY)	510261-1	1		
5.20	Return Air Duct (NP CONFIG ONLY)	250149-1	1		
5.20	Nut clip (NP CONFIG ONLY) (Alt: 13100000-5)	130062	1		
5.20	Screw (NP CONFIG ONLY)	AN525-10R7	2		
5.21	Aluminum Foil Tape (NP CONFIG ONLY)	070076	30 FT		

STEP	PART NAME	PART #	QTY.	CHECKED BY	VERIFIED BY
5.22	Aft. Evap. Fan Assembly (NP CONFIG ONLY) Brushless	490017-1-03	1		
5.22	Resistor Assembly (NP CONFIG ONLY)✱ (optional for brushless motors)	540020	1		
5.22	Bolt (NP CONFIG ONLY)	AN3-5A	5		
5.22	Nut plate (NP CONFIG ONLY)	MS21059-L3	10		
5.22	Rivet (NP CONFIG ONLY)	CCR264SS3-03	10		
5.23	AFT Trans. Elbow Assy. (NP CONFIG ONLY)	520036-4	1		
5.23	Bolts (NP CONFIG ONLY)	AN3-6A	6		
5.23	Nuts (NP CONFIG ONLY)	MS21044N3	6		
5.23	Washers (NP CONFIG ONLY)	AN960-10	12		
5.23	AFT Evap Switch Assy (NP CONFIG ONLY)	540089-01	1		
5.26	Air Duct 5” O.D. (NP CONFIG ONLY)	060004	25”in		
6.2	Air Inlet Doublers	261013	2		
6.7	Stringers	261012	4		
6.10	Rivnuts	MS27130-A13K	10		
6.10	Screws	AN525-832R12	10		
6.10	Straps	261014	2		
6.10	Nuts	MS21044N08	8		
6.10	Washers	AN970-3	6		
6.11	L.H. Air Exit Doubler	261101	1		
6.11	R.H. Air Exit Doubler	261100	1		
6.11	Air Outlet Screen	080039	2		
6.11	Filler Strip, Upper	261094	2		
6.11	Angle, Upper R.H.	261096	1		
6.11	Angle Upper, L.H.	261097	1		
6.11	Filler Strip, Lower	261095	2		
6.11	Angle, Lower R.H.	261098	1		
6.11	Angle, Lower L.H.	261099	1		
6.12	Support Channel, Forward	261080	1		
6.13	Support Channel, Aft	261081	1		

✱ Indicates it has alternate or optional configuration

STEP	PART NAME	PART #	QTY.	Checked By	Verified By
6.15	Bolts	AN3-5A	8		
6.15	Washers	AN960-416	16		
6.15	Nuts	MS21044N4	8		
6.15	Condenser Assembly	550022	1		
6.16	Bolts	AN3-5A	2		
6.16	Washers	AN960-10	2		
6.16	Nuts	MS21044N3	2		
6.17	Exit Air Collar	250324	2		
6.21	Aft Baggage Closeout Panel	250301	1		
7.1	Forward Evaporator Assembly	560023-1	1		
7.1	Bolts	AN3-4A	3		
7.1	Washers	AN960-10L	6		
7.6	Rivets	CR3242-4-2	10		
7.7	Bolts	AN3-4A	1		
7.7	Washers	AN960-10L	1		
7.9	Hose Assy. AFT Evap. to FWD. Evap. to Rec/Drier (#6) (NP CONFIG ONLY)	570069-O-B	1		
7.9	Hose Assy. AFT Evap. to FWD. Evap. to Compressor (#10) (NP CONFIG ONLY)	570073-O-B	1		
7.10	Drain Hose 3/8” Inch I.D. (Alternate: 090018)	070005	10 FT		
7.12	L.H. Forward Louver Housing Assembly	500009-1	1		
7.12	L.H. Forward Louver Housing Assembly (Alternate)	500011-1	1		
7.12	R.H. Forward Louver Housing Assembly	500008-1	1		
7.12	R.H. Forward Louver Housing Assembly (Corp)	500010-1	1		
8.3	Compressor Bracket Assembly	530032	1		
8.3	Compressor Shoe Assembly	530035	1		
8.3	Compressor Mount Bolt Assembly	530034	1		

STEP	PART NAME	PART #	QTY.	Checked By	Verified By
8.4	Bolt	NAS1305-15	3		
8.4	Nuts (Alt: MS21045-5)	MS20365-524C	5		
8.4	Bolts	NAS1305-16	3		
8.4	Bolts	NAS1305-17	2		
8.4	Washers	AN960-516	6		
8.6	Compressor	010001-3-O	1		
8.6	Washer (Shim)	AN960-616	2		
8.6	Bolts	AN6-10A	4		
8.6	Washers	AN960-616	8		
8.6	Washers	AN970-6	3		
8.6	Vee Belt	060010	1		
8.9	Belt Tension Assembly	530036	1		
8.9	Screw (Alt: MS24693-S274)	AN507-10R12	1		
8.9	Washer	AN960-10	2		
8.9	Nuts	MS21044N3	2		
8.9	Belt Guard Assembly	510038	1		
9.0	Electrical Box Assembly (NP CONFIG ONLY)	540028-C-1-A	1		
9.1	Harness Assembly	540045-1	1		
9.3	Wire Harness (NP CONFIG ONLY)	540044-3-01	1		
10.1	Receiver Drier Bottle (O-Ring Type)	090016-5	1		
10.2	Receiver Drier Mount	260123-2	1		
10.3	Switch, Low Pressure	050107	1		
10.4	Switch, High Pressure	090004	1		
10.9	Hose Assembly, Comp. to Condenser	570068-“O”-A	1		
10.9	Hose Assy. Cond. To Rec./Drier (6#)	570067-“O”-A	1		

STEP	PART NAME	PART #	QTY.	Checked By	Verified By
	Caterpillar Grommet 1/16” I.D.	GM1	18”in		
	Tie Wraps (10” Length min.)	63128	200		
	Splice 16-14	050020-1	2		
	Knife Splice 16-14	050020-2	6		
	Screw #8 Counter Sunk	050020-4	1		
	Washer #8 Counter Sunk	050020-5	1		
	Knife Splice 22-16	050020-6	2		
	Ring Terminal 16-14 #10	050020-8	2		
	Ring Terminal 8GA #10	050020-9	1		
	2.5” Cat Tubing	060025	10 FT		
	6” Band Clamp	060035	8		
	1” Band Clamp	060037	1		
	¼” White Heat Shrink	070077	24”in		
	Foam Insulation Tape	070078	30 FT		
	PT-1 Cork Insulation Tape	070078-O	6 FT		
	Air Inlet Assembly	080040	2		
	#6 R134 O-Ring	090092	5		
	#8 R134 O-Ring	090093	2		
	#10 R134 O-Ring	090094	4		
	Expansion Valve Cover	250012	1		
	Evaporator Mount Outer Closeout	261543	1		
	Clip Assembly	510372-1	1		
	Clip Assembly	510372-2	1		
	1” x 1” Angle	6061T6-T6511	1.5 FT		
	6” Natural Cable Tie	63123	200		
	Rivets	A10K80	5		
	Rivets	AD44ABS	25		
	Bolt	AN3-4A	20		
	Bolt	AN3-5A	4		
	Bolt	AN3-6A	4		
	Bolt ¼-28 .188G	AN4-5A	8		
	Screw	AN525-10R10	13		
	Screw	AN525-10R6	12		
	Screw	AN525-10R7	28		
	Screw	AN525-832R12	10		

RSG PRODUCTS, INC.
KIT INVENTORY LIST – 355-00-031HP NP Model Air Conditioning

STEP	PART NAME	PART #	QTY.	Checked By	Verified By
	Bolt Hex Drive	AN6-12A	12		
	Washer	AN960-10	19		
	Washer	AN960-10L	32		
	Washer	AN960-516L	6		
	Washer	AN960-616	3		
	Washer	AN960-616L	6		
	Ring Terminal 16-14 x 5/16	AP320575	1		
	Ring Terminal 12-10 x 1/4	AP35110	2		
	Rivet	CR3243-4-02	10		
	Butt Splice	M7928/5-4	2		
	Rivet (Solid)	MS20426AD4-4	16		
	Rivet	MS20470AD3-5	2		
	Rivet	MS20470AD4-4	36		
	Rivet (Solid)	MS20470AD4-5	83		
	Rivet (Solid)	MS20470AD4-6	115		
	Rivet (Solid)	MS20470AD5-5	30		
	Rivet (Solid)	MS20470AD5-6	44		
	Nut	MS21044N06	1		
	Nut	MS21044N3	4		
	Nut	MS21044N5	6		
	Nut	MS21044N6	7		
	Adel Clamp	MS21919WDG10	8		
	Adel Clamp	MS21919WDG11	6		
	Adel Clamp	MS21919WDG12	8		
	Ring Terminal 16-14 x #10	MS25036-108	2		
	Ring Terminal 12-10 AWG X 1/4"	MS25036-157	2		
	Washer	NAS1149F0332P	39		
	Tie Blocks (Alternate: CR4HM)	ZZCR4HM	25		

DRAWING LIST

DRAWING LIST	DRAWING #	QTY.	Checked By	Verified By
Configuration Control Drawing	1-0-AS355	1		
Air Conditioning Overview (NP)	1-5-AS355	1		
Electrical Diagram (NP)	2-10-AS355	1		
Electrical Diagram (NP)	2-13-AS355	1		
Electrical Diagram (NP)	2-25-AS355	1		
Plumbing Diagram (NP)	3-10-AS355	1		
Plumbing Routing (NP)	3-14-AS355	1		
Aft Evaporator Install (NP)	4-4-AS355	1		
Aft Evaporator Install (NP)	4-21-AS355	Sh.1-4		
Air Distribution (Corporate & NP)	5-1-AS355	1		
Air Distribution (NP)	5-12-AS355	1		
Air Distribution (NP)	5-21-AS355	1		
Compressor Drive Install (Corporate, EMS & NP)	6-1-AS355	1		
Condenser Install (Corporate & NP)	7-22-AS355	1		
L.H. Air Exit Doubler Install (Corporate & NP)	7-23-AS355	1		
R.H. Air Exit Doubler Install (Corporate & NP)	7-24-AS355	1		
Air Inlet Doubler Install (Corporate & NP)	7-25-AS355	1		
Air Inlet Doubler Install (Corporate & NP)	7-26-AS355	1		

DOCUMENT LIST

DOCUMENT LIST	DOCUMENT #	QTY.	Checked By	Verified By
Kit Inventory List	Sect 1	1		
Aircraft Preparation and Inspection	Sect 2 - 4	1 ea.		
Installation Instructions	Sect 5 - 10	1 ea.		
Supplemental Type Certificate (SH5947SW)	Sect 11	1		
Instructions for Continued Airworthiness	Sect 12	1		
Master Parts List	Sect 13	1		
TCs/Warranty/RMA	Sect 14	1		
Maintenance & Troubleshooting Guide	Sect 15	1		

MAJOR COMPONENTS SERIAL NUMBERS:

CONDENSER BLOWER S/N: _____

CONDENSER BLOWER S/N: _____

AFT EVAPORATOR BLOWER S/N:___ _____

COMPRESSOR S/N: _____

1 Identification of substance

·Product details

·Trade name: 61003 Multi-Coat Blank Aerosol

·Artide number: 61003

·Manufacturer/Supplier:
SEM Products, Inc.
651 Michael Wylie Dr.
Charlotte, NC 28217
USA
(704)522-1006

·Infonnation department: 24HR EMERGENCY CHEMTREC 800-424-9300

2 Composition/Data on components

·Chemical characterization
·Description: Mixture of the substances listed below with nonhazardous additions.

·Dangerous components:

67-64-1	acetone	50-100%
74-98-6	propane	10-25%
78-93-3	butanone	2.5-10%

3 Hazards identification

·Hazard description:

Irritant Extremely flammable

·Infonnation pertaining to particular dangers for man and environment:
The product has to be labelled due to the calculation procedure of international guidelines.
Warning! Pressurized container.
Has a narcotizing effect.
Extremely flammable.
Irritating to eyes, respiratory system and skin.
Vapours may cause drowsiness and dizziness.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.
100.0 % by mass of the contents are.flammable
Keep out of the reach of children.
·Classification system:
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
·NFPA ratings (scale 0 - 4)

Health = 2
Fire = 4
Reactivity = 0

(Contd on page 2)
USA

(Contd of page 1)

·HMIS-ratings (scale 0-4)

Health = 2
Fire = 4
Reactivity = 0

4 First aid measures

·After inhalation: In case of unconsciousness place patient stably in side position for transportation.
·After skin contact: Immediately wash with water and soap and rinse thoroughly.
·After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
·After swallowing: If symptoms persist consult doctor.

5 Firefighting measures

·Suitable extinguishing agents: C02, sand, extinguishing powder. Do not use water.
·For safety reasons unsuitable extinguishing agents: Water withfall jet
·Protective equipment: No special measures required.

6 Accidental release measures

·Person-related safety precautions: Wear protective equipment. Keep unprotected persons away.
·Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.
·Measures for cleaning/collecting:
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents

7 Handling and storage

· Handling:
·Infonnation for safe handling:
Open and handle receptacle with care.
·Infonnation about protection against explosions and fires:
Do not spray on a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

·Storage:
·Requirements to be met by storerooms and receptacles:
Store in a cool location.
Observe official regulations on storing packagings with pressurized containers.
·Infonnation about storage in one common storage facility: Not required.
·Further infonnation about storage conditions:
Keep receptacle tightly sealed.
Do not gas tight seal receptacle.
Store in cool, dry conditions in well sealed receptacles.

(Contd on page 3)

(Contd of page 2)

Protect from heat and direct sunlight.

8 Exposure controls and personal protection

·**Additional information about design of technical systems:** No farther data; see item 7.

·**Components with limit values that require monitoring at the workplace:**	
67-64-1 acetone	
PEL REL TLV	2400 mg/m³, 1000ppm 590 mg/m³, 250 ppm Short-term value: 1782 mg/m³, 750ppm Long-tenn value: 1188 mg/m³, 500ppm BE!
74-98-6propane	
PEL REL TLV	1800 mg/m³, 1000ppm 1800 mg/m³, 1000ppm (4508) mg/m³, (2500) ppm
78-93-3 butanone	
PEL REL TLV	590 mg/m³, 200 ppm Short-term value: 885 mg/m³, 300ppm Long-tenn value: 590 mg/m³, 200ppm Short-term value: 885 mg/m³, 300ppm Long-tenn value: 590 mg/m³, 200ppm BE!

·**Additional information:** The lists that were valid during the creation were used as basis.

·**Personal protective equipment:**

·**Generalprotective and hygienic measures:**
Keep awayfrom foodstuffs, beverages andfeed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

·**Breathing equipment:**
Jn case of brief exposure or low pollution use respiratory filter device. Jn case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Use suitable respiratory protective device in case of insufficient ventilation.

·**Protection of hands:**

ProtecUveg/ov"

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffasion and the degradation

·**Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also onfa rther marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

·**Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd on page 4)

Trade name: 61003 Multi-Coat Blank Aerosol

·*Eyeprotection:*

T;ghtly "aled goggl"

9 Physical and chemical properties

·*General Information*	
Form:	*Aerosol*
Color:	*According toproduct specification*
Odor:	*Characteristic*
·*Change in condition*	
Meltingpoin V Melting range:	*Undetermined.*
Boilingpoin V Boiling range:	*< 0°C (< 32°F)*
·*Flash point:*	*< 0°C (< 32°F)*
·*Ignition temperature:*	*465.0°C (869°F)*
·*Auto igniting:*	*Product isnotse!figniting.*
:ft.qnJber r,[ffJl/&swn:	
Lower:	*1.7 Vol %*
Upper:	*13.0 Vol%*
· *Vaporpressure at 20oC (68°F):*	*8300.0 hPa (6226 mm Hg)*
·*Density at 20°C (68°F):*	*0.70 g!cm³*
·*Solubility in I Miscibility with*	
Water:	*Not miscible or difficult to mix.*
·*Solvent content:*	
Organic solven'ls:	*99.0 %*
VOC content:	*34.0 %*
	243.6 gill 2.03 lblgl

10 Stability and reactivity

· *Thermal decomposition I conditions to be avoided: No decomposition if used according to specifications.*
·*Dangerous reactions No dangerous reactions known.*
·*Dangerous produc'ls of decomposition: No dangerous decomposition products known.*

11 Toxicological information

·*Acute toxicity:*

·*LD/LCSO values that are relevantfor dassification:*	
67-64-1 acetone	
Oral	*LD50 1 5800 mg/kg (rat)*
Dermal	*LD50 20000 mg/kg (rabbit)*

(Contd on page 5)

(Contd of page 4)

·Primary irritant effect:
·on the skin: Irritant to skin and mucous membranes.
·on the eye: Irritating effect.
· Sensitization: No sensitizing effects known.
·Additional toxicological infonnation:
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

12 Ecological information

·General notes:
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.

13 Disposal considerations

·Product:
·Recommendation:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:
·Recommendation: Disposal must be made according to official regulations.

14 Transport information

·DOT regulations:

·Hazard class:	2.1
·Identification number:	UN1950
·Packing group:	
·Proper shipping name (technical name):	AEROSOLS, flammable
·Label	2.1

·Land transport ADRIRID (cross-border):

·ADRIRID class:	2 5F Gases
·Danger code (Kemler):	23
· UN-Number:	1950
·Packaging group:	
·Label:	2.1

(Contd on page 6)

(Contd of page 5)

·Description of goods:	1950 AEROSOLS
·Maritime transport IMDG:	
·IMDG Class:	2.1
· UN Number:	1950
·Label	2.1
·Packaging group:	-
·EMS Number:	F-D,S-U
·Marine pollutant:	No
·Propper shipping name:	AEROSOLS
·Air transport ICAO-TI and IATA-DGR:	
·ICAO/IATA Class:	2.1
· UN/ID Number:	1950
·Label	2.1
·Packaging group:	-
·Propper shipping name:	AEROSOLS, flammable

15 Regulations

·Sara

·Section 355 (extremely hazardous substances):

None of the ingredient is listed.

·Section 313 (Specific toxic chemical listings):

78-93-3 butanone

· TSCA (Toxic Substanc Control Act):

All ingredients are listed.

·Proposition 65

·Chemicals known to cause cancer:

None of the ingredients is listed.

·Chemicals known to cause reproductive toxicity:

None of the ingredients is listed.

·Cancerogenity categories

·EPA (Environmental Protection Agency)

67-64-1 | acetone ID

78-93-3 | butanone ID

·IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

(Contd on page 7)

(Contd of page 6)

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
67-64-1 acetone A4

· **NIOSH-Ca (National Institute for Occupational Safe(JI and Health)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safe(JI & Health Administration)**
None of the ingredients is listed.

· **Product related hazard infonnations:**
The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**
Irritant
Extremely flammable

· **Risk phrases:**
Extremely flammable.
Irritating to eyes, respiratory system and skin.
Vapours may cause drowsiness and dizziness.

· **Safety phrases:**
Keep in a cool place.
Keep container in a well-ventilated place.
Use only in well-ventilated areas.
This material and its container must be disposed of as hazardous waste.

· **Special labeling of certain preparations:**
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
100.0 % by mass of the contents are flamm able
Keep out of the reach of children.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Environment protection department.
· **Contact:** Mr. George Wallace

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsen's Ester 100
MSDS NO. 6711
Revision Date: 03/26/2007
Date Printed 12/30/2008

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Johnsen's Ester 100
Chemical Family: Refrigeration Oil
Synonyms: None
Emergency Telephone (24 hr.): CHEMTREC 1-800-424-9300

Supplier: Technical Chemical Company, P.O. Box 139, Cleburne, Texas 76033

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	OSHA TWA	OSHA STEL	OSHA SKIN
Ester Propietary Inhibitor Package Mixture	0-20	Not Listed	Not Listed	Not Listed
Ester Propietary Base Stock Mixture	20-80	Not Listed	Not Listed	Not Listed

Component	Weight %	OSHA Z PEL	OSHA Z TWA	OSHA Z Ceiling
Ester Propietary Inhibitor Package Mixture	0-20	Not Listed	Not Listed	Not Listed
Ester Propietary Base Stock Mixture	20-80	Not Listed	Not Listed	Not Listed

Component	ACGIH TLV TWA	ACGIH TLV STEL	ACGIH TLV Ceiling
Ester Propietary Inhibitor Package Mixture	Not Listed	Not Listed	Not Listed
Ester Propietary Base Stock Mixture	Not Listed	Not Listed	Not Listed

Other: Contains no ingredients in concentrations greater than 0.1% that are now known to be hazardous as defined by OSHA.

3. HAZARDS IDENTIFICATION

Emergency Overview: Ingestion of this product may cause gastrointestinal distress with symptoms of nausea, vomiting, diarrhea and abdominal pain. May cause irritation to skin and eyes.

HMIS Classification: Health: 1 Flammability: 1 Physical Hazard: 0
NFPA Rating: Health: 1 Flammability: 1 Reactivity: 0

4. FIRST AID MEASURES

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Seek medical attention if irritation persists.

Ingestion: DO NOT INDUCE VOMITING. Give nothing by mouth. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Skin Contact: Remove contaminated clothing and shoes, and launder before reuse. Get medical attention if irritation persists. Wash with soap and water. Use skin cream for defatted areas.

Trade Name:	Johnsen's Ester 100
MSDS NO.	6711
Revision Date:	03/26/2007
Date Printed	12/30/2008

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point °F(°C):	>482 (<250)
Flash Point Method:	COC
Flammable Limits in Air - Lower (%):	Not Determined
Flammable Limits in Air - Upper (%):	Not Determined
Autoignition Temperature °F(°C):	Not Determined
Extinguishing Media:	Carbon dioxide. Dry chemical. Foam.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures:	Wear approved positive-pressure self-contained breathing apparatus and protective clothing. Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity.
Hazardous Combustion Products:	Oxides of carbon, nitrogen and phosphorus.
Aerosol Comments:	Not Applicable

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear appropriate protective clothing and equipment to prevent skin and eye contact.
Spill Procedures:	Wear protective equipment specified. Contain any liquid from leaking containers.
Action to be taken if material is released or spilled:	Absorb spills on inert material such as perlite, vermiculite, sand or dirt. Place in double polyethylene bags. Isolate from other waste materials. Wash walking surfaces with detergent and water to reduce slipping hazard.
Environmental Precautions:	Do not allow to enter sanitary drains, sewer or surface and subsurface waters.

7. HANDLING AND STORAGE

Handling and Storage:	Avoid contact with eyes. Keep containers tightly closed when not in use. Use only in a well ventilated area. Good hygienic practices should be observed. Work clothes should be washed separately at the end of each work day. Contaminated disposable clothing should be discarded in accordance with local, state and federal rules. Wash thoroughly after handling. Do Not Swallow. Store at room temperature. Avoid prolonged/repeated breathing of vapors, mists or fumes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	Eyewash stations. Showers. Use local exhaust.
Eyes:	Chemical goggles; also wear a face shield if splashing hazard exists.
Skin Protection:	Neoprene coated apron or clothing.
Respiratory Protection:	Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to light yellow liquid
Odor:	MILD ETHER
pH Value:	Not Determined
Vapor Pressure:	Not Determined
Vapor Density (Air=1):	Not Determined
Boiling Point (°F):	>300 C.
Melting/Freezing Point:	Not Determined
Solubility in Water:	INSOLUBLE
Bulk Density at 20°C:	Not Determined
Molecular Weight:	Mixture
Specific Gravity (H20=1):	1.04 @ 60F
Viscosity:	100 cSt @ 40C
Evaporation Rate:	Not Determined
VOC Content(%):	Not determined.
Decomposition Temperature:	Not Known

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.
Conditions to Avoid: High temperatures.
Materials to Avoid: Strong oxidizing agents.
Hazardous Decomposition Products: Oxides of nitrogen. Oxides of carbon. Oxides of sulfur.
Hazardous Polymerization: WILL NOT OCCUR

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Component	Route	Species	Dose
Ester Propietary Inhibitor Package Mixture	Inhalation	Rats	Not known.
Ester Propietary Base Stock Mixture	Inhalation	Rats	Not known.

Carcinogenicity:

Component	IARC	NTP	OSHA
Ester Propietary Inhibitor Package Mixture	Not Listed	Not Listed	Not Listed
Ester Propietary Base Stock Mixture	Not Listed	Not Listed	Not Listed

Comments: No component known to be present in this product at >.1% is presently listed as a carcinogen by IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Remarks: Ecological testing has not been conducted on this product.

13. DISPOSAL CONSIDERATION

Waste Classification: This product as purchased does not fall under current U.S. EPA RCRA difinitions of hazardous waste. Under RCRA it is the generator's responsibility to determine the status of the waste at the time of its disposal. This product does not contain any CERCLA regulated materials.
Waste Management: Not determined.
Disposal Method: Disposal of this material to the land may be banned by federal law (40 CFR 268).

14. TRANSPORTATION INFORMATION

U.S. DOT:
Proper Shipping Name: Not Regulated
Hazard Class: Not Applicable
UN/NA Number: Not Applicable
DOT Packing Group: Not Applicable

IMDG:
Proper Shipping Name: Not Regulated
Hazard Class: Not Applicable
Hazard Subclass: Not Applicable
UN No.: Not Applicable
Packing Group: Not Applicable
Marine Pollutant: No

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsen's Ester 100
MSDS NO. 6711
Revision Date: 03/26/2007
Date Printed 12/30/2008

15. REGULATORY INFORMATION

US Federal Regulations:

Component	SARA 313	SARA 302	TPQ	RQ
Ester Propietary Inhibitor Package Mixture	Not Listed	Not Listed	Not Listed	Not Listed
Ester Propietary Base Stock Mixture	Not Listed	Not Listed	Not Listed	Not Listed

US OSHA HEALTH CLASSIFICATION: Hazardous per OSHA 29 CFR 1910.1200
SARA 311/312 Hazard Catagories: Immediate Health: Yes, Delayed Health: No, Fire: No, Reactive: No, Pressure: No.

State Regulations:

Component	California Prop. 65 Cancer list	California - Prop 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
Ester Propietary Inhibitor Package Mixture	Not Listed	Not Listed	Not Listed	Not Listed
Ester Propietary Base Stock Mixture	Not Listed	Not Listed	Not Listed	Not Listed

U.S. TSCA: One or more components of this product is not listed on the TSCA Inventory.
Canadian Inventory: One or more components of this product is not listed on the Canadian DSL or NDSL Inventory.

Consumer Product Safety Improvement Act of 2008 General Conformity Certification

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product container.

16. OTHER INFORMATION

General Notes: Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.
Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

Step 2

Aircraft Pre-Inspection

Aircraft Pre-Inspection

STEP	PROCEDURE	MECH	INSP
2.1	Inspect the aircraft for other kits and modifications that may affect the installation of the air conditioning kit.		
2.2	Inspect the airframe structure for any obvious structural damage or corrosion.		
2.3	Repair discrepancies that are found prior to installation of the kit.		
2.4	Inspect aircraft paperwork for damage history that may affect the installation of this kit.		

This kit is eligible for installation in a Eurocopter AS355E, AS355F, AS355F1, AS355F2, AS355N and AS355NP.

WARNING

THIS INSTALLATION SHOULD NOT BE EXTENDED TO ELIGIBLE AIRCRAFT ON WHICH OTHER PREVIOUSLY FAA APPROVED MODIFICATIONS ARE INCORPORATED UNLESS IT IS DETERMINED BY THE INSTALLER THAT THE INTERRELATIONSHIP BETWEEN THIS CHANGE AND ANY OF THOSE OTHER PREVIOUSLY APPROVED MODIFICATIONS WILL PRODUCE NO ADVERSE EFFECT UPON THE AIRWORTHINESS OF THE AIRCRAFT.

General Safety Instructions

PROCEDURE
WARNING: Always handle the refrigerant fluids carefully.
WARNING: Do not mix other refrigerant fluids with the R134a. Do not use refrigerant canned for pressure-operated accessories (such as boat air horns). This refrigerant is not pure and will cause malfunctions in the system.
WARNING: When the system must be opened to do maintenance, before you do the work, you must drain the air conditioning system.
WARNING: When you open the system, you must collect the refrigerant in accordance with Federal and Local regulations.
WARNING: When the R134a is used in normal conditions, it is not flammable. Do not use it near a source of heat to prevent the risk of separation of the vapors.
WARNING: Avoid skin and eye contact with R-134a. The liquid R-134a, at normal atmospheric temperatures evaporates so quickly that it will freeze anything it comes in contact with.
WARNING: Wear safety goggles when servicing any part of the refrigerant system.
WARNING: Never heat a R-134a supply cylinder to produce additional pressure or attempt to empty the container completely.
WARNING: Ensure adequate ventilation when servicing the refrigerant system.
WARNING: If the R-134a and lubrication oil are mixed with water they make hydrochloric acid. This will cause corrosion of the system components.

General Safety Instructions

PROCEDURE
WARNING: You must replace the filter drier each time you open the system.
WARNING: Comply with the regulations in force in the country where the aircraft is operated when working on the air conditioning system.
WARNING: Only use nitrogen or Alcohol to clean the system components.
WARNING: Always keep the R-134a supply cylinder in an upright position when admitting refrigerant into the system. If a cylinder is on its side or upside down, liquid will enter the R-134a system and cause damage to the compressor.

Step 3

Aircraft Preparation

Aircraft Preparation

NOTE: Step 3 instructions to be performed in accordance with the applicable Eurocopter service manuals.

STEP	PROCEDURE	MECH	INSP
3.0	Remove or disconnect the battery.		
3.1	Remove pilot and co-pilots doors.		
3.2	Remove right rear door as needed.		
3.3	Remove rear seats.		
3.4	Remove co-pilot anti-torque pedals.		
3.5	Drop the cabin headliner.		
3.6	Remove the two side screws from both sides of the glare shield.		
3.7	Remove back wall covering.		
3.8	Remove the right side baggage door.		
3.9	Remove the forward closeout panel in the right hand baggage compartment.		
3.10	Access panel Aft of landing light.		
3.11	Remove the right hand transmission cowling.		
3.12	Remove the left hand transmission cowling.		
3.13	Remove lower nose right window.		
3.14	Remove the front belly cowling.		
3.15	Remove the center belly cowling.		
3.15a	Remove the right middle belly cowling.		
3.15b	Lower the rear belly cowling.		

Aircraft Preparation

STEP	PROCEDURE	MECH	INSP
3.16	Remove the cargo net from the rear baggage compartment. (If installed)		
3.17	Remove the rear cargo compartment floor.		
3.18	Remove the electrical compartment cover. **NOTE:** Determine location for air conditioning power hook up. Reinstall cover to prevent FOD.		
3.19	Remove the rear cargo compartment forward floor panel.		
3.20	For AS355NP only: Remove Aft Seats.		
3.21	For AS355NP only: Remove Aft Cabin Cover Panel.		

NOTE:

After installation of system, a thorough inspection of all areas affected must be performed to determine security component installations and workman-ship standards prior to reassembly of aircraft and return to service by a qualified individual.

Step 4

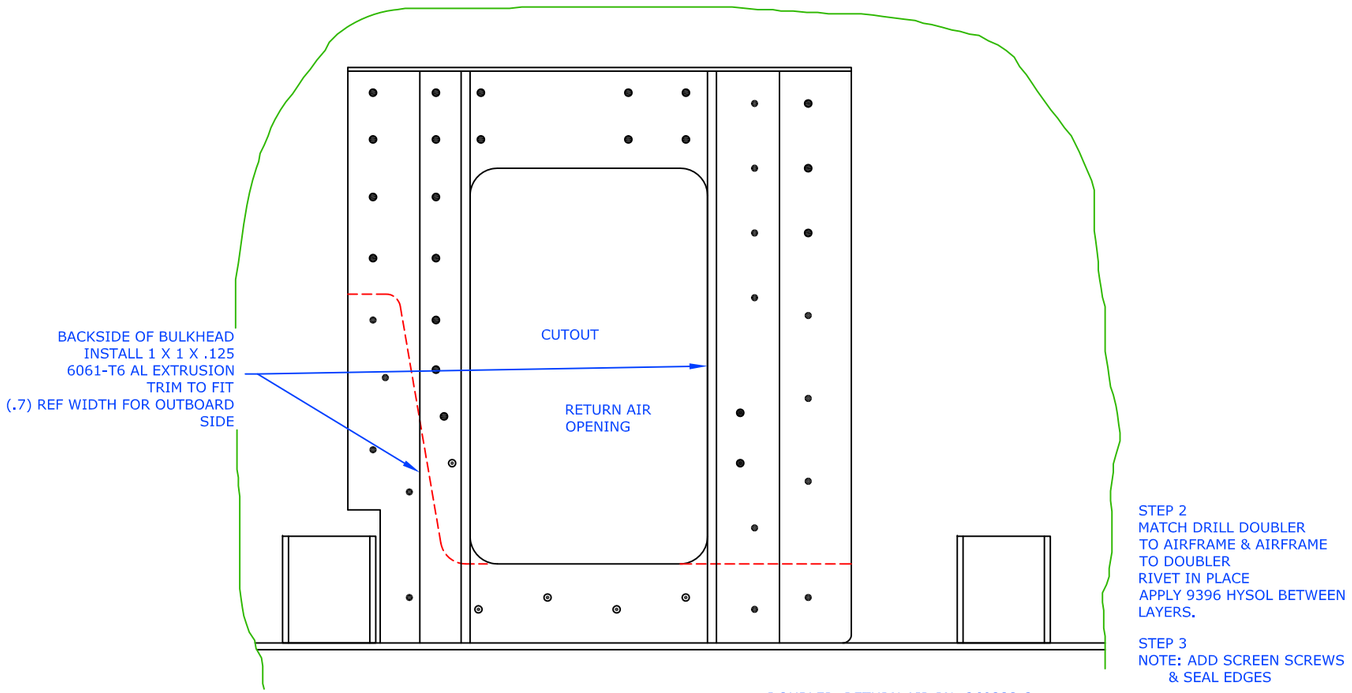
Removal of Factory Installed Components

Removal of Factory Installed Components

NOTE: Step 4 to be completed in accordance with applicable Eurocopter service manuals.

STEP	PROCEDURE	MECH	INSP
4.1	Unbolt oil cooling fan and shroud tie wrap to transmission. (Not required on AS355NP)		
4.2	Disconnect oil cooler assembly from aft cabin wall and the wrap to transmission. Do not disconnect oil lines. (Not required on AS355NP)		
4.3	Remove fresh air duct between oil cooler and discard.		
4.4	Remove aft right side seat mount bracket for installation of doubler. Ref 5-21-AS355		
4.5	(Intentionally left Blank)		
4.6	Remove warning horn forward of co-pilots feet. Hold for reinstallation.		
4.7	Remove NR digital indicator box forward of co-pilots feet. Hold for reinstallation.		
4.8	Remove glare shield.		
4.9	Remove T4 correction chart holder. Hold for reinstallation.		

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-



NOTE

1. REMOVE REEL
2. TRIAL FIT DOUBLER ASSY
3. FIT REEL TO DOUBLER ASSY IN SAME LOCATION AS PREVIOUSLY MOUNTED
4. INSTALL DOUBLER ASSY & SCREEN
5. INSTALL REEL, TRIMMING AFT TURNED LIP OF DOUBLER UNDER HARNESS, AS NECESSARY, FOR CLEARANCE
6. IF NUTPLATES(TYP 4)ARE NOT INSTALLED, ADD PN MS21059-L3 ON AFT SIDE OF WALL

RIVET LEGEND

○ –EXISTING RIVET
◉ –ADDED RIVETS, INSTALL WITH MS20470–AD4
● –EXISTING RIVET REPLACED WITH MS20470–AD5

NOTE: INTERCHANGEABILITY BETWEEN MS20470 AD RIVETS & CR 3243 RIVETS ALLOWABLE, DIA AND LENGTH MAY BE DETERMINED BY THE INSTALLER

INTEGRATED Flight Systems

TITLE: AIR DISTRIBUTION

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
DWE	08/06/08	IR	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	5-21-AS355

Step 5

Installation of Aft Evaporator

Caution: After any step that requires drilling. Care must be taken to remove any shavings from the area.

NOTE: Torque all fasteners with applicable Eurocopter service manuals or utilize AC 43.13.

STEP	PROCEDURE	MECH	INSP
5.0	Reference Drawings: 4-1-AS355 through 4-4-AS355		
5.1	Remove forward transmission fairing ("Doghouse") from aircraft.		
5.2	Disassemble Aft Evaporator as received per drawing 4-1-AS355.		
5.3	Position fan housing and evaporator shroud without coil, inside the fairing. Mark areas to be cutout. **THIS IS CRITICAL** as all assembly in this area will hinge on correct placement and installation of these parts. Some sanding to "Doghouse" maybe required to level and fit components.		
5.4	Make small hole in area to be cut out for fan motor. Ensure correct location and size of cutout to be made. Remove all parts and enlarge cutout as required.		
5.5	Re-position fan housing and shroud inside fairing. Use a hole finder and back drill holes for assembly of fan motor support plate to fan housing.		
5.6	Again remove parts inside fairing and make cutout through fairing for copper coil fittings. Ensure that fan housing fits flat against inside of fairing.		
5.7	Inspect inside the aft wall of the fairing for protruding rivets. If excessive in length they will have to be removed and shorter rivets installed. Failure to do so will not allow the evaporator housing to lie flat against the aft wall and mate properly with the fan housing.		

STEP	PROCEDURE	MECH	INSP
5.8	Fit fan housing and evaporator shroud together and re-assemble in place as shown in drawing 4-2-AS355.		
5.9	Assemble fan motor and fan motor shroud to fan housing, sandwiching fairing between fan motor plate and housing.		
5.10	Using inner aft evaporator support plate as a template carefully position plate and mark hole locations. Drill #10 holes per drawing 4-2-AS355, exercising caution not to drill into nut plates in inner evaporator support plate.		
5.11	Attach outer aft evaporator support plate to inner aft evaporator support plate per drawing 4-2-AS355.		
5.12	**Warning:** **Aluminum tape all seams, remove blower motor and remove squirrel cage from fan housing. Tape any opening where foam can get into coil housing.**		
5.13	Connect all three air ducts to evaporator assembly as shown in drawing 4-3-AS355. Mix pour foam at 1:1 ratio and apply per drawing 4-3-AS355.		
5.14	After foaming, check to see if any foam got into coil housing assembly.		
5.15	Install Blower Assembly.		

STEP	PROCEDURE	MECH	INSP
5.16	Aft Air Distribution: Reference Drawings 4-3-AS355 and 5-11-AS355.		
5.17	Remove aft headliner.		
5.18	Cut one each 4” and two each 3.25” holes in cabin ceiling per drawing 5-11-AS355.		
5.19	Install Aft Louver Housing Top, RH/LH PN: 250018 and 250021 per drawing 5-11-AS355 and drawing 4-3-AS355. Seal with silicone or ProSeal 890-B2 OR -B1/2.		
5.20	Install Return Air Collar PN: 250015 on top cabin roof. Seal with silicone or ProSeal 890-B2 OR -B1/2.		
5.21	Install Louver PN: 030011 into headliner per 5-11-AS355, View “A-A”. Seal to headliner with silicone or ProSeal 890-B2 OR -B1/2.		
5.22	Attach Return Air Screen PN: 080019 to aft side of cutout area at STA. 105.0		
5.23	Mark and cut out for aft evaporator speed control switch in forward headliner per drawing 5-11-AS355.		
5.24	Install Switch Assembly PN: 540026-3 per drawing 5-11-AS355. Route wires aft and mate to cannon plug from main harness Per drawing 2-2-AS355. Secure with tie wraps.		
5.25	Re-install headliner.		
5.26	Place transmission fairing on cabin roof. Trial fit 3” dia. and 4” dia. hoses to roof air inlets and return air collar. Cut off hoses as required.		
5.27	Secure hoses and complete re-installation of fairing, seal to cabin roof with ProSeal 890-B2 OR -B1/2.		

Step 5

Installation of Aft Evaporator

(AS355NP)

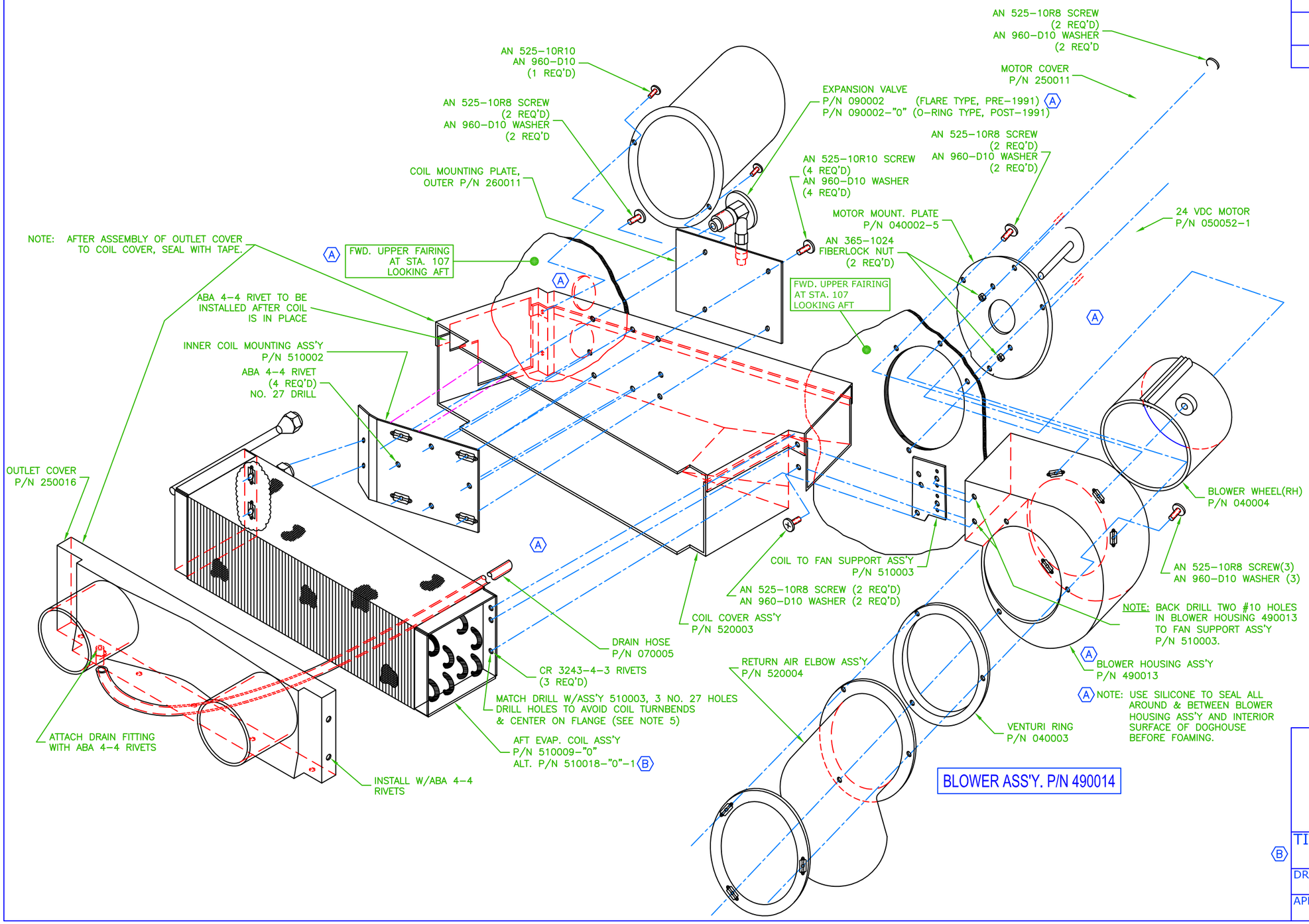
STEP	PROCEDURE	MECH	INSP
5.1	Remove Right Hand Transmission Cowling Forward latch. Hold for re-installation. Position the Aft Evaporator Fan Doubler P/N 260328-2 on the upper transmission deck per drawing 4-21-AS355 sheet 1 of 4. Mark around doubler and remove all existing rivets, bolts, and nut plates to allow the doubler to sit flat on deck.		
5.2	Drill through deck using pilot holes in doubler. Back drill the doubler from existing holes in the deck.		
5.3	Mark and cut openings in the transmission deck using Doubler P/N 260328-2 as a template.		
5.4	Now position Evaporator Mount Bracket, FWD P/N 261541 as shown in drawing 4-21-AS355, sheet 4 of 4, using forward most rivet line on deck Doubler P/N 260328-2, mark a pattern on support assembly. Drill bracket and cleco in place.		
5.5	Install Aft Evaporator Fan Doubler P/N 260328-2 on right hand upper transmission deck in accordance with drawing 4-21-AS355 sheet 1 of 4 using rivets as shown. Re-install Right Hand Transmission Cowling Forward latch as shown in drawing 4-21-AS355 sheet 1 of 4. Do not install nut plates yet.		
5.6	Position Evaporator Mount Bracket, AFT P/N 261540 as shown in drawing 4-21-AS355, sheet 4 of 4, level aft bracket to match forward bracket. Back drill in place, rivet in place.		
5.7	Position Aft Evaporator Assembly P/N 560016-O-2 as shown in drawing 4-21-AS355, sheet 4 of 4. Now mark four mounting holes onto supports. Remove and drill. Install four each nut plates as shown in drawing.		

5.8	Position Aft Evap Transition duct P/N 520300 in place matching duct hole with deck doubler hole. Using nut plate hole, mark and drill duct flange. Cleco duct in place. Fit evaporator in place, cut lower lip of duct so evaporator will fit tight to duct. Make sure low lip of duct aligns with hole in evaporator and duct is tight to evaporator.		
5.9	Remove evaporator assembly, drill the four rivets shown around fan hole as shown in drawing 4-21-AS355 sheet 1 of 4. Install four each, counter sink rivets as shown. Drill and install five each, nut plates to duct and deck doubler. Before riveting nut plate, drill out holes to 0.25”.		
5.10	Next temporarily install Aft Evaporator Assembly P/N 560016-O-2 with 4 ea. AN3-5A bolts and 4 ea. AN960-10 washers per drawing 4-21-AS355 sheet 4 of 4.		
5.11	Position Return Air Doubler P/N 260322-3 against aft cabin bulk head as shown in drawing 5-21-AS355 trace outline on bulkhead. Remove doubler and drill out rivets inside trace.		
5.12	Reposition Doubler P/N 260322-3. Back drill all holes and Cleco in place. Using doubler as guide pen route out return air hole.		
5.13	Remove doubler, clean holes. Install Doubler P/N 260322-3, rivet in place per drawing 5-21-AS355.		
5.14	Install Return Air Screen P/N 080022-1 as per drawing 5-21-AS355.		
5.15	Locate Return Air Connector P/N 250166-1. Trial fit to the aft side of the cabin wall, immediately in front of the aft evaporator. The open side of the connector must face aft. Slide the connector upward until it contacts the forward side of the evaporator. Mark with a pencil, the inside of the connector position on to the evaporator. Remove the connector and evaporator. Reference drawing 4-21-AS355 sheet 4 of 4.		

5.15 (Cont.)	Draw a line one (1) inch above the lower/forward face of the evaporator case. Trial fit Return Air Connector to the evaporator, ensuring that the flanges of the connector **DO NOT go past the inboard/outboard sides of the evaporator.** Confirm the pencil lines. Remove the connector. Cut out the area within the pencil lines, leaving the one (1) inch lower lip on the evaporator case as a drain seal. **NOTE: ENSURE DURING DRILLING THAT THE COIL INSIDE THE CASE IS NOT DAMAGED.** Seal and secure the Return Air Connector P/N: 250166-1 with rivets to the Evaporator P/N: 560016-O-2 case per drawing 4-21-AS355 sheet 4 of 4. Next install the Connector Angle Assembly P/N 510261-1, per drawing 4-21-AS355 Sheet 4 of 4. This holds the upper part of the return air duct.		
5.16	Position the aft evaporator Return Air Duct P/N 250149-1 in the right side baggage compartment as shown on drawing 4-21-AS355 sheet 4 of 4. Use the return air opening to locate the Return Air Duct. Trim the Return Air Duct as required to fit.		
5.17	Remove the access panel from the outboard side of the Aft Evaporator P/N 560016-O-2.		
5.18	Temporarily install the Aft Evaporator, P/N 560016-O-2 using 4 each, AN3-5A, bolts and AN960-10, washers.		
5.19	Locate and drill the holes for mounting the aft evaporator Return Air Connector P/N 250166-1.		
5.20	Attach Return Air Duct P/N 250149-1 per drawing 4-21-AS355 sheet 4 of 4.		
5.21	SEAL THE EVAPORATOR TO THE RETURN AIR DUCT WITH ALUMINUM FOIL TAPE Tape as required by reaching through the outboard opening in the evaporator. Re-install the aft evaporator access panel.		

5.22	Install the Aft Evaporator Fan Assembly, P/N 490017-1-03, using five each AN3-5A bolts, and 5 ea. AN960-10 washers. Attach Resistor Assembly P/N 540020 per drawing 4-21-AS355 sheet 1 of 1.		
5.23	Locate Aft Transition Elbow Assembly P/N 520036-4. This will be mounted on upper aft cabin wall on transmission side. See drawing 4-21-AS355 sheet 1 of 4. Remove oil coolers from upper deck dog house.		
5.24	Mark hole to be cut out in aft cabin wall per drawing 4-21-AS355 sheet 1 of 4. Be careful not to cut the cabin air duct bonded to aft cabin wall. Drill a couple of # 40 holes to see if you clear duct.		
5.25	Cut out hole and mount elbow as shown in drawing 4-21-AS355 sheet 1 of 4. Install elbow.		
5.26	Install a 5-inch flex duct P/N 060004 (25”in) long from the aft evaporator fan assembly to the aft air distribution elbow end with two each 6” band clamps. Insulate the duct with foam tape and wrap with aluminum tape.		
5.27	Modify overhead wemac’s as shown in drawing 5-12-AS355 if S/N 1302 or lower.		

