PSG
PRODUCTS INC.

Air Conditioning System

Installation Manual

for

350-00-031-HP
AEC Basic Version

(Revised: April 22, 2024, Rev: AE)

Insert table of contents here!

RECORD OF REVISIONS

Revision	Description	Date	Revised By
IR	Initial Release	4 Nov. 2009	IFS
A	Revised Compressor Install	5 Feb. 2010	IFS
B	Updated Kit List	29 Jan. 2013	RSG
C	Updated Kit List	3 Mar. 2014	RSG
D	Formatted document to RSG Products	22 May. 2015	RSG
E	Updated sections 5, 7, and 9 and Kit List	28 Oct. 2015	RSG
F	Updated Kit List	24 Mar. 2016	RSG
G	Updated Kit List	28 Nov. 2017	RSG
H	Updated sections 1, 7, 8, & 9	14 Jan. 2019	RSG
J	Updated sections 1, 5, 7, 8, 9, & 12	12 Jun. 2019	RSG
K	Updated sections 1, 5, 7, 8, & 9	26 Nov. 2019	RSG
L	Updated Kit List section 1	20 Jan. 2020	RSG
M	Updated Kit List section 1	17 Mar. 2020	RSG
N	Updated MSDS section 1	4 June 2020	RSG
P	Updated Kit List section 1	3 Nov. 2020	RSG
Q	Updates sections 5, 6, & 9	3 July 2021	RSG
R	Update sections 1 & 7	11 Nov. 2021	RSG
T	Updated sections 5 & 7	18 Mar. 2022	RSG
U	Updated Kit List section 1 & drawing in section 7	28 Mar. 2022	RSG
V	Updated Kit List in section 1 & drawing in section 7	05 May 2022	RSG
W	Update drawings in section 5	26 May 2022	RSG
X	Updated sections 1, & 5-15	19 Aug. 2022	RSG
Y	Updated sections 1, 5-7, 8, 10-12, and 15	28 Nov. 2022	RSG
AA	Updated sections 1, 6-9, and 11	7 Feb. 2023	RSG
AB	Updated sections 1 & 9	21 Apr. 2023	RSG
AC	Updated section 9 to include VEMD info	2 June 2023	RSG
AD	Updated section 1 kit list	14 July 2023	RSG
AE	Updated sections 1, 5-8, 10-12, 13	22 April 2024	RSG

LIST OF EFFECTIVE PAGES

Rev	Section	Pgs	Description	Date
X	1	10	Updated 1-5-AS350 drawing	08/19/22

Y	1	10-11	Updated 1-5-AS350 drawing	11/28/22
AE	1	11	Updated 1-5-AS350 drawing	04/22/24
IR	1	Insert	Initial Release	11/04/09
B	1	Insert	Revised Kit Inventory List	01/29/13
C	1	Insert	Revised Kit Inventory List	03/03/14
D	1	Insert	Revised Kit Inventory List	05/22/15
E	1	Insert	Revised Kit Inventory List	10/28/15
F	1	Insert	Revised Kit Inventory List	03/24/16
G	1	Insert	Revised Kit Inventory List	11/28/17
H	1	Insert	Revised Kit Inventory List	01/14/19
J	1	Insert	Revised Kit Inventory List	06/12/19
K	1	Insert	Revised Kit Inventory List	11/26/19
L	1	Insert	Revised Kit Inventory List	01/20/20
M	1	Insert	Revised Kit Inventory List	03/17/20
P	1	Insert	Revised Kit Inventory List	11/3/20
R	1	Insert	Revised Kit Inventory List	11/11/21
U	1	12-26	Revised Kit Inventory List	03/28/22
V	1	12-26	Revised Kit Inventory List	05/05/22
X	1	11-25	Revised Kit Inventory List	08/19/22
AA	1	13-27	Revised Kit Inventory List	02/07/23
AB	1	13-27	Revised Kit Inventory List	04/21/23
AD	1	13-27	Revised