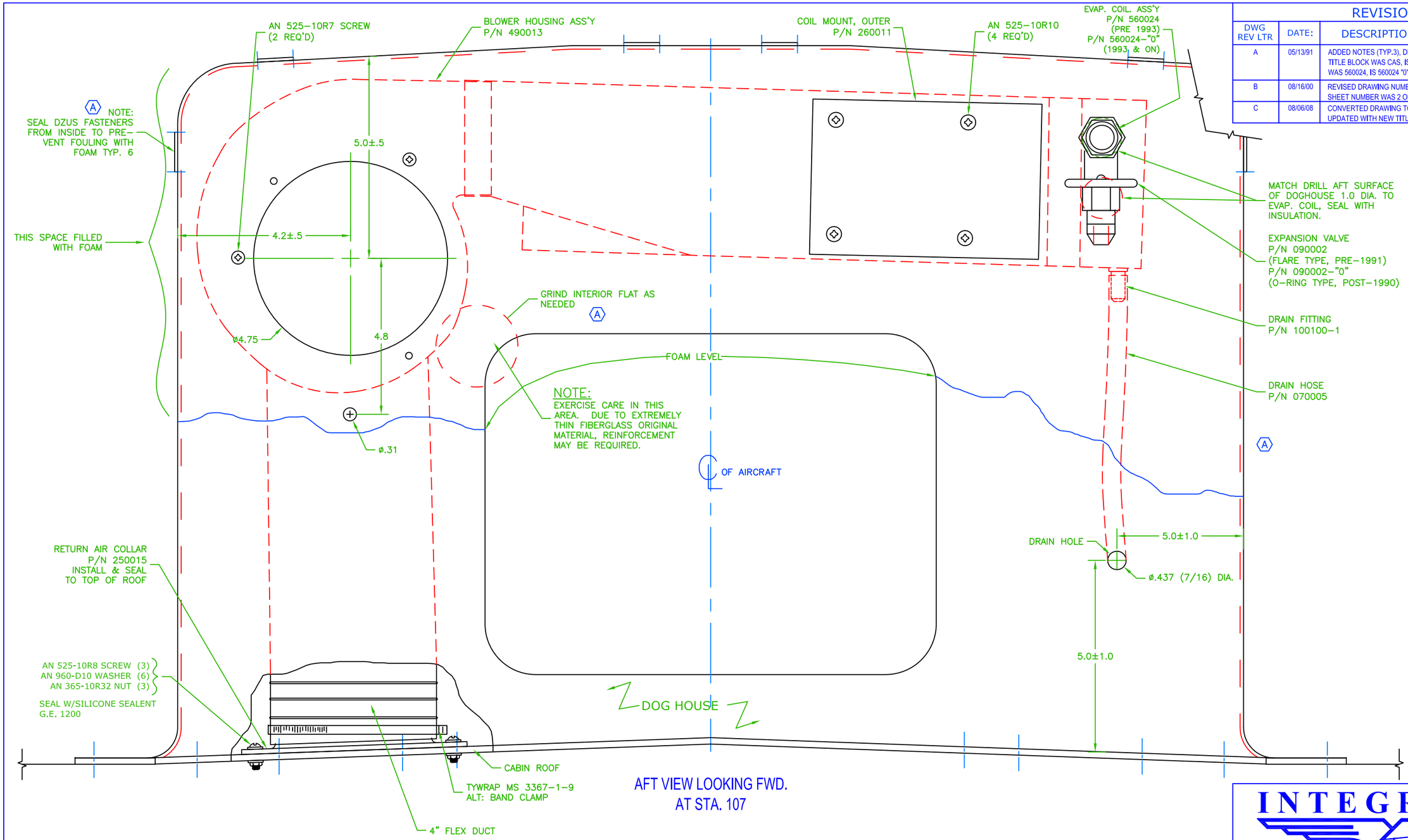
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	DELETE NOTES, DRAIN LEG AND DRAIN TEE. ADD NOTE: SEAL P/N 040013 DEL. CLIP NUT, CIRC. HOLES WERE RECT. 490013 WAS 040013, TITLE BLOCK WAS CAS, IS IFS. ADDED NOTES TO EXP. VALVE.	JHK	B.R.P.
B	6/28/00	ADDED ALTER COIL ASSY, P/N 510018-"0"-1. REVISED DRAWING NUMBER, WAS 8-AS355. SHEET NUMBER WAS 2 OF 2.	JHK	B.R.P.
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE



INTEGRATED Flight Systems

TITLE: AFT EVAPORATOR INSTALL

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
B.R.P.	05/30/85	C	NONE	1 OF 1
APPLICATION: AS 355			DWG No. 4-1-AS355	



AFT VIEW LOOKING FWD.
AT STA. 107

NOTE: ALL TOLERANCES ±.1 UNLESS OTHERWISE SPECIFIED.

B

REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	ADDED NOTES (TYP.3), DELETED DRAIN LEG. TITLE BLOCK WAS CAS, IS IFS. WAS 560024, IS 560024 "0".	JHK	B.P.
B	08/16/00	REVISED DRAWING NUMBER. WAS 4-AS355. SHEET NUMBER WAS 2 OF 4.	JHK	B.P.
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

INTEGRATED Flight Systems

TITLE: AFT EVAPORATOR INSTALL

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
B.R.P.	05/30/85	C	NONE	1 OF 1

APPLICATION:	DWG No.
AS 355	4-2-AS355

NOTE:
1. CLEAN TUBING
2. SECURE CAPILLARY W/ BAND CLAMP.
3. SEAL WITH PT-1 INSULATION.

FAILURE TO DO SO WILL DRAMATICALLY DECREASE THE PERFORMANCE OF THE FORWARD EVAPORATOR (NOT AFT)

AFT EVAP. ASS'Y
P/N 560024 (PRE 1993)
P/N 560024-"0"
(1993 & ON)

TY-WRAP MS 3367-1-9
ALT. BAND CLAMP

FOAM LEVEL
USE AEROSOL OR POUR TYPE

EXPANSION VALVE
P/N 090002 (FLARE TYPE, PRE-1991)
(A) P/N 090002-"0" (O-RING TYP, POST-1991)

(A) EXISTING BRACKET: REPLACE EXISTING RIVETS SECURING BRACKET WITH RIVETS FLUSH AT INTERIOR SURFACE AS REQ'D.

TRANSMISSION-AIR INLET FAIRING
ON TOP OF PASSENGER CABIN

RETURN AIR COLLAR
P/N 250015

TY-WRAP 525 M
MS 3367-1-9
ALT: BAND CLAMP

DOG HOUSE

AFT

FWD

3" DUCT

DRAIN HOSE(1/2" I.D.)
P/N 070005

4" FLEXDUCT

TY-WRAP 525M
MS 3367-1-9
ALT: BAND CLAMP

AFT A/C FAN CONTROL WIRES: ROUTE FROM AFT OF CABIN WALL, THRU WALL TO AFT CABIN SWITCH CANNON PLUG. INSERT PINS INTO PLUG. MATE TO SWITCH CANNON PLUG. PROVIDE TIE BLOCK P/N ZZCR4HM, SEAL.

RETURN AIR COLLAR
P/N 250015

LOUVER HOUSING TOP R.H. & L.H.
P/N'S 250018 & 250021

LOUVER HOUSING BOTTOM R.H., BOTTOM L.H.
P/N'S 250020 & 250019

LOUVER WILL FIT ENTIRELY INTO
P/N'S 250019 & 250020

AIRCRAFT OVERHEAD PANEL

(B) LOUVER

(C)

STA.
107.0

RIGHT SIDE VIEW

REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPV'D BY	REV BY
A	05/13/91	ADD BRKT. NOTE & DRAIN NOTE, DELETED DRAIN LEG, TEE & GROMMETS. TITLE BLOCK WAS CAS, IS IFS. WAS 560024, IS 560024 "0".	JHK	B.P.
B	08/16/00	REVISED DRAWING NUMBER. WAS 4-AS355. SHEET NUMBER WAS 3 OF 4.	JHK	B.P.
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

INTEGRATED Flight Systems

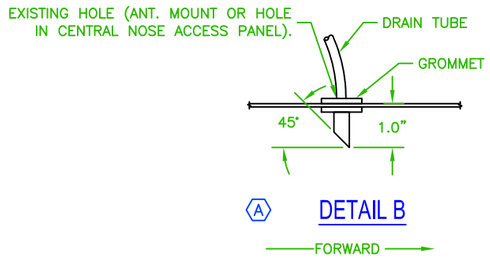
TITLE: AFT EVAPORATOR INSTALL

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
B.R.P.	05/30/85	C	NONE	1 OF 1

APPLICATION: AS 355

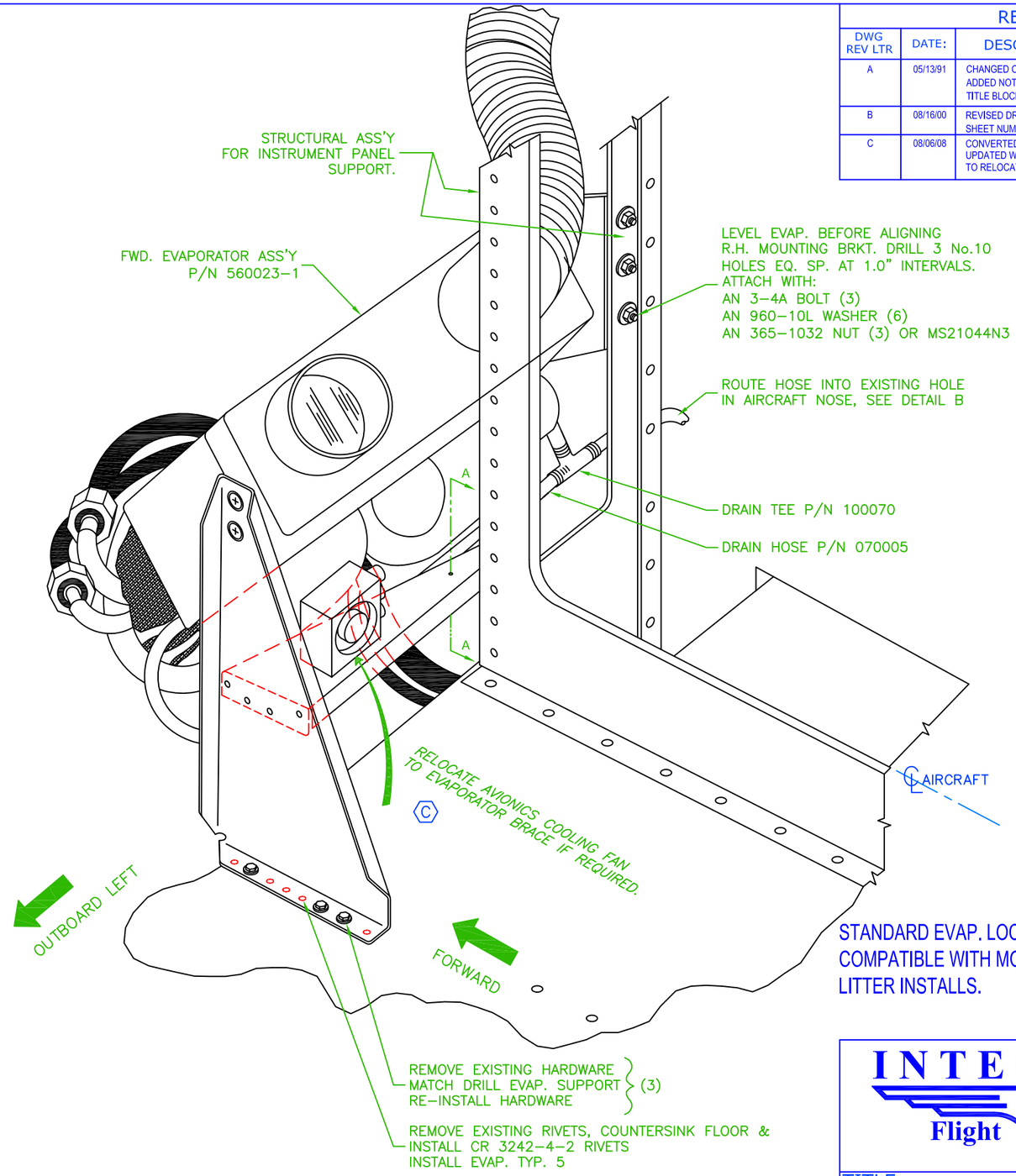
DWG No. 4-3-AS355

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	CHANGED ORIENTATION OF TEE ADDED NOTE & DETAIL "B" TITLE BLOCK WAS CAS, IS IFS.	JHK	B.P.
B	08/16/00	REVISED DRAWING NUMBER, WAS 4-AS355. SHEET NUMBER WAS 4 OF 4.	JHK	B.P.
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK. ADDED NOTE TO RELOCATE AVIONICS FAN IF REQUIRED.		DWE



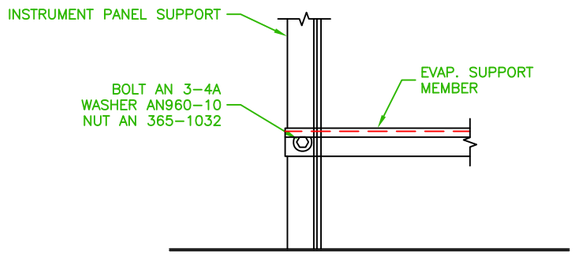
EXTREMELY IMPORTANT!

FAILURE TO SECURE EXPANSION VALVE SENSING BULB, TIGHTLY, TO THE RETURN LINE HOSE FITTING (#10) WITH A STAINLESS STEEL CLAMP (AND INSULATE SENSING BULB & LINE) WILL DRAMATICALLY DECREASE THE PERFORMANCE OF THE AFT EVAPORATOR (NOT FORWARD).



STANDARD EVAP. LOCATION. COMPATIBLE WITH MOST LITTER INSTALLS.

C



VIEW A-A
LOOKING AFT

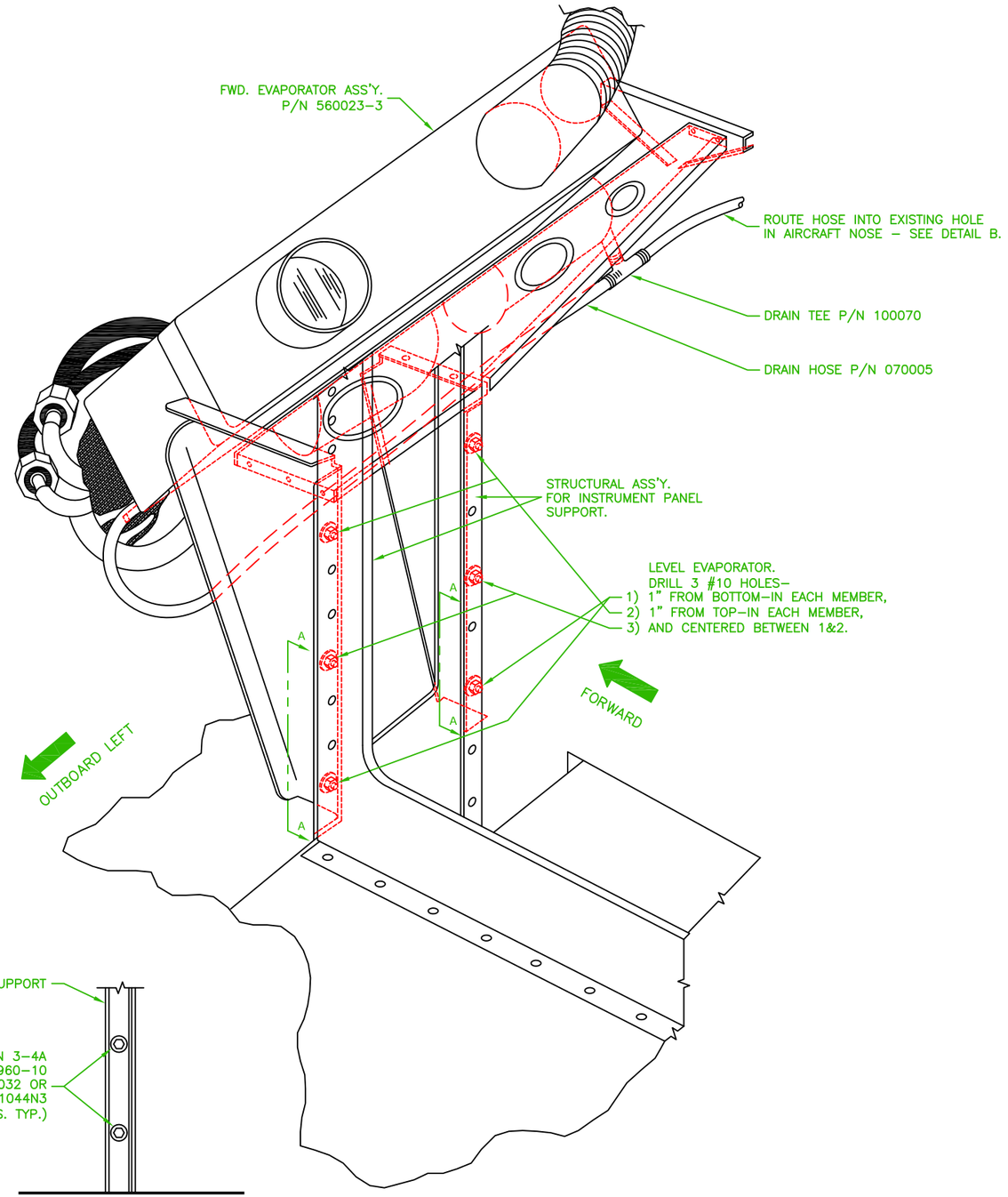
INTEGRATED Flight Systems

TITLE: FORWARD EVAPORATOR INSTALL				
DRAWN BY: B.P.	DATE: 05/30/85	REV C	SCALE: NONE	SHEET: 1 OF 1
APPLICATION: AS 355			DWG No. 4-4-AS355	

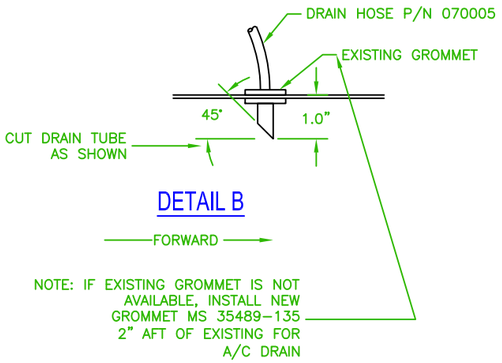
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	REVISED DRAWING NUMBER. WAS 4-AS355. SHEET NUMBER WAS 4 OF 4.	JHK	K.M.L.
B	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

EXTREMELY IMPORTANT!

FAILURE TO SECURE EXPANSION VALVE SENSING BULB, TIGHTLY, TO THE RETURN LINE HOSE FITTING (#10) WITH A STAINLESS STEEL CLAMP (AND INSULATE SENSING BULB & LINE) WILL DRAMATICALLY DECREASE THE PERFORMANCE OF THE AFT EVAPORATOR (NOT FORWARD).



VIEW A-A
LOOKING AFT



DETAIL B

NOTE: IF EXISTING GROMMET IS NOT AVAILABLE, INSTALL NEW GROMMET MS 35489–135 2" AFT OF EXISTING FOR A/C DRAIN

EMS EVAP. LOCATION
TO AVOID LITTER

(B)

INTEGRATED Flight Systems

(A)

TITLE: FORWARD EVAPORATOR INSTALL

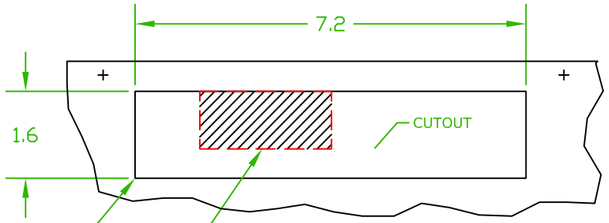
DRAWN BY:	DATE:	REV	SCALE:	SHEET:
K.M.L.	08/05/94	B	NONE	1 OF 1

APPLICATION:	DWG No.
AS 355	4-14-AS355

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-

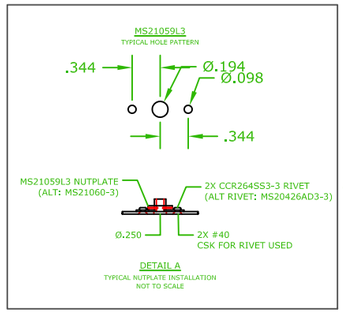
SEE ECO 0650

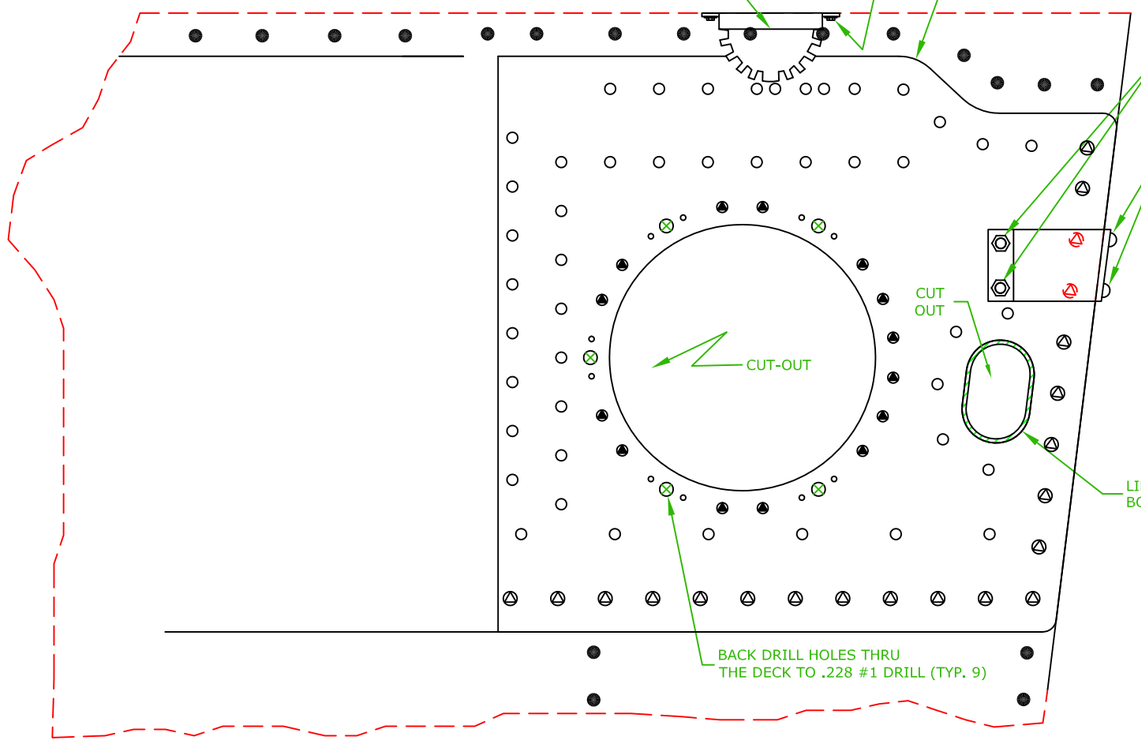
AFT SIDE CABIN WALL



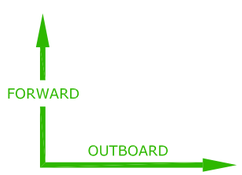
VIEW "C-C"

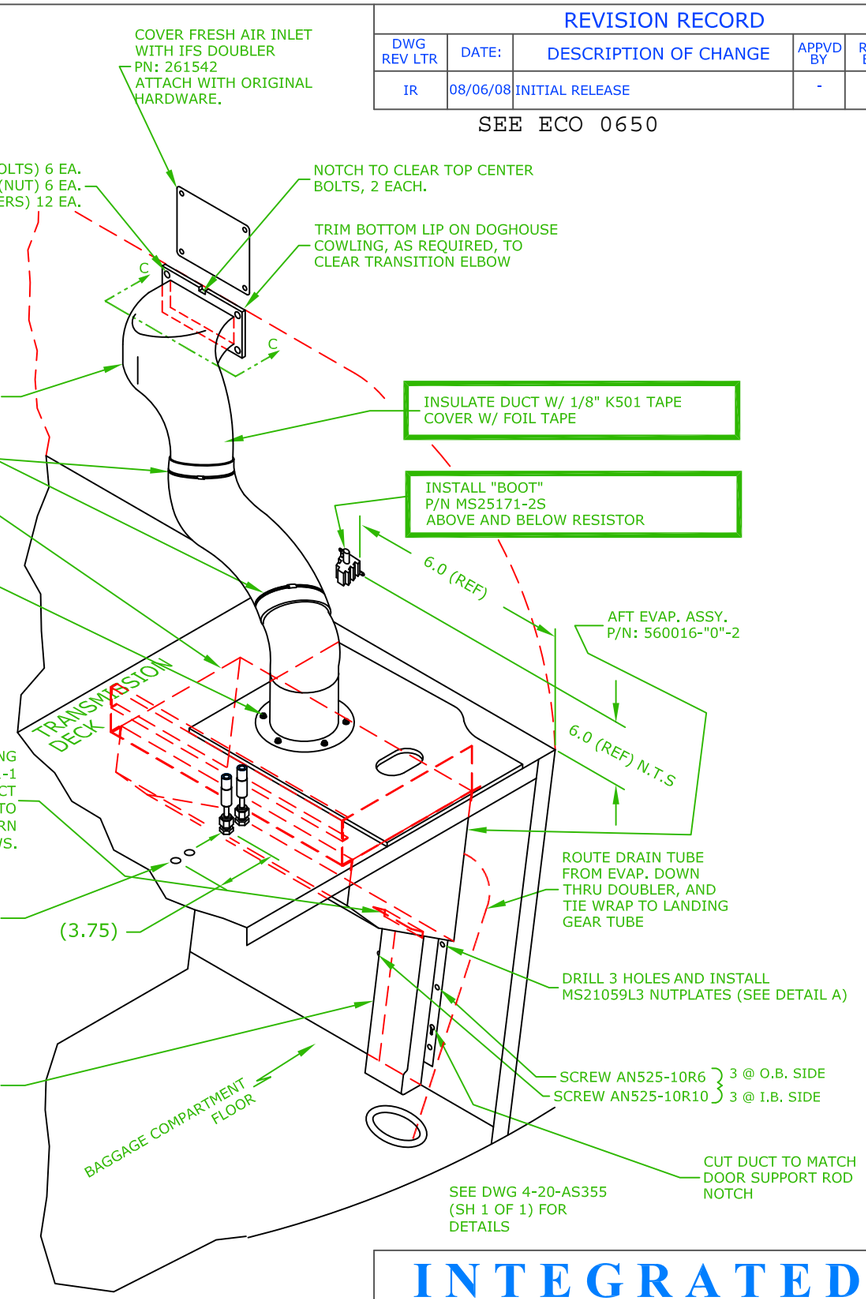
OUTBOARD
RIGHT





VIEW LOOKING DOWN AT TRANSMISSION DECK



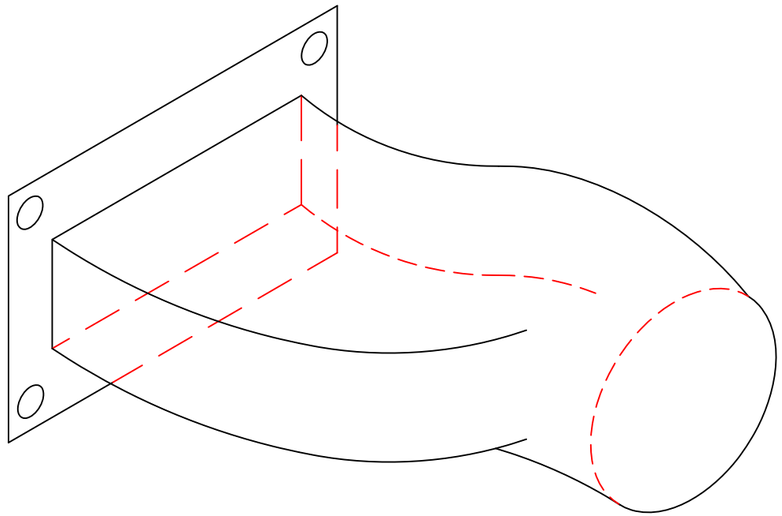


- ○ MS20470AD-5-X (FIELD)
- △ MS20470AD-5-X (REPLACES EXIST. RIVETS)
- ▲ MS20426-5-X (CSK. AT TOP SURFACES)
- ⊗ .228 DIA HOLE #1 DRILL (FOR AN 3-5A BOLT)
- ● EXISTING

NOTE:
RIVET LENGTH MAYBE DETERMINED UPON INSTALLATION. INTERCHANGEABILITY BETWEEN MS20470AD-4-X RIVETS AND CR3242-4-X RIVETS IS APPROVED.

INTEGRATED Flight Systems

TITLE: AFT EVAPORATOR INSTALL				
DRAWN BY: DWE	DATE: 08/06/08	REV IR	SCALE: NONE	SHEET: 1 OF 4
APPLICATION: AS355			DWG No. 4-21-AS355	

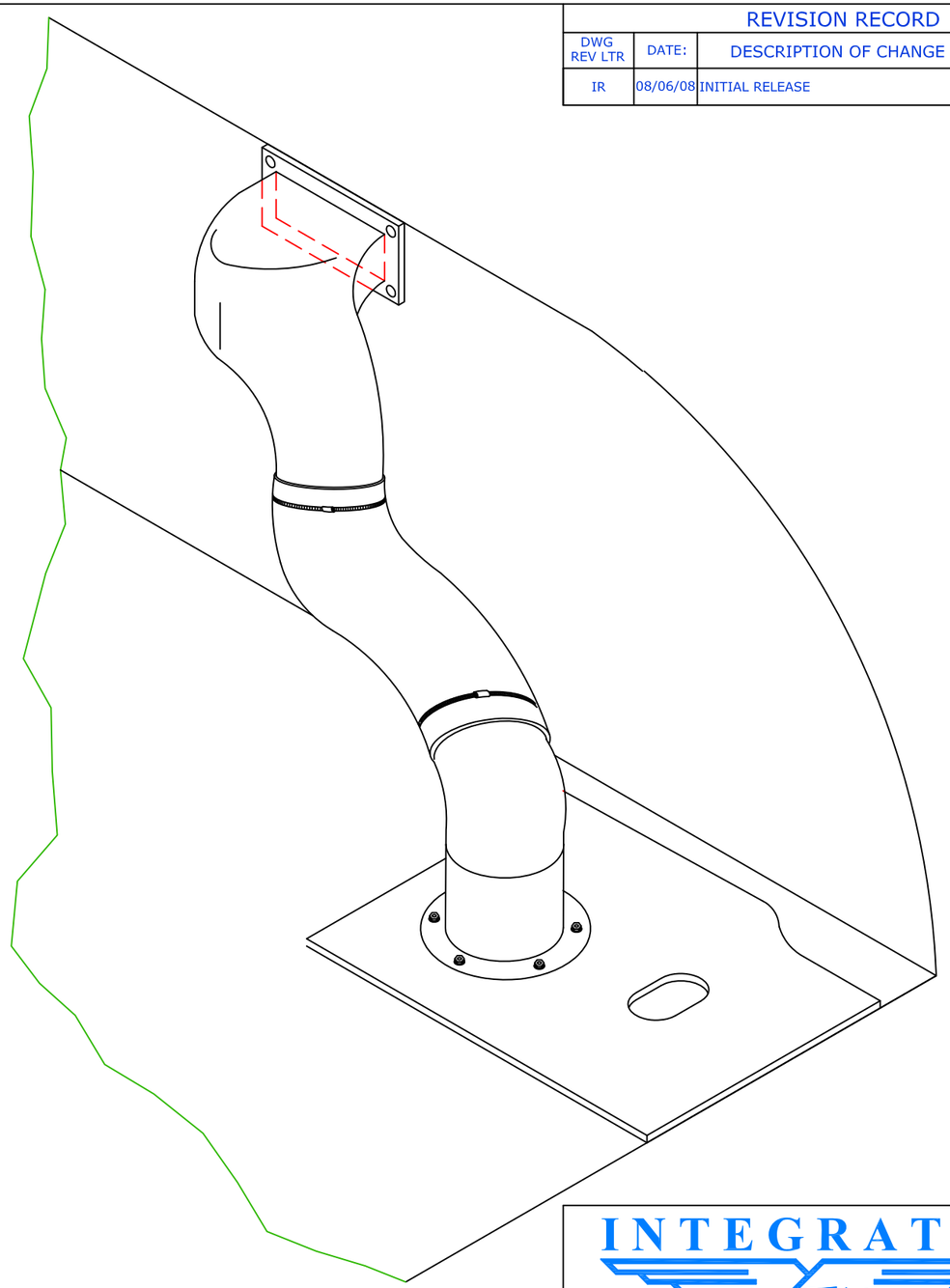


REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-

ALTERNATE PROCEEDURE FOR INSTALLING AFT TRANSITION ELBOW ASSEMBLY PN: 520036-4, AS355 SERIES

TO AVOID REROUTINGOF ROTORBRAKE AND FUEL SELECTOR CABLES.



1. TRIM MATING SURFACES OF ELBOW FOR ALIGNMENT OF ELBOW TO CABIN DUCT.

2. INSTALL ELBOW TO CABIN AFT WALL PER STANDARD INSTALLATION INSTRUCTIONS.

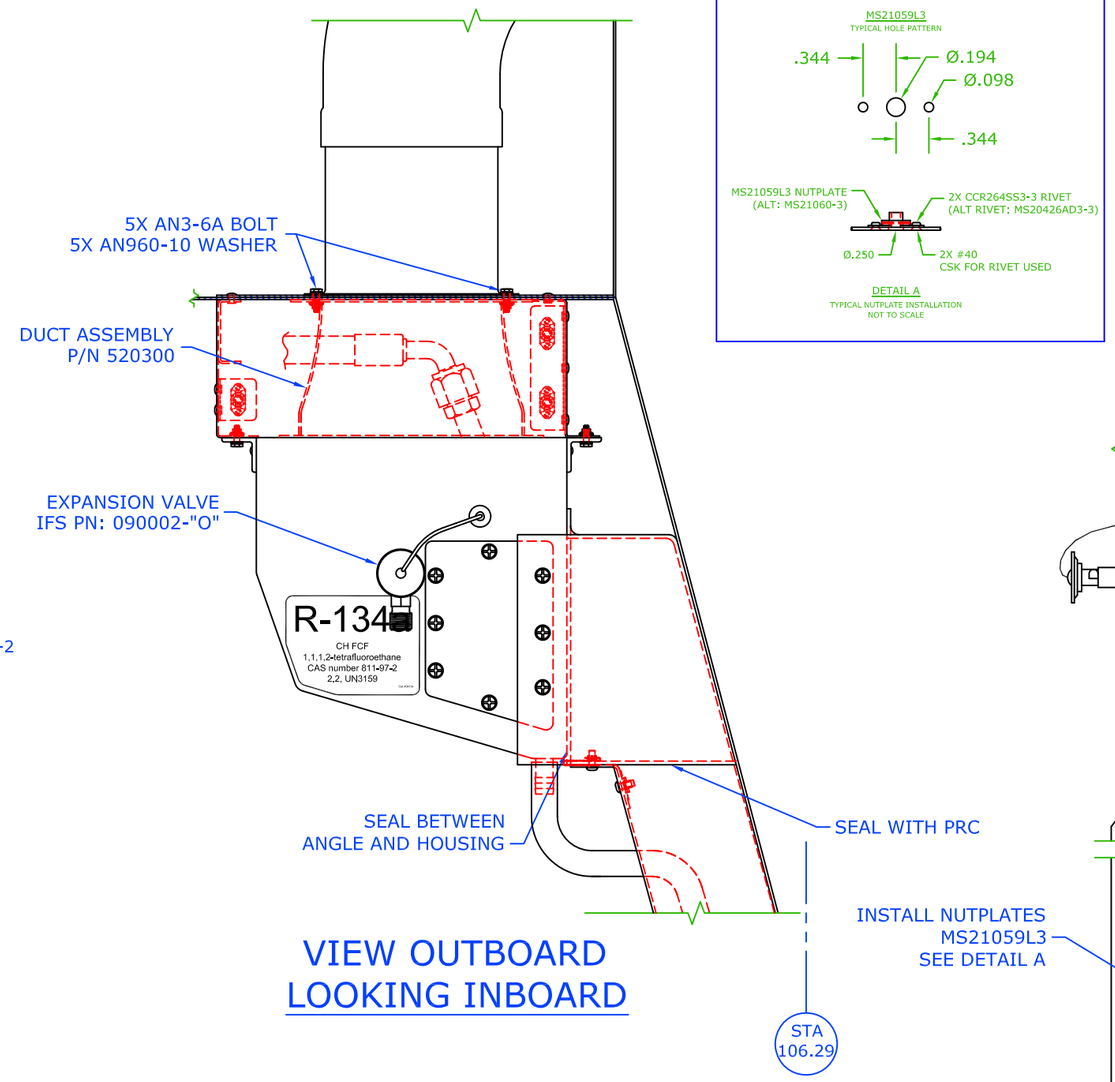
INTEGRATED Flight Systems

TITLE: AFT EVAPORATOR INSTALL

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
DWE	08/06/08	IR	NONE	2 OF 4

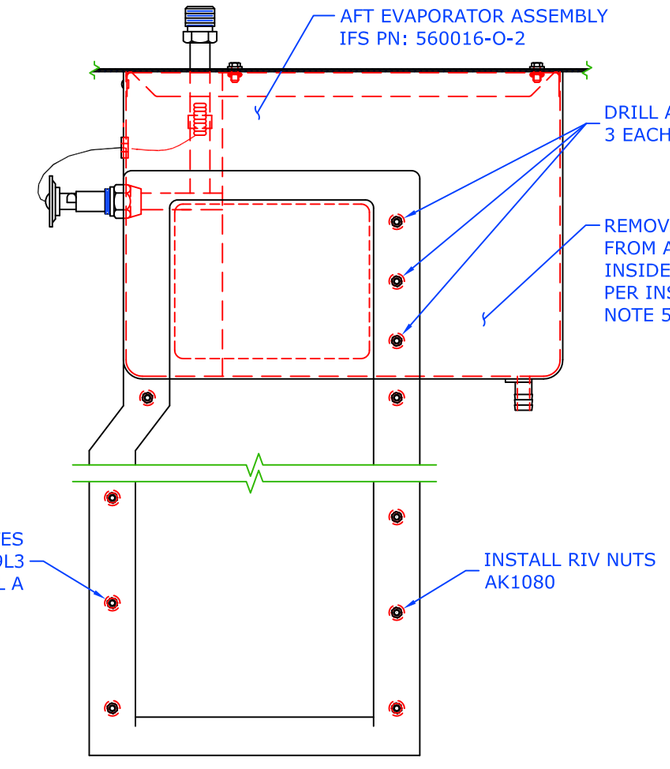
APPLICATION:	DWG No.
AS355	4-21-AS355

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-



VIEW OUTBOARD
LOOKING INBOARD

NOTE: ENSURE THAT DRILLING DOES NOT HIT COIL



VIEW LOOKING AFT

INSTALLATION INSTRUCTIONS:

1. AFT EVAPORATOR AND RETURN AIR DUCT INSTALLATION:

2. TEMPORARILY INSTALL EVAPORATOR ASSEMBLY, P/N 560016-O-2 UNDER NEWLY INSTALLED DOUBLER WITH 4X AN3-5A BOLTS AND 4X AN960-10 WASHERS AS SHOWN.

3. LOCATE "RETURN AIR CONNECTOR" P/N 250166-1. TRIAL FIT TO THE AFT SIDE OF THE CABIN WALL, IMMEDIATELY IN FRONT OF THE AFT EVAPORATOR. THE OPEN SIDE OF THE CONNECTOR MUST FACE AFT. SLIDE THE CONNECTOR UPWARD UNTIL IT CONTACTS THE FORWARD SIDE OF THE EVAPORATOR. MARK WITH A PENCIL, THE INSIDE OF THE CONNECTORS POSITION ON TO THE EVAPORATOR. REMOVE THE CONNECTOR AND EVAPORATOR. NOTE: THIS HOLE MAY ALREADY EXIST IF IFS HAS TEST RUN SYSTEM AT IT'S LOCATION.

4. LOCATE A LINE ONE (1) INCH ABOVE THE LOWER/FORWARD FACE OF THE EVAPORATOR. TRIAL FIT CONNECTOR TO THE EVAPORATOR, ENSURING THAT THE FLANGES OF THE CONNECTOR DO NOT GO PAST THE INBOARD/OUTBOARD SIDES OF THE EVAPORATOR.

5. CONFIRM THE PENCIL LINES. REMOVE THE CONNECTOR. CUT OUT THE AREA WITHIN THE PENCIL LINES, LEAVING THE ONE (1) INCH LOWER LIP ON THE EVAPORATOR AS A DRAIN SEAL. SEAL AND SECURE WITH RIVETS, THE CONNECTOR TO THE EVAPORATOR PER THE DRAWING.

6. TRIAL FIT RETURN AIR DUCT P/N 250149-1. BACK DRILL FROM INSIDE THE CABIN AT FOUR PLACES, EQUALLY SPACED, AT OUTBOARD EDGE OF RETURN AIR DUCT FLANGE. DRILL THREE PLACES, EQUALLY SPACED, ON INBOARD EDGE OF RETURN AIR DUCT FLANGE, THROUGH FLANGE INTO AIRCRAFT BOX SECTION.

7. REMOVE DUCT AND INSTALL THREE EACH A10K80 RIVNUTS UNDER INBOARD FLANGE LOCATION, INTO AIRCRAFT BOX SECTION. INSTALL FOUR EACH CLIPNUTS, P/N RM52LHA4972-10-02, (ALT. PN: SL215-3-1 OR 130062), ONTO OUTBOARD FLANGE OF RETURN AIR DUCT. INSTALL RETURN AIR DUCT WITH SEVEN EACH AN525-10R10 SCREWS (FOUR FROM INSIDE CABIN FOR CLIPNUTS), USING K501 TAPE UNDER BOTH DUCT FLANGES AS SEALANT.

8. CONNECT RETURN AIR DUCT TO AFT EVAPORATOR USING ANGLE RETURN AIR CONNECTOR ASSEMBLY, P/N 510261-1. USE POP RIVETS, NUTPLATES AND SCREWS. SEAL ANGLE TO RETURN AIR DUCT AND AFT EVAPORATOR HOUSING.

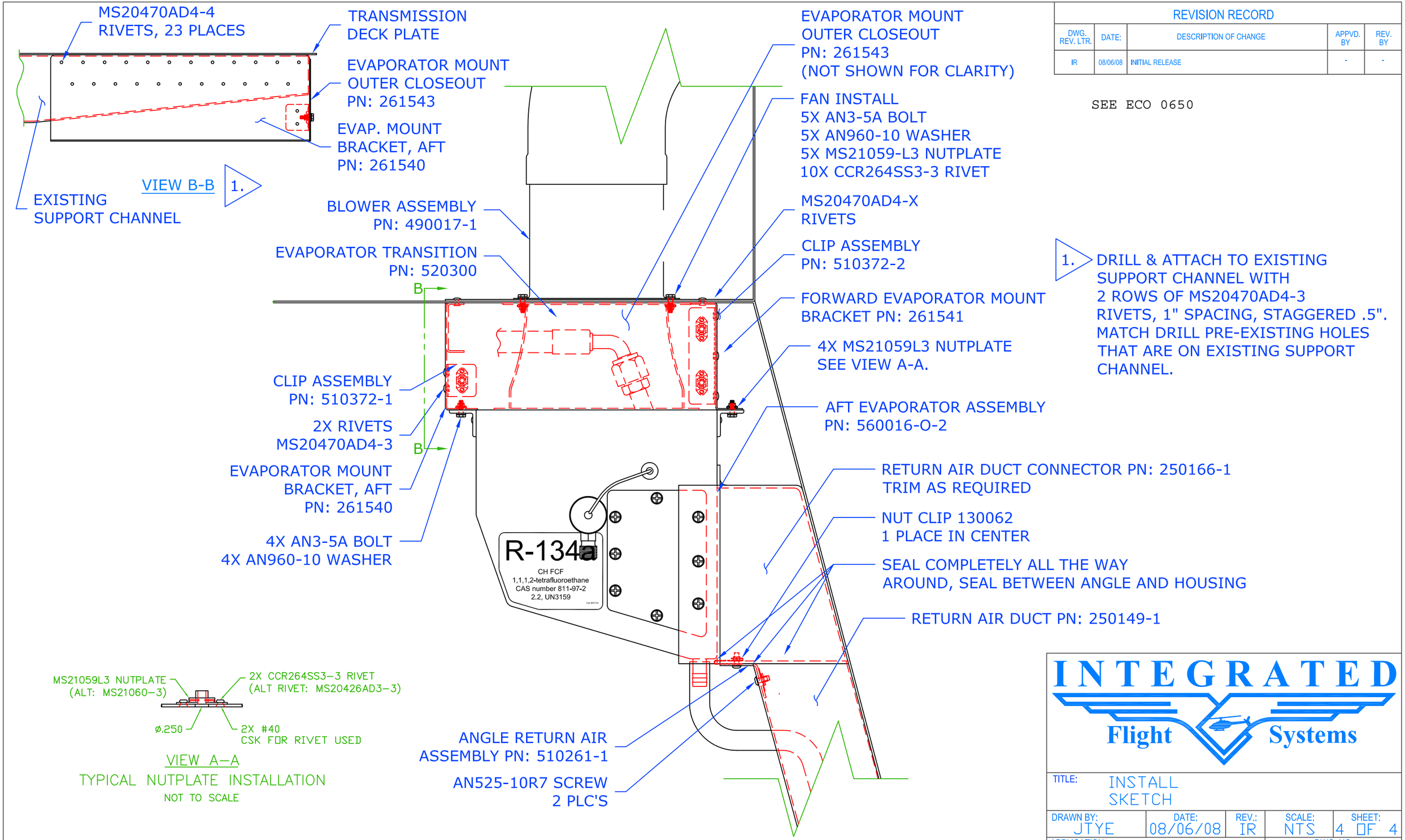
9. INSTALL DRAIN LINE AND ROUTE AS SHOWN IN DRAWING 4-21-AS355 SHEET 1 OF 4. SECURE DRAIN LINE WITH ADEL CLAMPS OR TIE WRAPS AND ROUTE TO A LOCATION OUTBOARD OF THE BELLY PANEL. TIE WRAP TO LANDING GEAR CROSS MEMBER ON AFT SIDE.

NOTE: ENSURE THAT DRAIN LINE IS NOT CRIMPED WHEN BELLY PANEL IS RE-INSTALLED.

CAUTION BE SURE THAT THE DRAIN LINE IS PROPERLY SECURED AND LONG ENOUGH SO THAT CONDENSATION DOES NOT FLOW FROM THE LINE, AFT INTO THE BAGGAGE COMPARTMENT.

INTEGRATED Flight Systems

TITLE: AFT EVAPORATOR INSTALL				
DRAWN BY: DWE	DATE: 08/06/08	REV IR	SCALE: NONE	SHEET: 3 OF 4
APPLICATION: AS355			DWG No. 4-21-AS355	



REVISION RECORD				
DWG. REV. LTR.	DATE:	DESCRIPTION OF CHANGE	APPVD. BY	REV. BY
IR	08/06/08	INITIAL RELEASE	-	-

SEE ECO 0650

1. DRILL & ATTACH TO EXISTING SUPPORT CHANNEL WITH 2 ROWS OF MS20470AD4-3 RIVETS, 1" SPACING, STAGGERED .5". MATCH DRILL PRE-EXISTING HOLES THAT ARE ON EXISTING SUPPORT CHANNEL.

INTEGRATED Flight Systems

TITLE: INSTALL SKETCH				
DRAWN BY: JTYE	DATE: 08/06/08	REV.: IR	SCALE: NTS	SHEET: 4 OF 4
APPLICATION: AS355			DWG. NO.: 4-21-AS355	

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0650	SHT 1 OF 6
DWG No. 4-21-AS355	REV IR
DWG No.	REV
REF. STC No. SH5947SW	
REF. STC No.	

CHANGE CLASS:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ NON-INTERCHANGEABLE PARTS
- ■ INTERCHANGEABLE PARTS
- ☐ OTHER _____

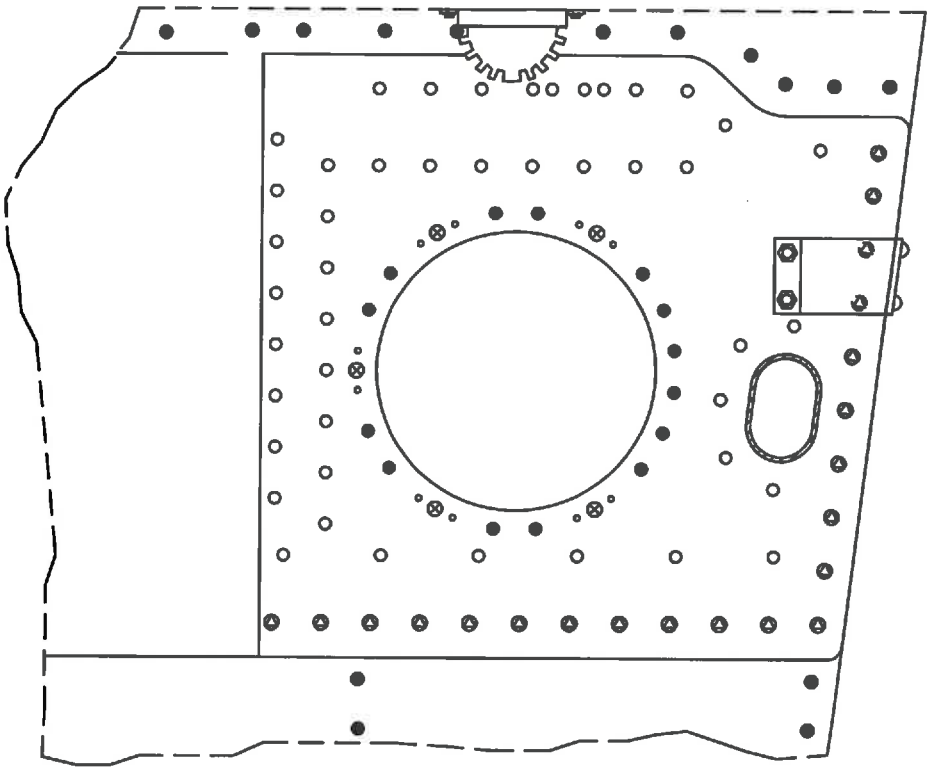
EXISTING/IN-WORK STOCK DISPOSITION:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ RE-WORK EXISTING STOCK
- ☐ SCRAP EXISTING STOCK
- ■ OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- ☐ ALL UNITS THIS CUSTOMER
- ☐ LIMITED UNITS SPECIFIED
- ☐ ALL UNITS MFG'D AFTER THIS DATE
- ■ OTHER ALL UNITS

DESCRIPTION OF CHANGE:

SHEET 1 OF 4:
ADDED CALL OUT NOTES, FLAG NOTES, AND IMAGES FOR EXISTING ITEMS.

WAS:



REMARKS:

MINOR CHANGES FOR PRODUCT IMPROVEMENT.

ENGINEERING REVIEW BOARD		
SIGNATURE	STAMP	DATE
	ERB04	9/17/14
	QA11	9/17/14
	P015	9/17/14

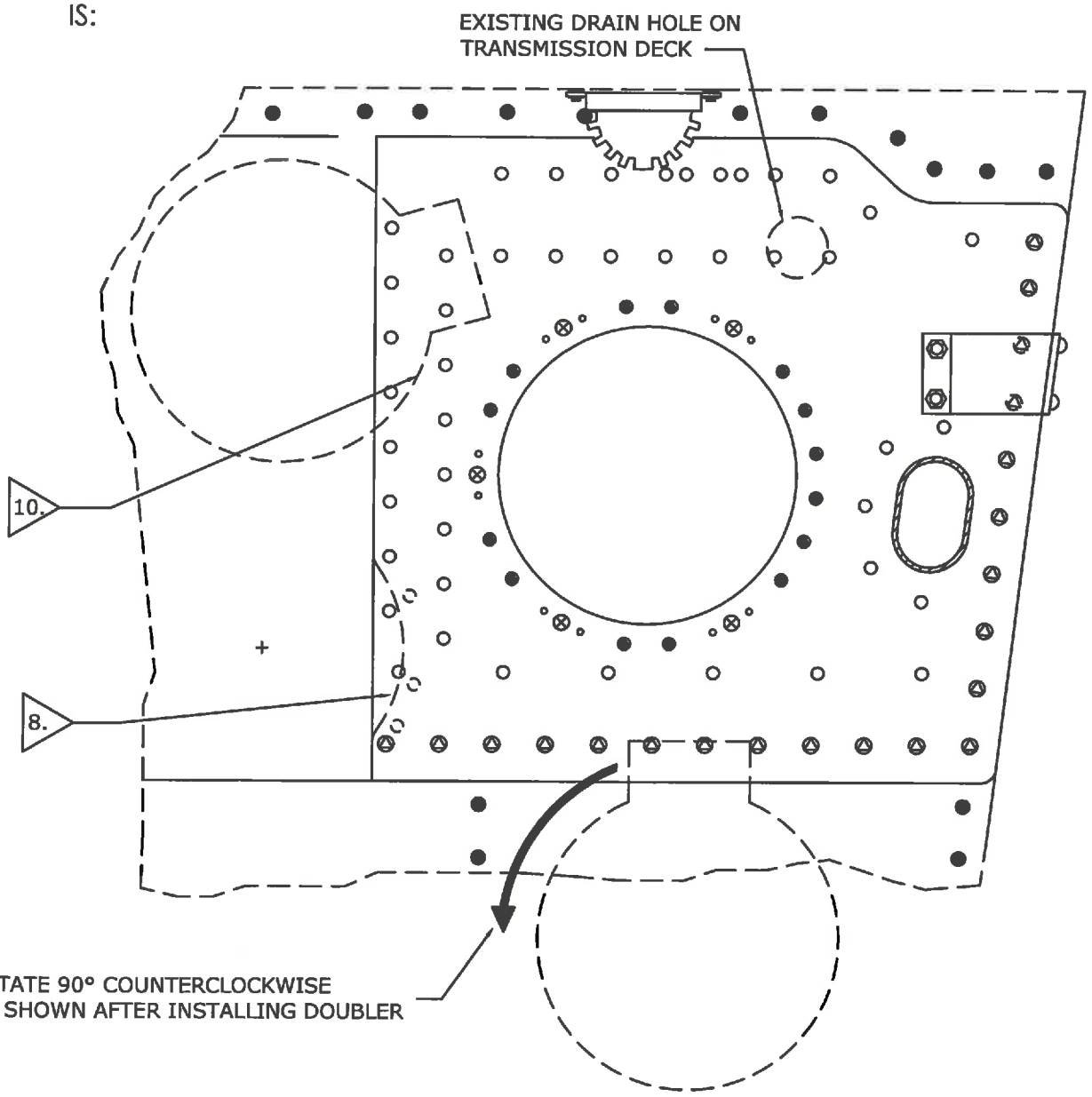
INCORPORATION STATUS
- ☐ IMMEDIATE
- ■ OUTSTANDING

PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0650		SHT 2 OF 6
DWG No. 4-21-AS355		REV IR
DWG No.		REV
REF. STC No. SH5497SW		
REF. STC No.		

IS:



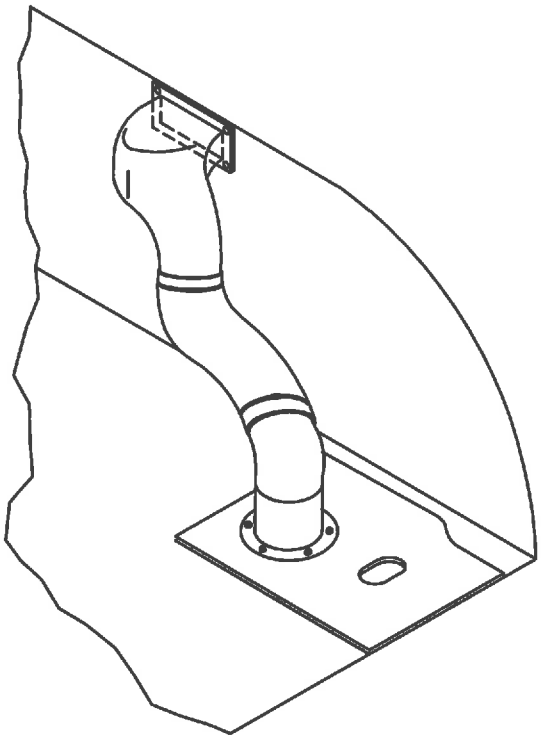
PSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0650	SHT 3 OF 6
DWG No. 4-21-AS355	REV IR
DWG No.	REV
REF. STC No. SH5497SW	
REF. STC No.	

SHEET 2 OF 4:
ADDED RESISTOR VIEW AND CALL OUT NOTE .

WAS:



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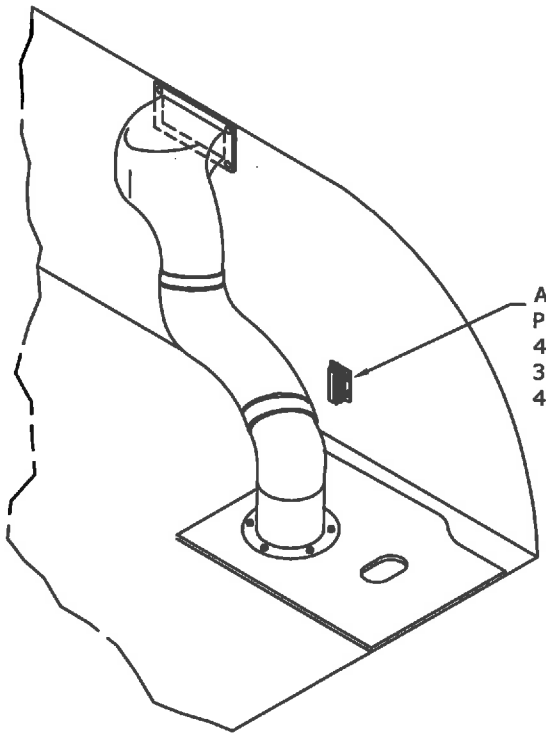


PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0650	SHT 4 OF 6
DWG No. 4-21-AS355	REV IR
DWG No.	REV
REF. STC No. SH5947SW	
REF. STC No.	

SHEET 3 OF 4:
MODIFIED NOTES 4, 5, 6, & 7; ADDED NOTE 9, 13, FLAG NOTE 8 AND 10;
NOTE 8 IS NOW 11, 9 IS NOW 12.

WAS:

4. LOCATE A LINE ONE (1) INCH ABOVE THE LOWER/FORWARD FACE OF THE EVAPORATOR. TRIAL FIT CONNECTOR TO THE EVAPORATOR, ENSURING THAT THE FLANGES OF THE CONNECTOR DO NOT GO PAST THE INBOARD/OUTBOARD SIDES OF THE EVAPORATOR.

5. CONFIRM THE PENCIL LINES. REMOVE THE CONNECTOR. CUT OUT THE AREA WITHIN THE PENCIL LINES, LEAVING THE ONE (1) INCH LOWER LIP ON THE EVAPORATOR AS A DRAIN SEAL. SEAL AND SECURE WITH RIVETS, THE CONNECTOR TO THE EVAPORATOR PER THE DRAWING.

6. TRIAL FIT RETURN AIR DUCT P/N 250149-1. BACK DRILL FROM INSIDE THE CABIN AT FOUR PLACES, EQUALLY SPACED, AT OUTBOARD EDGE OF RETURN AIR DUCT FLANGE. DRILL THREE PLACES, EQUALLY SPACED, ON INBOARD EDGE OF RETURN AIR DUCT FLANGE, THROUGH FLANGE INTO AIRCRAFT BOX SECTION.

7. REMOVE DUCT AND INSTALL THREE EACH A10K80 RIVNUTS UNDER INBOARD FLANGE LOCATION, INTO AIRCRAFT BOX SECTION. INSTALL FOUR EACH CLIPNUTS, P/N RM52LHA4972-10-02, (ALT. PN: SL215-3-1 OR 130062),
ONTO OUTBOARD FLANGE OF RETURN AIR DUCT. INSTALL RETURN AIR DUCT WITH SEVEN EACH AN525-10R10 SCREWS (FOUR FROM INSIDE CABIN FOR CLIPNUTS), USING K501 TAPE UNDER BOTH DUCT FLANGES AS SEALANT.

IS:

4. LOCATE A LINE ONE (1) INCH ABOVE THE LOWER/FORWARD FACE OF THE EVAPORATOR. TRIAL FIT CONNECTOR TO THE EVAPORATOR, ENSURING THAT THE FLANGES OF THE CONNECTOR DO NOT GO PAST THE INBOARD/OUTBOARD SIDES OF THE EVAPORATOR. MARK AND TRIM TO ALLOW FOR CLEARANCE OF EXISTING DRAIN LINE. **SEALING GAPS IS IMPORTANT.**

5. CONFIRM THE PENCIL LINES. REMOVE THE CONNECTOR. CUT OUT THE AREA WITHIN THE PENCIL LINES, LEAVING AT LEAST ONE (1) INCH LOWER LIP ON THE EVAPORATOR AS A DRAIN SEAL AS REQUIRED. SEAL AND SECURE WITH RIVETS, THE CONNECTOR TO THE EVAPORATOR PER THE DRAWING.

6. TRIAL FIT "RETURN AIR DUCT" P/N 250166-1 AND TRIM AND SEAL AS REQUIRED AT TOP/FORWARD AND WHERE EXISTING DRAIN LINE INTERFERE TO FIT WITH "RETURN AIR CONNECTOR". BACK DRILL FROM INSIDE THE CABIN AT FOUR PLACES, EQUALLY SPACED, AT OUTBOARD EDGE OF RETURN AIR DUCT FLANGE. DRILL THREE PLACES, EQUALLY SPACED, ON INBOARD EDGE OF RETURN AIR DUCT FLANGE, THROUGH FLANGE INTO AIRCRAFT BOX SECTION.

7. REMOVE DUCT AND INSTALL THREE EACH A10K80 RIVNUTS UNDER INBOARD FLANGE LOCATION,INTO AIRCRAFT BOX SECTION. INSTALL FOUR EACH CLIPNUTS, P/N RM52LHA4972-10-02, (ALT. P/N: SL215-3-1 OR 130062), ONTO OUTBOARD FLANGE OF RETURN AIR DUCT. INSTALL RETURN AIR DUCT WITH SEVEN EACH AN525-10R10 SCREWS (FOUR FROM INSIDE CABIN FOR CLIPNUTS), USING K501 TAPE UNDER BOTH DUCT FLANGES AS SEALANT. **SEALING GAPS IS IMPORTANT.**

8. TRIAL FIT "AFT EVAPORATOR FAN DOUBLER" P/N 260328-2, TRIM EDGE AND REPOSITION RIVET HOLES AS REQUIRED TO CLEAR FROM EXISTING ENGINE OIL TANK.

9. LOCATE "AFT EVAPORATOR FAN DOUBLER" TEMPORARY INSTALL DOUBLER TO THE TRANSMISSION DECK. USING DRAIN HOLE ON TRANSMISSION DECK AS TEMPLATE TRACE HOLE TO DOUBLER AND DRILL NEW DRAIN HOLE TO "AFT EVAPORATOR FAN DOUBLER" AS REQUIRED. EXISTING DRIP EDGE MAY NO LONGER REQUIRED.

10. SAND BOTTOM OF WHITE ELECTRICAL HARNESS COVER TO FIT OVER "AFT EVAPORATOR FAN DOUBLER" P/N 260328-2.

13. SECURE EXISTING DRAIN LINE TO THE AFT EVAP. FAN DOUBLER USING NEW RIVETS P/N MS20470AD-5-X.

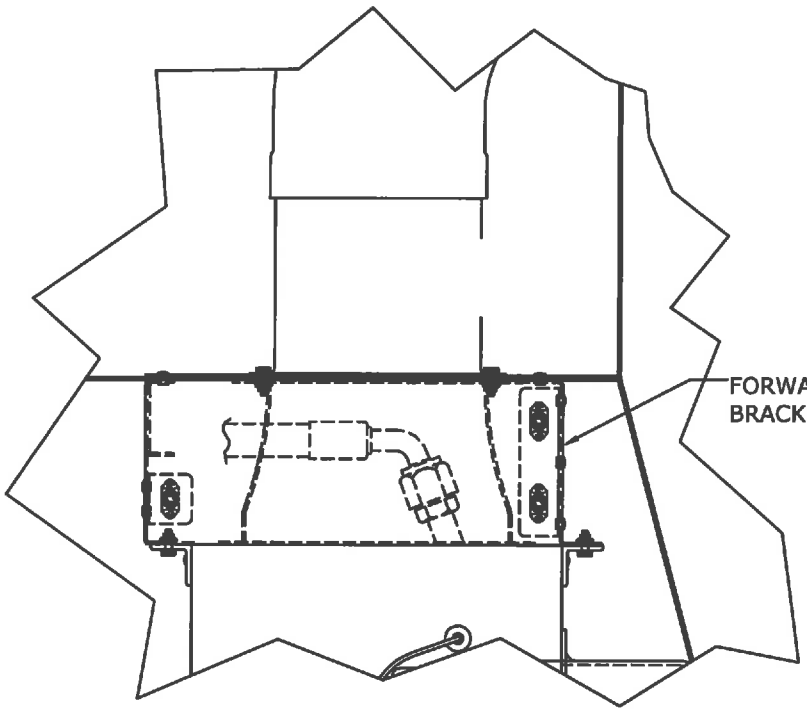
PSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No.	0650	SHT	6 OF 6
DWG No.	4-21-AS355	REV	IR
DWG No.		REV	
REF. STC No.	SH5947SW		
REF. STC No.			

SHEET 4 OF 4 :
MODIFIED CALL OUT NOTE.

WAS:



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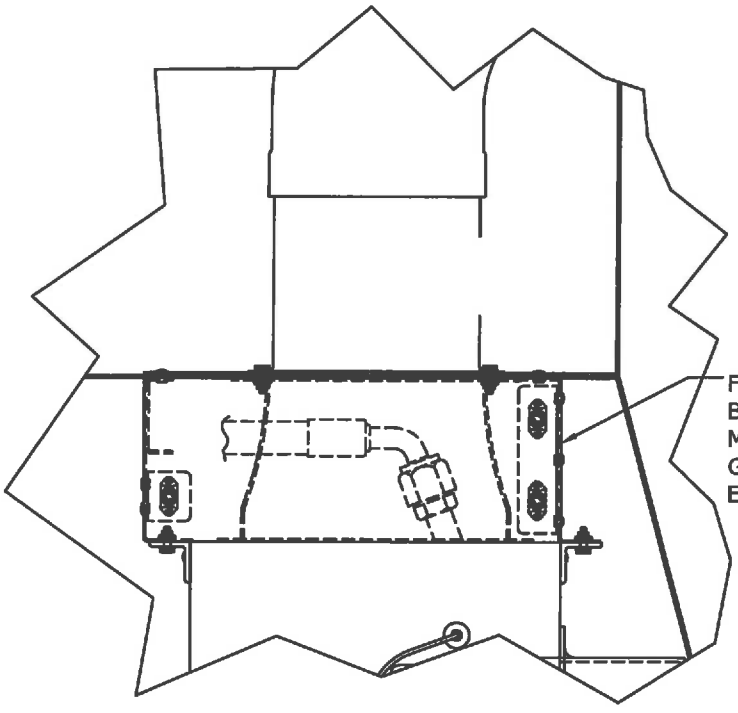
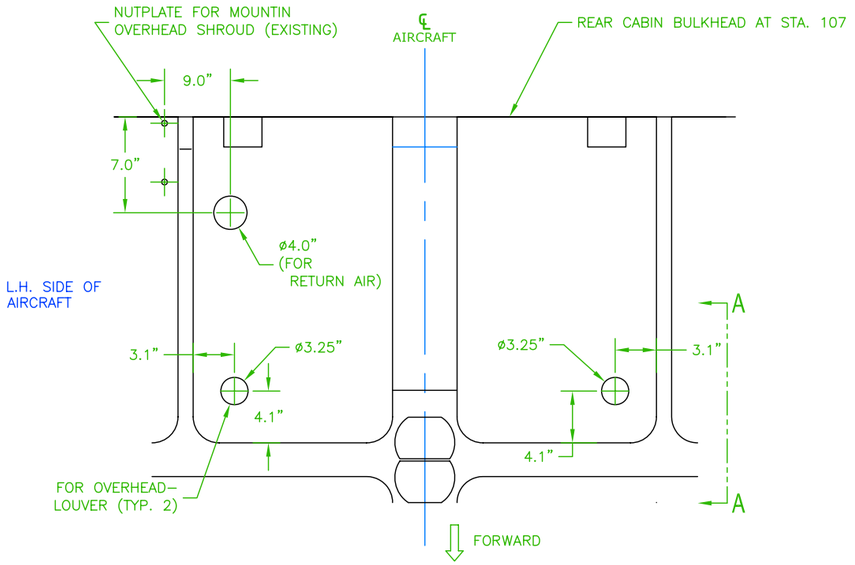
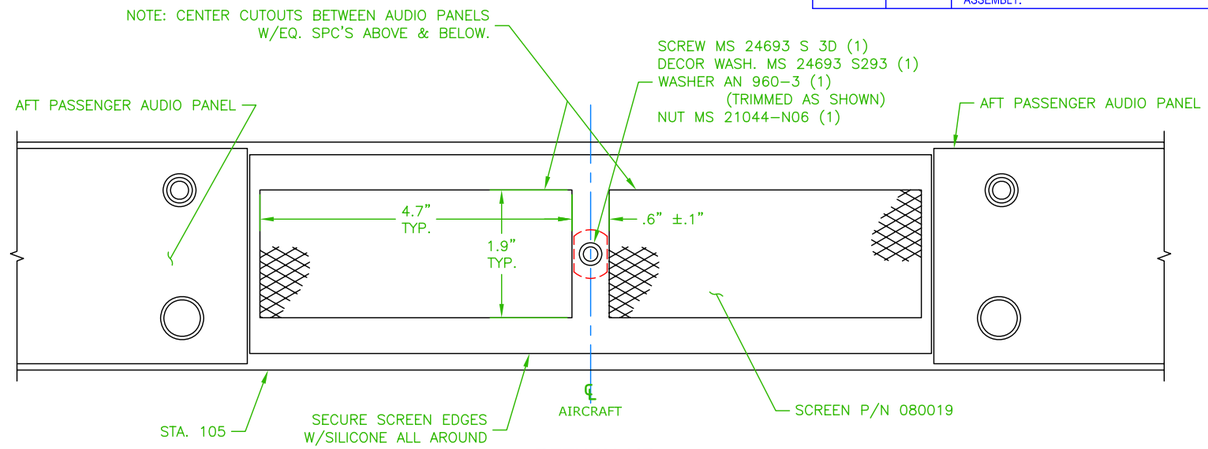


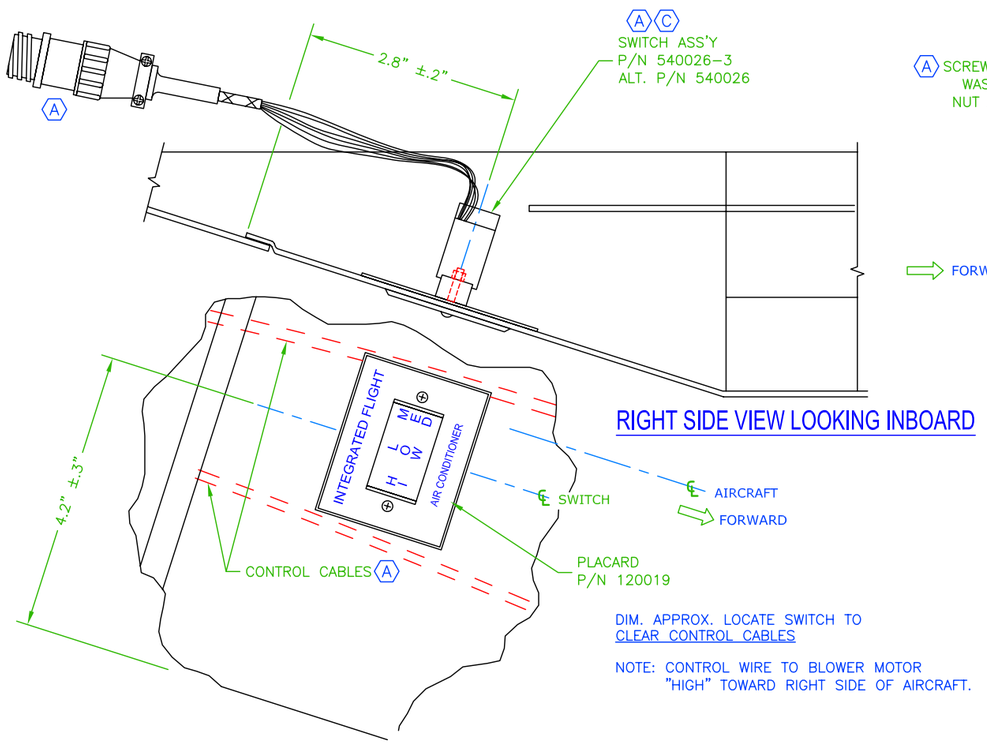
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	AN 525 SCREW WAS MS 27039-2 REVERSED HEAD. SWITCH P/N 540026 WAS P/N 050001. TITLE BLOCK WAS CAS, IS IFS. ADDED CANNON PLUG. INTEGRATED FLIGHT WAS CONSOLIDATE AIRE.	JHK	BRP
B	08/16/00	REVISED DRAWING NUMBER, WAS 5-AS355. SHEET NUMBER WAS 2 OF 2.	JHK	BRP
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK. ADDED ALT. P/N 540026 FOR P/N 540026-3 SWITCH ASSEMBLY.		DWE



VIEW LOOKING UP



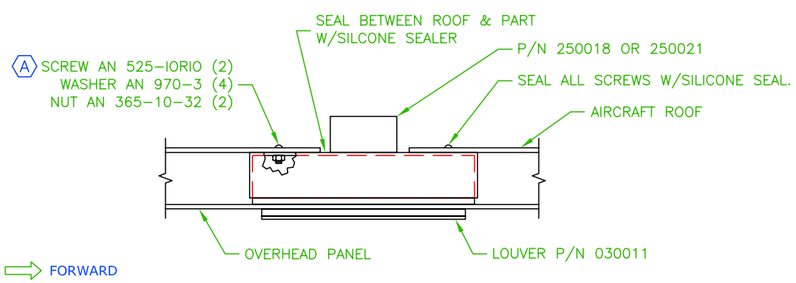
RETURN AIR

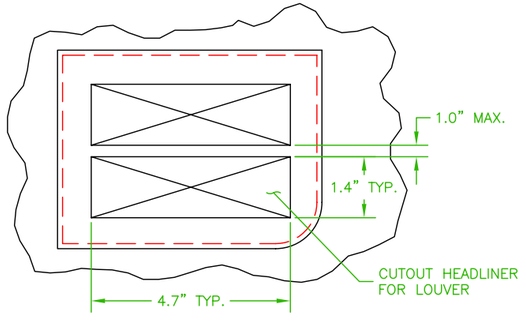


RIGHT SIDE VIEW LOOKING INBOARD

DIM. APPROX. LOCATE SWITCH TO CLEAR CONTROL CABLES

NOTE: CONTROL WIRE TO BLOWER MOTOR "HIGH" TOWARD RIGHT SIDE OF AIRCRAFT.





VIEW A-A
(TYP.2) ROT. 90° CLOCKWISE

C

INTEGRATED Flight Systems

TITLE: AIR DISTRIBUTION

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
BP	05/30/85	C	NONE	1 OF 1
APPLICATION: AS355			DWG No. 5-11-AS355	

Step 6

Installation of Condenser

Installation of Condenser

STEP	PROCEDURE	MECH	INSP
6.1	Remove "tail boom closeout panel" and discard.		
6.2	Prepare to install the dual Air Inlet Doublers, P/N 261013 on the lower part of the tail boom. Secure doublers on Drawing 7-22-AS355. Both doublers are the same part number, but mirror images of each other. **NOTE: ALWAYS INSTALL R.H. doubler prior to installing the L.H.**		
6.3	Locate station lines 5683 and 5932 on the tail boom. Align the TOP of the inside of the R.H. Doubler cut out with the skin lap on the tail boom. Note that the doubler has a taper to it, being wider at the front than at the rear. Tape doubler in place and draw the outline of the inner and outer shape onto the tail boom.		
6.4	Ensure that the doubler will cover all the rivets shown on the install drawing, both existing and the new rivets that will be added. Adjust as required to maintain 2D edge distance (size of rivet called out X 2).		
6.5	Remove stringers on the inside of the tail boom (Drawing 7-22-AS355) within the area of the doubler by drilling out the supporting rivets. These stringers WILL NOT be reused. Drill out all rivets within the area of the doubler.		
6.6	Locate doubler on tail boom as in 6.3. Tape in place. Back drill existing rivet holes to doubler. Cleco doubler in place after first few holes have been drilled. Start a center line and work towards outer edge of doubler.		
6.7	Lay out staggered rows of new rivets around the outer edge of the doubler. Ensure 2D edge distance. Drill through doubler and airframe skin. Remove doubler and deburr all holes. Fit Stringers, P/N 261012 and back drill to match skin (see Drawing 7-22-AS355).		
6.8	Rivet doubler in place. Remove airframe skin to the inside edge of the doubler. Deburr.		
6.9	Install L.H. Doubler of the same part number (261013) in the same manner as above, ensuring that the widest part of the doubler faces forward.		

Installation of Condenser

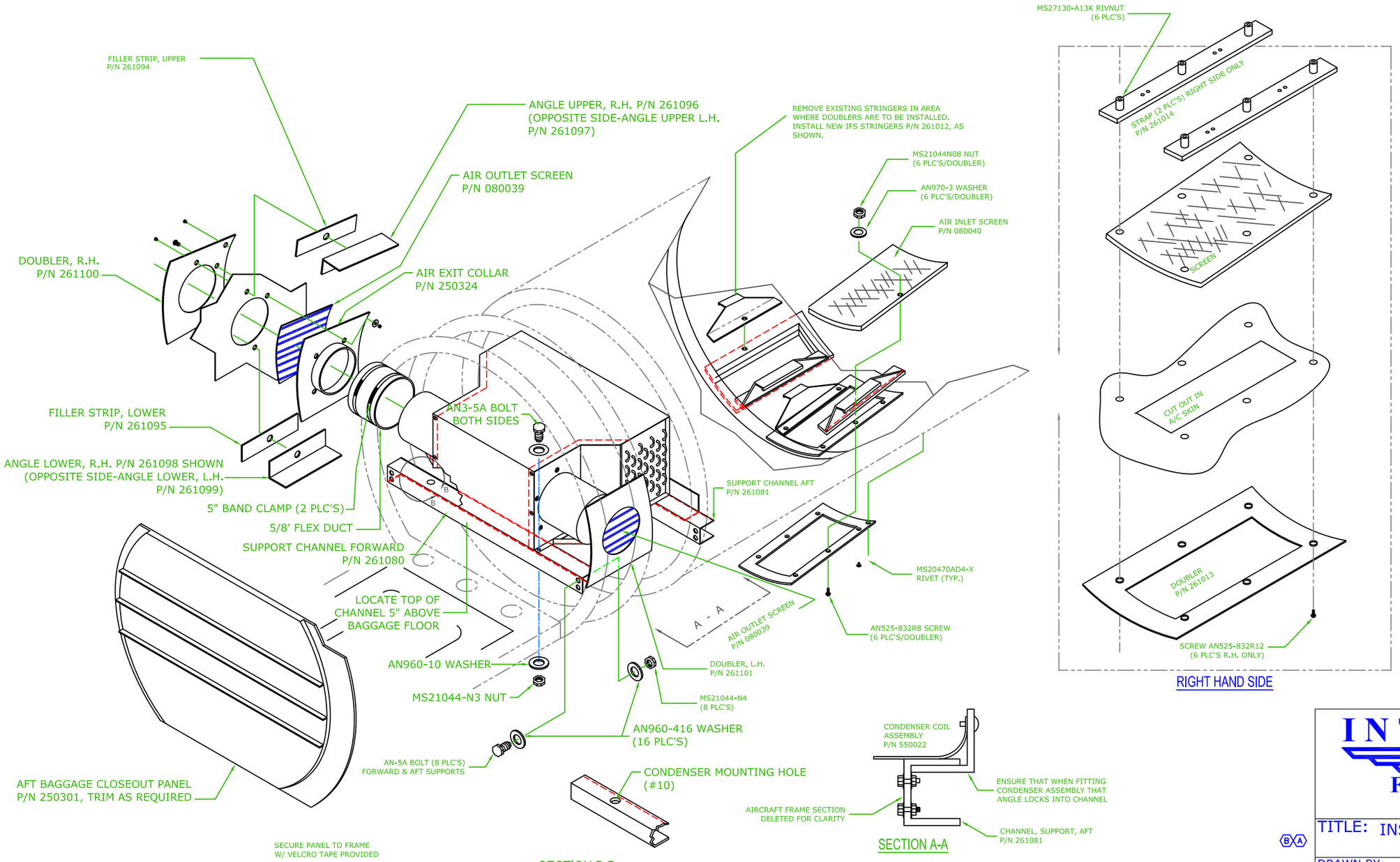
STEP	PROCEDURE	MECH	INSP
6.10	Install Air Inlet Screens. Note that R.H. Screen is mounted with a Strap containing rivnuts, using screws to make that Screen removable. This allows accessibility to the tail boom. Note that L.H. Screen is mounted with screws, washers, & nuts. **NOTE: SOME LATE MODEL HELICOPTERS HAVE EUROCOPTER CORPORATION INSTALLED ACCESS DOORS (with screens) ON THE L.H. SIDE, JUST ABOVE WHERE THE IFS DOUBLERS AND SCREENS ARE USUALLY FITTED. THIS AREA MAY BE USED IN LIEU OF THE IFS DOUBLER/SCREEN, FOR AN AIR INTAKE.**		
6.11	Lay out and install L.H. and R.H. Air Exit Doublers, Screens and Air Exit Collars in the same manner as the Air Inlets per Drawings 7-22-AS355 and 7-24-AS355.		
6.12	Position Condenser Support Channel, Forward P/N 261080 five (5) inches above the aft baggage floor (as measured from the floor to the top of the channel) per 7-22-AS355. Level channel and re-check measurements. Clamp in place.		
6.13	Position Condenser Support Channel, Aft P/N 261081 aft of the next frame in tail boom. Level to support channel, forward and clamp in place 5 inches above aft baggage floor as measured from floor to top of channel.		
6.14	Ensure that both channels are equally spaced off the center line of the airframe and that the pre-drilled mounting holes in the channels allow a minimum of 2D edge distance in the frames they are to be mounted to. Scribe through the holes in both channels to the airframe. Remove channels and drill all right (8) mounting holes, Deburr.		
6.15	Mount the aft and forward channels using the specified hardware. Remove 5" Blowers and temporarily install Condenser Assembly P/N 550022 in place and note any areas of interference.		
6.16	Mark two (2) hole locations in condenser, at each lower outboard corner. Centering on top flange of mounting channel. Drill holes (Drawing 7-22-AS355). Place AN3-5A bolt in hole until trial fitting is complete.		
6.17	Temporarily mount both condenser blowers and ensure alignment with each Air Exit Collar, P/N 250324. Remove blowers and condenser until refrigerant hoses have been connected and leak tested.		

Installation of Condenser

STEP	PROCEDURE	MECH	INSP
6.18	Reinstall the condenser after all hoses have been connected and leak tested.		
6.19	Install dual condenser blowers P/N IFSS 050143-3 DCB. Use one mounting screw as ground for each blower.		
6.20	Fit condenser air exit flex duct over blower and onto Air Exit Collar. Install band clamps to secure flex duct.		
6.21	Install Aft Baggage Close Out Panel P/N 250301 per drawing 7-22-AS355.		

NOTES:

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	DRAWING NUMBER WAS 7-AS355 IS 7-22-AS355. SHEET NUMBER WAS 1 OF 5 IS 1 OF 1.	JHK	KML
B	08/06/08	CONVERTED INTO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

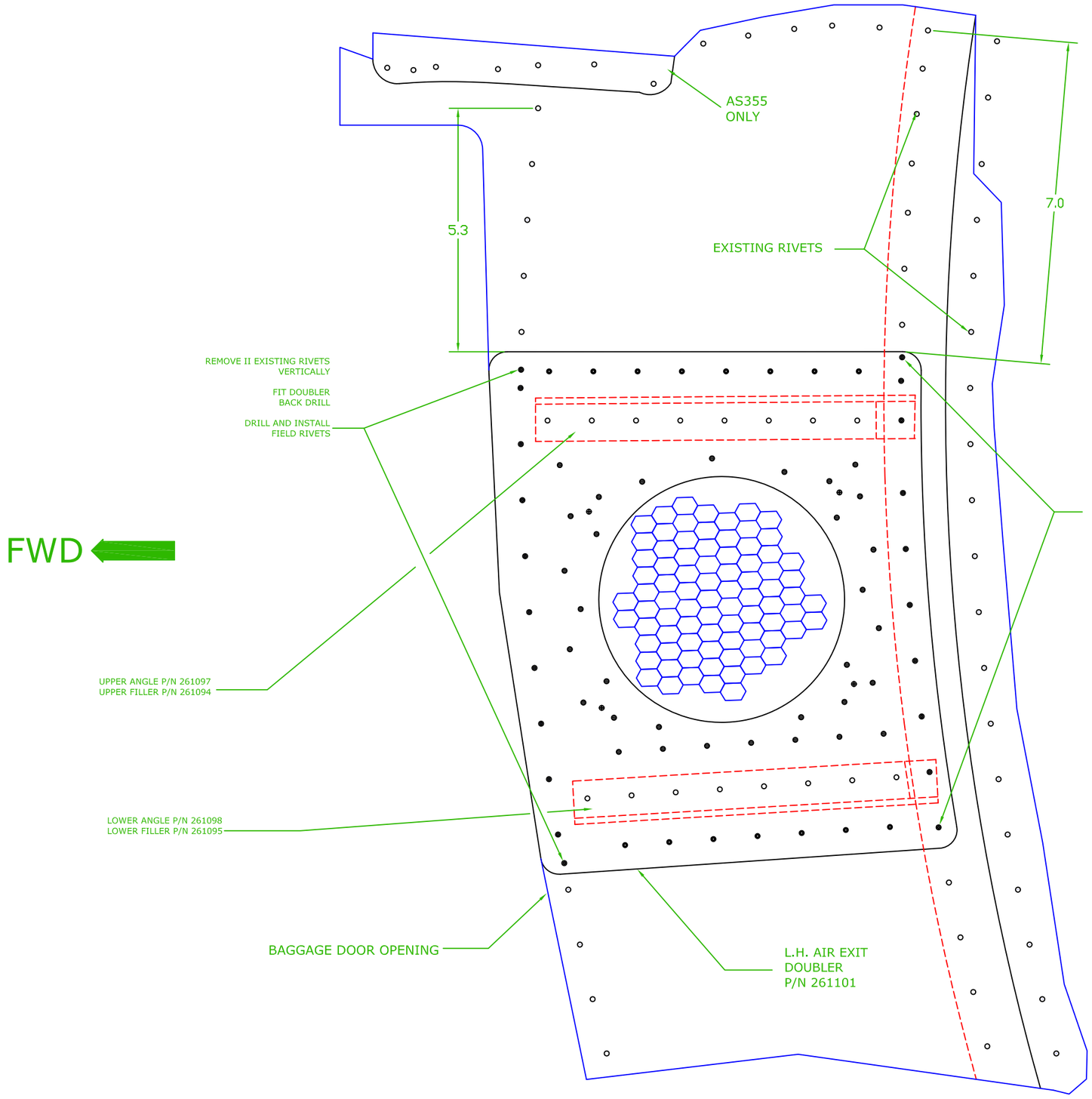


INTEGRATED Flight Systems

TITLE: INSTALLATION CONDENSER

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
KML	11/10/96	B	NONE	1 OF 1
APPLICATION: AS 355			DWG No. 7-22-AS355	

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	DRAWING NUMBER WAS 7-AS355 IS 7-23-AS355. SHEET NUMBER WAS 2 OF 5 IS 1 OF 1.	JHK	KML
B	08/06/08	CONVERTED INTO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE



IF STROBE POWERPACK IS IN 3 O'CLOCK POSITION
RELOCATE TO II O'CLOCK POSITION SAME STATION LINE.

CONDENSER AIR EXAUST DOUBLER (LH)

REMOVE II EXISTING RIVETS, VERTICALLY

FIT DOUBLER BACK GRILL

DRILL AND INSTALL FIELD RIVETS

AFT

- MS20470AD5-X RIVET EXISTING
- MS20470AD5-X RIVET
- MS20470AD4-X RIVET
- MS20470AD4-X RIVET

NOTE RIVET LENGTHS MAYBE DETERMINED UPON INSTALLATION, INTERCHANEABILITY BETWEEN MS20470AD RIVET AND CR3234 OR CR3243 RIVETS IS APPROVED

INTEGRATED Flight Systems

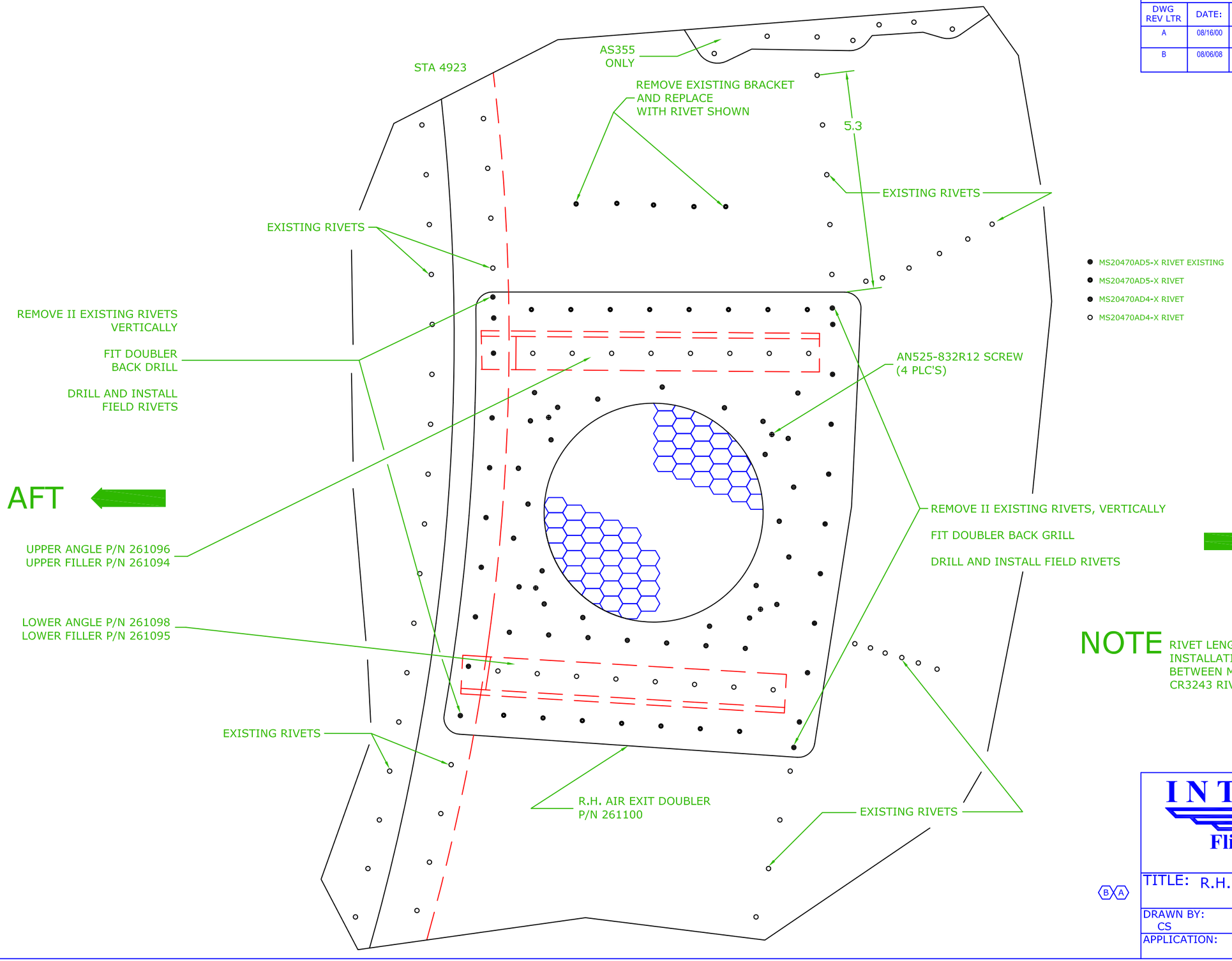
B

TITLE: L.H. AIR EXIT DOUBLER INSTALL

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
KML	11/10/96	B	NONE	1 OF 1

APPLICATION:	DWG No.
AS 355	7-23-AS355

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	DRAWING NUMBER WAS 7-AS355 IS 7-24-AS355. SHEET NUMBER WAS 3 OF 5 IS 1 OF 1.	JHK	CS
B	08/06/08	CONVERTED INTO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE



- MS20470AD5-X RIVET EXISTING
- MS20470AD5-X RIVET
- MS20470AD4-X RIVET
- MS20470AD4-X RIVET

NOTE RIVET LENGTHS MAYBE DETERMINED UPON INSTALLATION, INTERCHANEABILITY BETWEEN MS20470AD RIVET AND CR3234 OR CR3243 RIVETS IS APPROVED

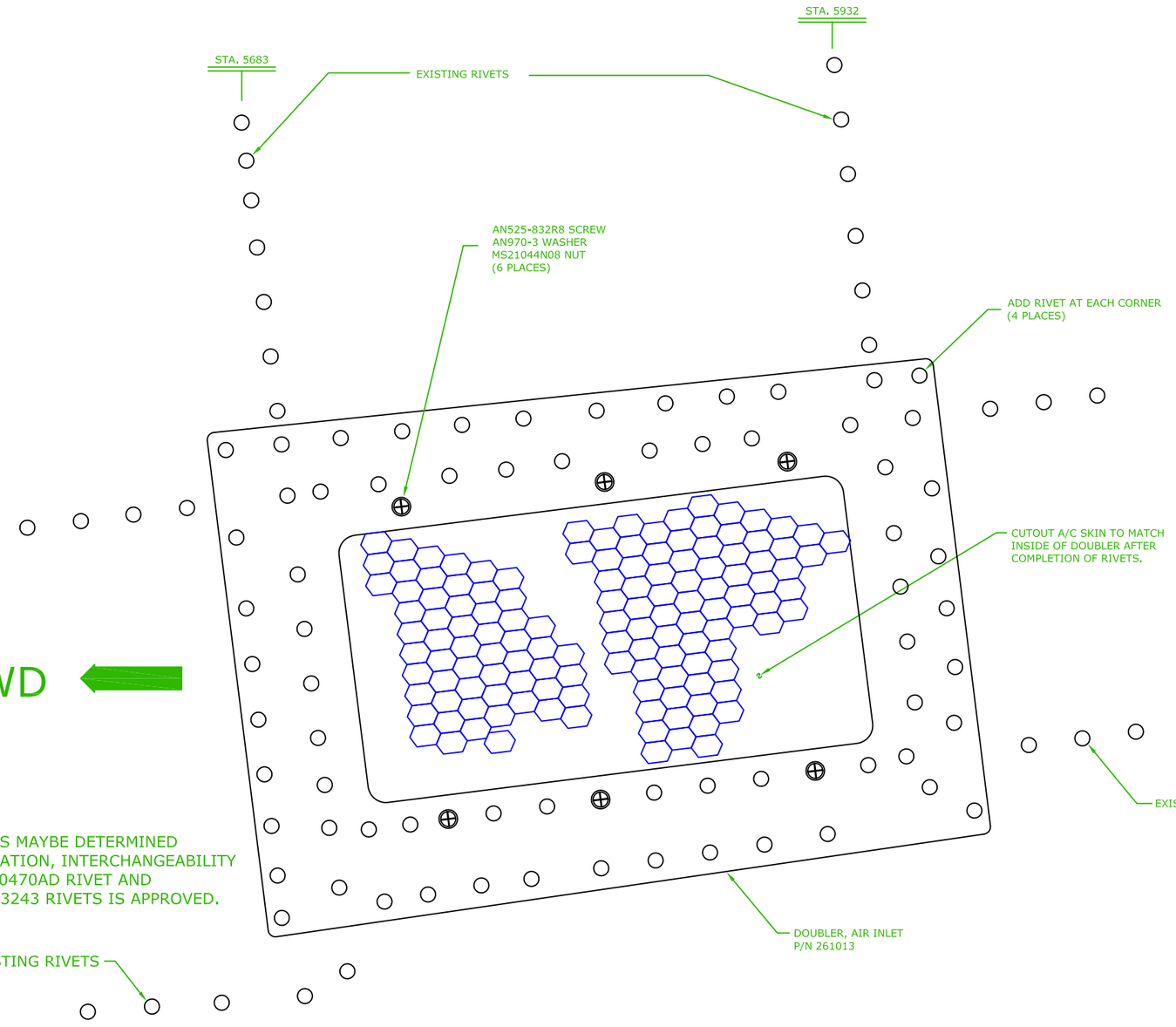
INTEGRATED Flight Systems

TITLE: R.H. AIR EXIT DOUBLER INSTALL

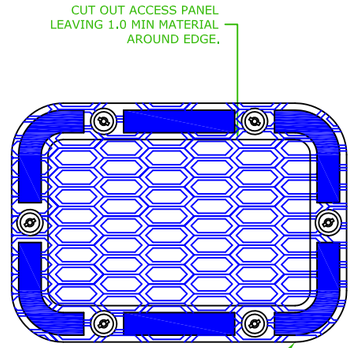
DRAWN BY:	DATE:	REV	SCALE:	SHEET:
CS	11/10/96	B	NONE	1 OF 1
APPLICATION: AS 355			DWG No. 7-24-AS355	

DOUBLER INSTALL

1. LOCATE DOUBLER ON TAIL BOOM, EQUALLY BETWEEN FRAMES. ENSURE THAT INNER, TOP EDGE OF DOUBLER CUT OUT IS PARALLEL TO HELICOPTER SKIN LAP. TRACE DOUBLER OUTLINE.
2. REMOVE ALL RIVETS IN FORWARD AND AFT VERTICAL ROWS COVERED BY DOUBLER.
3. BACK DRILL DOUBLER TO BOTH EXISTING VERTICAL ROWS OF RIVET HOLES.
4. CLECO DOUBLER IN PLACE.
5. ADD TOP AND BOTTOM ROW OF RIVETS ON INNER PERIMETER ON SAME SPACING AS VERTICAL ROWS OR AS SHOWN.
6. ADD NEW RIVETS AROUND OUTER PERIMETER OF DOUBLER, STAGGERING RIVETS BETWEEN INNER ROW.
7. MAINTAIN 2.0 DIAMETER EDGE DISTANCE ON ALL RIVETS, AT ALL LOCATIONS.
8. SEE LEGEND FOR RIVET SIZE, TYPE, AND LOCATION.
- (A) 9. WHEN AN AMERICAN EUROCOPTER ACCESS PANEL, P/N: 355A23-2010-21, AND DOUBLER, P/N: 355A23-2010-20, IS INSTALLED THE INSTALLATION OF IFS DOUBLER P/N: 261012, CANNOT BE INSTALLED ON L.H. SIDE AS SHOWN. MODIFY AMERICAN EUROCOPTER ACCESS PANEL P/N: 355A23-2010-21 USING IFS SUPPLIED SCREEN, P/N: 080040, AS SHOWN IN VIEW A-A. REINSTALL MODIFIED ACCESS PANEL AS AN ALTERNATE AIR INTAKE ON LEFT SIDE OF TAIL BOOM.



NOTE RIVET LENGHTS MAYBE DETERMINED UPON INSTALLATION, INTERCHANGEABILITY BETWEEN MS20470AD RIVET AND CR3242 OR CR3243 RIVETS IS APPROVED.



(A) VIEW A-A

NOTE
INSTALL R.H. DOUBLER BEFORE L.H.

AIR INLET DOUBLER, L.H.

REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	DRAWING NUMBER WAS 7-AS355 IS 7-25-AS355. SHEET NUMBER WAS 4 OF 5 IS 1 OF 1. ADDED NOTE 9, ADDED VIEW A-A.	JHK	CS
B	08/06/08	CONVERTED INTO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

INTEGRATED Flight Systems

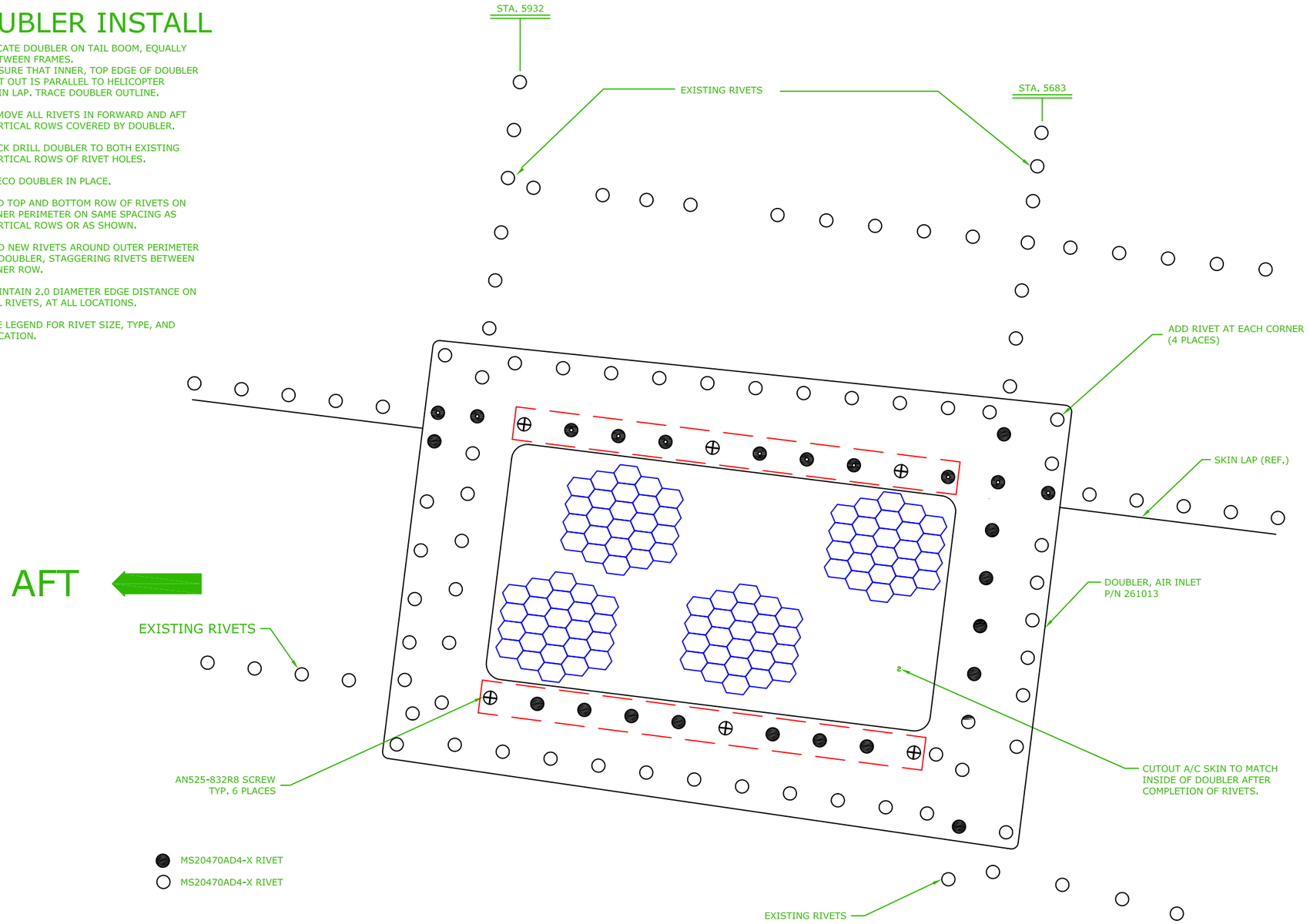
(B) (A)

TITLE: INSTALLATION AIR INLET DOUBLER, L.H.

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
CS	11/10/96	B	NONE	1 OF 1
APPLICATION: AS 355			DWG No. 7-25-AS355	

DOUBLER INSTALL

1. LOCATE DOUBLER ON TAIL BOOM, EQUALLY BETWEEN FRAMES.
   ENSURE THAT INNER, TOP EDGE OF DOUBLER CUT OUT IS PARALLEL TO HELICOPTER SKIN LAP. TRACE DOUBLER OUTLINE.
2. REMOVE ALL RIVETS IN FORWARD AND AFT VERTICAL ROWS COVERED BY DOUBLER.
3. BACK DRILL DOUBLER TO BOTH EXISTING VERTICAL ROWS OF RIVET HOLES.
4. CLECO DOUBLER IN PLACE.
5. ADD TOP AND BOTTOM ROW OF RIVETS ON INNER PERIMETER ON SAME SPACING AS VERTICAL ROWS OR AS SHOWN.
6. ADD NEW RIVETS AROUND OUTER PERIMETER OF DOUBLER, STAGGERING RIVETS BETWEEN INNER ROW.
7. MAINTAIN 2.0 DIAMETER EDGE DISTANCE ON ALL RIVETS, AT ALL LOCATIONS.
8. SEE LEGEND FOR RIVET SIZE, TYPE, AND LOCATION.



NOTE

INSTALL R.H. DOUBLER BEFORE L.H.

NOTE

RIVET LENGHTS MAYBE DETERMINED UPON INSTALLATION, INTERCHANGEABILITY BETWEEN MS20470AD RIVET AND CR3242 OR CR3243 RIVETS IS APPROVED.

AIR INLET DOUBLER, R.H.

REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	DRAWING NUMBER WAS 7-AS355 IS 7-26-AS355. SHEET NUMBER WAS 5 OF 5 IS 1 OF 1.	JHK	KML
B	08/06/08	CONVERTED INTO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

INTEGRATED Flight Systems

B A

TITLE: INSTALLATION AIR INLET DOUBLER, R.H.

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
KML	11/10/96	B	NONE	1 OF 1

APPLICATION:	DWG No.
AS 355	7-26-AS355

Step 7

Installation of Forward Evaporator

Installation of Forward Evaporator

STEP	PROCEDURE	MECH	INSP
7.1	The Forward Evaporator Assembly P/N 560023-1 is installed in the left hand side of nose. See drawing 4-4-AS355.		
7.2	Relocate and wire equipment to clear evaporator assembly.		
7.3	Remove 3 each existing bolts as shown in drawing (save to reinstall later).		
7.4	Position Evaporator Assembly P/N 560023-1 as shown. Align outboard support to 3 each bolt holes on floor, mark around foot. Remove evaporator.		
7.5	Do Not drill rivet hole to bracket, they will be filled in with flush rivets.		
7.6	Reposition evaporator, back drill bolt holes and rivet hole. From floor to support, cleco in place. Next, level evaporator and drill 3 holes on inboard evaporator mount as shown in drawing 4-4-AS355 and cleco in place.		

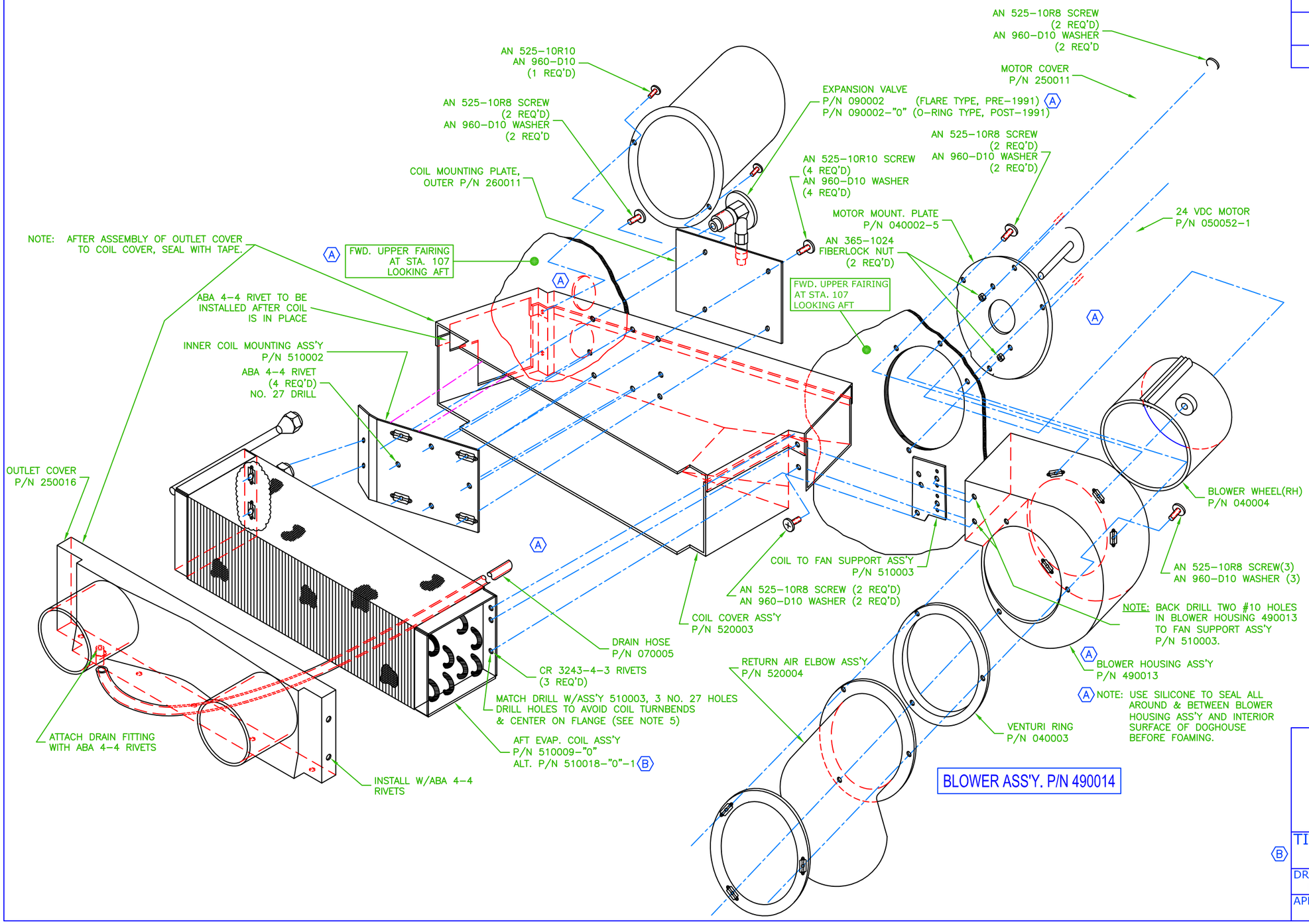
Installation of Forward Evaporator

STEP	PROCEDURE	MECH	INSP
7.7	Next align and drill lateral support as shown in View A-A.		
7.8	Remove evaporator assembly, install flush rivet in floor.		
7.9	Connect Freon lines P/N 570069-O-A & 570073-O-A to evaporator and install evaporator.		
7.9 (AS355 NP)	Connect Freon lines P/N 570069-O-B & 570073-O-B to evaporator and install evaporator.		
7.10	Install Drain Hose P/N 070005 route to existing hole found in skin on right forward side of nose. A new hole may be drilled if needed.		
7.11	Secure drain line and cut off at negative angle.		
7.12	Locate the air louvers on the left and right side of glare shield. Cut template from 5-1-AS355 & 5-2-AS355 drawings as locators. NOTE: PROPER LOCATION OF THE AIR OUTLET ASSEMBLIES WILL NOT COVER UP OR INTERFERE WITH THE LOWER GLARE SHIELD MOUNTING SCREWS. SEE DETAIL A-A.		

Installation of Forward Evaporator

7.13	After final trim of the ABS parts (fiberglass, 1991 and on), attach flex hose from the air outlets to the evaporator. The hose to the left hand air outlet is very straight forward. However, the installation of the right side hose can vary according to the avionics package installed. It is usually quite simple to route the hose aft of the radio stack through large existing holes in the vertical sheet metal aircraft parts. It may be necessary to cut around holes in the vertical sheet metal components and route the flex hose through this hole after lining the edges with caterpillar for protection against chafing of the hose, in some cases.		

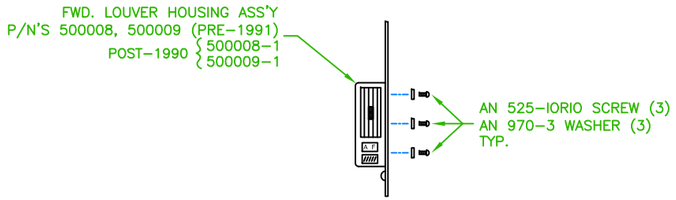
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	DELETE NOTES, DRAIN LEG AND DRAIN TEE. ADD NOTE: SEAL P/N 040013 DEL. CLIP NUT, CIRC. HOLES WERE RECT. 490013 WAS 040013, TITLE BLOCK WAS CAS, IS IFS. ADDED NOTES TO EXP. VALVE.	JHK	B.R.P.
B	6/28/00	ADDED ALTER COIL ASSY, P/N 510018-"0"-1. REVISED DRAWING NUMBER, WAS 8-AS355. SHEET NUMBER WAS 2 OF 2.	JHK	B.R.P.
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE



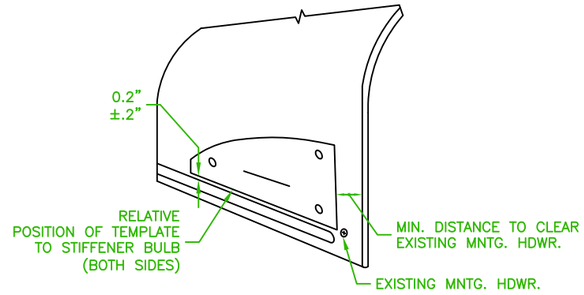
INTEGRATED Flight Systems

TITLE: AFT EVAPORATOR INSTALL

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
B.R.P.	05/30/85	C	NONE	1 OF 1
APPLICATION: AS 355			DWG No. 4-1-AS355	



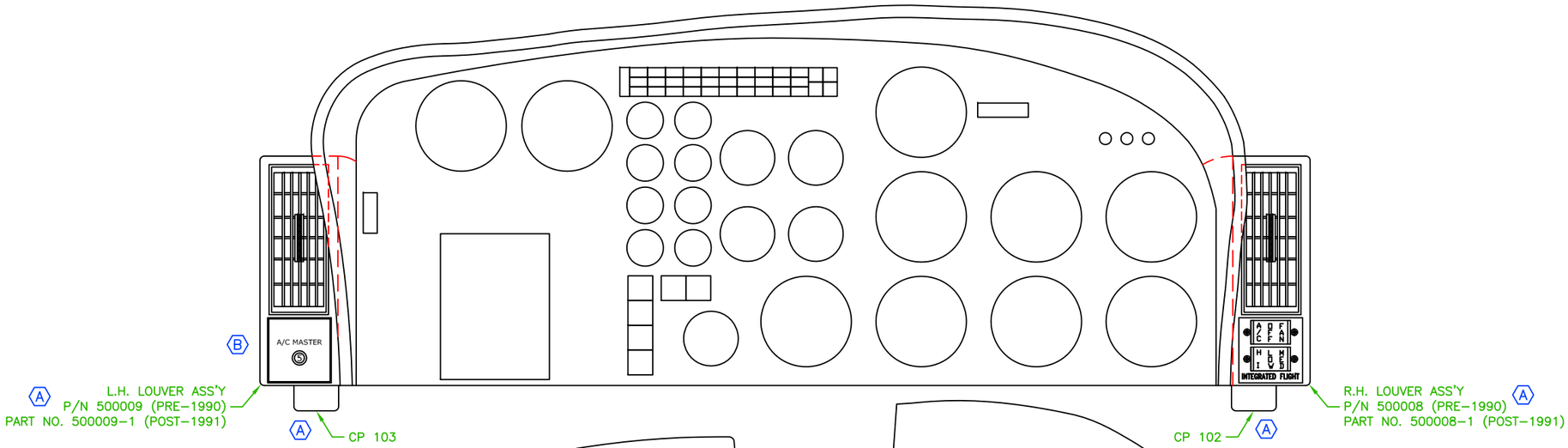
LOUVER ASS'Y MOUNTING

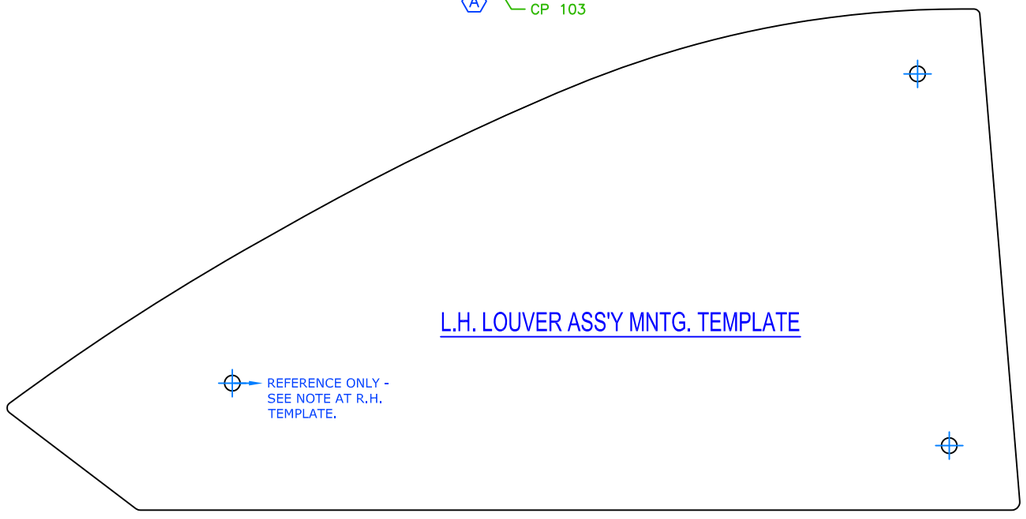


LOUVER ASS'Y POSITION

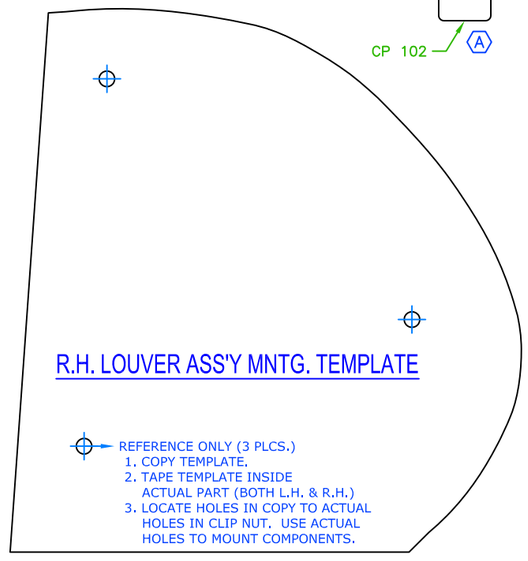
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	ADDED CP102 & CP103. TITLE BLOCK WAS CAS, IS IFS. ADDED 500008-1 & 500009-1.	JHK	BRP
B	08/16/00	REVISED DRAWING NUMBER, WAS 5-AS355. SHEET NUMBER WAS 1 OF 2.	JHK	BRP
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK REMOVED. REMOVED THERMOSTAT.		DWE

SEE ECO 0507





L.H. LOUVER ASS'Y MNTG. TEMPLATE



R.H. LOUVER ASS'Y MNTG. TEMPLATE

INTEGRATED Flight Systems

TITLE: AIR DISTRIBUTION

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
BRP	05/30/85	C	NONE	1 OF 1
APPLICATION: AS355			DWG No. 5-1-AS355	

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0507		SHT 1 OF 1
DWG No. 5-1-AS355		REV C
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

CHANGE CLASS:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ NON-INTERCHANGEABLE PARTS
- ■ INTERCHANGEABLE PARTS
- ☐ OTHER _____

EXISTING/IN-WORK STOCK DISPOSITION:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ RE-WORK EXISTING STOCK
- ☐ SCRAP EXISTING STOCK
- ■ OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- ☐ ALL UNITS THIS CUSTOMER
- ☐ LIMITED UNITS SPECIFIED
- ☐ ALL UNITS MFG'D AFTER THIS DATE
- ■ OTHER ALL UNITS

DESCRIPTION OF CHANGE:

ADDED ALTERNATE PART NUMBER

L.H. LOUVER ASS'Y
ALT. P/N 500011-1

REMARKS:

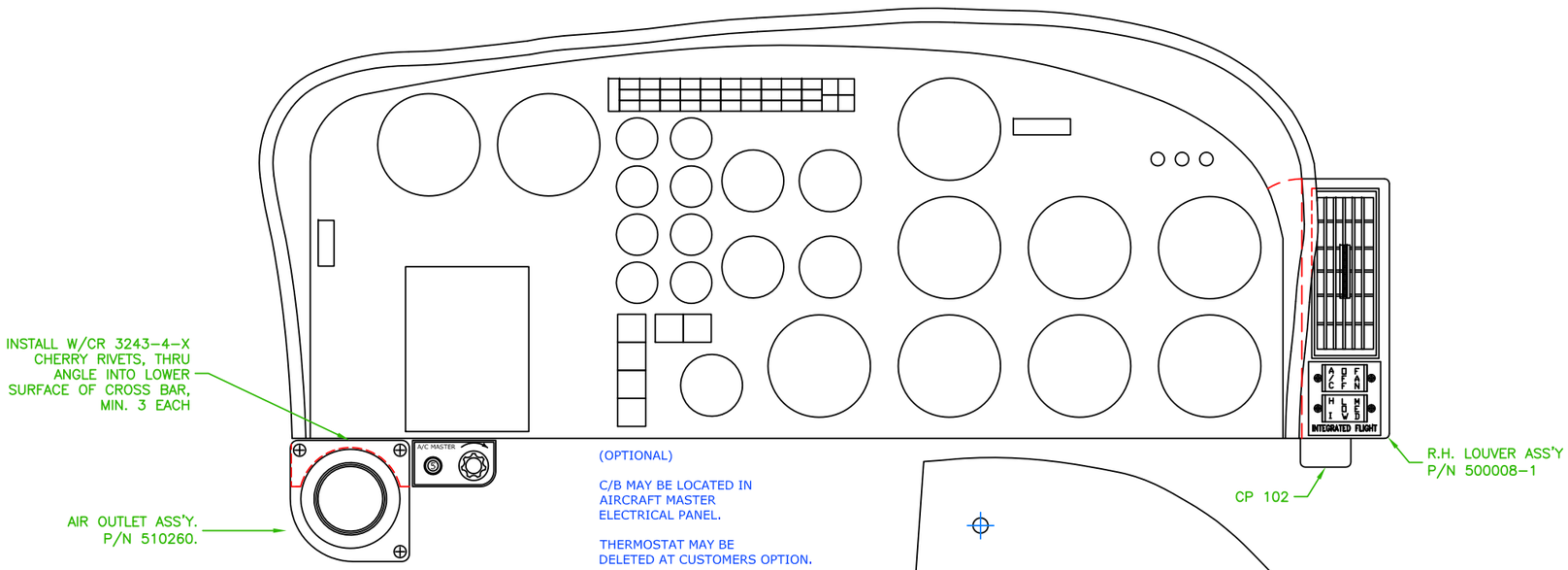
MINOR CHANGES FOR PRODUCT IMPROVEMENT.

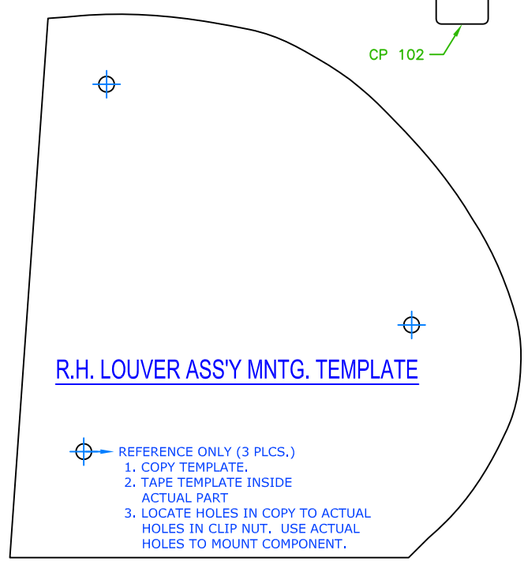
ENGINEERING REVIEW BOARD

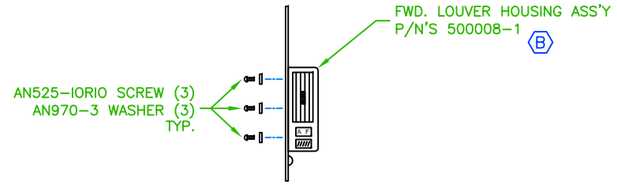
SIGNATURE	STAMP	DATE
William J. Stratton	ERB01	08/24/2012
[signature]	P016	08/27/2012
[signature]	QA11	08/27/2012

INCORPORATION STATUS
- ☐ IMMEDIATE
- ■ OUTSTANDING

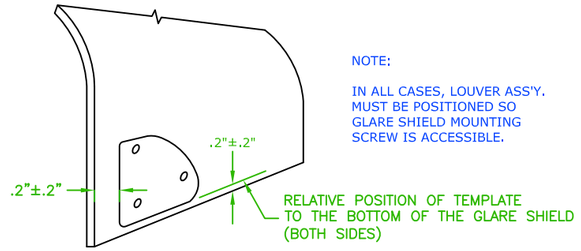
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	REVISED DRAWING NUMBER. WAS 5-AS355. SHEET NUMBER WAS 1 OF 2.	JHK	BRP
B	08/06/08	CONVERTED DRAWING TO AUTOCAD. REVISED OLD P/N'S 50008-1 & 50009-1 TO NEW P/N'S 500008-1 & 500009-1.		DWE







LOUVER ASS'Y MOUNTING



ALTERNATE: L.H. AIR OUTLET
LAW ENFORCEMENT
OR
UTILIZED WITH: EMS WIDE LITTER

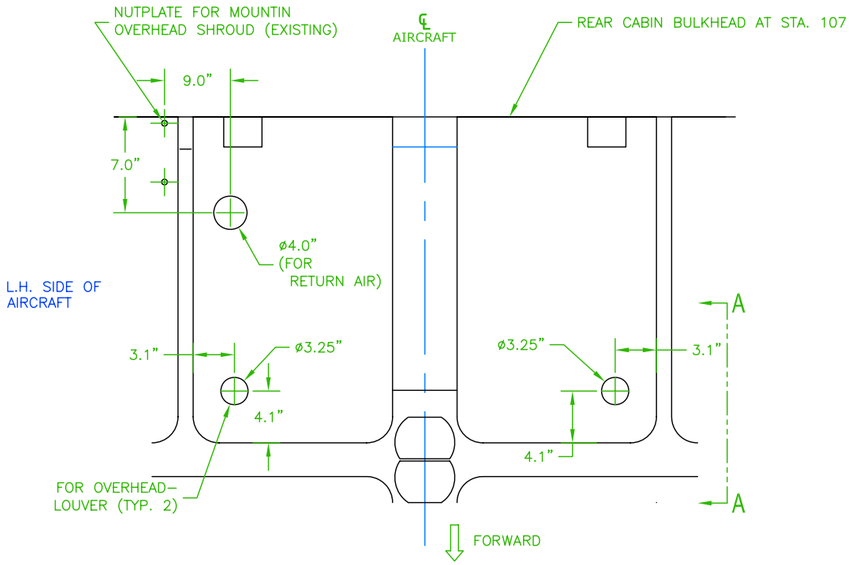
B

INTEGRATED Flight Systems

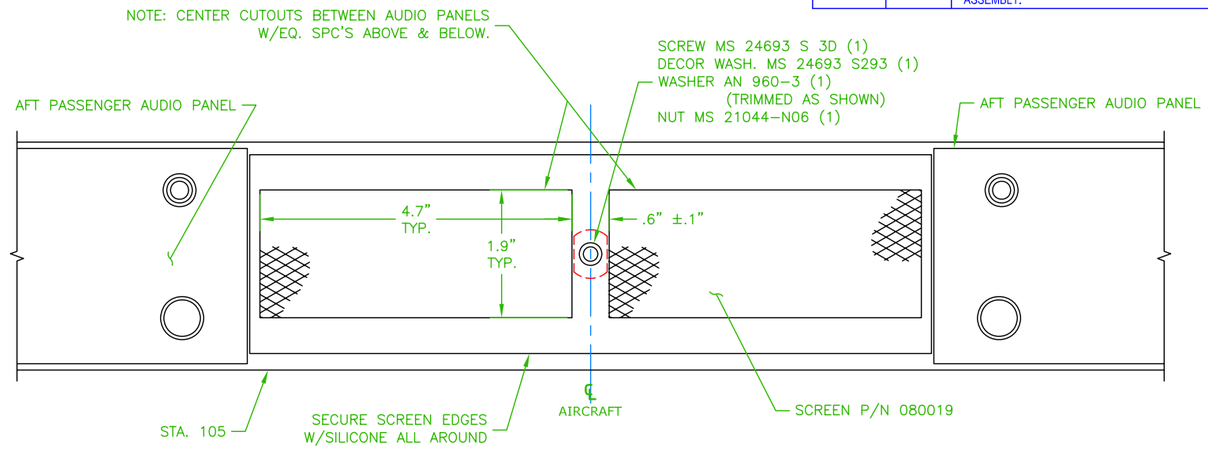
A

TITLE: AIR DISTRIBUTION				
DRAWN BY: K.M.L.	DATE: 06/10/94	REV B	SCALE: NONE	SHEET: 1 OF 1
APPLICATION: AS 355			DWG No. 5-2-AS355	

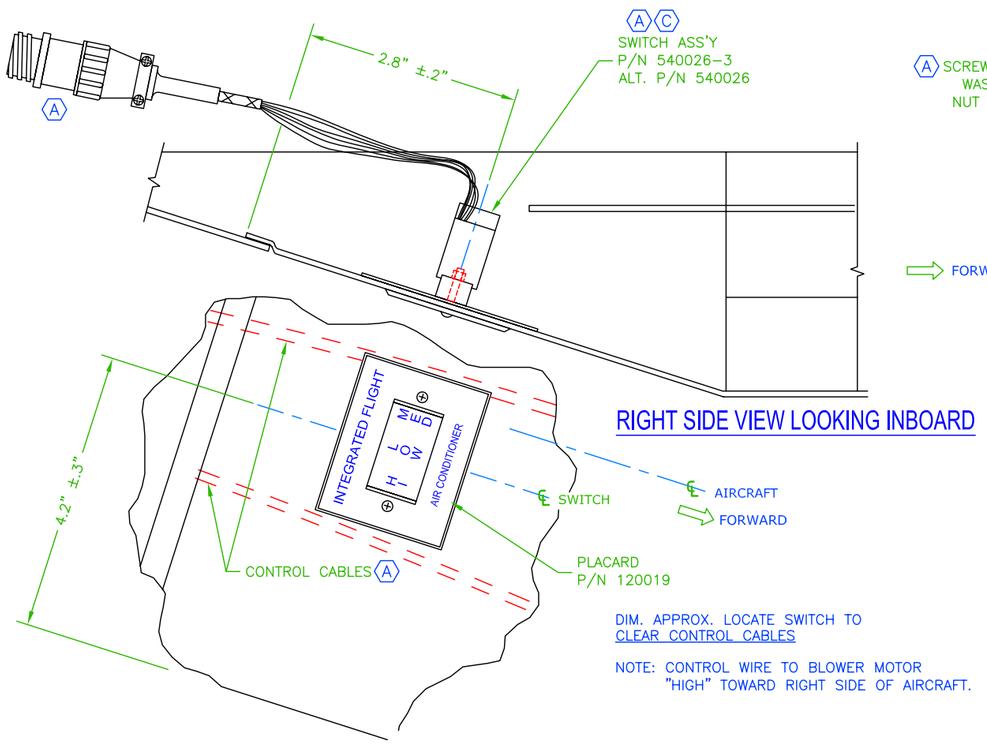
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	AN 525 SCREW WAS MS 27039-2 REVERSED HEAD. SWITCH P/N 540026 WAS P/N 050001. TITLE BLOCK WAS CAS, IS IFS. ADDED CANNON PLUG. INTEGRATED FLIGHT WAS CONSOLIDATE AIRE.	JHK	BRP
B	08/16/00	REVISED DRAWING NUMBER, WAS 5-AS355. SHEET NUMBER WAS 2 OF 2.	JHK	BRP
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK. ADDED ALT. P/N 540026 FOR P/N 540026-3 SWITCH ASSEMBLY.		DWE



VIEW LOOKING UP



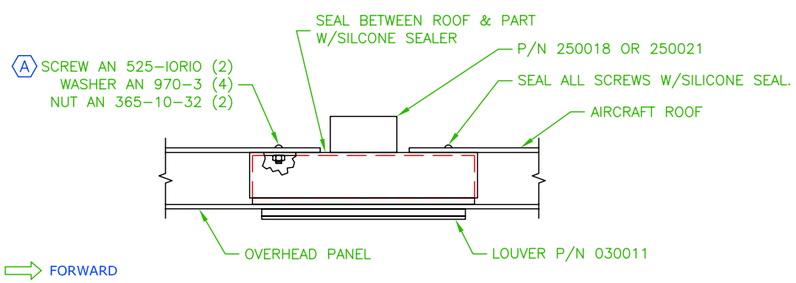
RETURN AIR

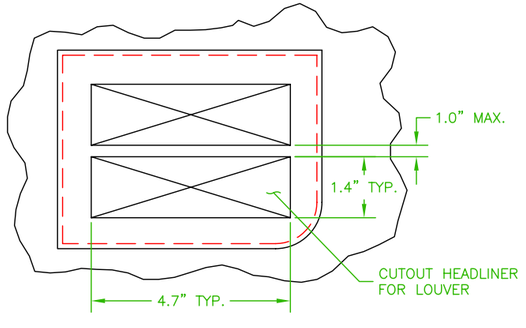


RIGHT SIDE VIEW LOOKING INBOARD

DIM. APPROX. LOCATE SWITCH TO CLEAR CONTROL CABLES

NOTE: CONTROL WIRE TO BLOWER MOTOR "HIGH" TOWARD RIGHT SIDE OF AIRCRAFT.





VIEW A-A
(TYP.2) ROT. 90° CLOCKWISE

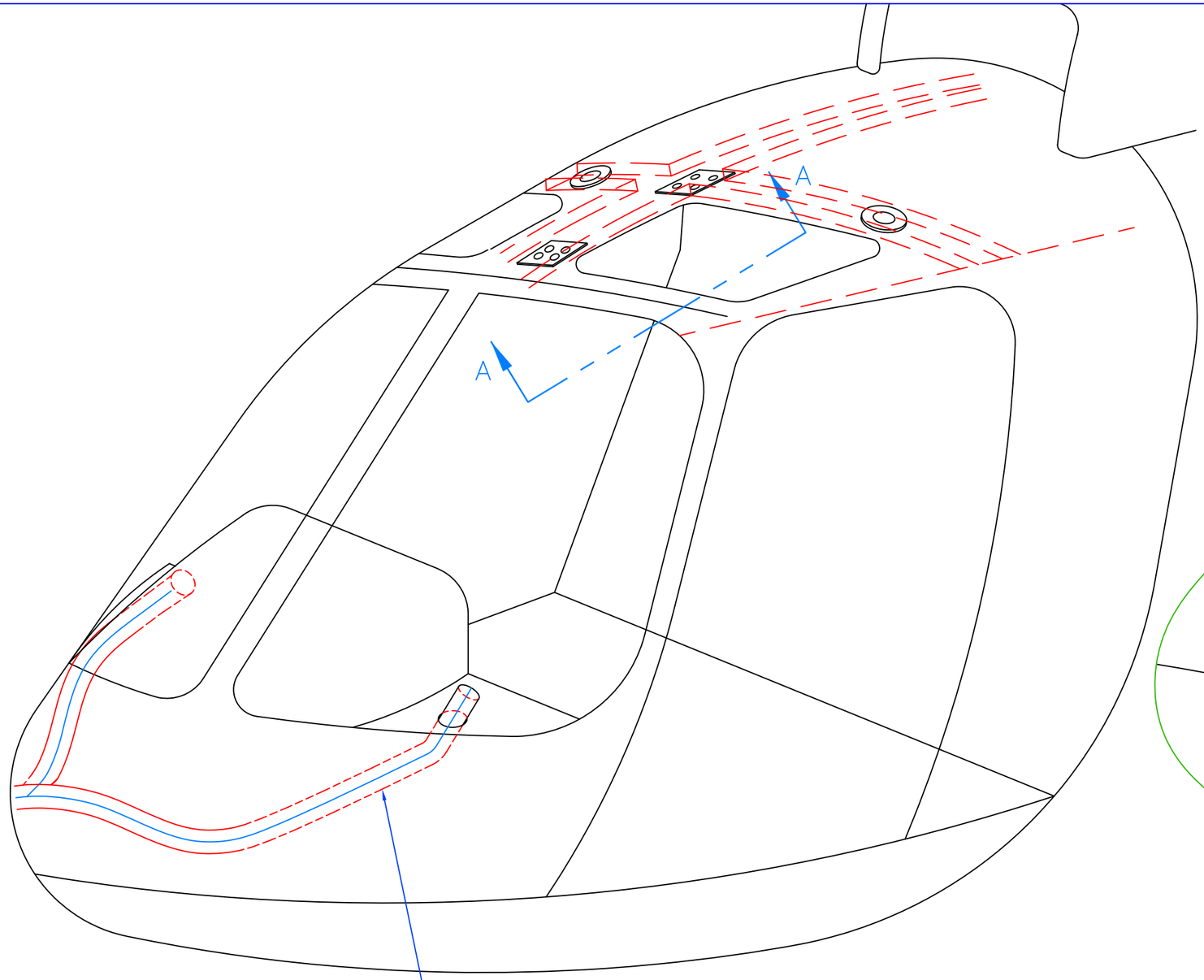
C

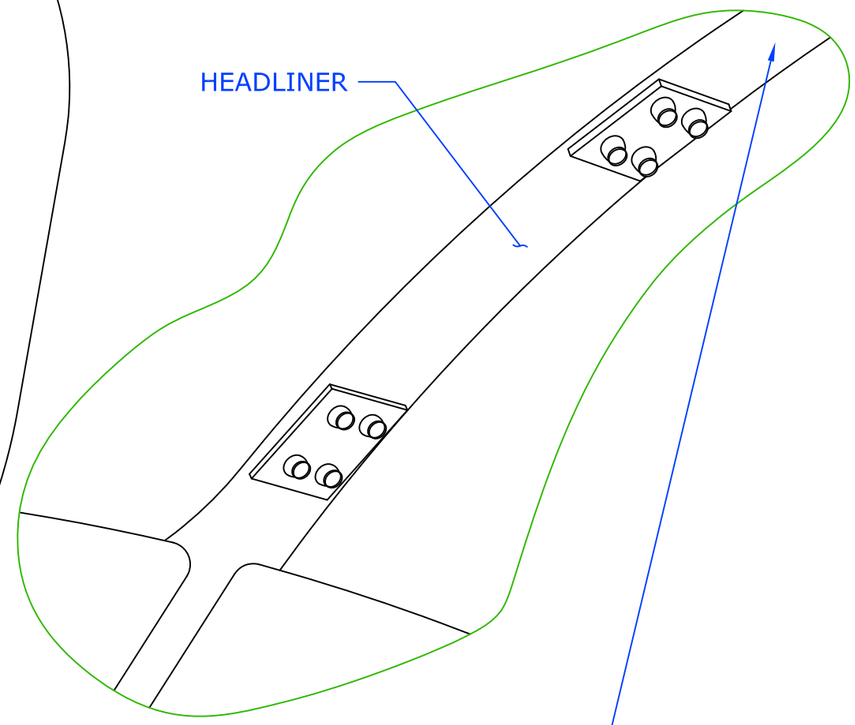
INTEGRATED Flight Systems

TITLE: AIR DISTRIBUTION

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
BP	05/30/85	C	NONE	1 OF 1
APPLICATION: AS355			DWG No. 5-11-AS355	

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-



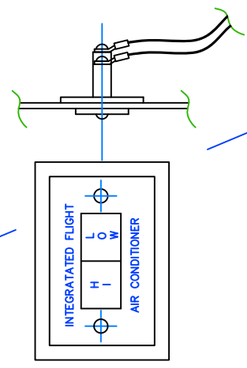


VIEW A-A

ROUTE 2-1/2" FLEX DUCT AS REQUIRED PER AIR OUTLET CONFIGURATION.

NOTE: IF REQUIRED CUT 3" HOLE IN TRAY TO ALLOW FLEX DUCT TO CONNECT TO L.H. AIR OUTLET. INSTALL BLACK EDGE TRIM AROUND HOLE.

INSTALL SWITCH ASSY PN: 540026 ONLY FOR NP MUST BE AFT OF AFT WEMACS CONFIGURATION
ALT. PN: 540026-3
FOR OTHER INSTALLATIONS



INTEGRATED Flight Systems

TITLE: AIR DISTRIBUTION

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
DWE	08/06/08	IR	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	5-12-AS355

Step 8

Installation of Compressor

Installation of Compressor

STEP	PROCEDURE	MECH	INSP
8.1	Remove lower transmission bolts required for attachment of mounting bracket. Clean away sealant from upper and lower surfaces of main transmission flange in area where bracket will contact flange.		
8.2	Loosen stiffener between combiner gear box and transmission (right side only). Remove sealant.		
8.3	Install compressor bracket in position.		
8.4	Install new transmission flange bolts as called out in drawing through bracket, flange, stiffener and rotor brake cable bracket. Ensure clearance to cable. Torque bolts to specifications of Aerospatiale Maintenance Manual.		
8.5	Install compressor drive per Aerospatiale Helicopter AMS #355A07.7052. AHC Service Bulletin 63.01 and 63.03, as required or later bulletins.		
8.6	Attach compressor to adjustment bracket and position so as to align drive pulley with compressor pulley with belt **"on".**		
8.7	After assuring correct alignment of the pulleys, carefully mark location of adjustment bracket slots on mounting bracket (if necessary, mark position of bracket first, then remove compressor and reposition bracket). Drill proper size hole in mounting bracket toward center line of aircraft.		
8.8	With compressor joined to adjustment bracket and mounting hardware loosely installed, position compressor with belt in place.		
8.9	Install Belt Tension Assembly P/N 530036. Tension belt to approximately 50 lbs (+- 5 lbs.) and tighten all bolts. (50lbs. is equal to 1/2" belt deflection) Install Belt Guard Assy. P/N 510038 per 6-1-AS355. NOTE: Make sure you are able to slide bracket so as to be able to tighten belt as well as loosen belt.		

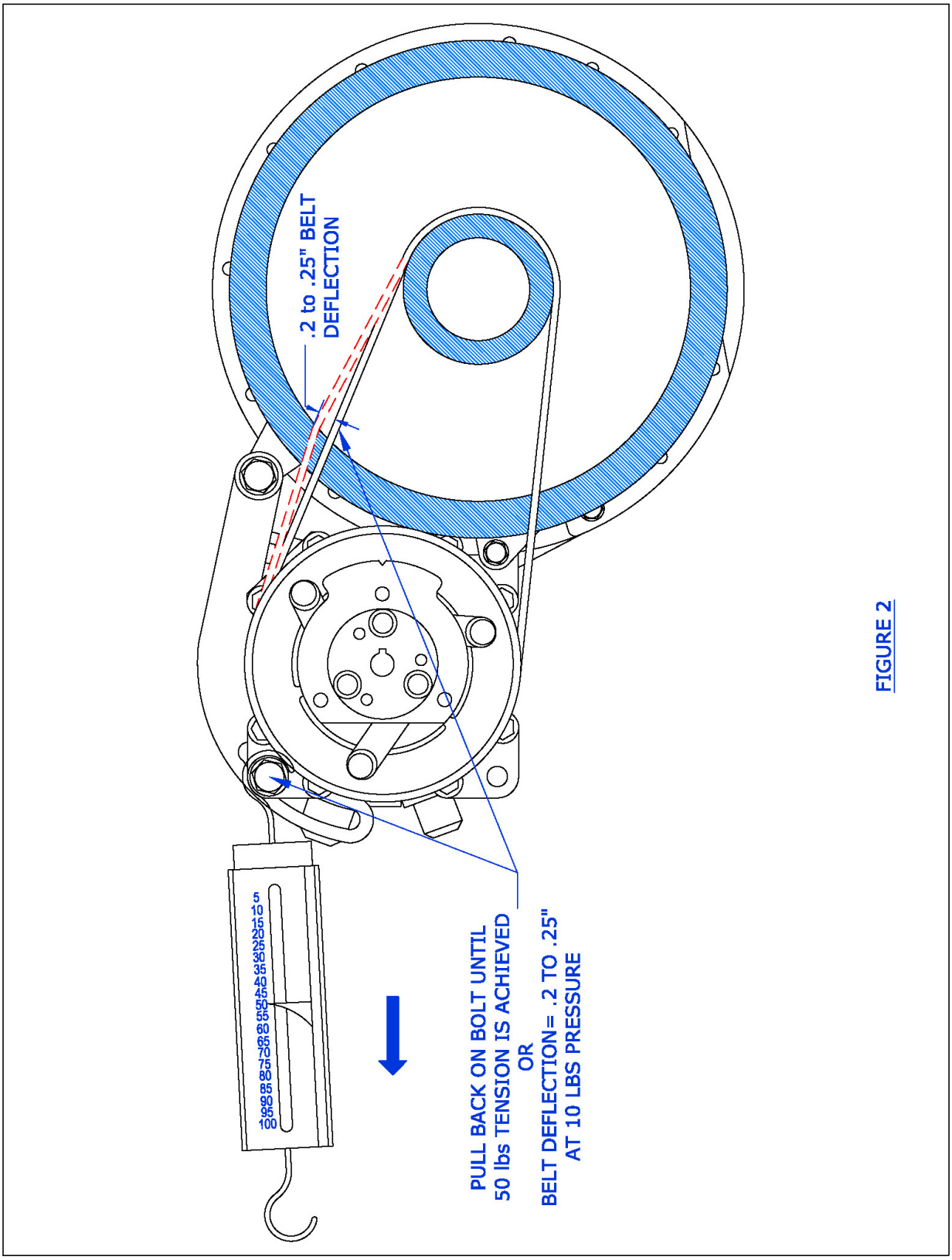
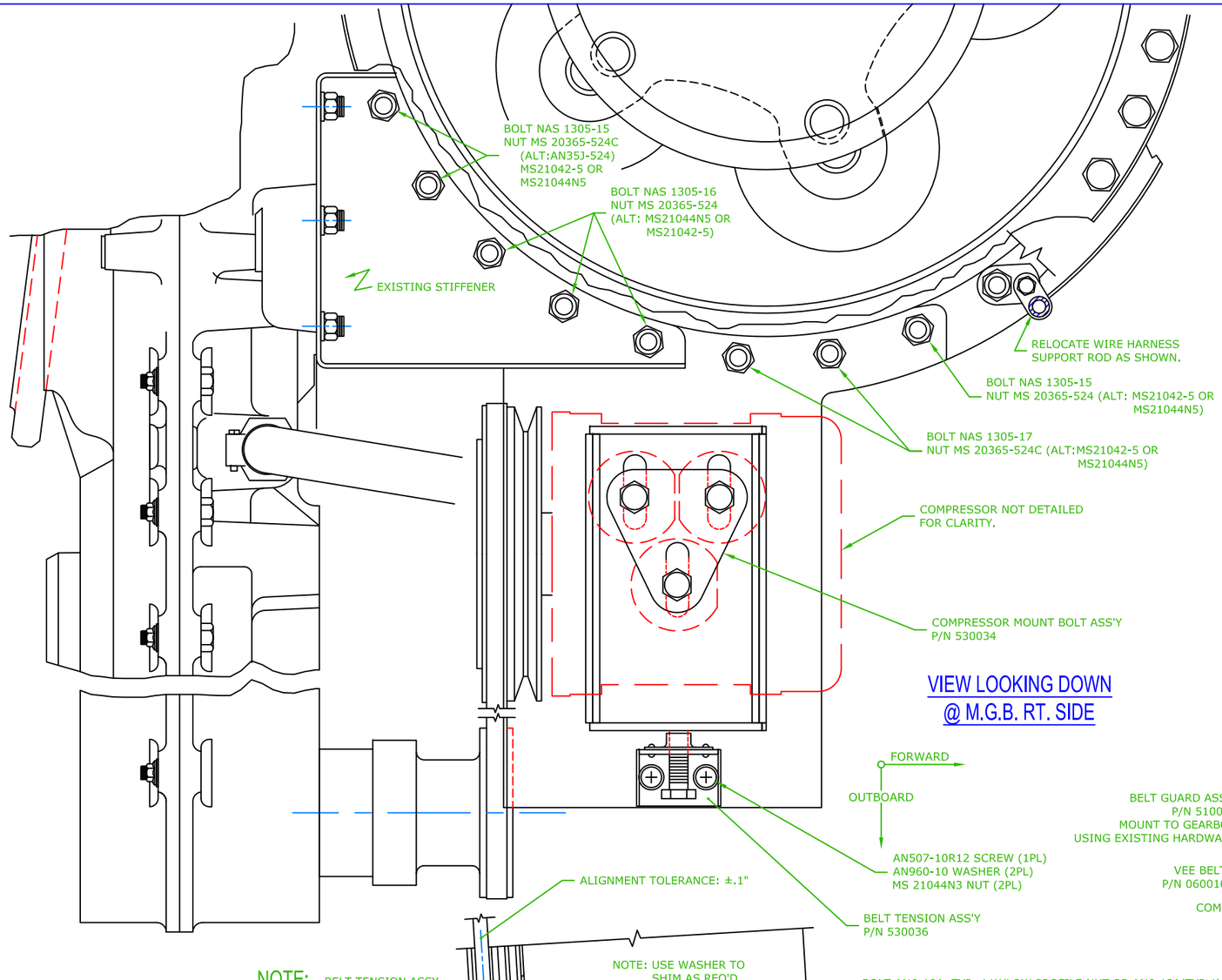
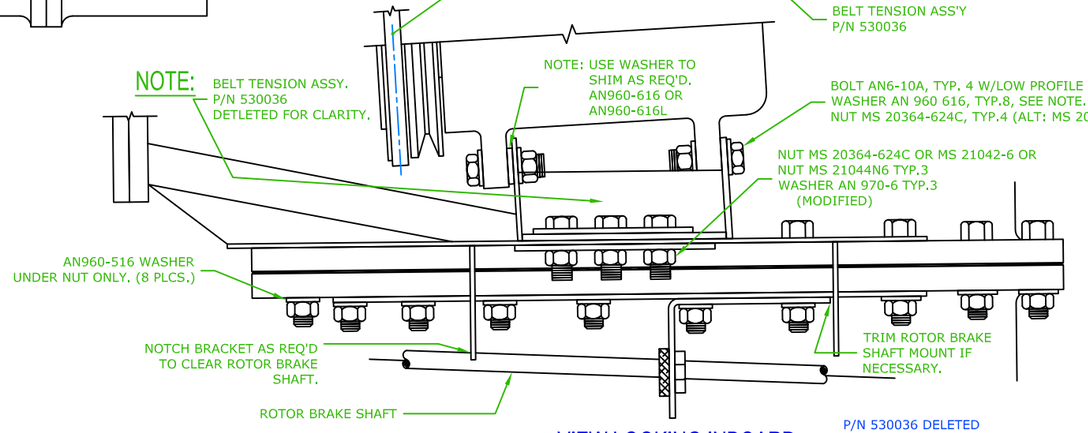

.2 to .25" BELT DEFLECTION
PULL BACK ON BOLT UNTIL 50 lbs TENSION IS ACHIEVED OR BELT DEFLECTION= .2 TO .25" AT 10 LBS PRESSURE
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

FIGURE 2



VIEW LOOKING DOWN
@ M.G.B. RT. SIDE



VIEW LOOKING INBOARD

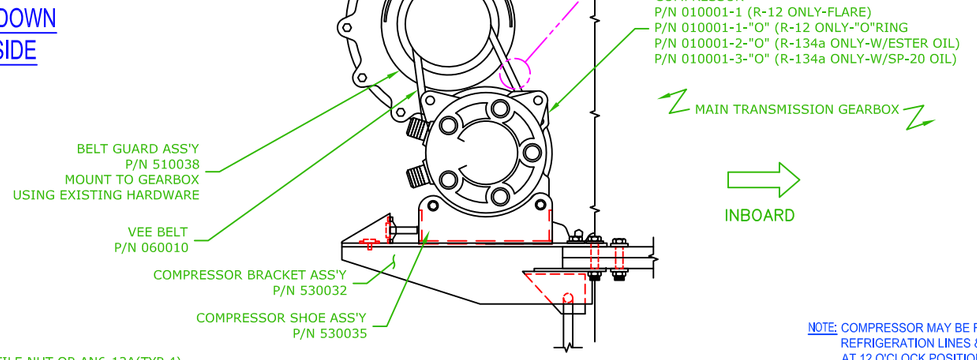
P/N 530036 DELETED
FOR CLARITY

FORWARD

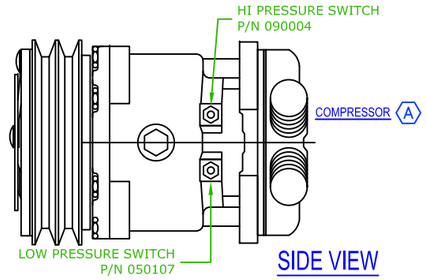
INSTALLATION INSTRUCTIONS

1. TEMPORARILY INSTALL COMPRESSOR BRACKET ASSEMBLY.
2. TEMPORARILY MOUNT COMPRESSOR TO COMPRESSOR SHOE ASSEMBLY.
3. DO NOT INCLUDE COMPRESSOR MOUNT BOLT ASSEMBLY AT THIS TIME.
4. INSTALL VEE BELT.
5. ALIGN COMPRESSOR PULLEY WITH DRIVE PULLEY.
6. MARK SLOTS IN SHOE ASSEMBLY ONTO COMPRESSOR BRACKET.
7. REMOVE COMPRESSOR WITH SHOE ASSEMBLY AND COMPRESSOR BRACKET.
8. DRILL .375" D HOLES THROUGH BRACKET AT MOST INBOARD SLOT POSITIONS.
9. INSTALL ALL COMPONENTS.
10. **AFTER COMPRESSOR IS IN PLACE W/BELT, ALIGN P/N 530036, DRILL 2 EA #10 HOLES AND INSTALL TENSION ASSY.**

NOTE: DO NOT INSTALL WASHER
UNDER HEAD OF BOLTS.



VIEW LOOKING AFT



SIDE VIEW

NOTE: COMPRESSOR MAY BE ROTATED 90°, IF DESIRED.
REFRIGERATION LINES & CONNECTIONS ARE THEN
AT 12 O'CLOCK POSITION.

PRESSURE SWITCHES MAYBE REQUIRED
TO BE LOCATED AWAY FROM COMPRESSOR
WITH USE OF R-134a
SEE PLUMBING AND ELECTRICAL ROUTING.

REVISION RECORD

DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	05/13/91	TITLE BLOCK WAS CAS, IS IFS. ADDED HI & LO PRESSURE SWITCHES TO COMPRESSOR. ADDED SIDE VIEW OF COMPRESSOR. ADDED P/N 530036.	JHK	BRP
B	08/16/00	REVISED DRAWING NUMBER, WAS 6-AS355.	JHK	BRP
C	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

SEE ECO 0751

INTEGRATED Flight Systems

(A) (C) (B)

TITLE: COMPRESSOR INSTALLATION

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
BRP	05/30/85	C	NONE	1 OF 1

APPLICATION: AS355, AS355NP

DWG No. 6-1-AS355

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

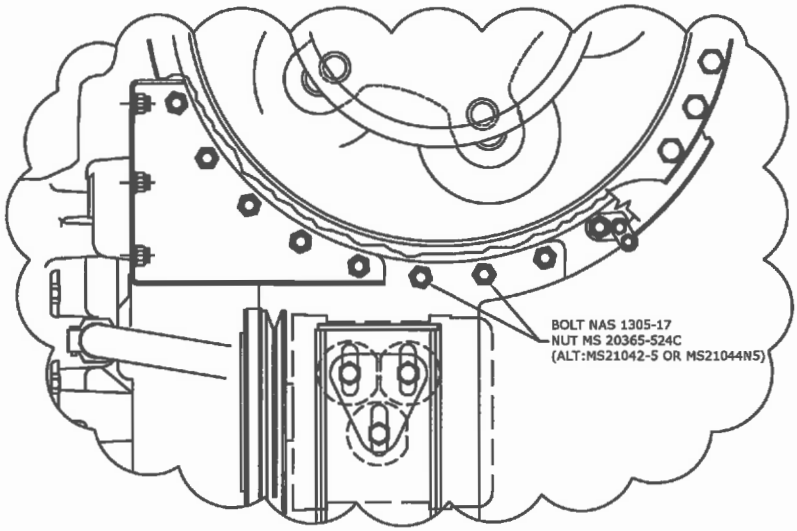
ECO No. 0751	SHT 1 OF 1
DWG No. 6-1-AS355	REV C
DWG No.	REV
DWG No.	REV
REF. STC No. SH5947SW	

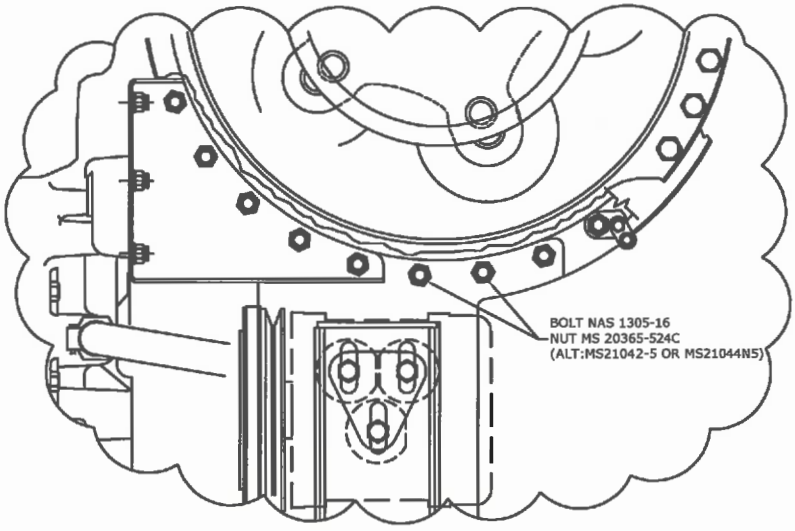
CHANGE CLASS:
- ■ RECORD CHG. PARTS NOT AFFECTED
- ☐ NON-INTERCHANGEABLE PARTS
- ☐ INTERCHANGEABLE PARTS
- ☐ OTHER _____

EXISTING/IN-WORK STOCK DISPOSITION:
- ■ RECORD CHG. PARTS NOT AFFECTED
- ☐ RE-WORK EXISTING STOCK
- ☐ SCRAP EXISTING STOCK
- ☐ OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- ☐ ALL UNITS THIS CUSTOMER
- ☐ LIMITED UNITS SPECIFIED
- ■ ALL UNITS MFG'D AFTER THIS DATE
- ☐ OTHER _____

DESCRIPTION OF CHANGE:
CHANGE BOLT LENGTH.





REMARKS:
MINOR CHANGE FOR PRODUCT IMPROVEMENT.

ENGINEERING REVIEW BOARD

SIGNATURE	STAMP	DATE
	ERB04	2/18/15
	P015	2/18/15
	QA11	2/18/15

INCORPORATION STATUS
- ☐ IMMEDIATE
- ■ OUTSTANDING

Step 9

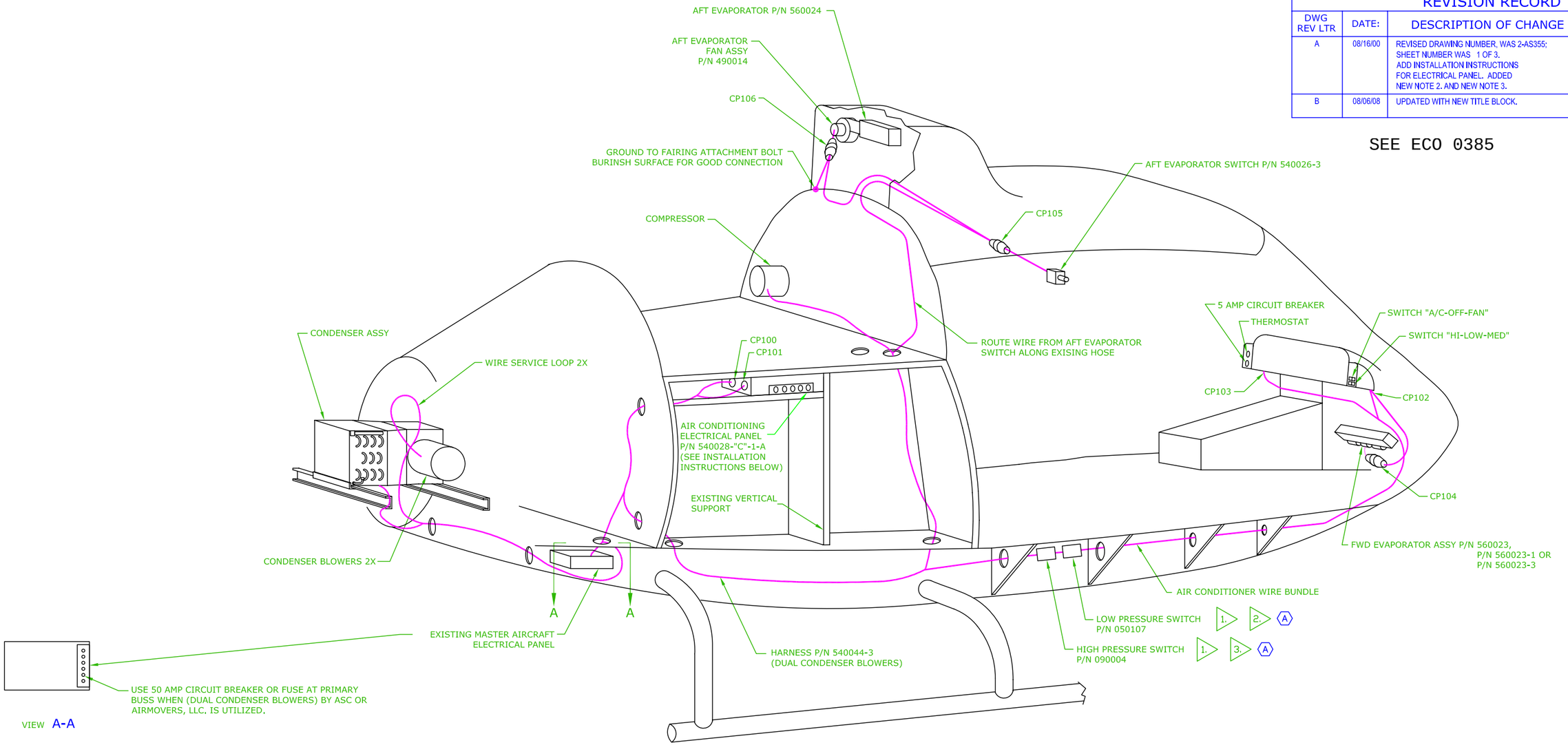
Installation of Electrical

Installation of Electrical

STEP	PROCEDURE	MECH	INSP
9.0	The Air Conditioning Electrical Box Assembly, P/N 540028-C-1, is located above the aircraft battery in the right side baggage area. See drawing 2-2-AS355.		
9.0	For AS355NP model: The Air Conditioning Electrical Box Assembly, P/N 540028-C-1-A, is located above the aircraft battery in the right side baggage area. See drawing 2-10-AS355.		
9.1	Install the #10 white wire (Harness Assembly, P/N 540045-1) to the Master Air Conditioning Circuit Breaker or fuse located under the floor of the aft baggage compartment from the Air Conditioning Electrical Box Assembly.		
9.2	Required wire terminal for connection to the fuse or circuit breaker is taped to the end of the #8 wire during shipping.		
9.3	Install Wire Harness P/N 540044-3 (or P/N 540044-10), connect to Electrical Box Assembly, run electrical wire as shown in drawing 2-2-AS355 1 of 1.		
9.3	For AS355NP model: Install Wire Harness P/N 540044-3, connect to Electrical Box Assembly, run electrical wire as shown in drawing 2-10-AS355 1 of 1.		
9.4	The Air Conditioning Control Switch is installed on the right side of the instrument console as part of Louver Assembly, P/N 500009-1 available for ship S/Ns post-1991. The switch panel consists of the Air Conditioning Control Switch and the three (3) speed Selector Switch. One (1) each 5 amp circuit breaker is mounted in the LH Louver assembly and supplies protection for the systems relays (500009-1 for ship S/N post-1991 / 500011-1 is approved alternate).		
9.5	A second Evaporator blower speed selection Switch Assembly, P/N 540026-3, is provided for the aft cabin fan in the aft cabin ceiling.		

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	REVISED DRAWING NUMBER, WAS 2-AS355; SHEET NUMBER WAS 1 OF 3. ADD INSTALLATION INSTRUCTIONS FOR ELECTRICAL PANEL. ADDED NEW NOTE 2. AND NEW NOTE 3.	JHK	MAH
B	08/06/08	UPDATED WITH NEW TITLE BLOCK.		DWE

SEE ECO 0385



INSTALLATION INSTRUCTIONS FOR ELECTRICAL PANEL ASSEMBLY:

1. REMOVE BATTERY CLOSEOUT PANEL. REPOSITION EXISTING DZUS RECEPTACLE BRACKET ON TOP OF SHELF, 180 DEGREES TO FACE DOWN BELOW SHELF.
2. (A) RELOCATE Ng FUSE ON SHELF (IF INSTALLED) TO EXISTING HOLE NEAR BOTTOM OF VERTICAL CHANNEL. RELOCATE EXISTING DZUS RECEPTACLE ON THE VERTICAL SUPPORT MEMBER 2 INCHES DOWN, IN ORDER FOR UPPER SHELF TO CLEAR WHEN LOWERED FOR ELECTRICAL BOX INSTALLATION\REMOVAL.
3. REMOVE THE (4) RIVETS THAT ATTACH TO THE RIGHT END OF SHELF TO VERTICAL SUPPORT MEMBER. ENLARGE RIVET HOLES ON FRONT END OF SHELF AND VERTICAL SUPPORT TO ACCOMMODATE #10 FASTENERS. LOCATE ELECTRICAL PANEL ON SHELF AND BACK DRILL THREE (3) EACH #10 HOLES TO MATCH NUT PLATE ON BOTTOM OF ELECTRICAL PANEL ASSEMBLY.
4. ATTACH ELECTRICAL PANEL ASSEMBLY TO SHELF USING AN3-4A BOLT AND AN960-10 WASHER, IN THREE (3) PLACES.
5. REATTACH END OF SHELF TO VERTICAL SUPPORT USING AN525-10R8 SCREW, AN960-10 WASHER, AND MS21044-N3 NUT IN FOUR (4) PLACES.
6. CUT CLOSEOUT PANEL LEVEL WITH THE TOP OF THE UPPER SHELF. RELOCATE DZUS FASTENERS TO MATCH NEW LOCATION OF DZUS RECEPTACLES. REINSTALL CLOSEOUT PANEL.

NOTE:

USE EXISTING LIGHTENING HOLES ONLY FOR ALL ROUTING OR SECURE WIRES TO EXISITNG BUNDLES OR REFRIGERATION HOSE USING TY-WRAPS, STAND-OFFS, AND SPACER BLOCKS AS REQUIRED.

1. LOCATION OF PRESSURE SWITCHES WHEN R-134a IS UTILIZED.
(A) 2. INSTALL IFS104C14 TO LOW PRESSURE SWITCH. (BLUE LEADS)
(A) 3. INSTALL IFS108B20 AND IFS108D20 TO HIGH PRESSURE SWITCH. (BLACK LEADS)

DUAL CONDENSER BLOWERS

AFT MOUNTED

(B)

INTEGRATED Flight Systems

(A) TITLE: ELECTRICAL ROUTING

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MAH	11/10/96	B	NONE	1 OF 1
APPLICATION: AS355			DWG No. 2-2-AS355	

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0385		SHT 1 OF 2
DWG No. 2-2-AS355		REV B
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

CHANGE CLASS:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ NON-INTERCHANGEABLE PARTS
- ■ INTERCHANGEABLE PARTS
- ☐ OTHER _____

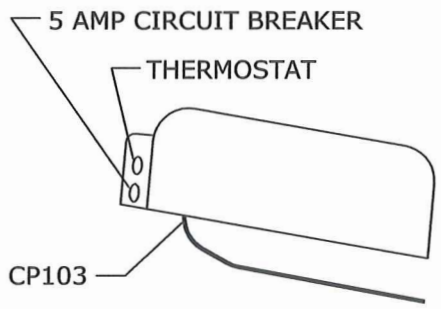
EXISTING/IN-WORK STOCK DISPOSITION:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ RE-WORK EXISTING STOCK
- ☐ SCRAP EXISTING STOCK
- ■ OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- ☐ ALL UNITS THIS CUSTOMER
- ☐ LIMITED UNITS SPECIFIED
- ☐ ALL UNITS MFG'D AFTER THIS DATE
- ■ OTHER ALL UNITS

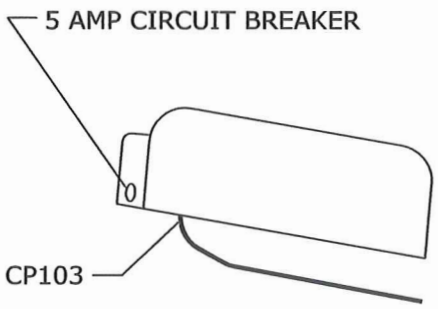
DESCRIPTION OF CHANGE:

REMOVED THERMOSTAT CALL-OUT, CHANGED HARNESS PART NUMBER, CHANGED ELECTRICAL PANEL PART NUMBER, CHANGED CONNECTOR PLUG TO KNIFE CONNECTORS, CHANGED WIRE NUMBERS IN NOTES, & ADDED NOTES.

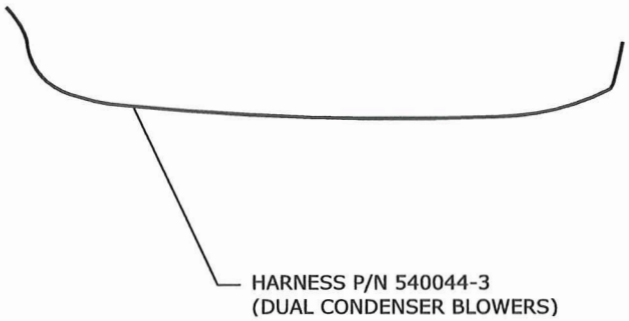
WAS:



IS:



WAS:



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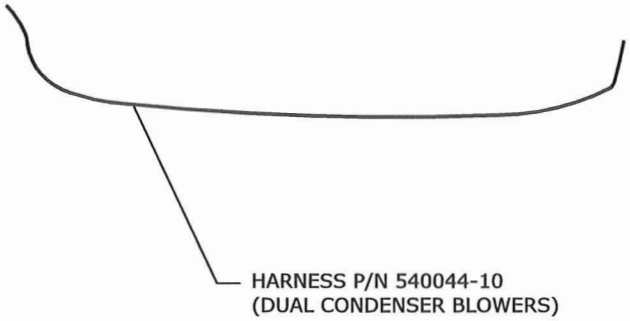

REMARKS:
MINOR CHANGES FOR PRODUCT IMPROVEMENT.

ENGINEERING REVIEW BOARD		
SIGNATURE	STAMP	DATE
William L. Thornton	ERB01	02/28/2012
	QA02	02282012
	P015	2/28/2012

INCORPORATION STATUS
- ☐ IMMEDIATE
- ■ OUTSTANDING

PSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0385	SHT 2 OF 2
DWG No. 2-2-AS355	REV B
DWG No.	REV
DWG No.	REV
REF. STC No. SH5947SW	

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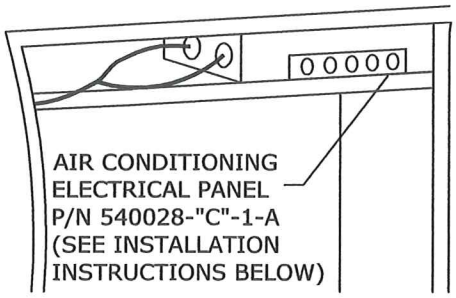

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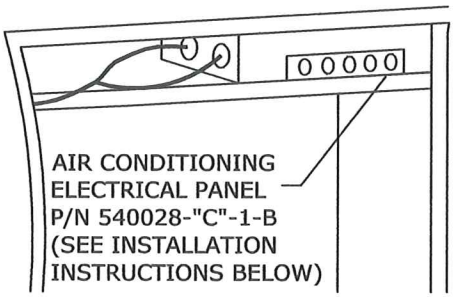

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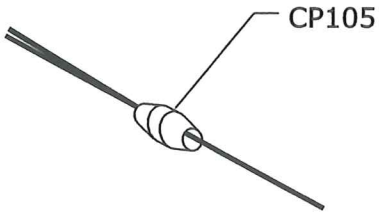

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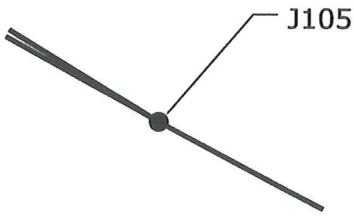


WAS:

2. INSTALL IFS104C14 TO LOW PRESSURE SWITCH. (BLUE LEADS)

3. INSTALL IFS108B20 AND IFS108D20 TO HIGH PRESSURE SWITCH. (BLACK LEADS)

IS:

2. INSTALL IFS104C14 & IFS104B14 TO LOW PRESSURE SWITCH.

3. INSTALL IFS108B20 & IFS106A20 TO HIGH PRESSURE SWITCH.

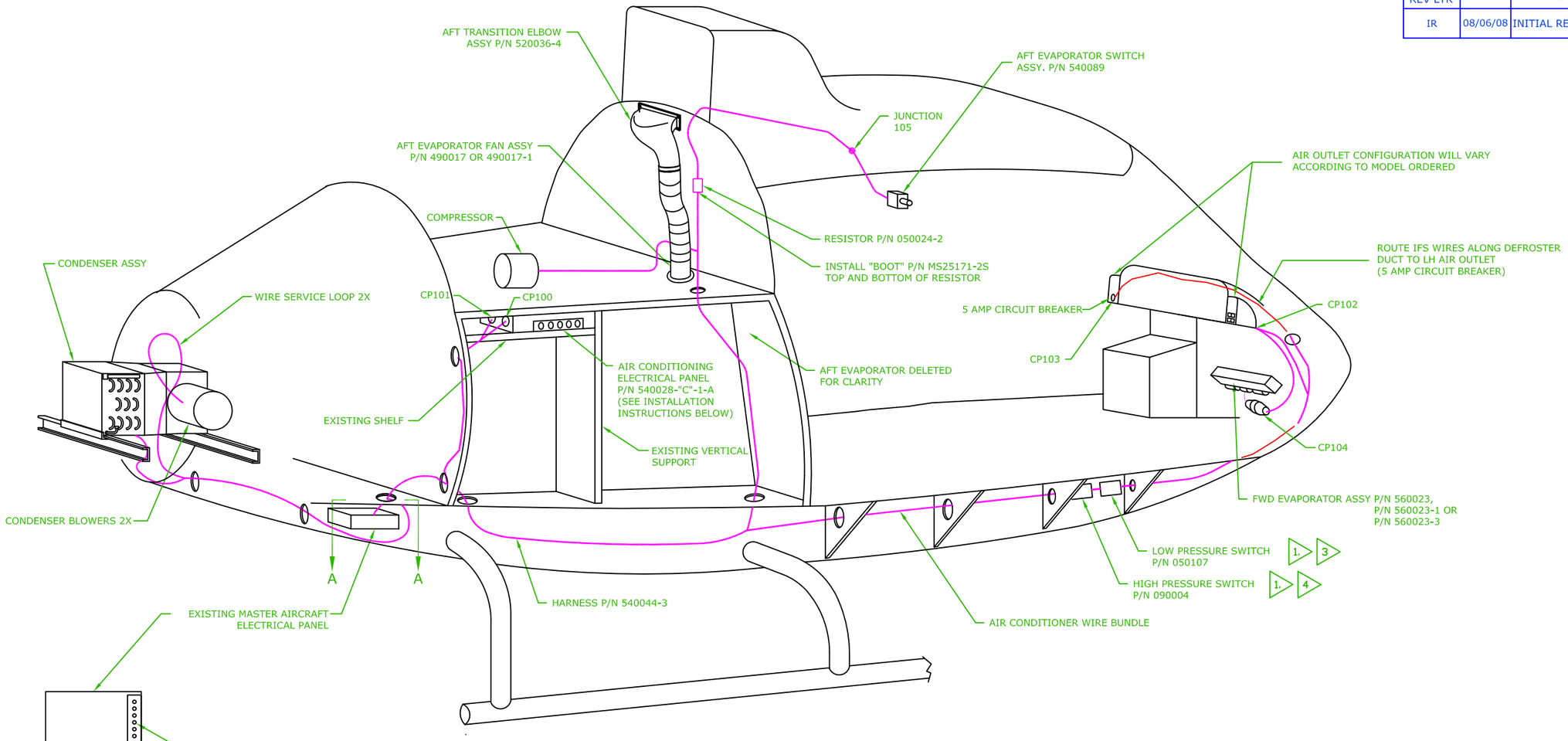
ADDED NOTES 4, 5, & 6.

4. ELECTRICALLY BOND 540028-"C"-1-B TO THE AIRFRAME WITH A MAXIMUM RESISTANCE OF 0.0025 OHMS.

5. ALL UNSPECIFIED DETAILS OR ROUTING AND CLAMPING ARE TO BE IN ACCORDANCE WITH AC43.13-1-B CHAPTER 11, SECTIONS 8-15.

6. SEE NEXT HIGHER ASSEMBLY DRAWING 1-0-AS355.

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE		



INSTALLATION INSTRUCTIONS FOR ELECTRICAL PANEL ASSEMBLY:

1. REMOVE BATTERY CLOSEOUT PANEL. REPOSITION EXISTING DZUS RECEPTACLE BRACKET ON TOP OF SHELF, 180 DEGREES TO FACE DOWN BELOW SHELF.
2. RELOCATE Ng FUSE ON SHELF (IF INSTALLED) TO EXISTING HOLE NEAR BOTTOM OF VERTICAL CHANNEL. RELOCATE EXISTING DZUS RECPTACLE ON THE VERTICAL SUPPORT MEMBER 2 INCHES DOWN, IN ORDER FOR UPPER SHELF TO CLEAR WHEN LOWERED FOR ELECTRICAL BOX INSTALLATION\REMOVAL.
3. REMOVE THE (4) RIVETS THAT ATTATCH TO THE RIGHT END OF SHELF TO VERTICAL SUPPORT MEMBER. ENLARGE RIVET HOLES ON FRONT END OF SHELF AND VERTICAL SUPPORT TO ACCOMMODATE #10 FASTNERS. LOCATE ELECTRICAL PANEL ON SHELF AND BACK DRILL THREE (3) EACH #10 HOLES TO MATCH NUT PLATE ON BOTTOM OF ELECTRICAL PANEL ASSEMBLY.
4. ATTATCH ELECTRICAL PANEL ASSEMBLY TO SHELF USING AN3-4A BOLT AND AN960-10 WASHER, IN THREE (3) PLACES.
5. REATTACH END OF SHELF TO VERTICAL SUPPORT USING AN525-10R8 SCREW, AN960-10 WASHER, AND MS21044-N3 NUT IN FOUR (4) PLACES.
6. CUT CLOSEOUT PANEL LEVEL WITH THE TOP OF THE UPPER SHELF. RELOCATE DZUS FASTENERS TO MATCH NEW LOCATION OF DZUS RECEPTICALS. REINSTALL CLOSEOUT PANEL.

NOTE:

USE EXISTING LIGHTENING HOLES ONLY FOR ALL ROUTING OR SECURE WIRES TO EXISITNG BUNDLES OR REFRIGERATION HOSE USING TY-WRAPS, STAND-OFFS, AND SPACER BLOCKS AS REQUIRED.

1. LOCATION OF PRESSURE SWITCHES WHEN R-134a IS UTILIZED.
2. ON B3 MODELS IFS WIRE ROUTING MUST BE ACCORDANCE WITH THIS DRAWING.
3. INSTALL IFS104C14 TO LOW PRESSURE SWITCH. (BLUE LEADS)
4. INSTALL IFS108B20 AND IFS108D20 TO HIGH PRESSURE SWITCH. (BLACK LEADS)

DUAL CONDENSER BLOWER
AFT MOUNTED

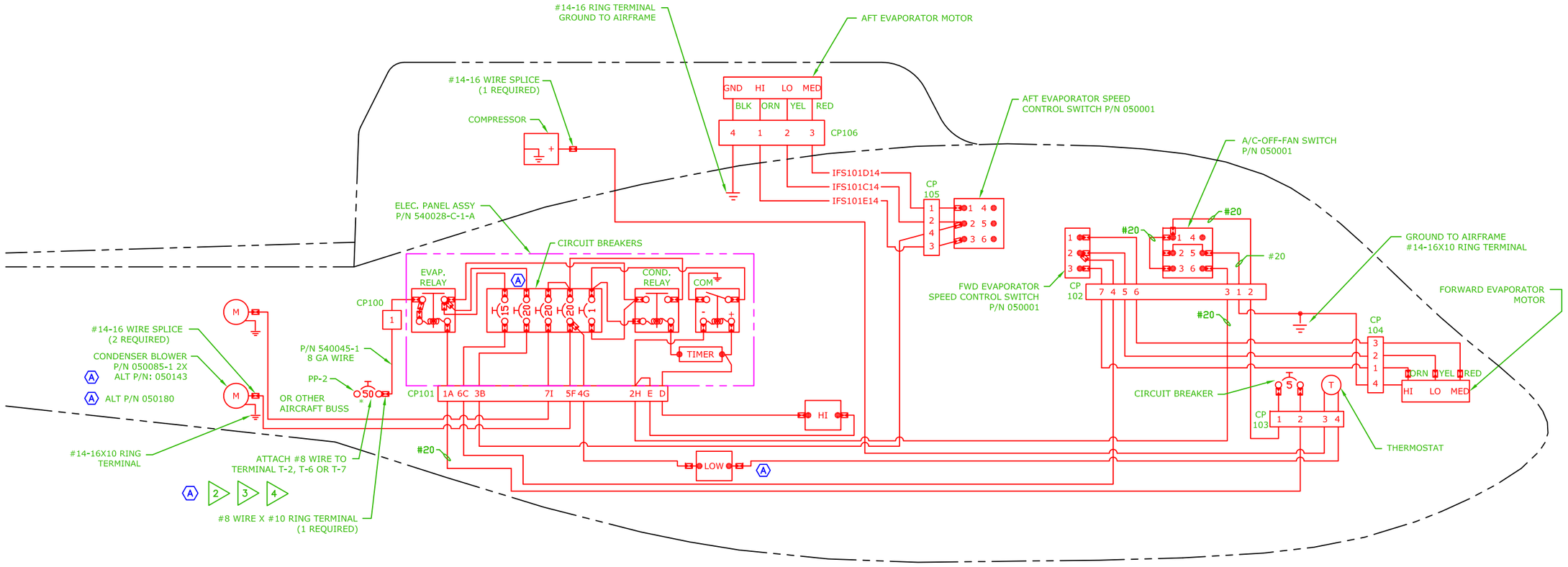
INTEGRATED Flight Systems

TITLE: ELECTRICAL ROUTING

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
DWE	08/06/08	IR	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	2-10-AS355

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	WAS 15 AMP BREAKER, IS 20 AMP; RELOCATED LOW PRESSURE SWITCH. REVISED DRAWING NUMBER, WAS 2-AS355; SHEET NUMBER WAS 2 OF 3. REWROTE NOTES 1 THRU 3. ADDED NOTE 4. ADDED ALT. COND. BLOWERS P/N 050143 OR P/N 050180.	JHK	MAH
B	08/06/08	UPDATED WITH NEW TITLE BLOCK.		DWE



AS 355
ELECTRICAL WIRING DIAGRAM

DUAL CONDENSER BLOWERS

NOTE:

(A) 1. ALL WIRE MIL-W-22759/16. ALL WIRE 14ga UNLESS OTHERWISE SPECIFIED.

(A) 2. FUSES MAY BE USED, P/N 100FU01-050 (50AMP).

(A) 3. LOCATE #8 WIRE AT T4, T5, T6, OR T7 (INSTALL 50AMP FUSE OR F-9 IF NOT PRESENT, SEE NOTE 2).

(A) 4. WHEN ALL EUROCOPTER FUSES OR C/B LOCATIONS ARE UTILIZED, A "AUX" CURRENT LIMITER BASE P/N FU1541-501, BRACKET/SUPPLY BAR AND CURRENT LIMITER MAY BE INSTALLED AT F9 OR F10 PER EUROCOPTERS COMPONENT MAINTENANCE MANUAL. IFS P/N FOR LIMITER BASE IS 050023. IFS P/N FOR LIMITER, 50 AMP IS 050015-2.

DUAL CONDENSER BLOWERS
AFT MOUNTED

(B)

INTEGRATED Flight Systems

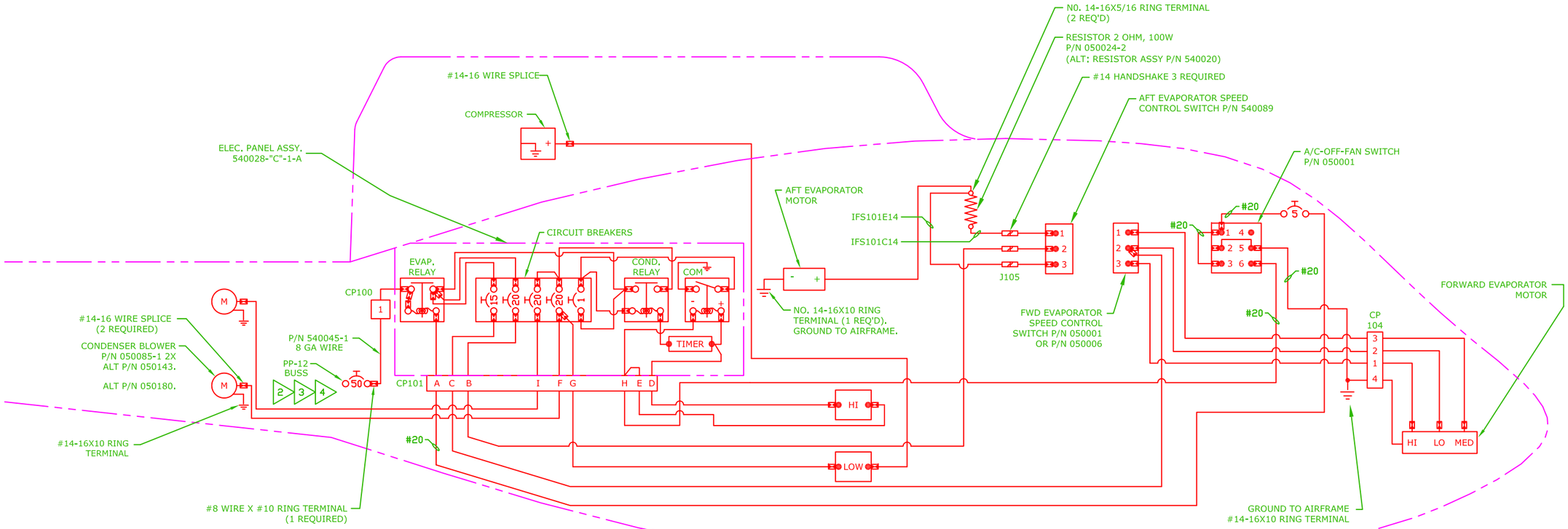
(A) TITLE: ELECTRICAL DIAGRAM

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MAH	11/10/96	B	NONE	1 OF 1
APPLICATION: AS355			DWG No. 2-12-AS355	

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-

NOTE:

1. ALL WIRE MIL-W-22759/16.
   ALL WIRE 14ga UNLESS OTHERWISE SPECIFIED.
2. FUSES MAY BE USED, P/N 100FU01-050 (50AMP).
3. LOCATE #8 WIRE AT T4, T5, T6, OR T7 (INSTALL 50AMP FUSE IF NOT PRESENT, SEE NOTE 2).
4. WHEN ALL EUROCOPTER FUSES OR C/B LOCATIONS ARE UTILIZED, A "AUX" CURRENT LIMITER BASE P/N FU11541-501, BRACKET/SUPPLY BAR AND CURRENT LIMITER MAY BE INSTALLED AT F9 OR F10 PER EUROCOPTERS COMPONENT MAINTENANCE MANUAL. IFS P/N FOR LIMITER BASE IS 050023. IFS P/N FOR LIMITER, 50 AMP IS 050015-2.



AS350/AS355
ELECTRICAL WIRING DIAGRAM

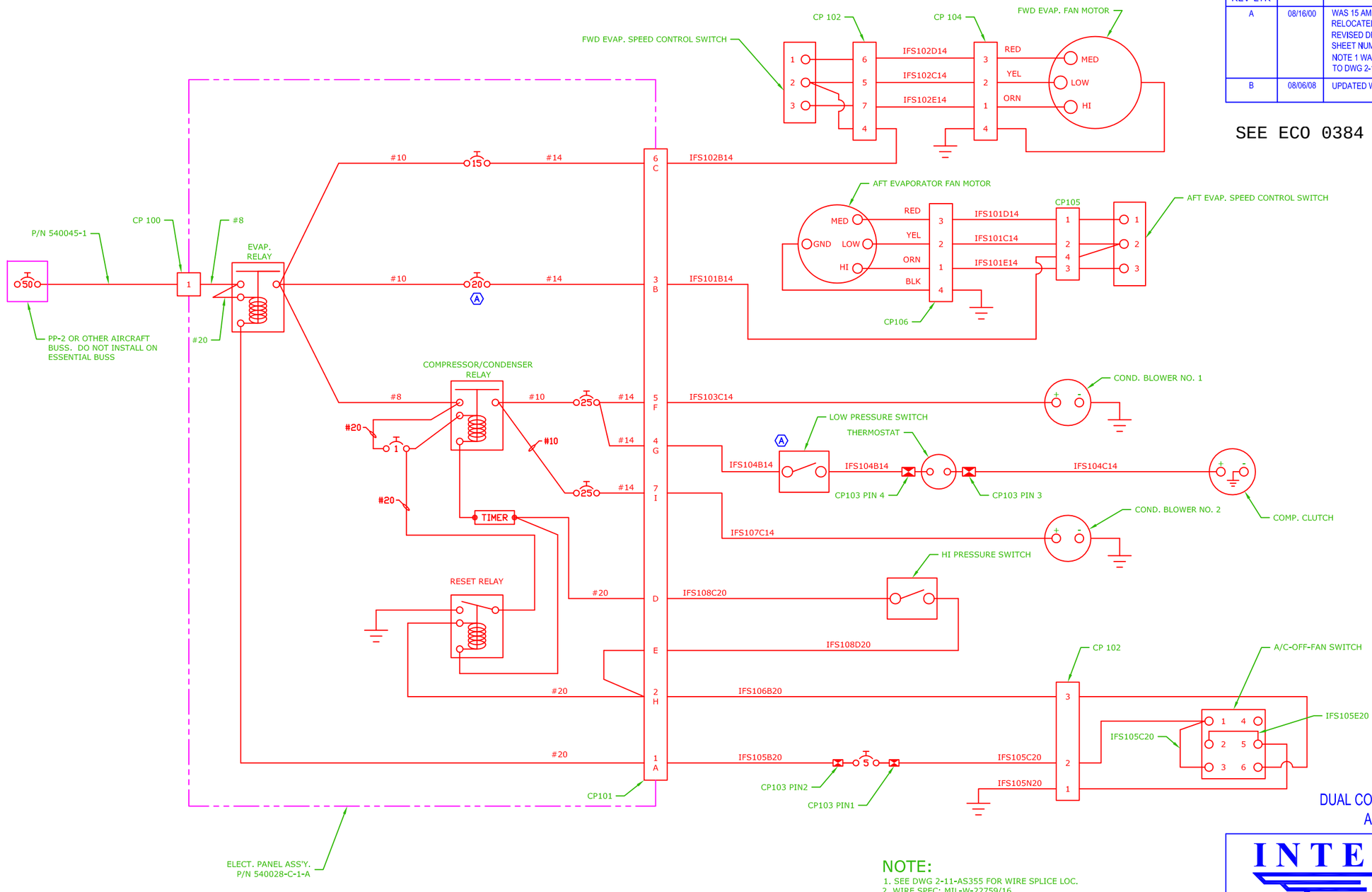
FOR DUAL CONDENSER BLOWER AFT MOUNTED

INTEGRATED Flight Systems

TITLE: ELECTRICAL DIAGRAM				
DRAWN BY: DWE	DATE: 08/06/08	REV IR	SCALE: NONE	SHEET: 1 OF 1
APPLICATION: AS355			DWG No. 2-13-AS355	

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	WAS 15 AMP BREAKER, IS 20 AMP; RELOCATED LOW PRESSURE SWITCH. REVISED DRAWING NUMBER, WAS 2-AS355; SHEET NUMBER WAS 3 OF 3. NOTE 1 WAS CHANGED FROM SH. 1 OF 3 TO DWG 2-12-AS355.	JHK	MAH
B	08/06/08	UPDATED WITH NEW TITLE BLOCK.		DWE

SEE ECO 0384



AS 355
ELECTRICAL WIRING DIAGRAM

DUAL CONDENSER BLOWERS

NOTE:
1. SEE DWG 2-11-AS355 FOR WIRE SPLICE LOC.
2. WIRE SPEC: MIL-W-22759/16
WIRE NO. IFS XXX X XX
GROUP
SEQUENCE (N INDICATES GROUND)
GAUGE

DUAL CONDENSER BLOWERS
AFT MOUNTED

INTEGRATED Flight Systems

TITLE: ELECTRICAL DIAGRAM

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MAH	11/10/96	B	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	2-22-AS355

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0384		SHT 1 OF 5
DWG No. 2-22-AS355		REV B
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

CHANGE CLASS:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ NON-INTERCHANGEABLE PARTS
- ■ INTERCHANGEABLE PARTS
- ☐ OTHER _____

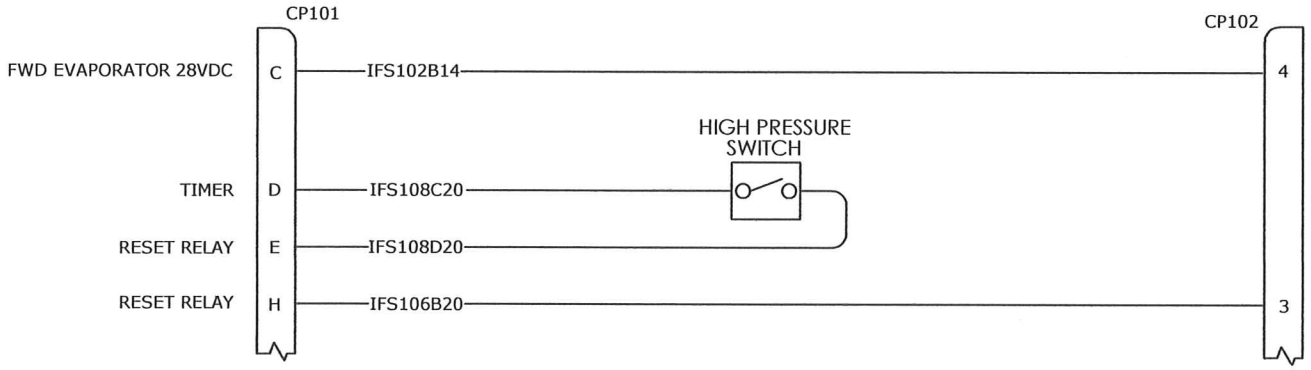
EXISTING/IN-WORK STOCK DISPOSITION:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ RE-WORK EXISTING STOCK
- ☐ SCRAP EXISTING STOCK
- ■ OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- ☐ ALL UNITS THIS CUSTOMER
- ☐ LIMITED UNITS SPECIFIED
- ☐ ALL UNITS MFG'D AFTER THIS DATE
- ■ OTHER ALL UNITS

DESCRIPTION OF CHANGE:

1. WIRE IFS108D20 WAS CONNECTED TO CP101, PIN E, NOW IS SPLICED TO WIRE IFS106B20 AT PIN H OF CP101; ALL WIRE NUMBERS HAVE BEEN REVISED WITH PROPER SEQUENCING

WAS:



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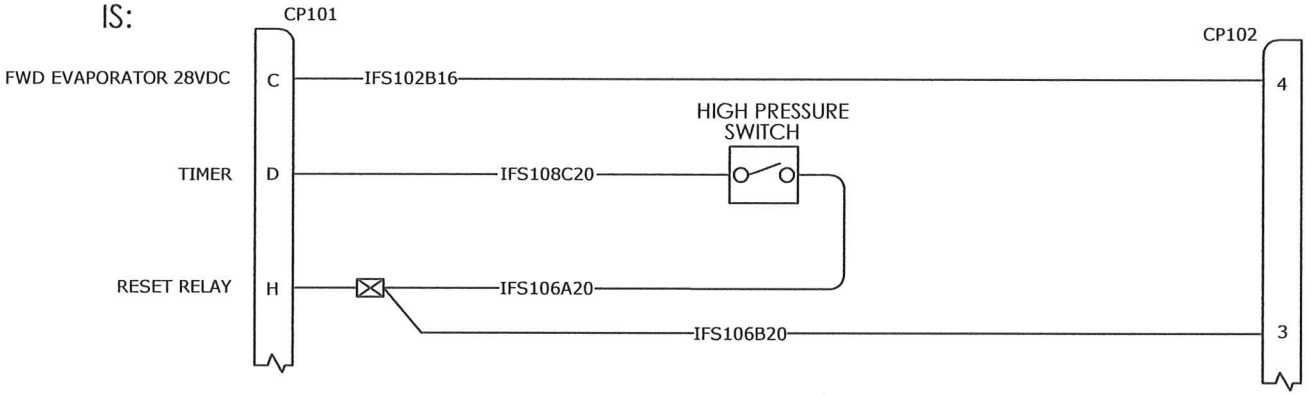


REMARKS:
MINOR CHANGES FOR PRODUCT IMPROVEMENT.

ENGINEERING REVIEW BOARD		
SIGNATURE	STAMP	DATE
William L. Thornton	ERB01	02/21/2012
Travis Davis	QA02	022112
Ryan Duffy	P016	2-21-2012

INCORPORATION STATUS
- ☐ IMMEDIATE
- ■ OUTSTANDING

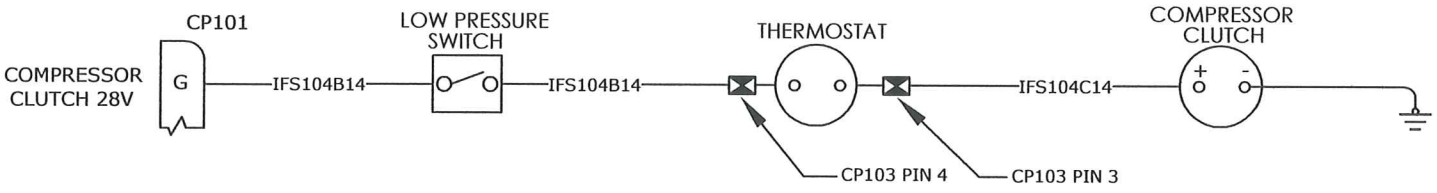
PSG PRODUCTS INC.

ENGINEERING
CHANGE
ORDER

ECO No. 0384		SHT 2 OF 5
DWG No. 2-22-AS355		REV B
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

2. THERMOSTAT IS REMOVED FROM DRAWING. WIRE IFS104B14 IS SPLICED DOWN TO TWO 16 AWG WIRES THAT CONNECT TO CP101 PINS G AND E. ALL WIRE NUMBERS HAVE BEEN REVISED WITH PROPER SEQUENCING; NEW WIRE NUMBER HAVE BEEN ASSIGNED TO GROUND.

WAS:



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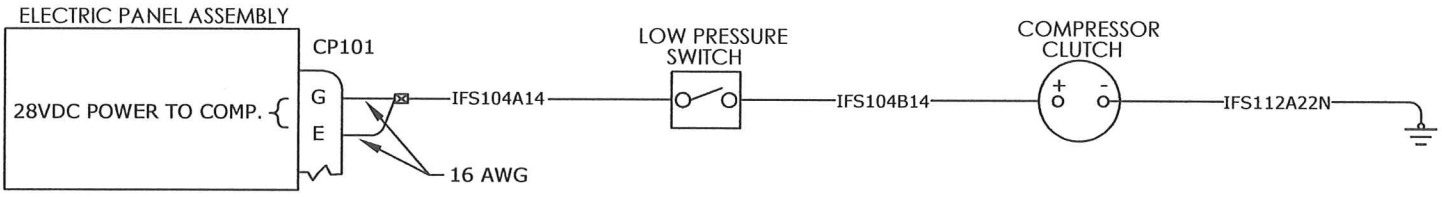
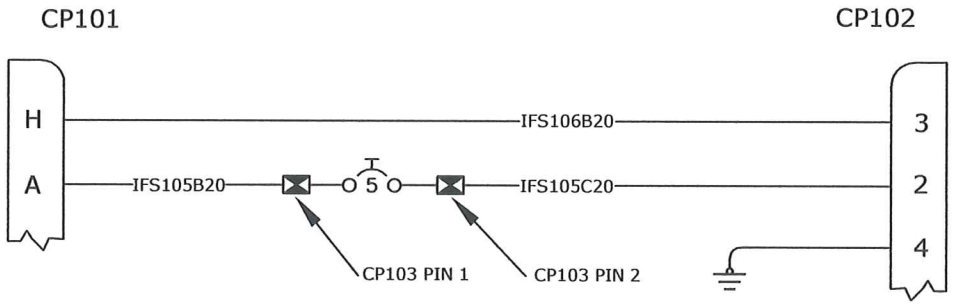


PSG PRODUCTS INC.	ENGINEERING CHANGE ORDER	ECO No. 0384	SHT 3 OF 5
		DWG No. 2-22-AS355	REV B
		DWG No.	REV
		DWG No.	REV
		REF. STC No. SH5947SW	

3. CONNECTOR CP103 NOT SHOWN ON PREVIOUS DRAWING, IS NOW ADDED. ALL JUMPER WIRES ARE 22 AWG UNLESS OTHERWISE SPECIFIED.

WAS:



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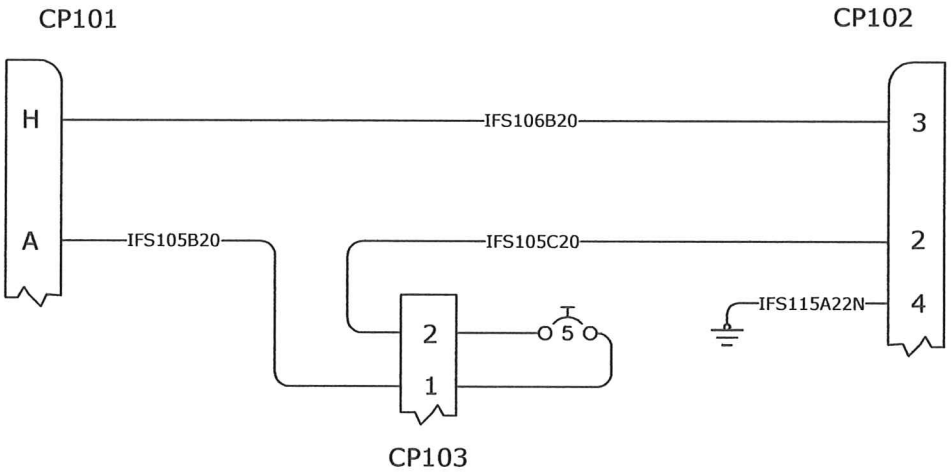
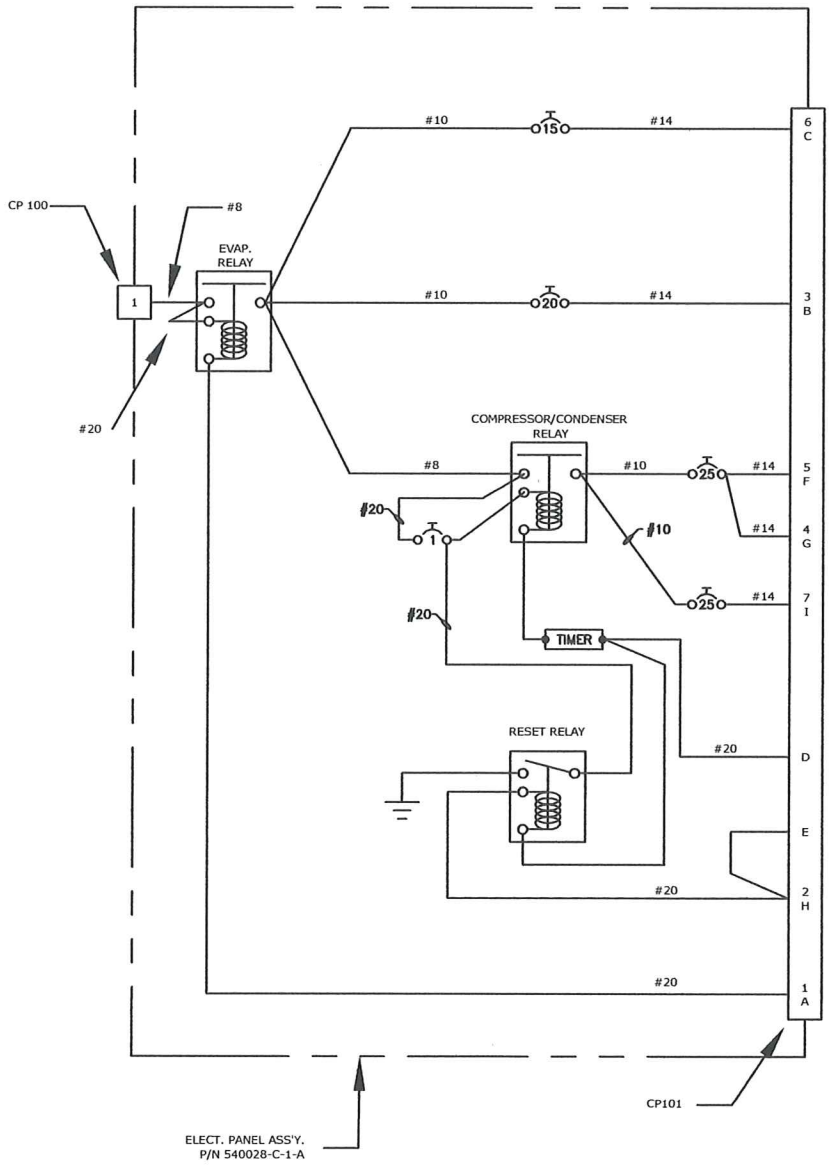


PSG PRODUCTS INC.	ENGINEERING CHANGE ORDER	ECO No. 0384	SHT 4 OF 5
		DWG No. 2-22-AS355	REV B
		DWG No.	REV
		DWG No.	REV
		REF. STC No. SH5947SW	

WAS:

1. POWER / RELAY BOX CHANGES:
CHANGED LAYOUT TO MATCH ELECTRICAL PANEL ASSY. 540028-"C"-1-B CONFIGURATION. JUMPER BETWEEN RECEPTACLE CP101 PINS E AND H REMOVED; CP101, RECEPTACLE PIN C, 14 AWG WIRE CHANGED TO 16AWG AND ; CP101, RECEPTACLE PIN G, 14 AWG WIRE IS CHANGED TO 16 AWG WIRES AND CONNECTED TO PIN G AND RUN NEW 16 AWG WIRE BETWEEN CB3 AND PIN E; CONNECTOR WITH PIN NUMBERS NO LONGER USED, THEREFORE NUMBERS HAVE BEEN REMOVED FROM DRAWING FOR CLARITY.



PSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0384		SHT 5 OF 5
DWG No. 2-22-AS355		REV B
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

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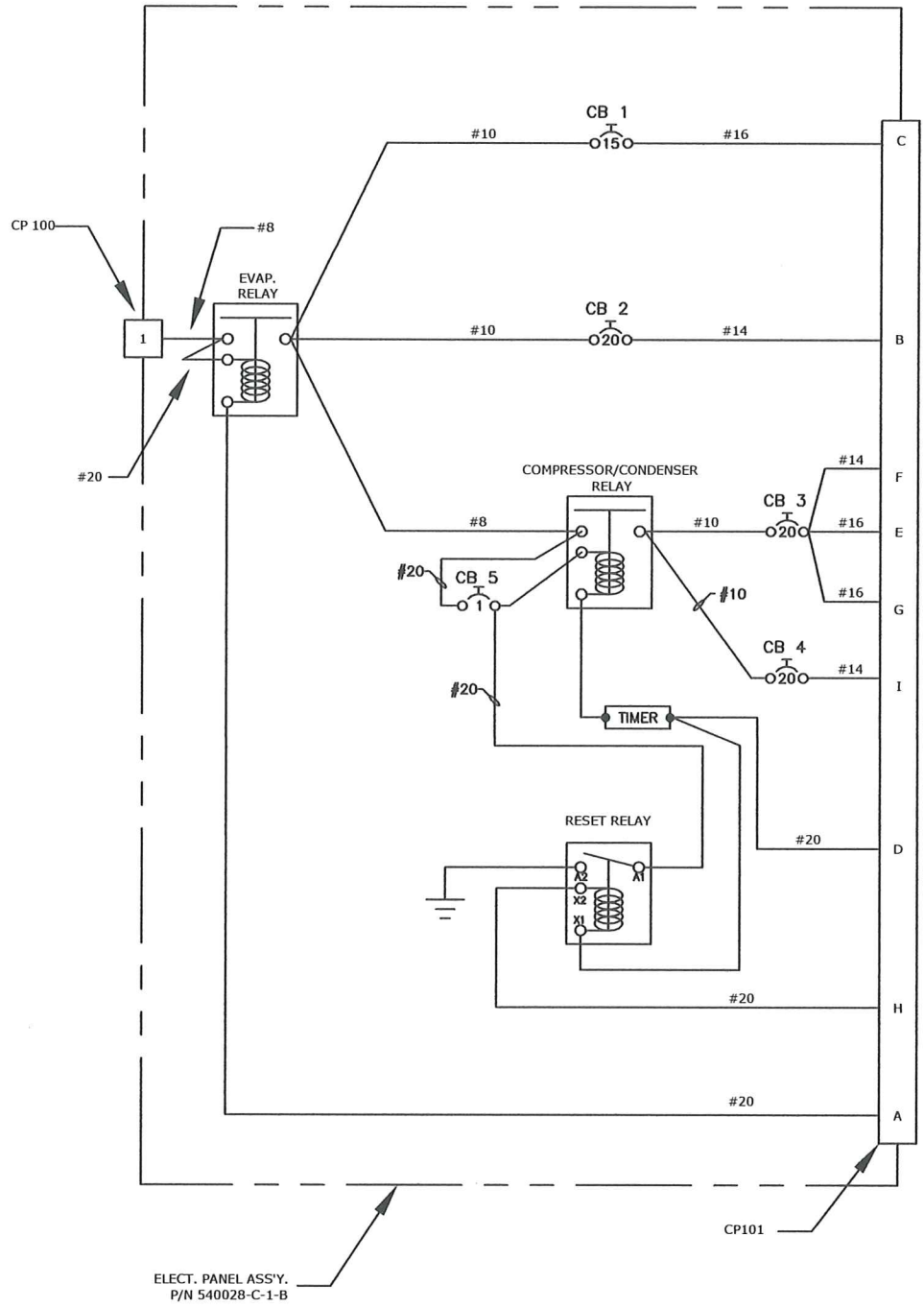


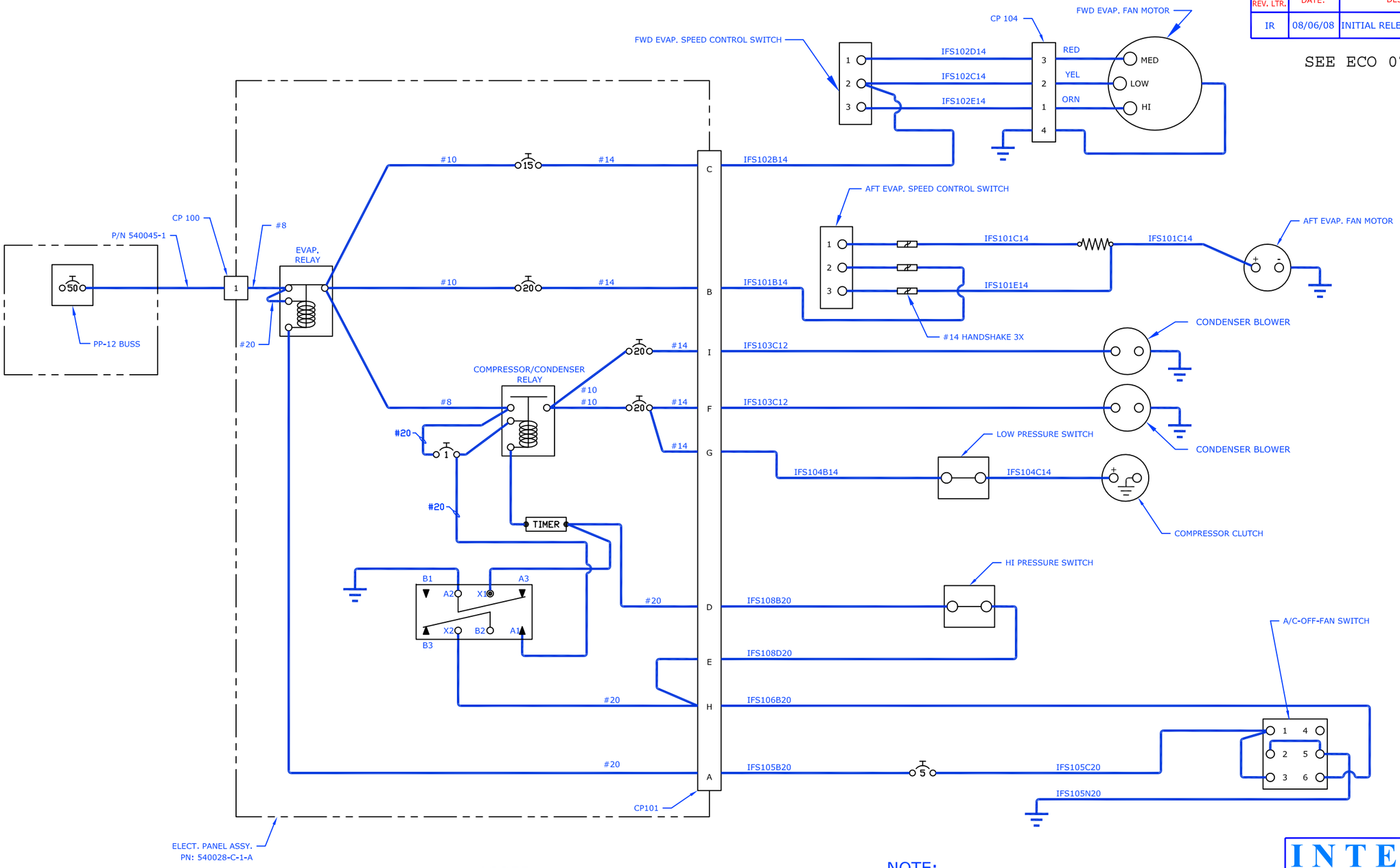
NOTE CHANGE: REMOVED NOTE 1, NOTE 2 BECOMES NOTE 1.

ADDED NEW NOTE:

2. SEE NEXT HIGHER ASSEMBLY DRAWING 1-0-AS355.

REVISION RECORD				
DWG. REV. LTR.	DATE:	DESCRIPTION OF CHANGE	APPVD. BY	REV. BY
IR	08/06/08	INITIAL RELEASE	-	-

SEE ECO 0756



AS355
ELECTRICAL WIRING DIAGRAM
DUAL CONDENSER BLOWER
SIDE BAGGAGE EVAPORATOR

NOTE:

1. SEE 2-5-AS350 SH 1 0F 1 FOR WIRE SPLICE LOC.
2. WIRE SPEC: MIL-W-22759/16
   WIRE NO. IFS XXX X XX
   GROUP
   SEQUENCE (N INDICATES GROUND)
   GAUGE

INTEGRATED Flight Systems

TITLE: WIRING DIAGRAM				
DRAWN BY: DWE	DATE: 08/06/08	REV.: IR	SCALE: NTS	SHEET: 1 OF 1
APPLICATION: AS355			DWG. NO.: 2-25-AS355	

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0756		SHT 1 OF 2
DWG No. 2-25-AS355		REV IR
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

CHANGE CLASS:
- [x] RECORD CHG. PARTS NOT AFFECTED
- [ ] NON-INTERCHANGEABLE PARTS
- [ ] INTERCHANGEABLE PARTS
- [ ] OTHER _____

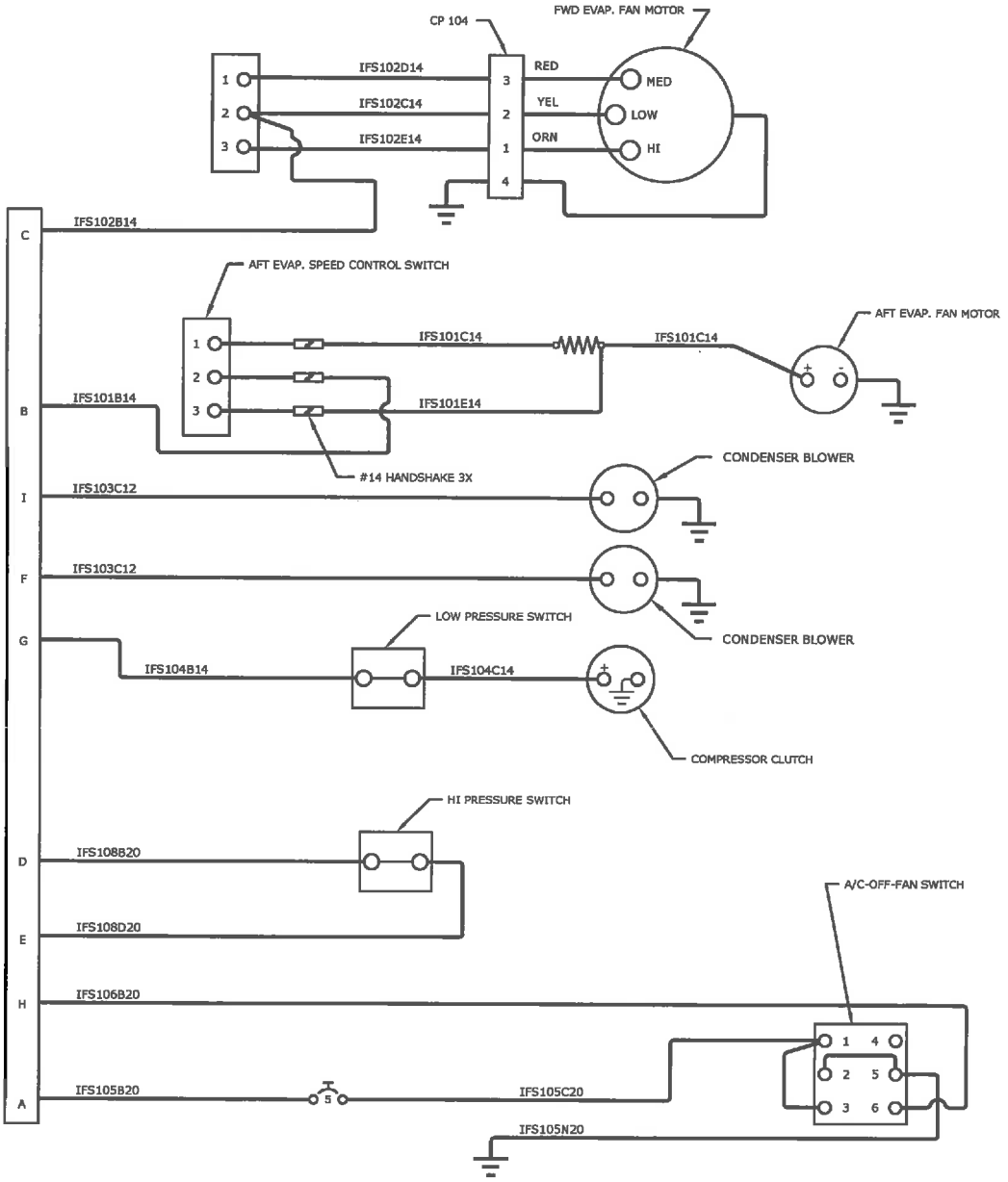
EXISTING/IN-WORK STOCK DISPOSITION:
- [ ] RECORD CHG. PARTS NOT AFFECTED
- [ ] RE-WORK EXISTING STOCK
- [ ] SCRAP EXISTING STOCK
- [x] OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- [ ] ALL UNITS THIS CUSTOMER
- [ ] LIMITED UNITS SPECIFIED
- [ ] ALL UNITS MFG'D AFTER THIS DATE
- [x] OTHER ALL UNITS

DESCRIPTION OF CHANGE:

CHANGED WIRING TO MATCH WIRING HARNESS.

WAS:



REMARKS:
MINOR CHANGES FOR PRODUCT IMPROVEMENT.
THIS ECO CANCELS ECO# 0656.

ENGINEERING REVIEW BOARD		
SIGNATURE	STAMP	DATE
	ERB04	2/26/15
	P015	2/26/15
	QA11	2/26/15

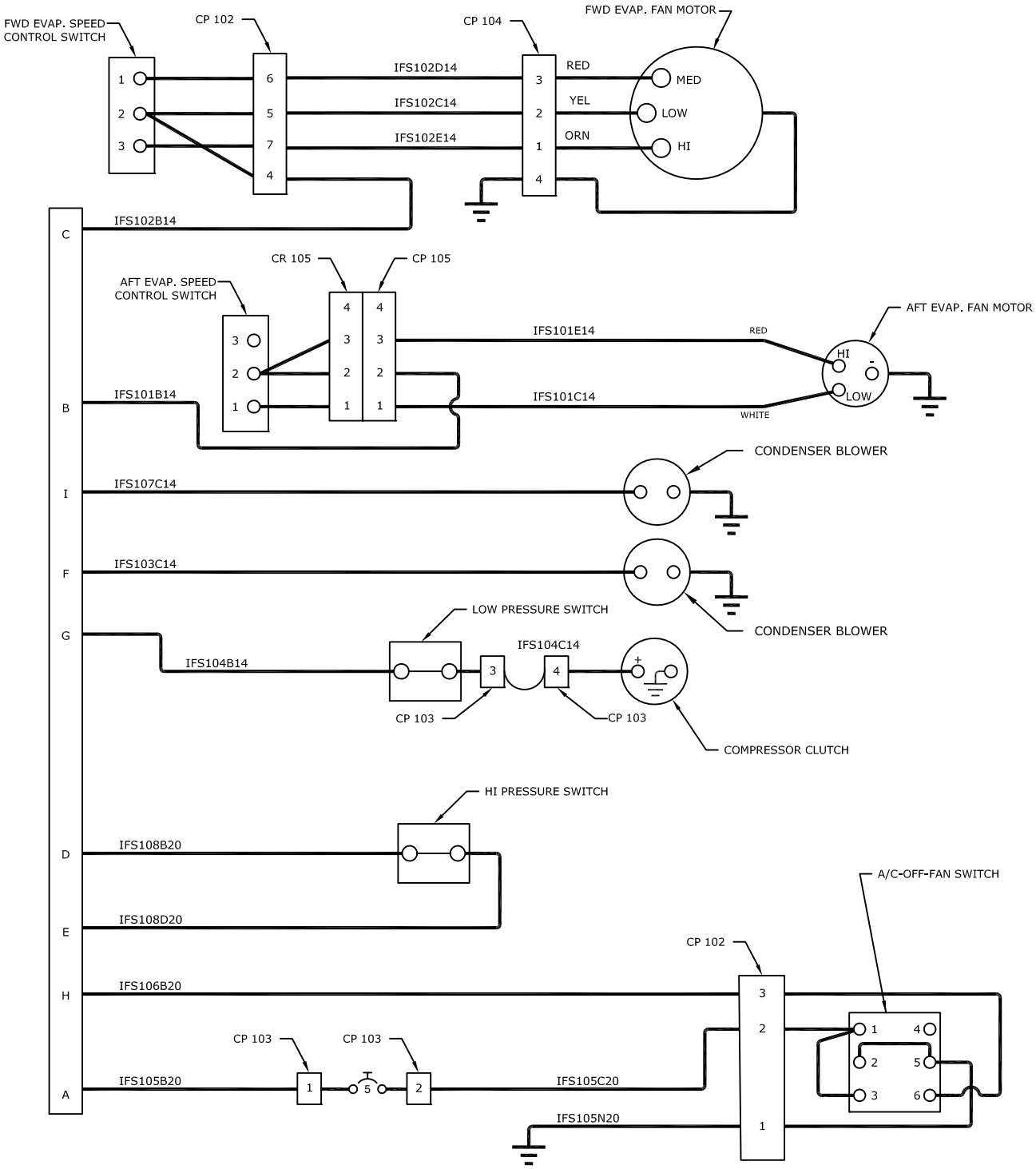
INCORPORATION STATUS
- [ ] IMMEDIATE
- [x] OUTSTANDING

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0756	SHT 2 OF 2
DWG No. 2-25-AS355	REV IR
DWG No.	REV
DWG No.	REV
REF. STC No. SH5947SW	

IS:



Step 10

Installation of Hoses

Installation of hoses

STEP	PROCEDURE	MECH	INSP
10.0	**The following sequence of hose connections is suggested.** Remove nose access plate. Run hose assembly #6, P/N 570069-O and #10 P/N 570073-O up from under aircraft past damper weight to the forward evaporator. Connect and tighten both hose fittings (after final fit of evaporator and blower, **but before mounting evaporator**). Mount evaporator and blower. Route hoses down and outboard at right side. NOTE: ALWAYS LEAVE ENOUGH SLACK IN BOTH HOSES SO EVAPORATOR CAN BE REMOVED IN THE FUTURE WITHOUT DISCONNECTING HOSES.		
10.1	Preferred hose routing is outboard of damper weight. Due to the size of electrical bundles sometimes present, the alternate inboard location must be used. Run #6 hose AFT to "TEE" at drier bottle location and to the expansion valve at the aft evaporator. **Do not** open bottle or connect hose at this time. Extend the #6 hose up through cut out in transmission deck and connect to expansion valve at AFT evaporator. Drier P/N 090016-5 Note: See plumbing drawing for the location of the drier in the right side baggage compartment which now protects both evaporators. Drier now contains sight glass and provides for a **high side service port (1991 and on).**		
10.2	Mount drier P/N 260123-2 aft of station 106.29 in right side baggage compartment (1991 & on). Per 3-3-AS355.		
10.3	**Low side Pressure Switch, P/N 050107, is located on right hand side under cockpit floor.**		
10.4	**High Pressure Switch, P/N 090004, is located on right hand side under cockpit floor.**		

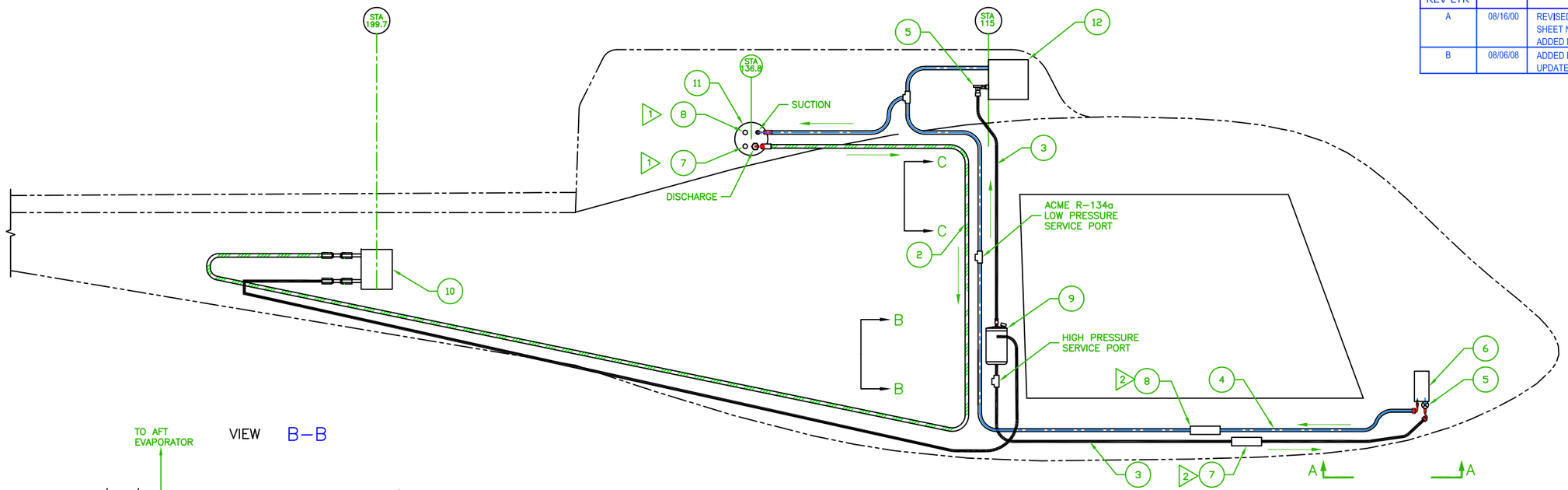
Installation of Hoses

STEP	PROCEDURE	MECH	INSP
10.5	Run #10 P/N 570073-O-A hose assembly from forward evaporator aft and up through cut out in transmission deck.		
10.6	Run #6 P/N 570069-O-A hose assembly from drier to forward and aft evaporator.		
10.5	Run #10 P/N 570073-O-B hose from forward evaporator aft and up through cut out in transmission deck.		
10.6	Run #6 P/N 570069-O-B hose assembly from drier to forward and aft evaporator.		
10.7	Run #6 P/N 570067-O-A from condenser to drier bottle.		
10.8	Run the #10 P/N 570073-O-A hose from the TEE fitting above the transmission deck vertically at station 115.01 as shown on plumbing diagram, sheet 2 of 2. Connect to AFT evaporator and to compressor.		
10.9	Connect the #8 P/N 570068-O-A discharge hose from the condenser and pass the hose up through the hole cut in the transmission deck and run it parallel with the #10 hose to compressor. All holes are to be lined with caterpillar, which is sealed in place.		

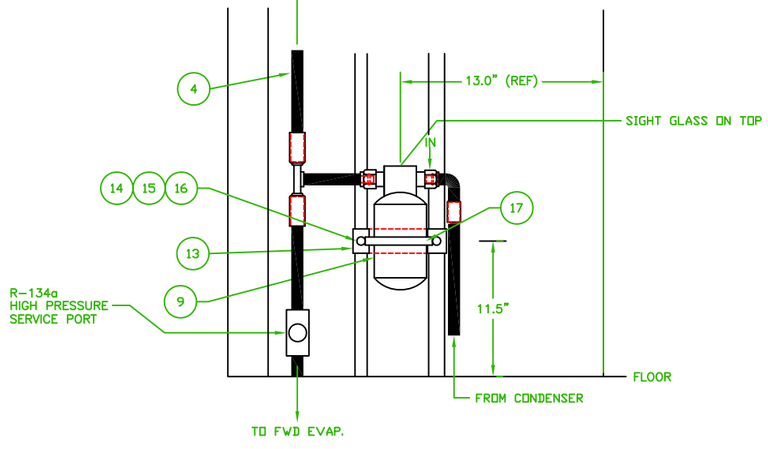
Installation of Hoses

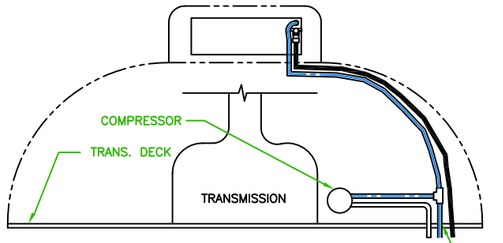
10.10	After all other connections have been made and tightened, make final connection at drier bottle. Seal #6, #8 and #10 hoses where they pass through the transmission deck. Note: All refrigerant lines are to be securely fastened with adel clamps and/or tie wraps as per guides found in AC 43.13-1A and -2A for hydraulic or similar hoses. Caterpillars should be used around all holes in metal where hoses and/or wiring pass them.

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	REVISED DRAWING NUMBER, WAS 3-AS355. SHEET NUMBER WAS 1 OF 2. ADDED NOTE ON VIEW C-C.		N. DEAN
B	08/06/08	ADDED BAND CLAMP TO B.O.M. UPDATED WITH NEW TITLE BLOCK.		DWE



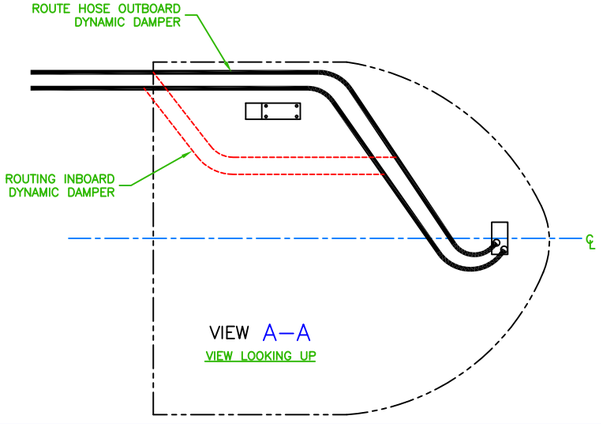
VIEW B-B





VIEW C-C
VIEW LOOKING FWD. AT STA. 115.01

(A) SEE DWG 3-13-AS355 VIEW D-D FOR HOSE ROUTING THRU DECK INST.



VIEW A-A
VIEW LOOKING UP

NOTE:

ALTERNATE HOSE:

1991-ON NEOPRENE BARRIER TYPE

#6 P/N 090078	BASIC	
#8 P/N 090079	PRODUCT	
#10 P/N 090080	IFS P/N	

1995-ON NEOPRENE REDUCED BARRIER TYPE

#6 P/N 090089	BASIC	
#8 P/N 090090	PRODUCT	
#10 P/N 090091	IFS P/N	

MUST USE ATCO REDUCED BARRIER TYPE FITTINGS & ATCO CRIMPER P/N 3700

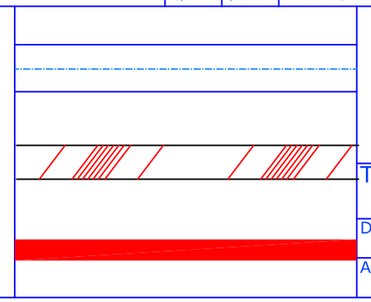
FERRULES FOR ABOVE

#6 P/N 090081	BASIC	
#8 P/N 090082	PRODUCT	
#10 P/N 090083	IFS P/N	

NOTE:

1. LOCATION OF PRESSURE SWITCHES WHEN R-12 COMPRESSOR IS INSTALLED
2. LOCATION OF PRESSURE SWITCHES WHEN R-134a COMPRESSOR IS INSTALLED
3. COMPRESSORS
   P/N 010001-1 R-12 FLARE
   P/N 010001-1-"O" R-12 "O" RING
   P/N 010001-2-"O" R134a W/ESTER OIL
   P/N 010001-3-"O" R134a W/SP-20 OIL

(B)	QTY	ITEM	PART NUMBER	DESCRIPTION
	1	17	060036	3 INCH BAND CLAMP
	2	16	MS21044-N3	NUT
	4	15	AN960-10	WASHERS
	2	14	AN3-4A	BOLT
	1	13	260123-2	RECEIVER DRIER MOUNT
	1	12	560024-O	AFT EVAPORATOR
	1	11	010001-1	COMPRESSOR 24 VDC (3)
	1	10	550022	CONDENSER
	1	9	090016-5	RECEIVER/DRIER BOTTLE
	1	8	050107	LOW PRESSURE SWITCH
	1	7	090004	HIGH PRESSURE SWITCH
	1	6	560023-1	FORWARD EVAPORATOR (ALT: 560023, 530023-3)
	2	5	090002-O	EXPANSION VALVE
	1	4	570073-O-A	HOSE ASSY. AFT EVAP TO FWD. TO AFT COMPRESSOR (#10)
	1	3	570069-O-A	HOSE ASSY. AFT EVAP TO FWD. EVAP TO REC/DRIER (#6)
	1	2	570068-O-A	HOSE ASSY. COMP. TO CONDENSER (#8)
(B)(A)	1	1	570067-O-A	HOSE ASSY. COND. TO REC./DRIER (#6)
	QTY	ITEM	PART NUMBER	DESCRIPTION



INTEGRATED Flight Systems

TITLE: PLUMBING DIAGRAM

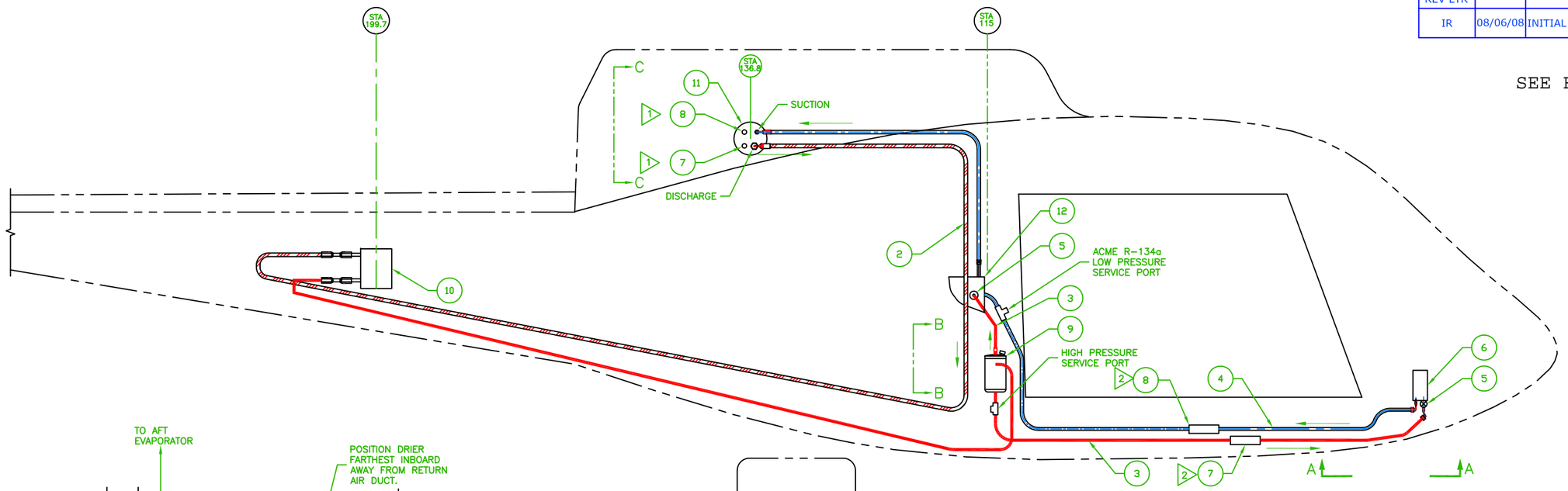
DRAWN BY:	DATE:	REV	SCALE:	SHEET:
N. DEAN	11/10/96	B	NONE	1 OF 1

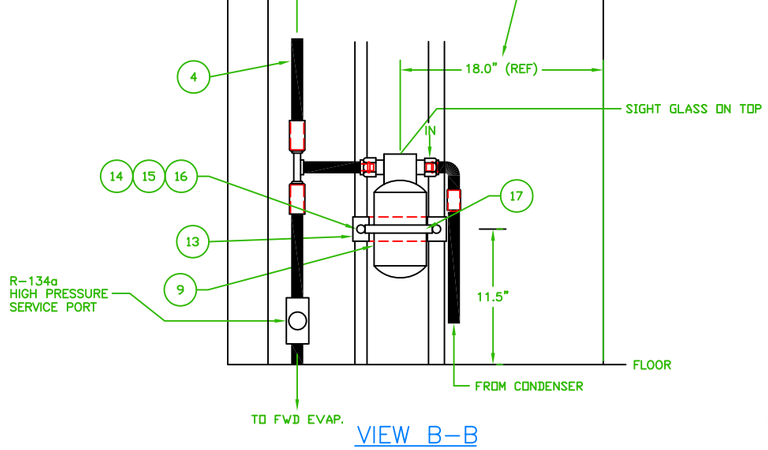
APPLICATION: AS 355

DWG No. 3-3-AS355

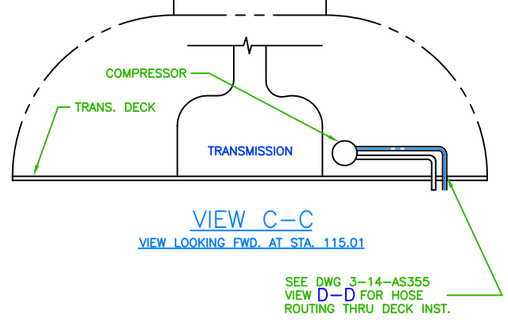
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-

SEE ECO 0660





VIEW B-B



VIEW C-C
VIEW LOOKING FWD. AT STA. 115.01

SEE DWG 3-14-AS355
VIEW D-D FOR HOSE
ROUTING THRU DECK INST.

NOTE:

1. LOCATION OF PRESSURE SWITCHES WHEN R-12 COMPRESSOR IS INSTALLED
2. LOCATION OF PRESSURE SWITCHES WHEN R-134a COMPRESSOR IS INSTALLED
3. COMPRESSORS
   P/N 010001-1 R-12 FLARE
   P/N 010001-1-"O" R-12 "O" RING
   P/N 010001-2-"O" R134a W/ESTER OIL
   P/N 010001-3-"O" R134a W/SP-20 OIL

QTY	ITEM	PART NUMBER	DESCRIPTION
1	17	060036	3 INCH BAND CLAMP
2	16	MS21044-N3	NUT
4	15	AN960-10	WASHERS
2	14	AN3-4A	BOLT
1	13	260123-1	RECEIVER DRIER MOUNT
1	12	560016-O-2	AFT EVAPORATOR ASSY.
1	11	010001-1	COMPRESSOR 24 VDC (3)
1	10	550022	CONDENSER
1	9	090016-5	RECEIVER/DRIER BOTTLE
1	8	050107	LOW PRESSURE SWITCH
1	7	090004	HIGH PRESSURE SWITCH
1	6	560023-1	FORWARD EVAPORATOR (ALT: 560023, 530023-3)
2	5	090002-O	EXPANSION VALVE
1	4	570073-O-B	HOSE ASSY. AFT EVAP TO FWD. TO AFT COMPRESSOR (#10)
1	3	570069-O-B	HOSE ASSY. AFT EVAP TO FWD. EVAP TO REC/DRIER (#6)
1	2	570068-O-A	HOSE ASSY. COMP. TO CONDENSER (#8)
1	1	570067-O-A	HOSE ASSY. COND. TO REC./DRIER (#6)

NOTE:

ALTERNATE HOSE:
1991-ON NEOPRENE BARRIER TYPE

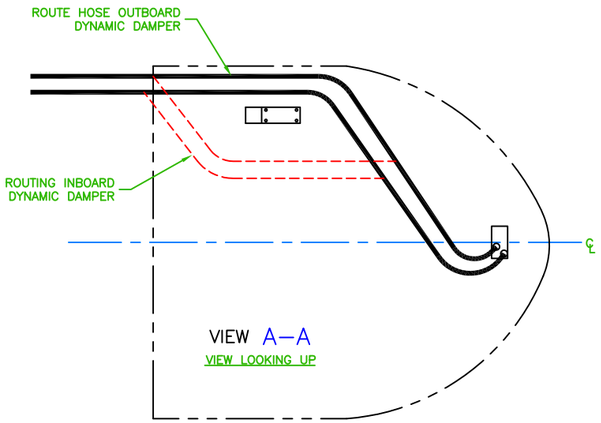
#6 P/N 090078	BASIC PRODUCT IFS P/N	#6 P/N 090089
#8 P/N 090079		#8 P/N 090090
#10 P/N 090080		#10 P/N 090091

1995-ON NEOPRENE
REDUCED BARRIER TYPE

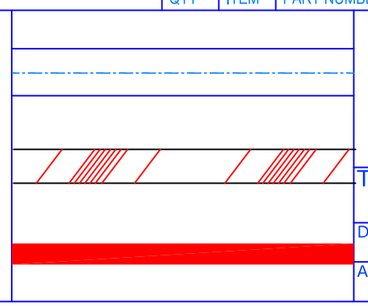
MUST USE ATCO REDUCED BARRIER TYPE FITTINGS & ATCO CRIMPER P/N 3700

FERRULES FOR ABOVE

#6 P/N 090081	BASIC PRODUCT IFS P/N
#8 P/N 090082	
#10 P/N 090083	



VIEW A-A
VIEW LOOKING UP



INTEGRATED Flight Systems

TITLE: PLUMBING DIAGRAM

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
DWE	08/06/08	IR	NONE	1 OF 1

APPLICATION: AS355

DWG No. 3-10-AS355

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0660		SHT 1 OF 2
DWG No. 3-10-AS355		REV IR
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

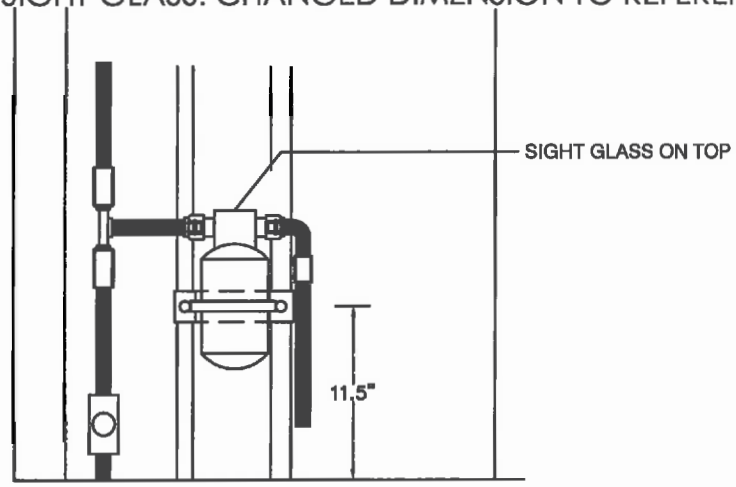
CHANGE CLASS:
- ■ RECORD CHG. PARTS NOT AFFECTED
- ☐ NON-INTERCHANGEABLE PARTS
- ☐ INTERCHANGEABLE PARTS
- ☐ OTHER _____

EXISTING/IN-WORK STOCK DISPOSITION:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ RE-WORK EXISTING STOCK
- ☐ SCRAP EXISTING STOCK
- ■ OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- ☐ ALL UNITS THIS CUSTOMER
- ☐ LIMITED UNITS SPECIFIED
- ☐ ALL UNITS MFG'D AFTER THIS DATE
- ■ OTHER ALL UNITS

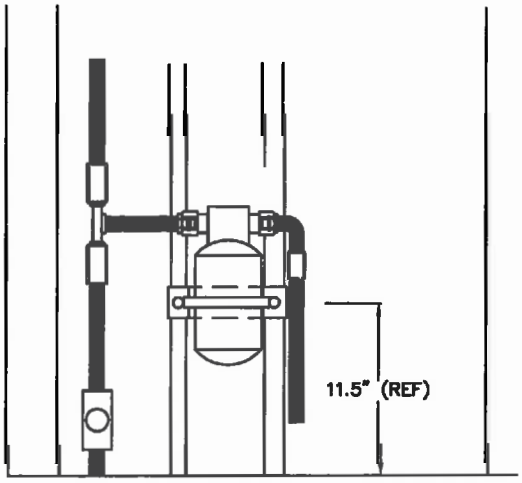
DESCRIPTION OF CHANGE:
REMOVED CALL OUT NOTE FOR SIGHT GLASS. CHANGED DIMENSION TO REFERENCE DIMENSION.

WAS:



VIEW B–B

IS:



VIEW B–B

REMARKS:
MINOR CHANGES FOR PRODUCT IMPROVEMENT.

ENGINEERING REVIEW BOARD		
SIGNATURE	STAMP	DATE
	QA11	9/26/14
	ER804	
	P015	9/26/14

INCORPORATION STATUS
- ☐ IMMEDIATE
- ■ OUTSTANDING

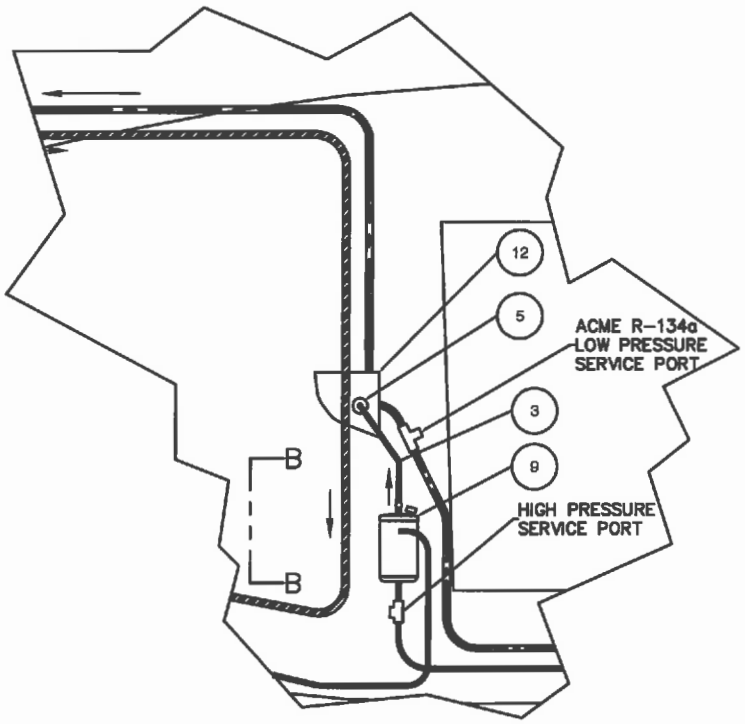
RSG PRODUCTS INC.

ENGINEERING
CHANGE
ORDER

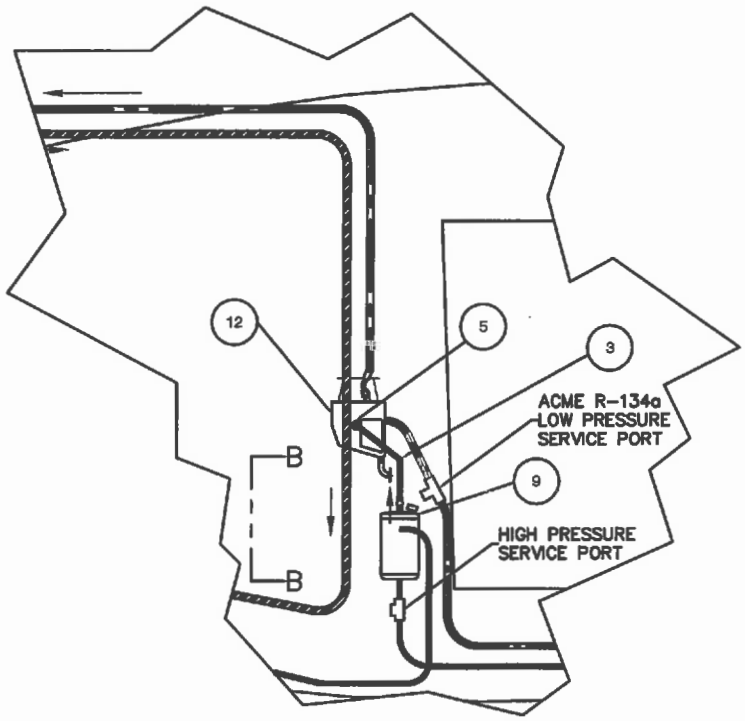
ECO No.	0660	SHT	2 OF 2
DWG No.	3-10-AS355	REV	IR
DWG No.		REV	
DWG No.		REV	
REF. STC No.	SH5947SW		

DESCRIPTION OF CHANGE:
UPDATED AFT EVAPORATOR VIEW.
CHANGED P/N ITEM 13 WAS 260123-1 IS NOW 260123-2.

WAS:



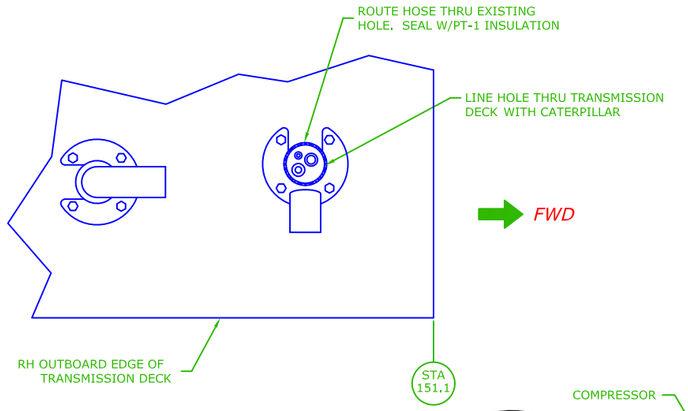
IS:



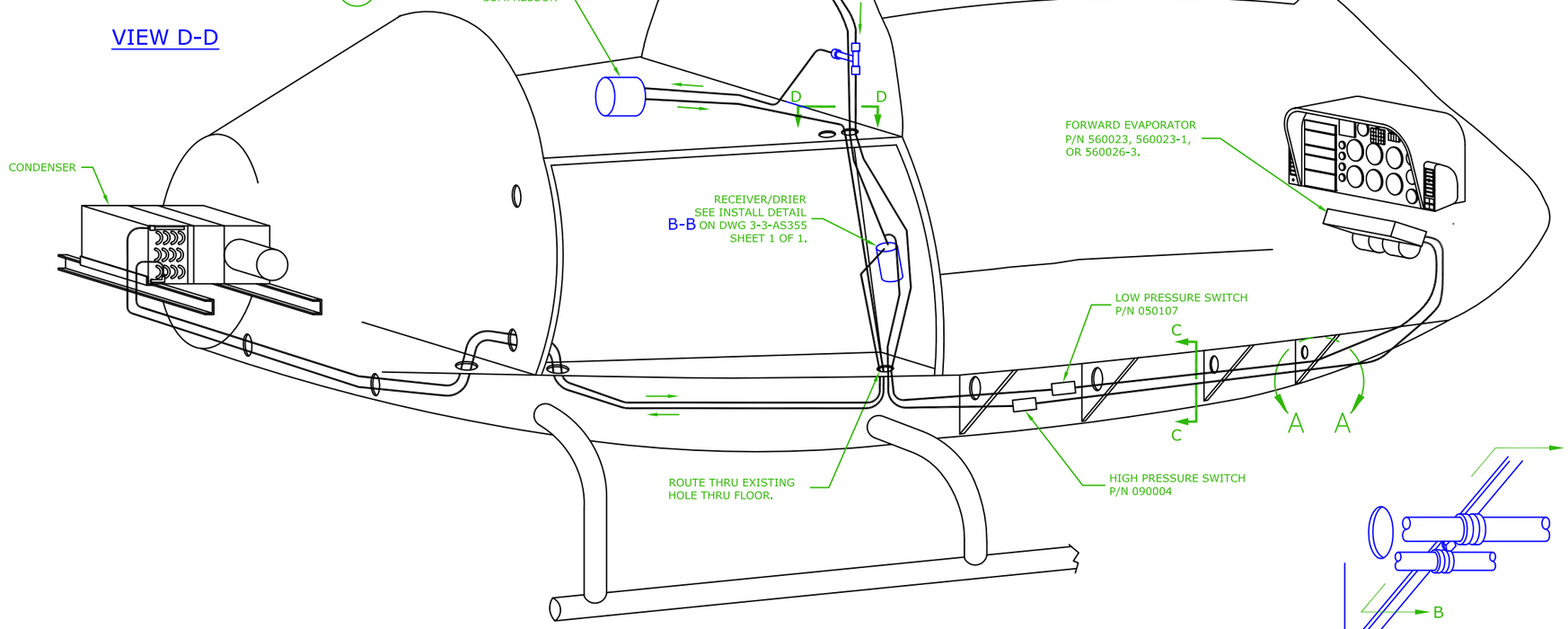
REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
A	08/16/00	REVISED DRAWING NUMBER. WAS 3-AS355. SHEET NUMBER WAS 2 OF 2.	JHK	MAH
B	08/06/08	CONVERTED DRAWING TO AUTOCAD. UPDATED WITH NEW TITLE BLOCK.		DWE

NOTES:

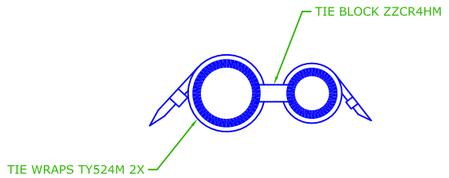
1. FOR #6 HOSE ATTACH WITH ADEL CLAMP MS21919DG10 & HARDWARE AS SHOWN
2. FOR #8 HOSE ATTACH WITH ADEL CLAMP MS21919DG11 & HARDWARE AS SHOWN
3. FOR #10 HOSE ATTACH WITH ADEL CLAMP MS21919DG12 & HARDWARE AS SHOWN
4. INSTALL PER VIEW B-B, ALTERNATE VIEW B-B, OR VIEW C-C.



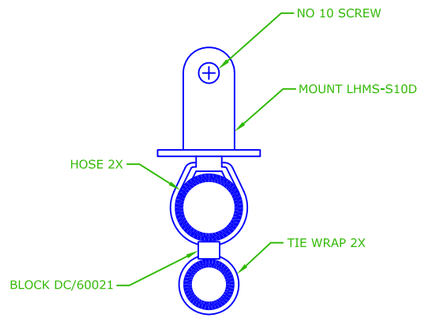
VIEW D-D



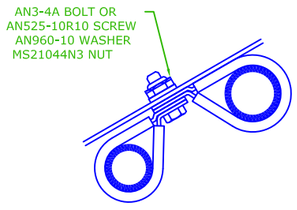
VIEW A-A
SEE NOTES



VIEW C-C
SEE NOTES



VIEW B-B
"ALTERNATE"
SEE NOTES



VIEW B-B
SEE NOTES
ALTERNATE: SEE VIEW B-B ALTERNATE

EXTREMELY IMPORTANT

FAILURE TO SECURE EXPANSION VALVE SENSING BULB, TIGHTLY, TO THE RETURN LINE WITH A STAINLESS STEEL CLAMP (AND INSULATE SENSING BULB AND LINE) WILL DRAMATICALLY DECREASE THE PERFORMANCE OF THE OPPOSITE EVAPORATOR.

NOTE: USE EXISTING LIGHTENING HOLES ONLY, FOR ALL ROUTING (PREFERRED METHOD), EXCEPT UNDER CABIN FLOOR.

INSTALL PER VIEW B-B OR ALTERNATE VIEW B-B OR VIEW C-C

B

INTEGRATED Flight Systems

TITLE: PLUMBING ROUTING

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MAH	11/10/96	B	NONE	1 OF 1
APPLICATION: AS 355			DWG No. 3-13-AS355	

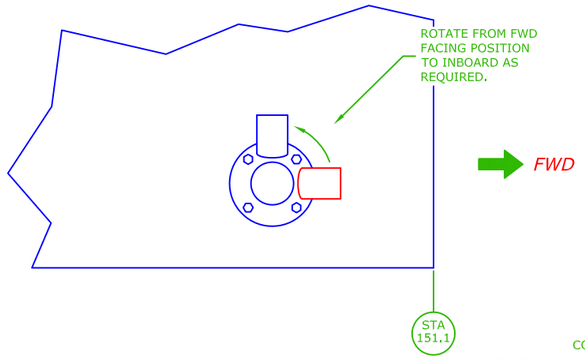
A

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE	-	-

SEE ECO 0659

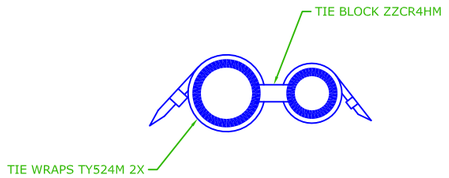
NOTES:

1. FOR #6 HOSE ATTACH WITH ADEL CLAMP MS21919DG10 & HARDWARE AS SHOWN
2. FOR #8 HOSE ATTACH WITH ADEL CLAMP MS21919DG11 & HARDWARE AS SHOWN
3. FOR #10 HOSE ATTACH WITH ADEL CLAMP MS21919DG12 & HARDWARE AS SHOWN
4. INSTALL PER VIEW B-B, ALTERNATE VIEW B-B, OR VIEW C-C.

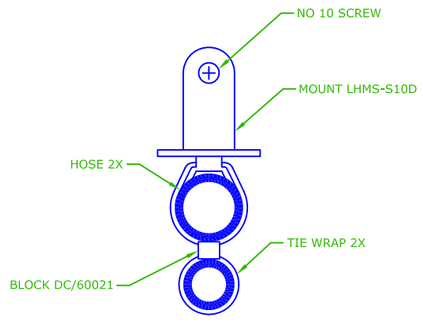


VIEW D-D

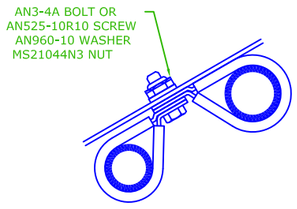
VIEW A-A
SEE NOTES



VIEW C-C
SEE NOTES



VIEW B-B
"ALTERNATE"
SEE NOTES



VIEW B-B
SEE NOTES
ALTERNATE: SEE VIEW B-B ALTERNATE

EXTREMELY IMPORTANT

FAILURE TO SECURE EXPANSION VALVE SENSING BULB, TIGHTLY, TO THE RETURN LINE WITH A STAINLESS STEEL CLAMP (AND INSULATE SENSING BULB AND LINE) WILL DRAMATICALLY DECREASE THE PERFORMANCE OF THE OPPOSITE EVAPORATOR.

NOTE: USE EXISTING LIGHTENING HOLES ONLY, FOR ALL ROUTING (PREFERRED METHOD), EXCEPT UNDER CABIN FLOOR.

INSTALL PER VIEW B-B OR ALTERNATE VIEW B-B OR VIEW C-C

INTEGRATED Flight Systems

TITLE: PLUMBING ROUTING

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
DWE	08/06/08	IR	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	3-14-AS355

RSG PRODUCTS INC.

ENGINEERING CHANGE ORDER

ECO No. 0659		SHT 1 OF 1
DWG No. 3-14-AS355		REV IR
DWG No.		REV
DWG No.		REV
REF. STC No. SH5947SW		

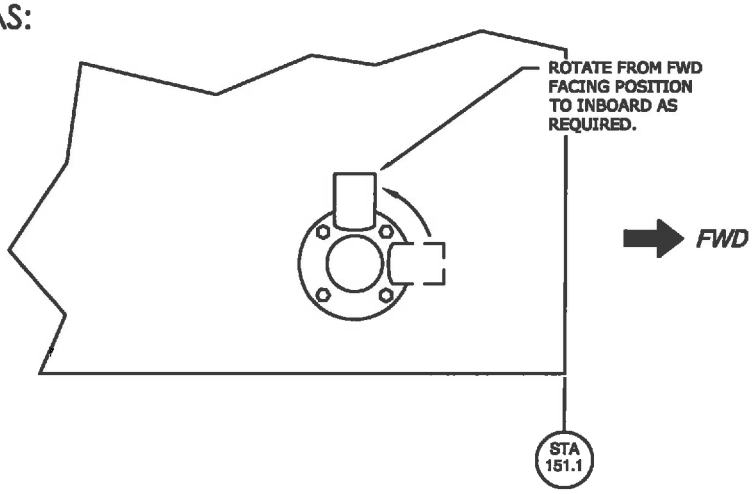
CHANGE CLASS:
- ■ RECORD CHG. PARTS NOT AFFECTED
- ☐ NON-INTERCHANGEABLE PARTS
- ☐ INTERCHANGEABLE PARTS
- ☐ OTHER _____

EXISTING/IN-WORK STOCK DISPOSITION:
- ☐ RECORD CHG. PARTS NOT AFFECTED
- ☐ RE-WORK EXISTING STOCK
- ☐ SCRAP EXISTING STOCK
- ■ OTHER BREAK IN AT NEXT BUILD

EFFECTIVITY:
- ☐ ALL UNITS THIS CUSTOMER
- ☐ LIMITED UNITS SPECIFIED
- ☐ ALL UNITS MFG'D AFTER THIS DATE
- ■ OTHER ALL UNITS

DESCRIPTION OF CHANGE:
ADDED MATCH DRILL NOTE. ADDED DETAIL E TO BETTER DEPICT ADDITIONAL NUTPLATE.

WAS:



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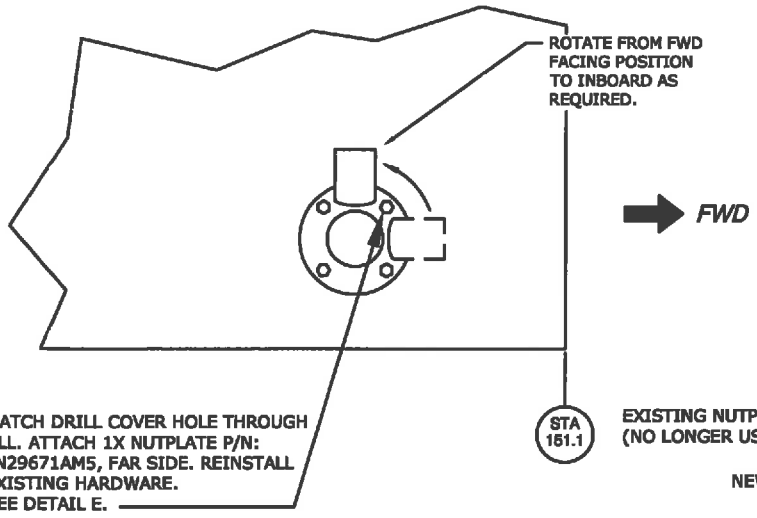

DETAIL E
ADDITION OF NUTPLATE

REMARKS:
MINOR CHANGES FOR PRODUCT IMPROVEMENT.

ENGINEERING REVIEW BOARD

SIGNATURE	STAMP	DATE
	ERB04	9/26/14
	QA11	9/26/14
	P016	9/26/14

INCORPORATION STATUS
- ☐ IMMEDIATE
- ■ OUTSTANDING

Step 11

Paperwork

DETAILED WEIGHT AND BALANCE DATA

FOR

INTEGRATED FLIGHT SYSTEMS

FREON AIR CONDITIONING

UNIT INSTALLED IN A

TYPICAL HELICOPTER, MODEL AS355E, F, F1, F2, N, NP

PERTAINS TO KIT # 355-00-031 Corporate Configuration

	WEIGHT (lb)	CG ARM (in)	MOMENT (lbs)
Fwd. Evaporator Assembly	10.00	19.00	190.00
Fwd. Evaporator Air Outlets	4.00	31.32	125.28
Aft Evaporator & R.A.	9.00	120.10	1080.90
Aft Evaporator Blower	6.00	120.85	725.10
Condenser Assy. & Mount w/ Dual condenser blowers	28.20	201.80	5690.76
Compressor & Mount	15.00	147.80	2217.00
Electrical Relay Panel	4.00	153.70	614.80
Refrigerant, Hoses & Fittings	9.00	76.90	692.10
Sub-Total	85.20	871.47	11,335.94

Engine Oil

Transmission Oil

Pilots (2)

Fuel

FAA APPROVED DATA

DETAILED HELICOPTER WEIGHT & BALANCE DATA

FOR

INTEGRATED FLIGHT SYSTEMS, INC.

FREON AIR CONDITIONING SYSTEM

INSTALLED IN A TYPICAL HELICOPTER

MODEL: AS355E, F, F1, F2, N, NP

PERTAINS TO KIT PN: 355-00-031 NP Configuration

	WEIGHT (lbs)	CG ARM (in)	MOMENT (lbs)	WEIGHT (lbs)	CG (in)	MOMENT RT LATERAL (in)
Fwd. Evaporator	10.00	19.00	190.00			
Fwd. Evaporator Air Outlets	4.00	31.32	125.28			
Aft Evaporator & R.A.	9.00	120.10	1080.90	9.00	216.00	24.00
Aft Evaporator Blower	6.00	120.85	725.10			
Condenser Coil & Mount	20.00	210.10	4202.00			
Condenser Blowers & Mount	11.00	210.10	2311.10			
Compressor & Mount	13.00	147.80	1921.40	13.00	182.00	14.00
Electrical Relay Panel	4.00	153.70	614.80			
Refrigerant Hoses & Fittings	6.00	76.90	461.40			
Total	83.00	140.14	11631.98	22.00	18.09	398.00

Engine Oil

Transmission Oil

Pilot (2)

Fuel

FAA APPROVED DATA

United States Of America

Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number SH5947SW

This Certificate issued to **RSG Products, Inc.**
3900 Falcon Way West, Hangar 16S
Fort Worth, TX 76106

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 27 of the Federal Aviation Regulations.*

*Certification basis is set forth in Type Certificate Data Sheet.

Original Product Type Certificate Number: H11EU

Make: Airbus Helicopters

Model: AS355E, AS355F, AS355F1, AS355F2, AS355N, AS355NP

Description of Type Design Change: Installation of Vapor Cycle Air Conditioning System with single or dual condenser blower configuration in accordance with Integrated Flight Systems, Inc., Master Drawing List DL-8, Revision A, dated June 3, 1985; or dual condenser blower configuration in accordance with Integrated Flight Systems, Inc. Master Drawing List DL-8-1, Revision N/C, dated May 14, 1993, or later FAA approved revision. Rotorcraft Flight Manual Supplement RFMS-355-00-31, Revision N/C, approved on June 5, 1985 or later FAA approved revision is required as part of this modification.

Limitations and Conditions: This approval requires the inspections and overhaul schedules to be performed as mandated by Integrated Flight Systems, Inc.'s Instructions for Continued Airworthiness ICA-355-00-031, Revision IR, dated December 24, 2008, or later FAA accepted revision.

This installation should not be incorporated in any rotorcraft unless it is determined that the interrelationship between this installation and any previously approved configuration will not introduce any adverse effect upon the airworthiness of the rotorcraft. A copy of this STC must be included in the permanent records of the modified rotorcraft. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: May 14, 1984

Date of issuance: June 7, 1985

Date reissued: 3/29/1988, 10/27/1988, 4/30/1991, 8/22/2001, 5/20/2016, July 6, 2016

Date amended: 3/29/1988, 10/27/1988, 7/14/1993, 1/16/2009

By direction of the Administrator

(*Signature*)

Manager, Technical & Administrative Support Staff

Los Angeles Aircraft Certification Office

(*Title*)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

Step 12

Continued Airworthiness

Integrated Flight Systems Air Conditioning System Instructions for Continued Airworthiness For Eurocopter France

AS355E
AS355F
AS355F1
AS355F2
AS355N
AS355NP

RECORD OF REVISIONS

Revision	Description	Date	Approval
IR	Initial Release	12/24/08	L. Aday

LIST OF EFFECTIVE PAGES

PAGE	REVISION	DATE
1	IR	12/24/08
2	IR	12/24/08
3	IR	12/24/08
4	IR	12/24/08
5	IR	12/24/08
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7	IR	12/24/08
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10	IR	12/24/08
11	IR	12/24/08
12	IR	12/24/08
13	IR	12/24/08
14	IR	12/24/08

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR INTEGRATED FLIGHT SYSTEMS AS355 SERIES AIR CONDITIONING SYSTEM

Aircraft Make: Eurocopter France

Aircraft Model: AS355E, AS355F, AS355F1, AS355F2, AS355N, AS355NP

1. **Introduction:** Kit #355-00-031 is applicable to all models of the SA355 helicopter. It is a system utilizing R-134a (non-CFC type) refrigerant. This kit is compatible with utility, corporate, and EMS configurations. An Integrated Flight Systems unit is designated to be as maintenance free as possible. It incorporates in the design components that have proven themselves to be highly reliable.

2. **Description:** The Integrated Flight Systems Air Conditioning System is a vapor (R134 refrigerant) recovery system. The compressor uses existing mounting points on the transmission case. To improve efficiency, two evaporators are used for this system, one mounted forward of the co-pilot, the other in the aft right-hand cargo compartment. Also, two 24-volt fan motors are used to circulate the cabin air through the evaporators. Air distribution for the aft evaporator is accomplished through the ducts in the cabin. The ducts are equipped with directional valves.

   A. The condenser for the 355-00-031 kit is mounted in the aft baggage area. Two additional 24-volt fan motors circulate air through the condenser. The air enters through the intake screen on the belly of the aircraft and exits at two holes through the outlet air screen.
   B. The condenser for the 355-00-011 kit is mounted in the right hand side baggage area. A single 27-volt fan motor circulates air through the condenser. The air enters through the intake screen on the side baggage door of the aircraft and exits at a second hole through the outlet air screen.

   The system is activated by an On/Off switch in the pilot's compartment and a selector switch to provide high or low air velocity distribution options.

3. **Operation:** The air conditioning installation consists of a belt driven vapor cycle air-conditioning system using R-134A as the refrigerant.

   The air conditioning system provides for cabin comfort during all operations, both on the ground and in flight. During ground operations when the engines are running, cooling may be provided. Controls for the air conditioning system are located on or near the instrument panel. Three switches are provided. The Master Control Selector consists of a rocker type switch, labeled "A/C", "OFF", and "FAN". Selecting the "A/C" position turns on the system's dual evaporator fans, condenser blower, and belt driven compressor. The second rocker switch is a "HIGH", "MED", and "LOW" evaporator fan speed selection

for the forward cockpit. The aft evaporator has a separate fan speed control switch (2 position, HI/LOW), located in the aft cabin.

4. **Servicing Information:** All components are readily accessible for inspection or servicing. Major components are accessed as follows:
   - **A.** Compressor: Remove transmission cowling in accordance with DGAC Maintenance Manual.
   - **B.** Condenser/Condenser Blower: Remove baggage compartment floor in accordance with DGAC Maintenance Manual.
   - **C.** Forward Evaporator/Evaporator Blower: Remove co-pilot's rudder pedals accordance with DGAC Maintenance Manual.
   - **D.** Aft Evaporator/Evaporator Blower: Located above left baggage compartment. Open right-hand transition cowl compartment door.
   - **E.** Service Ports/Sight Glass: Located in left baggage compartment. Open baggage compartment door.

Charging Refrigerant (R-134a) Into System:

A. **DANGER:** R-134a, particularly liquid R-134a, should never be allowed to come in contact with the eyes or skin. Under normal conditions, R-134a as a gas or vapor is an inert substance and non-poisonous. A flame-type leak detector should **never be used** because of the danger of fire or explosion around an aircraft. Several electronic leak detectors are available on the market.

B. Never heat a cylinder of R-134a to produce additional pressure or to squeeze that last bit of refrigerant from the cylinder. If the cylinder has become cooled to the point where additional refrigerant cannot be obtained from it, the only approved method is to place the entire cylinder in a container of **warm** water. **Do Not Exceed 120 Degrees Fahrenheit.**

C. Never attempt to repair a leak requiring brazing or soldering within the aircraft structure as fire or explosion can result. Remove the entire assembly from the aircraft to a safe location before attempting such a procedure.

D. Should R-134a come in contact with the eyes or skin, DO NOT attempt first aid beyond the immediate washing of the eye or skin with clear water. A doctor should be contacted immediately for diagnosis and treatment even though the injury may be considered slight. **REPEAT - DO NOT** attempt first aid for this condition.

E. **The refrigerant used in this system is R-134a and no other refrigerant is to be considered.** Normal safety practices, such as wearing of gloves and the use of goggles, should be utilized.

F. Charging of the system is a simple procedure whether on initial charge or recharging after leakage repair. A set of refrigerant gauges with a minimum of three hoses should be connected to the high side and low side service ports provided.

G. The sight glass is located in the #6 line in the ceiling of the baggage compartment.

Oil Charging: R-134a Refrigerant

A. Prior to the use of R-134a refrigerant, R-12 refrigerant was used in all IFS systems. **The PROPERTIES OF R-134A REFRIGERANT AND THE VARIOUS TYPES OF OIL USED WITH THIS REFRIGERANT ARE COMPLETELY DIFFERENT.**

B. The oils with R-134a **DO NOT** dissolve into the R-134a. **For this reason, additional oil, other than that in the compressor should NOT be added to a new system.** This is particularly true when "barrier type" hose is utilized.

C. The Sanden compressor uses a 500 viscosity SP-20 type oil (ISO 100 100° O.A.T. or higher/ISO 68 100° or lower) or an "ESTER" type oil (yellow label). No other type oil can be utilized, especially "PAG" types.

Initial Charging:

A. Tighten any leaking connections or make repairs as necessary to eliminate leaks. Shut off and disconnect hose from the refrigerant cylinder. Connect the hose to a cylinder of dry nitrogen. Purge the regulator to center manifold hose. **Close low side valve (left) at manifold. Failure to do so can cause pressure to flow to the low side (left) gauge. Failure of gauge can result. Pressurize system to 250-PSI minimum, 300-PSI maximum.**

B. After the system has been rechecked with the leak detector and it is determined that no leaks exist, disconnect the charging hose from the manifold set to the cylinder of nitrogen. Open the valves allowing the R-134a and nitrogen within the system to be collected into an EPA approved recycling until (expelling of refrigerant is not allowed).

C. Connect a vacuum pump to the center manifold hose. Open both valves and evacuate the systems for a minimum of twenty minutes. After twenty minutes of vacuum at seal level. (**NOTE:** For each 1,000 foot rise in altitude above sea level, a decrease below 30" of vacuum of 1" per one thousand feet rise in altitude will occur).

Adding R-134a Refrigerant to System:

A. Close both the manifold valves and connect the center charging hoses to a cylinder of R-134a. Open the valves of the cylinder. Purge the charging hose by loosening it at the charging manifold's center hose. **ONLY THE HIGH SIDE VALVE OF THE CHARGING MANIFOLD MAY NOW BE OPENED.**

B. The combination of the vacuum still existing and the pressure in the R-134a cylinder transfers the R-134a from the cylinder into the system, **on the high side only**, without the compressor running. If a scale is available, the cylinder may be pre-weighted and **2.0 pounds of refrigerant R-134a added to the system**. No additional refrigerant should be added after the system is in operation. Close manifold.

C. The system is now ready for operation. **This must be performed on the flight line with engine at 100%**. As soon as the "A/C" Master Control Switch is turned to "A/C" all 28 VDC evaporator blowers will immediately begin operation.

D. If, after the system has been in the "A/C" mode for at least 2 minutes and cooling is not being accomplished, check all circuit breakers. Determine that 28 VDC power is available for control circuitry. Check operations of the relays and contacts.

E. After the compressor has come on line, the entire system is operational with the manifold valve closed on the high side. The R-134a cylinder valve should be closed initially in order to get an accurate reading on the low side gauge of the "system pressure". The reading on the gauge should not be allowed to go below 10 PSI, as this will indicate that the low-pressure safety switch is possibly set to low. It will disconnect the electrical power to the compressor clutch if allowed to open. Open or close the cylinder valve as required to monitor the flow of R-134a from the cylinder into the low side of the system, if additional R-134a is needed. Should additional charging be required, do so with the cylinder in the upright position. Charge the system, if required, until the system reads 28 PSI on low side, if O.A.T. is 80 degrees Fahrenheit or lower.

F. At this point, the <u>minimum</u> amount of R-134a is in the system and charging should cease. If the outside air temperature is 85 degrees Fahrenheit or more, you should check the high side pressure. If it is 295 PSI or higher, you should remove a small amount of Freon to bring the system down to 290 PSI. **THE REFRIGERANT CHARGE SHOULD NOT EXCEED 2.5 POUNDS.**

G. The optimum method of determining the correct charge is to use at least two digital thermometers and place them near the return air and the discharge air of each evaporator. R-134a can then be added or deleted as required, until the highest Temperature Differential (T.D.) is noted per the paragraph below. At that time, the correct amount of refrigerant is installed (but do not exceed 290 PSI).

H. A test should be completed noting the average cabin temperature, the temperature on the return or entering air to all evaporators, and the discharge air from the evaporators at the nearest practical measuring point. If a Temperature Differential (T.D.) of less than 20 degrees Fahrenheit, with a humidity of 30% or less at sea level, the system should be considered as having possible defects, which will need investigation. At altitudes above sea level, less than 20 degrees Fahrenheit temperature differential may be recorded at humidity of 30% or more. This is due to less dense air moving more rapidly through the evaporators.

I. If the system is found to be completely empty of R-134a, a set of charging gauges should be connected to both the high and low side service ports, and to a cylinder of R-134a. Purge the charging hoses from the cylinder to the service ports with R-134a vapor. Open both the low and high side charging valves and allow pressure from the cylinder to equalize through the system until at least 50 PSI is noted. Utilizing an electronic leak detector, check all fittings on the system to determine the point of leakage. Any fitting indicating an oily or dirty condition is a prime suspect.

5. **Maintenance Instructions:** An Integrated Flight Systems unit is designed to be as maintenance free as possible. It incorporates in the design components that have proven themselves to be highly reliable. It is suggested that at each periodic inspection, either at 50 or 100 hour intervals, a visual inspection be accomplished per the criteria found in FAR Part 43, Appendix D, Para A, Para B (2), Para C (1), (7), Para D (2), (7), (9), Para F, Para G, Para I (2), (3), and Para J. This inspection should cover the following components at a minimum:
   - **A.** Compressor
   - **B.** Compressor Clutch Bearing
   - **C.** Compressor Mount
   - **D.** Refrigerant Hose and Fittings
   - **E.** Evaporator Fans and Mountings
   - **F.** Condenser Blowers and Mountings
   - **G.** Condense/Evaporator Coils

   Compressor:

   i) In addition to the above inspection, the compressor should be inspected for a true turning and free clutch. One mechanic should turn the main rotor blade while another observes the belt and clutch faceplate. Turn system to "A/C" and check magnetic operation of clutch plate. An independent #14 wire may be necessary from the compressor to an airframe ground in order to ensure that the clutch engages in a positive manner.

   ii) If clutch plate and pulley show signs of excessive heat, replace clutch pulley assembly, bearing, and coil.

   iii) The compressor mounts should be inspected for possible cracks, deterioration and that all bolts are firmly attached.

   iv) Check condition of belt. Inspect for cracks, deterioration, separation, and worn or flat spots. Change belt when any of these conditions exist, one thousand hours, which ever comes first.

Hoses:

i) Inspect hoses for general condition, cuts or swelling. Replace as required. Check security of clamps and anti-chaff material.

Evaporators:

i) The forward evaporator blower motor is a permanent magnetic type. No repairs can be made, motor must be discarded and replaced if defective

ii) The aft evaporator blower motor is a permanent magnetic type. It has removable brushes. If brush length is 5/16" or less, replace them. Inspect the brushes every 200 hours.

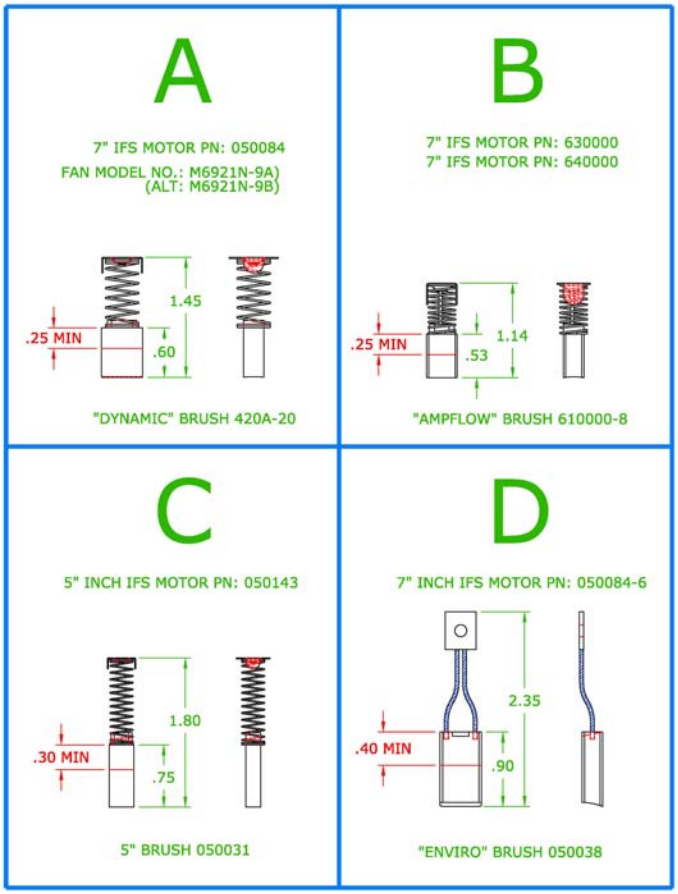
iii) Run both of the evaporator blowers in the “FAN” position and perform a visual inspection of the assemblies to see that foreign materials have not been ingested into the blowers, which might cause blade damage. The blowers should also be run at the various speeds available to check motor operation.

iv) The fins of the evaporator coils should be checked for cleanliness and that they are straight. If damage has occurred to the fins, a fin comb should be utilized to put them in “like new” condition.

Condenser:

i) For 5” motors the two (2) brushes are located under caps on each side of the blower motor. Every 200 hours, remove and check brushes for wear.

ii) For 7” motors the four (4) brushes are located under caps around the base of the motor. Every 200 hours, remove and check brushes for wear. Replace brushes IAW chart:



iii) NOTE: TAKE CARE WHEN INSTALLING BRUSHES THAT BRAIDED POSITIVE LEAD DOES NOT CONTACT HOUSING, CAUSING SHORT.

iv) The fins of the condenser coil should be checked for cleanliness and that they are straight. If damage has occurred to the fins, a fin comb should be utilized to put them in "like new" condition.

6. Troubleshooting Information:

General:

A. Should the system not perform as expected, either because of unreasonably erratic pressure readings, total lack of cooling or reduced cooling, it will be necessary to use the trouble shooting information if the A&P mechanic is unfamiliar with corrections.

B. The high and low-pressure switches should be checked if electrical power is lost to the compressor clutch. These are in series, and they should be checked from their electrical source, which are the 20-amp condenser blower circuit breakers.

C. Always check system R-134a pressure first, as leaking unit may have caused the low-pressure switch to open. This switch is set to open at 8 PSI and close at 22 PSI.

D. Failure of the condenser blower or coil blockage could result in high side switch opening. Both switches are designed to reset automatically.

E. **NOTE**: Internal blockage of the high-pressure side of the refrigerant system can cause a very low-pressure reading at the "low side" service gage and may also cause a low-pressure reading at the "high side" service gage. This can occur when either or both of the two (2) expansion valves in the system closes or if the receiver/drier were clogged.

Compressor:

A. The compressor installed is a Model #SD-505 manufactured by Sanden International.

B. A copy of Sanden Service Manual can be found on the Sanden website at www.sanden.com.

C. No maintenance, other than "clutch bearing" or "coil replacement" should be attempted in the field.

Evaporators:

A. If either the forward or aft evaporator blower fails to run, confirm that the Aircraft Master Switch is in the "ON" position and the Air Conditioning control Switch is placed to "FAN". If the fan/blower still does not run, determine that electrical power is available to the aircraft from an outside power source, such as a GPU or the aircraft power source. Inspect the circuit breakers in the Master Air Conditioning Electrical Panel. Determine if electrical power is being supplied to the wire used as the power source to each motor. If power is available, it will be necessary to test with a voltmeter that electrical power is being supplied directly to the motor by the appropriate wire. If power is being supplied, and the motor is properly grounded, then it can be assumed that the motor has failed.
B. On the forward motor, P/N 050052 (same for all 355 Kits), the evaporator assembly needs to be removed to allow removal of the motor. The motor may be obtained from Integrated Flight Systems and installed in the reverse manner as it was removed.
C. Always check system R-134a pressure first, as a leaking unit may have caused the low-pressure switch to open. This switch is set to open at 8 PSI and close at 22 PSI.
D. **NP configuration:** On the aft evaporator blower, P/N 050143, loosen the screws in the motor support to allow removal of the motor. The motor may be obtained from Integrated Flight Systems and installed in the reverse manner as it was removed.
E. **All configurations except "NP":** The aft evaporator blower, P/N 050052-1, may be disassembled from its support plate to allow removal of the motor. The motor may be obtained from Integrated Flight Systems and installed in the reverse manner as it was removed.
F. **NOTE:** The Aft Evaporator Blower **SHOULD NOT BE DISASSEMBLED** other than to inspect the brushes. The Motor is ordered as a **UNIT.**

Condenser: (Tailboom mounted Configuration 355-00-031)

A. The condenser blowers may be checked by placing the Aircraft Master Switch in the "ON" position and then placing the Air Conditioning Control Switch to the "A/C" position. If one or both 20-amp circuit breakers are not open, then power should be supplied directly to the condenser blower, which is mounted in the aft baggage area.
B. If air is not being exhausted from both fans, a voltmeter should be utilized to determine if the power is being supplied through the switch and relay to the appropriate wire. Check that all electrical terminals are secure and that power is directed to the motor's terminals. Inspect ground. If it is determined that the motor or motors have failed, the screws holding the blower assembly in place should be removed. The blower assembly must be removed as an entire assembly.

Condenser: (Side baggage mounted Condenser 355-00-011)

A. The condenser blower may be checked by placing the Aircraft Master Switch in the "ON" position and then placing the Air Conditioning Control Switch to the "A/C" position. If the 25-amp circuit breaker is not open, then power should be supplied directly to the condenser blower, which is mounted in the right side baggage area.
B. If air is not being exhausted from the fan, a voltmeter should be utilized to determine if the power is being supplied through the switch and relay to the appropriate wire. Check that all electrical terminals are secure and that power is directed to the motor's terminals. Inspect ground. If it is determined that the motor or motors have failed, the screws holding the blower assembly in place should be removed. The blower assembly must be removed as an entire assembly.

Receiver/Drier:

A. The receiver/drier may be replaced, if required, by discharging the R-134a from the system through a refrigerant hose or set of charging gauges. Again, all R-134a refrigerants **MUST BE CAPTURED**. Normally, the receiver/drier will not need replacement unless one of two factors is present:
    i) The system has been left open for sometime and may be contaminated by air and/or moisture.
    ii) The receiver/drier has become plugged which is evident by a large temperature differential on either side of the receiver/drier. Normally, the liquid line to and from it would be of approximately equal temperature and will be quite warm. If one side is relatively warm and the other side is very cool or attempts to frost, then blockage of the receiver/drier has been confirmed. The receiver/drier should be removed and a new one installed in its place. The P/N is 090016-5 ("O" ring type). The charging instructions should be followed in recharging the system.

Expansion Valves:

A. The Expansion Valves are of "O" ring type. Both expansion valves are identical. "O" ring type P/N 090002-"O".
B. NOTE: THE EXPANSION VALVES OF THE ABOVE "PART NUMBER" CONTAIN A "CHARGE" IN THE HEAD OF THE VALVE, CONTAINING R-134A.
C. It is EXTREMELY IMPORTANT that the sensing bulb be clamped tightly to the suction return line in the same manner as removed. Also, the line is to be clean, so good contact takes place between the sensing bulb and the line. This area must be re-insulated as in the original manner. Leak test and recharge.

Hoses:

A. Nylon "barrier type" hose with "Bubble" crimped ferrules are utilized with "O" ring fittings. They are found at all fitting locations and should be inspected for security, leakage at the crimped fittings, and obvious defects.

Low Pressure Switch:

A. This switch is a non-adjustable type (normally open) and is located under the cabin floor. P/N 050107 (set at 7 PSI out, 22 PSI in) is utilized. The switch will automatically reset to the closed position as soon as pressure is applied in PSI, greater than the cut-in point.

High Pressure Switch:

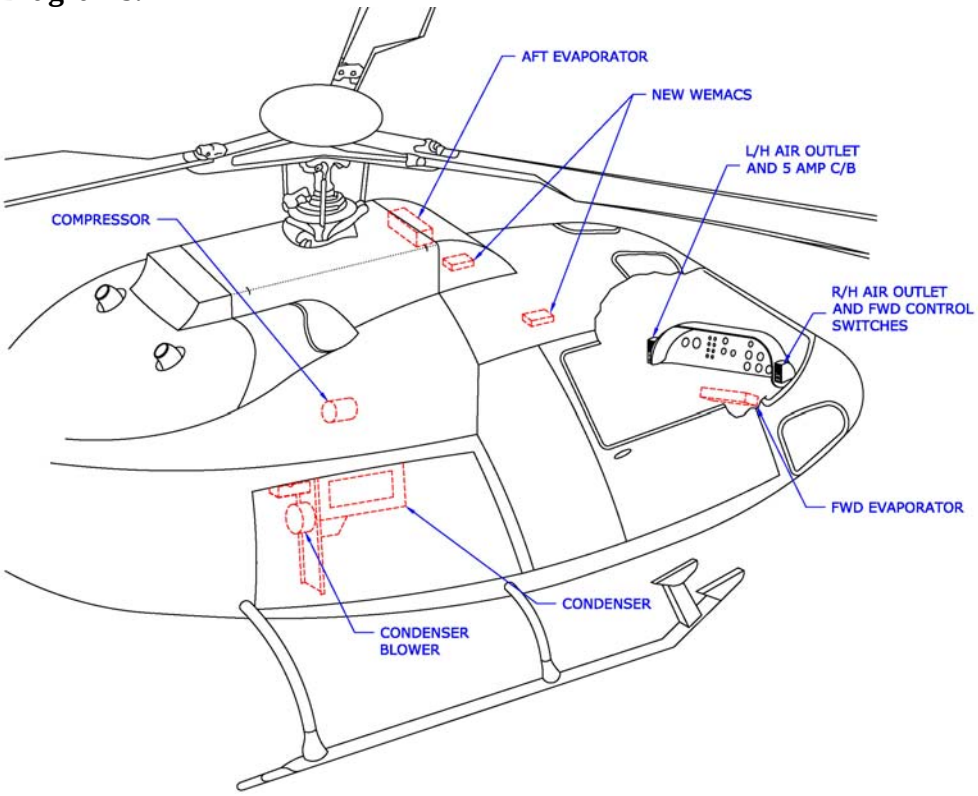
A. High-pressure switch is identified under P/N 090004. It is a "normally closed" switch, which "opens" on a rise in pressure that exceeds the switch's upper limit. Once the pressure has been reduced below the switch's upper design point, it will again close, automatically.

System Operation Limitations:

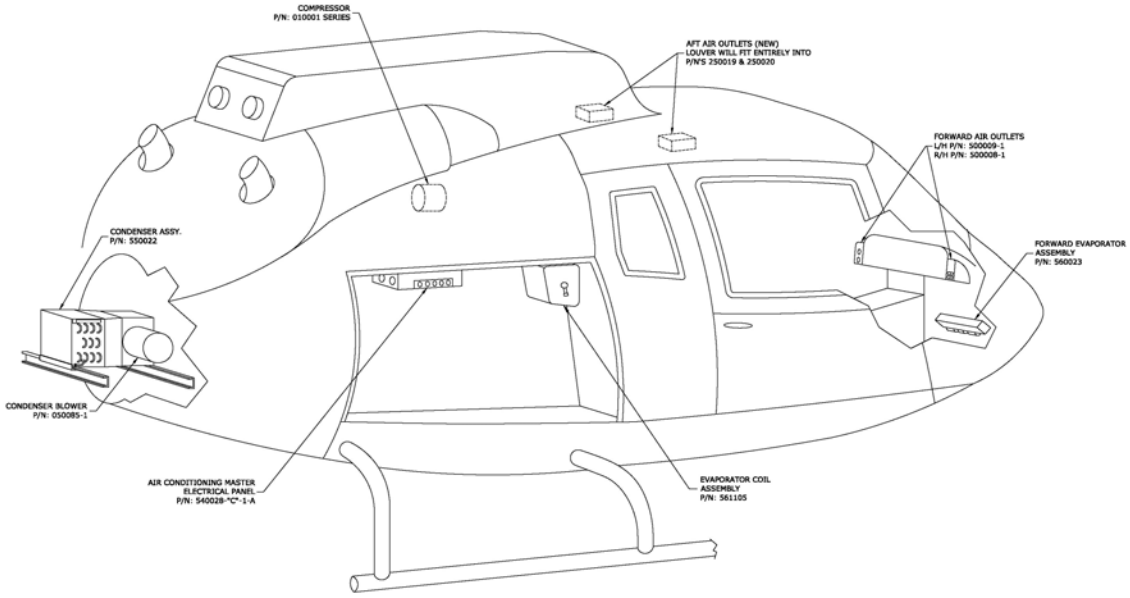
A. Below 60 degrees Fahrenheit, it may be found that the air conditioning compressor will not come on line and remain in operation. This is due to the fact that fact that the coolness of the air available across the condenser does not allow the refrigerant system to maintain sufficient low side pressure to keep the safety low-pressure switch from tripping the compressor "off line".

7. **Removal and Replacement Information:** The Integrated Flight Systems Air Conditioning Kit is installed and removed in accordance with Installation Instructions provided per Kit P/N (See Diagrams below).

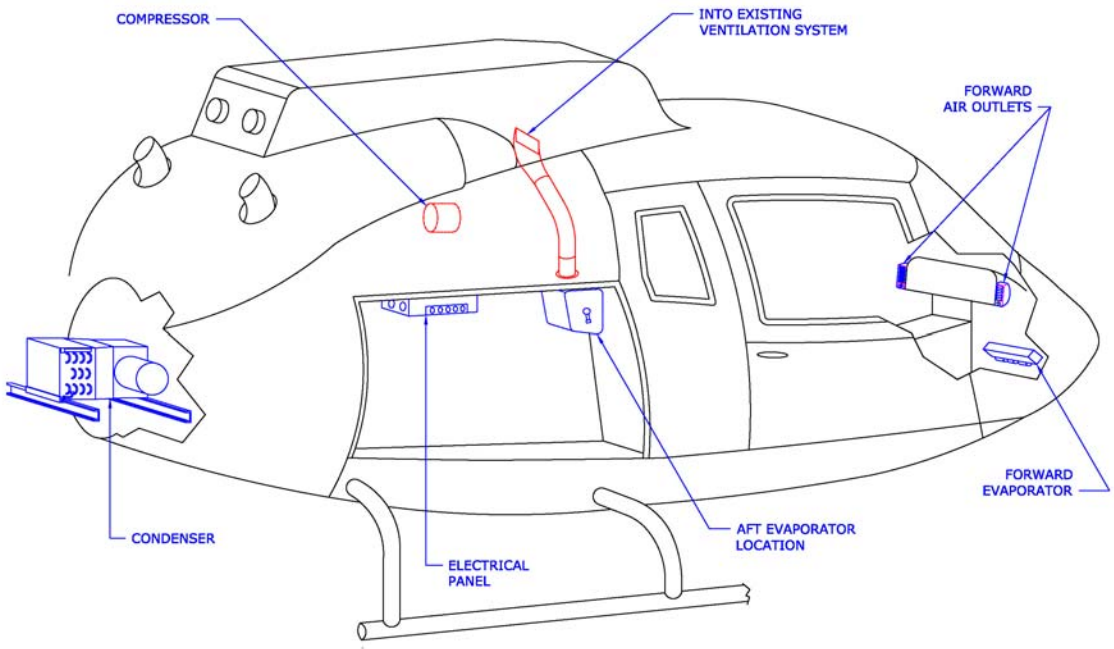
8. **Diagrams:**



Kit PN: 355-00-011
(CORPORATE/EMS CONFIGURATION)



Kit PN: 355-00-031
(CORPORATE/EMS CONFIGURATION)



Kit PN: 355-00-031
(NP CONFIGURATION)

9. **Special Inspection Requirements:** No special inspections are required for this system.

10. **Application of Protective Treatments:** No special treatments are required after inspection and/or maintenance.

11. **Data:** Torque values for all attachment hardware are listed in the Integrated Flight Systems Installation Instructions Document Number INST-355-00-031.

12. **List of Special Tools:** No special tools are required for inspection or maintenance of this system.

13. **Recommended Overhaul Periods:** No additional overhaul time limitations are required for this system.

14. **Airworthiness Limitation:** No additional Airworthiness Limitations are required for this system.

NOTE:
The Airworthiness Limitations section is FAA Approved and specifies maintenance required under § 43.16 and § 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA Approved.

15. **ICA Revision:** Any revisions to these instructions will be made available at the Production Approval Holders website: www.integratedflightsys.com.

Step 13

Parts Break Down

MASTER PARTS LIST

IN

ALL AS355 SERIES

FOR

KIT # 355-00-031-HP

with

(DUAL CONDENSER BLOWERS)

"ESTER OIL EQUIPPED COMPRESSOR"
Model: SD-505

Revised: January 27, 2023
February 1, 2002
March 1, 2001

MASTER PARTS LIST

AS355 SERIES

01/27/23

KIT #355-00-031HP

DUAL CONDENSER BLOWERS

ITEM NUMBER	DESCRIPTION	REPLACEMENT PART
1.	**BELT – "V"**	060010
2.	**SD-505 COMPRESSOR ASSEMBLY** COMPLETE W/ "V" PULLEY, 24 VDC COIL **(FOR USE WITH R-134a ONLY, "ESTER oil equipped)**	010001-3-"O"
	COMPRESSOR PARTS	
	FOR: SD-505 W/ 5.0" CLUTCH	
3.	**24 VDC COIL (GREEN WIRE)**	050034

ITEM	DESCRIPTION	REPLACEMENT PART NUMBER
	EVAPORATOR BLOWER PARTS	
4.	**5" VANE AXIAL BLOWER ASSY.** (SINGLE FLANGE W/NYLON BLADE) For: AFT EVAPORATOR BLOWER ASSY. IFS P/N 490017-1	IFSS 050143-2 DCB
5.	**NYLON BLADE AND HUB ASSY.** **FITS 5" VANE AXIAL BLOWER,**	IFSS 580000-01
6.	**MOTOR,** FORWARD EVAPORATOR 24VDC, single shaft, right hand	050052-1
7.	**WHEEL,** FORWARD EVAPORATOR, fan, metal, CC rotation, 5/16" bore	040004-8
	CONDENSER BLOWER PARTS	
8.	**5" VANE AXIAL BLOWER ASSY.** (SINGLE FLANGE W/NYLON BLADE) TWO REQUIRED FOR CONDENSOR	IFSS 050143-3 DCB
9.	**NYLON BLADE AND HUB ASSY.** FITS 5" VANE AXIAL BLOWER	IFSS 580000-02

MISC. PARTS

ITEM	DESCRIPTION	REPLACEMENT PART NUMBER
16.	**RECEIVER/DRIER** **1991 & ON - "O" RING TYPE**	090016-5
17.	**EXPANSION VALVE** **1992 & ON - FWD. AND AFT EVAP.** **"O" RING TYPE**	090002-"O"
18.	**HIGH PRESSURE SAFETY SWITCH** (ALL YEARS)	090004
19.	**LOW PRESSURE SAFETY SWITCH** **1991 & ON -** NON-ADJUSTABLE (7 OUT/22 IN)	050107

Integrated Flight Systems

Pressure Switch Identification

for all

vapor cycle air conditioning kits

using R-134a

Low Pressure Switch: IFS P/N 050107

Leads are: **BLUE** in color

Mfg. P/N on switch: 20PS003MA022C007C

Opens: 7PSI Closes: 22 PSI

High Pressure Switch: IFS P/N 090004

Leads are: **BLACK** in color

Mfg. P/N on switch: 20PS002MB375K265K
Opens: 375 PSI Closes: 265 PSI

ALT. Mfg. P/N on switch: 20PS104MB355K250K
Opens: 355 PSI Closes: 250 PSI

IFS P/N 090004 (Both Types)

Step 14

TCs/Warranty/RMA

PRODUCTS INC.

Standard Terms and Conditions of Sale

1. Terms of Payment: Unless prior arrangements are made to establish credit terms RSG Products Inc., all sales are prepaid in full prior to shipment. Payment may be made via cash, check or electronic transfer to RSG Products Inc. prior to delivery.
2. Buyer's Deposit: A 50% deposit is required to process an order for an air conditioning kit. The deposit is non-refundable and will be applied to the final price of the kit.
3. Taxes / Other Charges: Prices of the specified products are exclusive of all city, state, federal and international taxes, duties, levies or charges of any kind, including, without limitation, taxes on manufacture, sales, receipts, gross income, occupation, use and similar taxes or other charges. Whenever applicable, any taxes or other charges shall be added to the invoice as a separate charge to be paid by Buyer.
4. Shipment and Packaging: All products will be suitably packed, marked and shipped F.O.B. RSG Products Inc. Fort Worth Texas, in accordance with standard packaging procedures.
5. Delays: RSG Products Inc. will not be liable for any delay in the performance of orders or contracts, or in the delivery or shipment of goods, or for any damages suffered by Buyer by reason of such delays.
6. Technical Advice: RSG Products Inc. technical support staff is available for telephone consultation concerning the products it manufactures; however, RSG Products does not warrant or guarantee such advice.
7. Aircraft Variation: Due to aircraft manufacturing variations, alterations and other factors, there are differences between aircraft of a certain make and model. Because of these variations, RSG Products Inc. does not guarantee that Buyer has purchased the correct product or that a specified product will fit the intended aircraft. Further, RSG Products does not guarantee the number of labor hours required to install its products.
8. Returns: All sales are final unless a return is approved at the sole discretion of RSG Products Inc. If RSG Products Inc. does agree to accept a return, **25% restocking fee will be charged for all parts returned**. If RSG Products Inc. does agree to accept a return, **50% restocking fee will be charged for all AC Kits returned**. **All items returned to RSG Products Inc. must be sent freight prepaid and must have a return material authorization (RMA) number clearly marked on the shipping container.**
9. No Fault Found: If items are sent to RSG Products Inc. for evaluation and no problem is found, or if Buyer elects not to make the required repairs, then Buyer shall be responsible for the payment of **$300 evaluation fee.**
10. Certificate of Conformity: RSG Products Inc. will provide a Certificate of Conformity with each product assuring that the product has been manufactured according to its approved design drawings. Any additional assurances or certifications shall be at the expense of Buyer and shall be added to the invoice as a separate charge to be paid by Buyer.
11. Failed Products: Should any product prove defective, RSG Products Inc. will either replace the item or adjust the matter fairly and promptly, but under no circumstances shall RSG Products be liable for consequential or other damages, losses, or expenses in connections with or by reason of the use or liability to use products purchased for any purpose.
12. Patents: Buyer shall hold RSG Products Inc. harmless from, and release and not make claim or suit against RSG Products because of any suits, claims, losses, or other liability made against, or suffered by, Buyer arising from any claim of, or infringement of, patent, copyright, trademark, or other proprietary right, at common law, or claim of unfair trade or of unfair competition, resulting from, or occasioned by Buyer's use, possession, sale, or delivery of the products sold to Buyer by RSG Products Inc.
13. Warranty Registration and Claims: The terms RSG Products Inc. Limited Warranty is written on the Warranty Registration Card and published on the Rotorcraft Service Group, website www.rotorcraftservices.com. The registration form must be completed and returned to RSG Products Inc. within 1 month of receipt of a product. Failure to complete the Warranty Registration Card may result in denial of a claim. In order to process a warranty claim, complete the Warranty Claim Form found under Customer Support on our website and e-mail to info@rotorcraftservices.com or fax to +1 817 624 6603, or call RSG Products Inc. at +1 817-624 6600. A Warranty Claim without a Return Material Authorization (RMA) Number will cause delays and a possible denial of the claim.

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14. Acceptance: This is not a firm offer and may be changed or revoked at any time. Acceptance of this offer is expressly limited to the exact terms contained herein, or as may be changed by a prior written contract between the Buyer and RSG Products Inc., and any attempt to alter or omit any of such terms shall be deemed a rejection and a counteroffer.

Warranty Policy

RSG Products Inc., warrants that each of its Air Conditioning Systems (the "Equipment") shall be free from defects in material and workmanship under normal use and service until one year after its date of invoice if, and only if, installation, maintenance and operation of the Equipment is in accordance with the specifications and instructions provided by RSG Products Inc. and no substitute parts are installed in accordance with the specifications and instructions provided by RSG Products Inc. and no substitute parts are installed in the equipment without the prior written authorization from RSG Products Inc.. For the complete kit and its components, the warranty period is 12 months or 1,000 hours, whichever comes first, from the date of invoice. If the Warranty Registration Form is completed and **returned within 1 month** of receipt of product, warranty terms will be extended from 12 months to 18 months. In the case of new spare parts, this warranty is limited to a period of 6 months from the date of invoice. In the case of rebuilt products, this warranty is limited to a period of 3 months from the date of invoice. Any claims under this warranty shall be made to RSG Products Inc., 440 West Lane, Suite 100, Saginaw, Texas 76131, USA. Warranty is not valid unless the Warranty Registration Form is completed and returned to RSG Products Inc. prior to any claim. The Warranty Claim Request Form must be completed to receive an RMA Number and the required documentation to be returned with the Equipment. A Warranty Claim without a Return Material Authorization (RMA) Number or a completed Warranty Registration Form will cause delays and a possible denial of the claim. All claims shall be handled according to standard warranty repair procedures.

Limitations & Exclusions. This warranty shall not apply to any Equipment repaired or altered outside the Rotorcraft Services Inc. Service Department unless express prior written authorization is granted: nor shall this warranty apply to any Equipment that has been subjected to misuse or accident, as determined solely by Rotorcraft Services Inc. The sole responsibility and liability of RSG Products Inc. and your exclusive remedy under any claim arising out of, connected with, or resulting fromthis sale or the performance or breach or any condition of warranty there under, or from the manufacture, delivery, or use of the Equipment shall be the repair or replacement of defective equipment upon return of the defective equipment to RSG Products Inc. with transportation, customs and any applicable import duties prepaid and provided that an inspection by RSG Products Inc. discloses that the equipment is defective and covered by this warranty. RSG Products Inc. shall not be liable for any labor or other charges necessary to remove or reinstall the Equipment. In no event, whether as a result of a breach of contract, warranty, tort (including negligence) or otherwise, shall RSG Products Inc. be liable for any special, consequential, incidental or penal damages or expenses including but not limited to loss of profit, goodwill or revenues, loss of use of the Equipment or any associated equipment, damage to associated equipment, cost of capital, cost of substitute products, facilities or services, down time, or costs or claims of third parties for such damages or expenses.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OR REMEDIES WHETHER WRITTEN, ORAL, IMPLIED OR STATUTORY, ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING OR USAGE OF TRADE ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED. Acceptance of the Equipment by you shall constitute your acknowledgement and acceptance of the terms, provisions, limitations and exclusions set forth herein. Such term, provisions, limitations and exclusions shall not be modified, deleted or supplemented. In a case where the purchaser has negotiated warranty terms by express written agreement with RSG Products Inc. as to certain equipment, the terms of that agreement shall supersede the warranty.

Extended Warranty. The extended warranty that is available for a fee at time of original purchase of the new product applies an 18 month period to the foregoing warranty.

PRODUCTS INC.

WARRANTY REGISTRATION FORM

DATE: _____

CUSTOMER NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE NUMBER: (____) _____FAX NUMBER:(____) _____

COMPONENT NAME: _____

PART NUMBER: _____SERIAL NUMBER: _____

TYPE AIRCRAFT: _____ N#: _____S/N: _____

AIR CONDITIONING INSTALLATION DATE: _____

AIR CONDITIONING INSTALLATION COMPANY: _____

DATE INSTALLED: _____ T.T AT INSTALLATION: _____

COPY OF T.T. LOG BOOK ENTRY OF A/C INSTALL SIGN OFF. ☐

This Form Must be received from the Owner of the Aircraft for the warranty to be active.
Warranty period extends from Date of Purchase for a period of one year or 1000 hours
Subject to the limitations identified in the attached Warranty Policy; effective 1 July 2013. If warranty registration form is completed and returned within 1 month of receipt of product, warranty terms will be extended from 1 year to 1 year and 6 months.

PLEASE REVIEW RSG PRODUCTS, INC. WARRANTY POLICY PRIOR TO SUBMITTING THIS REGISTRATION FORM.

Return Material Authorization (RMA) Form

PRODUCTS INC.	**RMA Number:**	
	Date Issued:	
	Issued by:	

RMA Instructions:
Products purchased through RSG may be returned by following these steps:

1. Contact RSG at 817-624-6600 or info@rotorcraftservices.com to notify Customer Support of needed RMA.

2. Completely fill out this form, and email it to Customer Support, who will provide an RMA number. Print completed RMA form & place in the box with the item(s) being returned.

3. Clearly mark the outside of the box with the RMA number.

4. Ship the item(s) to:

RSG Products, Inc.
440 West Ln., Suite 100
Saginaw, TX 76131

Please refer to RSG's Warranty Policy and RMA Policy for complete details regarding product returns.

Company Name				
Address				
City				
State		**Zip/Postal Code**		
Country				
Phone Number				
Contact Name				
Email				
Return Ship Method		**Shipping Account Number**		

Returned Item(s)

Part Number / Serial Number	Quantity	Purchase Date	Invoice # or PO #	Reason for Return	Aircraft Tail # and Serial Number

Additional Comments:

You must submit a copy of the logbook page when items being returned were installed

Disposition (To be completed by RSG)

	Returned to customer, no problem found *(eval fee applies)*			Non-Warranty replacement *(from stock-quote issued)*
	Warranty rebuild *(rebuilt and returned to customer)*			BER, Not rebuild-able, informed customer (*eval fee applies, scrap?, RTC?)*
	Non-Warranty rebuild *(quote issued - rebuilt and returned to customer)*			Warranty Replacement *(from stock-no fee applies)*
	Other:			

RSG Products, Inc.
RMA (Return Material Authorization) Policy

All returns require an RMA number. Contact RSG Products (RSG) via telephone at 817-624-6600 or email at info@rotorcraftservices.com to obtain an RMA number. Returns will be authorized in accordance with the following policy: If it is deemed that the part should be returned, a representative from RSG will send you an RMA form. Completely fill out the RMA form and email it to Customer Support to obtain an RMA number. Once RMA is issued, place copy of RMA form, and copy of logbook entries, in the box with the item(s) being returned. Clearly mark the outside of the box with the RMA number. Products will not be accepted by RSG for return if not accompanied by a valid RMA number. Return shipping for all RMA items will be at the expense of the customer.

Stock Returns

Stock returns must be made within thirty (30) days of the invoice date. Authorization of stock returns is at the sole discretion of RSG. If a stock part is authorized for return and is a customer error, 25% of the purchase price will be applied as a standard restocking charge. Parts must be new, unused, and contain all the original packaging and paperwork (certs, 8130-3, packing slip...etc). There is no restocking fee due to errors by RSG if correct order information was furnished with the original order.

Warranty Returns

Products to be returned for warranty coverage must be within the applicable warranty period. If the customer requests that a replacement be sent immediately, a rebuilt-to-new unit (if available) will be shipped to the customer. If evaluation of the returned item shows damage or misuse, or if it is found in good working order, the replacement product will be billed to the customer's account in accordance with RSG's standard payment terms. Then, once a final decision of the return is made, a credit will be issued if the warranty claim is allowed.

Non-Warranty Returns

If the customer wishes to return a part for evaluation that is no longer within the warranty period or for damage not covered by the warranty, RSG will advise the customer of the estimated cost to rebuild-to-new. Return of the product, with a purchase order noting the quoted cost to rebuild will be considered authorization to proceed, and agreement to pay for the cost to rebuild, whether or not it exceeds the original estimate. A $300 evaluation fee will apply to all non-warranty returns. This fee will be deducted from the total quoted to rebuild the part to new.

Transportation Charges

The customer is responsible for all transportation, insurance, duties and other similar charges for all returned items, and the customer must ensure that the product is appropriately packaged. Products shipped to RSG freight collect will be refused. Shipping damages resulting from improper packaging will be the customer's responsibility. After evaluation and/or rebuild, RSG will return the product using the method stated on the front of this form. Products will not be accepted by RSG for return if not accompanied by a valid RMA number, which must be clearly marked on the outside of the package.

RMA Closing Procedure

The RMA will be closed if RSG has not received the RMA requested items from the customer within (60) days of RMA assignment date.

Once returned parts are evaluated, if deemed non-rebuildable or BER, customer will be invoiced the $300 evaluation fee. If customer does not respond within (60) days, RMA returned part will be scrapped on site by RSG or shipped back to the customer.

By choosing to request an RMA number from RSG, it is implied that the customer has agreed to the terms of this RSG RMA Policy.

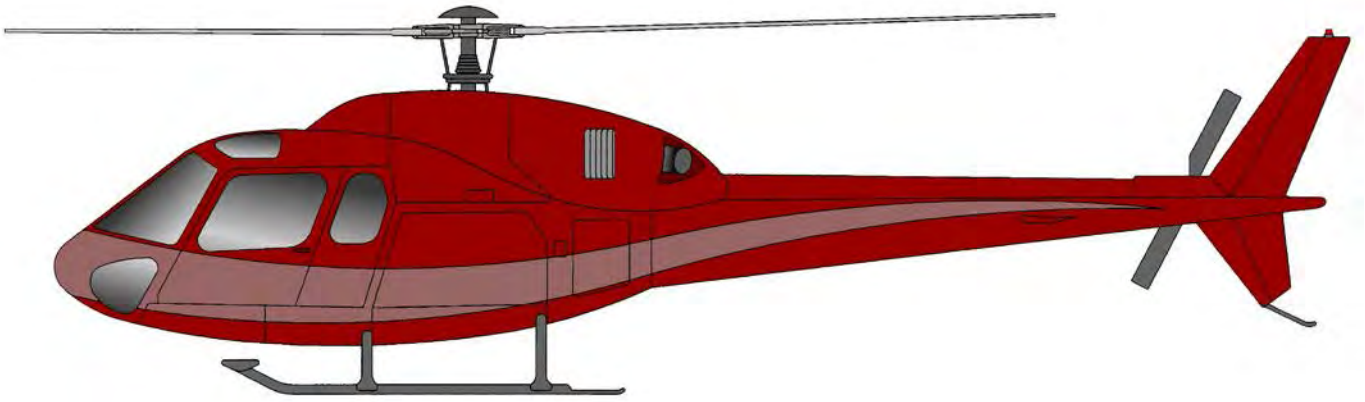
Rev.	Desc.	Reviewed	Approved	Date
IR	Initial Release of New Document	K. Musgraves	G. Thompson	05/21/2022

Step 15

Maintenance and Troubleshooting

PSG

PRODUCTS INC.



AS355-031MM

Maintenance and

Trouble Shooting Guide

AS355 (Series)

Air Conditioning System

PRODUCTS INC.

Troubleshooting Your Air conditioning System

The following consists of some basic information on Freon System Operation.

We should probably define “cold”. Actually, for our purpose, “cold” is a relative term. Your air conditioner should produce air (measured at the duct) that is:

- 36° to 50° F at 70° ambient temperature.
- 40° to 52° F at 80° ambient temperature.
- 46° to 60° F at 90° ambient temperature.
- 50° to 75° F at 100° ambient temperature.

An Empty System

If the system is empty, the search for leaks should begin with a good visual check. Is it a fast leak or a slow leak? When was the system last charged? If it’s a newly installed and filled system, then look for obvious leaks like a chaffed, punctured or ruptured hose, or a loose fitting. (See the recharge and leak testing section for hints on charging new systems.)

Freon leaks can be very tough to find. Freon is colorless, odorless, heavier than air, and it evaporates as soon as it hits the atmosphere. The only helpful thing about it is the fact that the oil carried with the refrigerant, so any sizable leak will leave a trail of oil at the offending hose or fitting. It will often just be a dark area, and the amount of oil might be slight. But if you find and air conditioning fitting with an oily residue and the area around it is dry, you’ve probably found you leak. A good electron detector can verify your visual diagnosis.

Because the system carries the oil in suspension with the refrigerant, any sizable leak will leak oil as well as refrigerant. Very slow leaks will usually only vent refrigerant and not oil, but a fast leak like a ruptured hose or a very lose fitting, will leak the refrigerant so fast that the oil is carried out of the system as well. If your system has suffered a major leak, be sure to check the oil level in the compressor before refilling the system.

Troubleshooting

Trouble: Low or partial refrigerant charge

Symptoms:

- Insufficient cooling
- Low-side pressure too low
- High-side pressure too low
- Receiver/drier sight glass shows a stream of bubbles
- Air in ducts only slightly cool

Cause: The system is low on refrigerant, probably cause by a leak.

Correction: Find and fix the leak. If there was a loss of oil, be sure to check the compressor oil level. Evacuate and recharge.

A System Full of Refrigerant

First, you should double-check all the obvious things (i.e. the compressor clutch, the belt tension, and the operation of the evaporator blower). Next, establish some baseline conditions for your testing: run aircraft, high blower and coldest thermostat setting, doors and windows closed, ambient temperature of 70° F or above.

Situations do occur where the system is full of refrigerant, yet the sight glass remains cloudy. The first thing to consider is whether the receiver/drier is install backwards. Be sure the line from the condenser goes to the port marked “in” on the receiver/drier. The other condition that might give you a cloudy glass (on a full system) is a restriction in the liquid line from the condenser to the receiver/drier. On some new receiver/driers the filter screen could be pushed up so the bottom of the screen is blocking the liquid pickup tube. You will have to cut open the receiver-drier to confirm your diagnosis.

You should test next for a system that is overcharged. If the sight glass is clear, but the high- and low pressure gauge readings are high (300 or more on the high side, 50 or more on the low side), disconnect the compressor clutch. (Note that on HFC-134A systems, milky is the normal look for a correctly charge system.) The refrigerant should foam and then settle away from the glass in less than forty-five seconds. If the sight glass remains clear foe more that forty-five seconds you have an overcharged condition and will have to remove Freon.

Trouble: Excessive moisture in the system

Symptoms:

- Insufficient cooling during hottest part of the day or during extended flying.
- Low-side pressure normal, though it may be too low or even a vacuum
- High-side pressure normal, though it may be low-at the same time low side is low
- Receiver-drier sight glass may show tiny bubbles
  (***Note*:** This could be a tough call with HFC-134A since the sight glass is always milky).
- Air in the ducts is usually cold, but becomes warm when pressure reading drop

Cause: Excessive moisture in the system. The drying agent in the receiver-drier is saturated with moisture, which is released to the system when outside temperature increased. Moisture in the system collects and freezes on the expansion valve, stopping the flow or refrigerant.

Correction: Suck all the CFC-12 from the system. Replace of rebuild the receiver-drier. Evacuate and recharge.

Trouble: Air in the system

Symptoms:

- Insufficient cooling
- Low-side pressure normal, but does not drop when the clutch cycles
- High-side pressure high
- Receiver/drier sight glass shows occasional bubbles (Note again that with HFC-134A the sight glass should be milky when the system is fully charged.)
- Air in ducts only slight cool

Cause: Refrigerant contains non-condensable in the form of air and moisture.

Correction: Leak test, watch for bad compressor seals. Drain the system. Repair leaks as needed. Replace or rebuild the receiver-drier. Check the compressor oil. Evacuate and recharge.

Trouble: **Condenser malfunction or system overcharge**

Symptoms:

- No cooling
- Low-side pressure too high
- High-side pressure too high
- Receiver/drier sight glass may show occasional bubbles
- Liquid line very hot
- Air in ducts is warm

Cause: The condenser is not function properly because of high head pressure. System may be overcharged.

(***Note*:** Technicians will have to be especially careful to avoid overcharging HFC-134A systems. Because the sight glass is hard to read and the volume given is slightly lower with HFC-134A).

NOTE:

Cloudy Sight Glass

A cloudy sight glass indicates a system that is only partially full of refrigerant (with a few exceptions). A perfectly clear sight glass (use a light to get a good look) meaans the system is either full or empty. Note, with HFC-134A the glass appears milky when properly charged, though there should be no bubbles in the sight glass.

1. System has no electrical power to air conditioner master control box:
   A) Check 50 amp circuit breaker or fuse in aircraft electrical bus.

2. System has power but will not turn on:
   A) Check 5 amp circuit breaker on switch assembly.
   B) Check ground lead on cannon plug 102 wire IFS105N20.
   C) Check evaporator fan relay in air conditioner master control box.

3. Forward evaporator fan will not turn on, but aft fan runs:

   A) Check 15 amp circuit breaker in master electrical box.
   B) Check ground wire from evaporator motor.
   C) Disconnect CP104 and check for power on pin 2.
      1) If you have power, your motor is bad.
      2) If no power, disconnect CP101 cannon plug and check continuity from pin 6/c on CP101 to cannon plug CP104 pin 2. If no power, check cannon plugs and switch.
4. Aft evaporator fan will not run, but forward evaporator runs:
   A) Check 20 amp circuit breaker on master electrical box.
   B) Check ground wire from fan.
   C) Check for power on wire IFS 101B14 at CP106 pin 2.
      1) If you have power, your motor is bad.
      2) If no power trace through fan switch for power.
      3) If no power disconnect cannon plug CP101 and check continuity from pin 3/B of CP101 to wire IFS101C14 on fan switch on “Low”.

5. Condenser fan/fans do not operate:
   A) Check 25 amp circuit breaker.
   B) Check 1 amp circuit breaker.
      1) If popped, reset.
         a) Check power.
         b) Check ground.
         c) Check fins for blockage in air condenser assembly.
      2) Run air conditioning system.
         a) Check pressures, If pressure is running higher than normal, then continue with b), ect…
         b) System may be over-serviced.
         c) System may be contaminated by improper Freon or a mix of Freon's.

      3) **NOTE:** This has happened more than once. The service carts are great for servicing systems, but there is a danger in its misuse. Untrained operators or an individual who wants to service his car, truck, motor home or even his room A/C can pump down their system into your tank. It can have any number of different Freon's. It could also be contaminated by a failed compressor, dryer bottle, wrong oil or any number of things. This has happened to a company with brand new equipment just 3 weeks old. There were large warning signs on this service cart, designated HELICOPTER SERVICE ONLY. They had one for ground equipment. All of the mechanics were well trained except for the management, janitors and their family members of the company. It can happen to any operator.

6. Compressor clutch does not engage, but air conditioner fans work.
   A) Check clutch for power.
      1) If power, clutch coil may be bad or air gap in clutch face may be too excessive.
      2) If NO power check system for total Freon loss.
      3) If system is serviced and still no Power and you have an optional temperature controller, you can bypass by jumping pins 3 and 4 on CP102 to check if faulty.

7. System not cooling:
   A) Check that air condenser fan/fans are blowing.
   B) Check clutch engagement. Is clutch staying engaged or cycling? Check belt tension.
   C) Check to see if air condenser coil is free from debris and fins are clean and not rolled over blocking air flow.
   D) Check evaporator return air inlets, that they are not blocked and fins are clean and not rolled over blocking airflow.
   E) Put gauges on system. Run system and check pressures also measure Delta temperature from both evaporators. (Measure inlet temperature and outlet temperature to get Delta. This is a must, do not rely on just using your hand and guessing).
   F) Check sight glass.
   (**NOTE:** There are several ways to service Freon systems:
      1) Service system to a clear sight glass R12.
      Note: On 134a systems the sight glass appears milky when properly charged, though there should be no bubbles in the sight glass.
      2) Service system by measuring temperature from evaporator. Add Freon while watching the temperature. As long as temperature keeps falling, add Freon. Once temperature stops dropping, holds or starts to rise, stop.
      3) Service system by weight. If you have a service service station or scale, you can add the proper amount by weight.
      4) Service according to a standard pressure temperature chart.)

82° F or higher service with 3.0 lbs max Freon.
Below 82° F service with 3.0 lbs max Freon.

8. One evaporator is cooling, one is not.
   A) One expansion valve may be blocked form contamination.

   B) One expansion valve may be locked full open.
   (**NOTE:** The one valve that is full open is causing the problem. It may make it seem like the other valve is bad and not working.)
   C) One of the sensing bulbs on expansion valves may become loose from suction side of coil. Also check to see if sensing bulb is mounted to the correct evaporator tube. The bulb should be mounted at 9 or 3 o'clock position.
   D) Hose may be crimped, kinked or have a fitting bent over blocking flow.
   E) (**NOTE:** The recommended fix is to pump down system. Change BOTH expansion valves and dryer bottle. Make sure to mount sensing bulb on suction side of coil and when possible at 9 or 3 o'clock position on tube. Re-service system.)

9. Compressor clutch failure:
    A) Low Freon in system. This causes the system to low pressure out through the low pressure switch. It will cycle the clutch on and off until it heats up causing the coil to overheat and fail, or heat up the bearing to the point the grease will liquefy and run out. This will add to the heat and help fail coil or bearing.
    B) Air gap on clutch may have changed.
    C) Coil may have weakened.
    D) Bearing may have failed, causing clutch to slip and fail coil.
    NOTE: If ongoing maintenance is not maintained on compressor clutch bearing as prescribed in IFS maintenance manual, bearing may fail.

10. Compressor failed:
    A) Loss of oil or insufficient oil.
    B) Low Freon in system, causing insufficient flow of oil lubricant.
    C) Contamination in system.
    D) Compressor bearing failed.
    E) Over servicing of system to the point of liquid lock.
    (**NOTE:** This has happened.)

11. Compressor belt failure:
    A) Low Freon in system. Cause: low pressure switch to cycle the clutch on and off excessively.
    B) Insufficient belt tension.
    C) Clutch bearing dragging of failing. This causes excessive belt slipping.
    D) Over service of system.
    E) Air gap excessive, causes clutch to slip heating pulley. This will stretch belt making it slip.

12. Air conditioner runs, but pops 1 amp circuit breaker:
    A) Check condenser fan or fans for operation.
    B) Check blockage of air flow in and out of condenser.
    C) Check coil to see if fins are clean or rolled over.
    D) Check for over service of Freon.
    E) Put gauges on and run system.
        1) Is system popping 1 amp circuit breaker at 350 or higher?
            a. If not change high pressure switch.
    F) Check expansion valves and make sure sensing bulbs are mounted to suction lines.
        1) Measure Delta of both evaporators.
            a. If Delta is over 32° F expansion valve may not be working. If expansion valve is not throttling it will dump too much Freon. This can add excessive heat to condenser and can also freeze up coil.

        2) If Delta is below 14° F. Change valves, they may be blocked internally.

SERVICE OPERATIONS
CLUTCH

14.1 Armature Assembly Removal

1. If armature dust cover is present, remove the 3 or 6 bolts holding it in place and remove cover. If auxiliary sheet metal pulley is present, remove the screws holding it in place. Then remove pulley.

2. Insert pins of armature plate spanner into threaded holes of armature assembly.

3. Hold armature assembly stationary while removing retaining nut with 3/4", 19mm, or 14mm socket wrench, as appropriate.

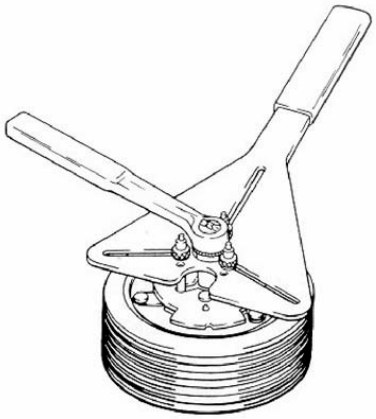
4. Remove armature assembly using puller. Thread 3 puller bolts into the threaded holes in the armature assembly. Turn center screw clockwise until armature assembly comes loose.

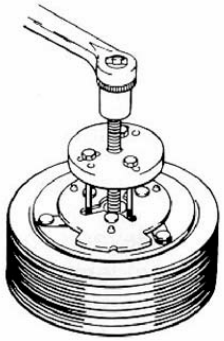
5. If shims are above shaft key, remove them now. If shims are below shaft key, the key and bearing dust cover (if present) must be removed before the shims can be removed.

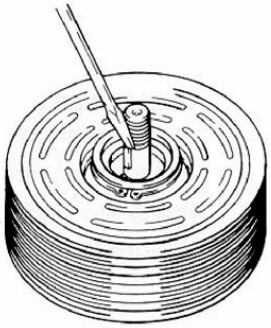
6. Remove bearing dust cover (if present). Use caution to prevent distorting cover when removing it.

7. Remove shaft key by tapping loose with a flat blade screwdriver and hammer.

8. Remove shims. Use a pointed tool and a small screwdriver to prevent the shims from binding on the shaft.



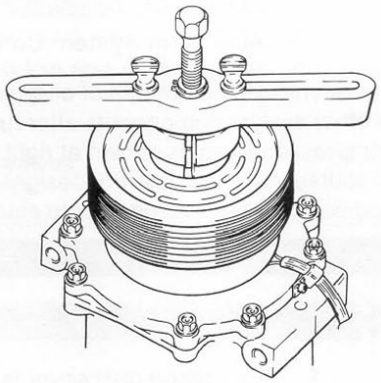




SERVICE OPERATIONS - CLUTCH

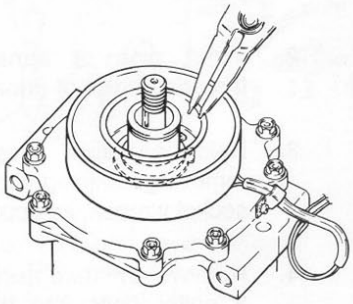
14.2. Rotor Assembly Removal

1. If bearing dust cover has not been removed, remove it now. See step 6 of Section 14.1, for Armature Assembly Removal.
2. If internal snap ring for bearing is visible above the bearing, remove it with internal snap ring pliers.
3. Remove rotor snap ring.
4. Remove shaft key.
5. Remove rotor pulley assembly:
   - Insert the lip of the jaws into the snap ring groove
   - Place rotor puller shaft protector (Puller set) over the exposed shaft.
   - Align thumb screws to puller jaws and finger tighten.
   - Turn puller center bolt clockwise using a socket wrench until rotor pulley is free.



14.3 Field Coil Assembly Removal

1. Loosen lead wire clamp screw with #2 Phillips screwdriver until wire(s) can be slipped out from under clamp.
2. Undo any wire connections on the compressor which would prevent removal of the field coil assembly.
3. Remove snap ring.
4. Remove the field coil assembly.



14.4 Field Coil Assembly Installation

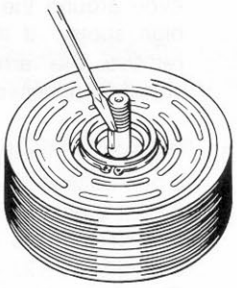
Reverse the steps of Section 14.3. Protrusion on underside of coil ring must match hole in front housing to prevent movement and correctly locate lead wire(s).

14.5 Rotor Assembly Installation

1. Place compressor on support stand, supported at rear end of compressor. If the compressor must be clamped in a vice, clamp only on the mounting ears, never on the body of the compressor.
2. Set rotor squarely over the front housing boss.
3. Place the rotor installer ring into the bearing bore. Ensure that the edge rests only on the inner race of the bearing, not on the seal, pulley, or outer race of the bearing.

SERVICE OPERATIONS - CLUTCH

4. Place the driver into the ring and drive the rotor down onto the front housing with a hammer or arbor press. Drive the rotor against the front housing step. A distinct change of sound can be heard when using a hammer to install the rotor.

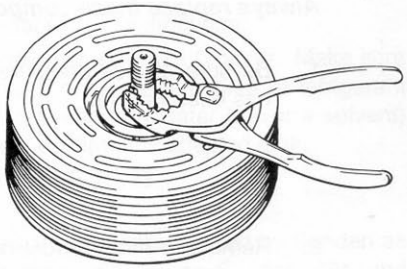


5. Reinstall rotor bearing snap ring, if it has been removed, with internal snap ring pliers.

6. Reinstall rotor retaining snap ring with external snap ring pliers. If a bevel is present on the snap ring, it should face up (away from the body of the compressor).

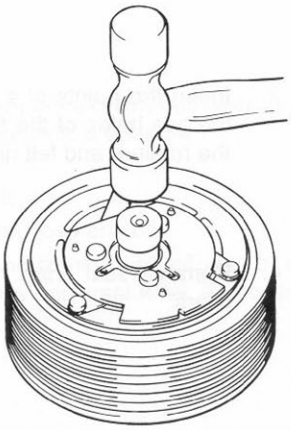
7. Reinstall rotor bearing dust cover (if present) by gently tapping it into place.

14.6 Armature Assembly Installation



1. Install shaft key with pliers.

2. Install clutch shims. NOTE: Clutch air gap is determined by shim thickness. When installing a clutch on a used compressor, try the original shims first. When installing a clutch on a compressor that has not had a clutch installed before, first try 0.04", 0.02", and 0.004" (1.0, 0.5, 0.1 mm) shims.

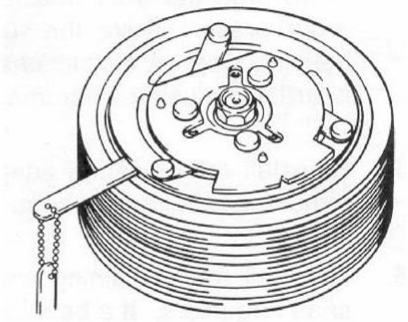


3. Align keyway in armature assembly to shaft key. Using driver and a hammer or arbor press, drive the armature assembly down over the shaft until it bottoms on the shims. A distinct sound change will be noted if driving with a hammer.

4. Replace retaining nut and torque to specification.
1/2-20: 20-25 ft•lb (27-34 N•m, 270-350 kg•cm)
M8: 11-15 ft•lb (15-21N•m, 150-210kgf•cm)

SERVICE OPERATIONS - CLUTCH

5. Check air gap with a feeler gauge. Specification is 0.011" - 0.019" (0.3 - 0.5mm). If gap is not even around the clutch, gently tap down at the high spots. If the overall gap is out of spec., remove the armature assembly and change shims as necessary.

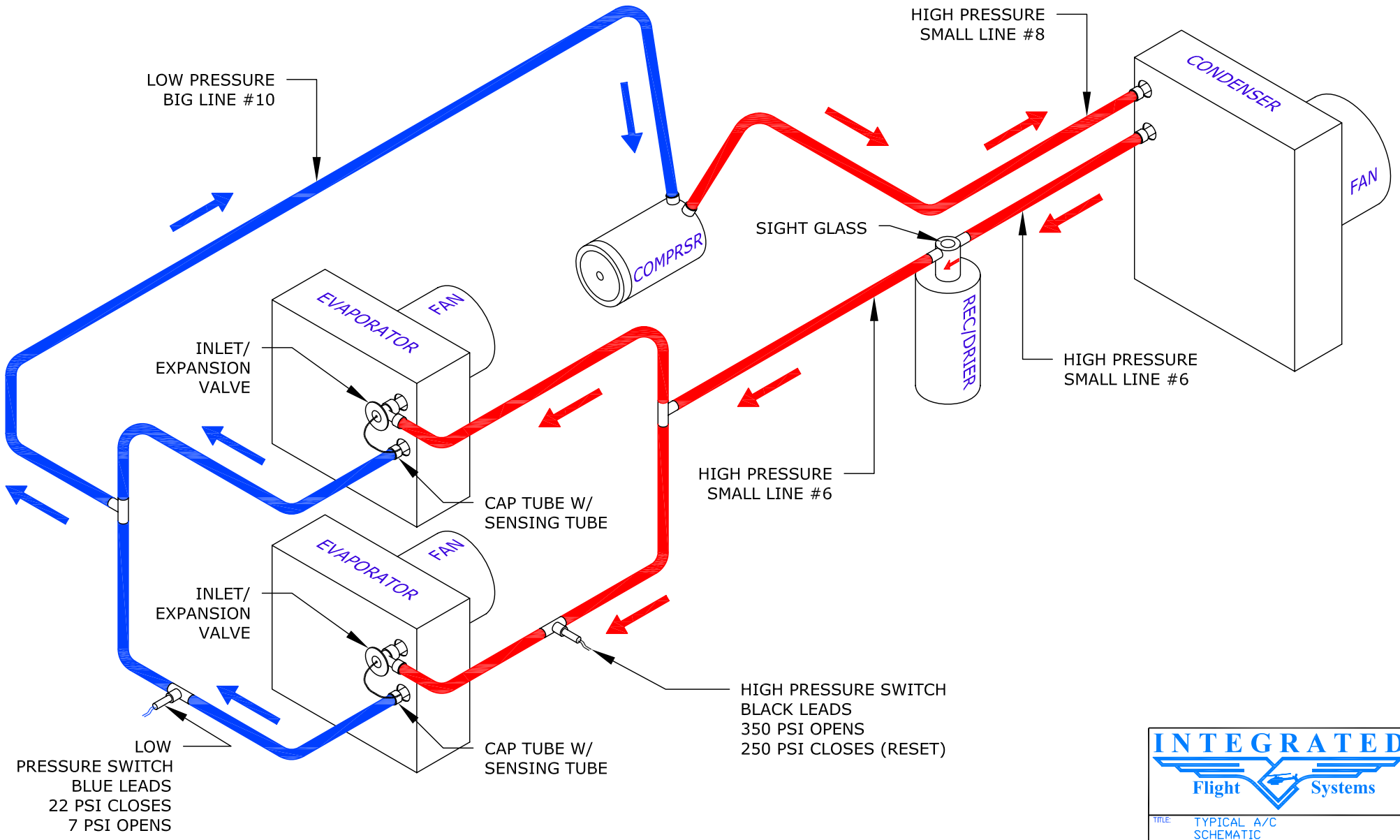


6. Replace armature dust cover (if used) and torque 3 or 6 bolts to specification below.
   3 - 1/4-20 bolts (SD-5): 2-4 ft•lb
   (2-5 N•m, 25-50 kgf•cm)
   6 - M5 bolts (SD-7): 5-8 ft•lb
   (7-11 N•m, 70-110 kgf•cm)

Note: Over torque of SD508/5H14 dust cover bolts will cause air gap to become out of spec.

REVISION RECORD

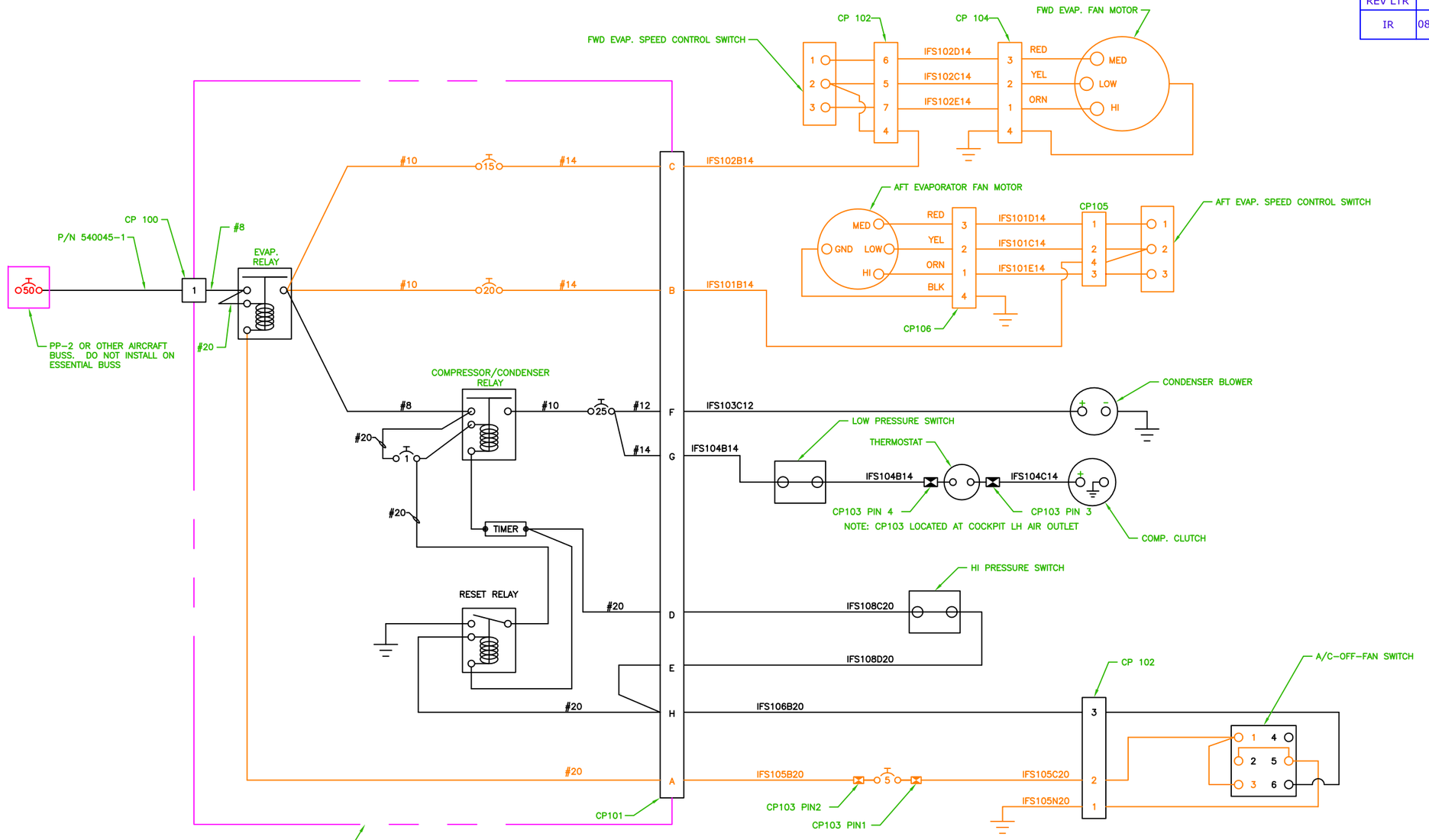
DWG. REV. LTR.	DATE:	DESCRIPTION OF CHANGE	APPVD. BY	REV. BY
IR	08/06/08	INITIAL RELEASE.	-	-



INTEGRATED Flight Systems

TITLE: TYPICAL A/C SCHEMATIC				
DRAWN BY: JTYE	DATE: 02/02/05	REV.: IR	SCALE: NTS	SHEET: 1 OF 1
APPLICATION: N/A			DWG. NO.: DIAGRAM	

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
IR	08/06/08	INITIAL RELEASE.	-	-



NOTE:

1. DRAWING SHOWN WITH SYSTEM SERVICED WITH FREON.
2. THE "A/C", "OFF", "FAN" SWITCH IS SELECTED TO FAN.
3. THE "ORANGE" LINES SHOW THE FAN CIRCUIT.

AS 355
ELECTRICAL WIRING DIAGRAM

SINGLE CONDENSER BLOWER

NOTE:

1. SEE DWG 2-11-AS355 FOR WIRE SPLICE LOC.
2. WIRE SPEC: MIL-W-22759/16
   WIRE NO. IFS XXX X XX
   - GROUP
   - SEQUENCE (N INDICATES GROUND)
   - GAUGE

SINGLE CONDENSER BLOWER

INTEGRATED Flight Systems
Reno Nevada

TITLE: ELECTRICAL DIAGRAM

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MGV	08/24/07	IR	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	DIAGRAM 1

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
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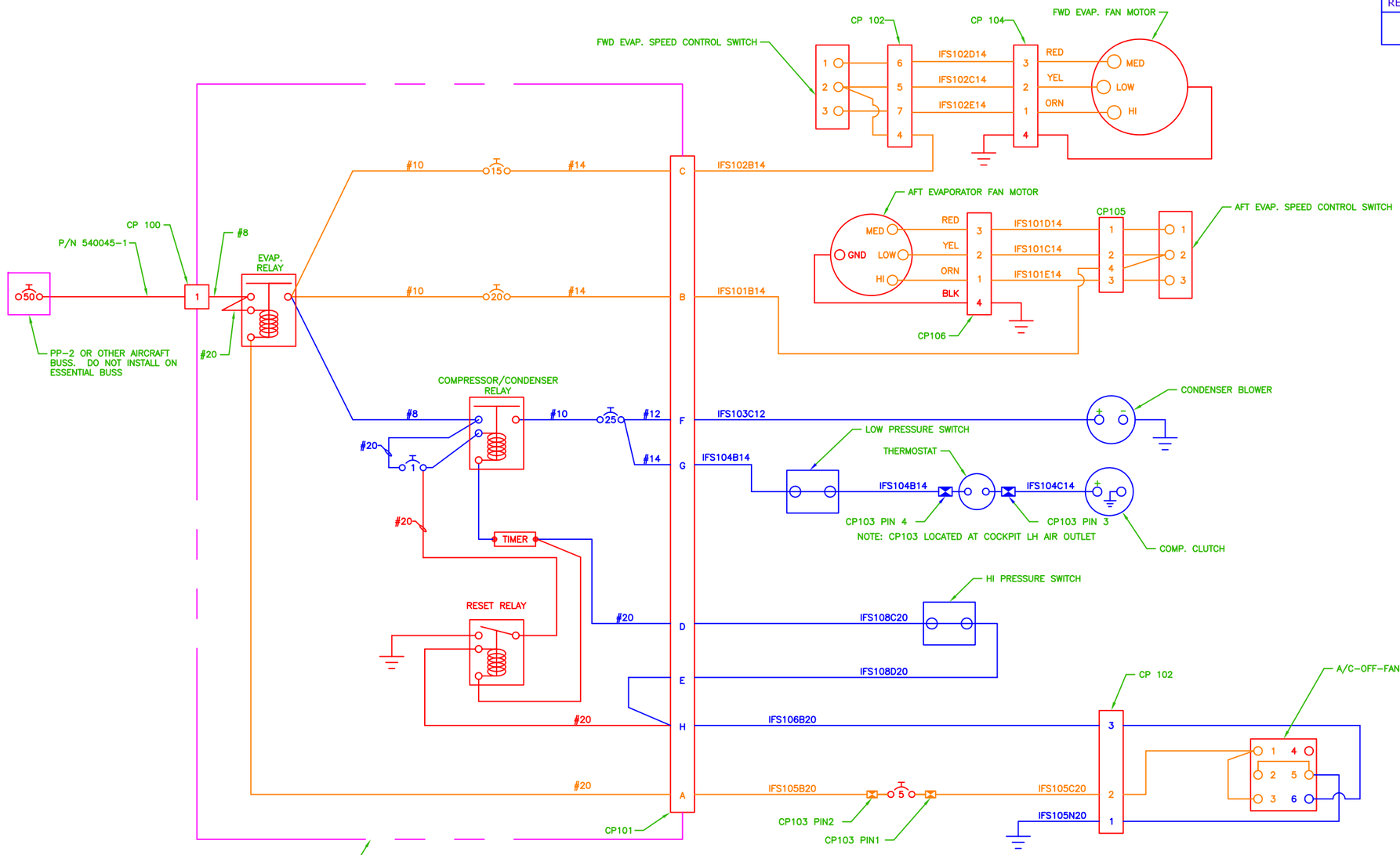

NOTE:

1. DRAWING SHOWN WITH SYSTEM SERVICED WITH FREON.
2. THE "A/C", "OFF", "FAN" SWITCH IS SET TO "A/C". THIS WILL TURN ON THE EVAPORATOR FANS, (ORANGE LINES), THE CONDENSER FANS AND COMPRESSOR CLUTCH, (BLUE LINES).

AS 355
ELECTRICAL WIRING DIAGRAM

SINGLE CONDENSER BLOWER

NOTE:

1. SEE DWG 2-11-AS355 FOR WIRE SPLICE LOC.
2. WIRE SPEC: MIL-W-22759/16
   WIRE NO. IFS XXX X XX
   - GROUP
   - SEQUENCE (N INDICATES GROUND)
   - GAUGE

SINGLE CONDENSER BLOWER

INTEGRATED Flight Systems
Reno Nevada

TITLE: ELECTRICAL DIAGRAM				
DRAWN BY: MGV	DATE: 08/24/07	REV IR	SCALE: NONE	SHEET: 1 OF 1
APPLICATION: AS355			DWG No. DIAGRAM 2	

REVISION RECORD				
DWG REV LTR	DATE:	DESCRIPTION OF CHANGE	APPVD BY	REV BY
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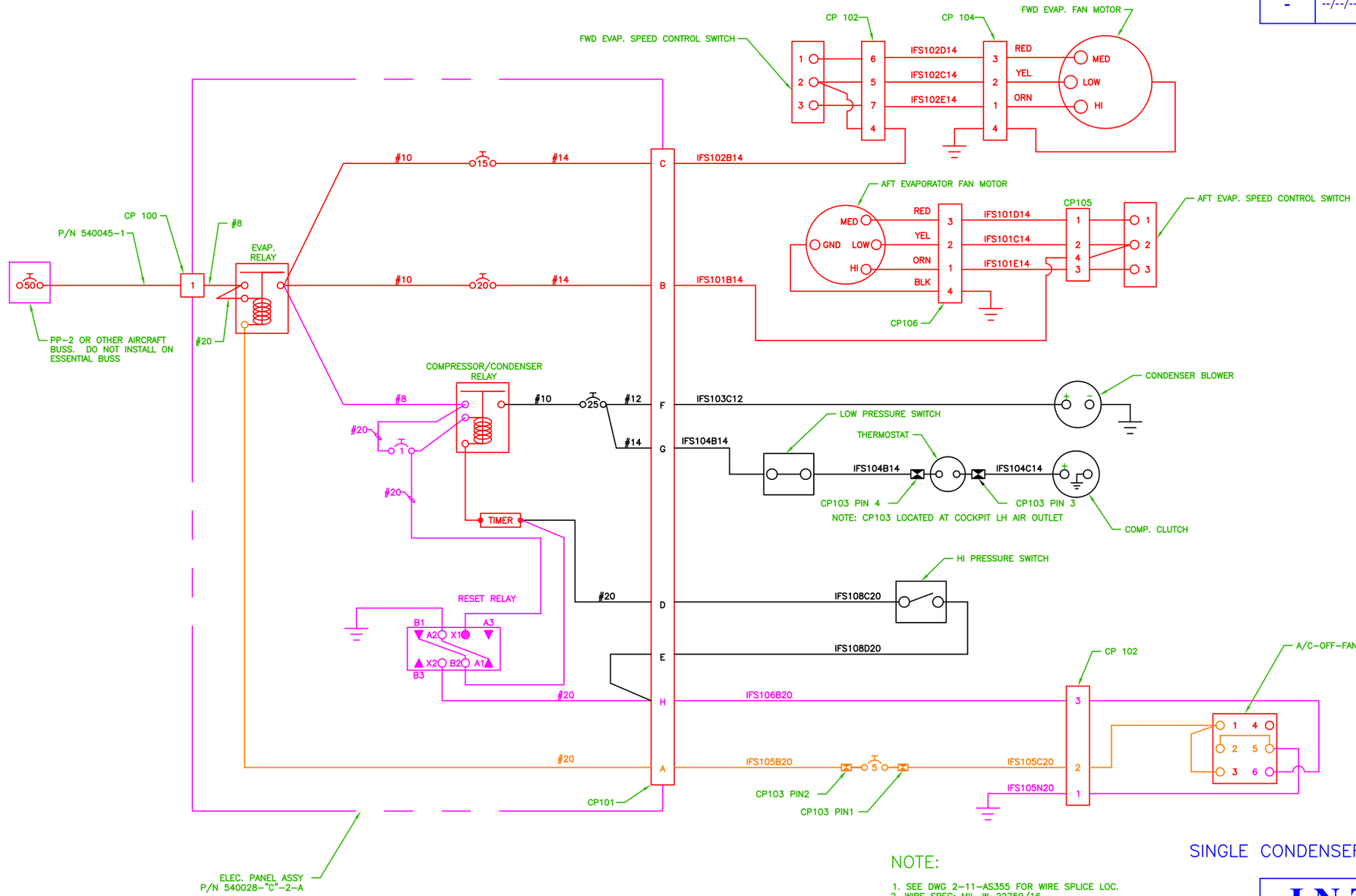

NOTE:

1. DRAWING SHOWN WITH SYSTEM SERVICED WITH FREON. HIGH PRESSURE SWITCH OPEN.
2. PINK LINES INDICATE THE CIRCUIT THAT IS ACTIVATED WHEN THE HIGH PRESSURE SWITCH OPENS.
3. THE RESET RELAY CLOSES AND RUNS THE CURRENT TO GROUND OPENING THE 1 AMP CIRCUIT BREAKER. ORANGE LINES INDICATE THAT THE EVAPORATOR FANS ARE ON.

AS 355
ELECTRICAL WIRING DIAGRAM

SINGLE CONDENSER BLOWER

NOTE:

1. SEE DWG 2-11-AS355 FOR WIRE SPLICE LOC.
2. WIRE SPEC: MIL-W-22759/16
   WIRE NO. IFS XXX X XX

GROUP
SEQUENCE (N INDICATES GROUND)
GAUGE

SINGLE CONDENSER BLOWER

INTEGRATED Flight Systems
Reno Nevada

TITLE: ELECTRICAL DIAGRAM

DRAWN BY:	DATE:	REV	SCALE:	SHEET:
MGV	08/24/07	IR	NONE	1 OF 1

APPLICATION:	DWG No.
AS355	DIAGRAM 3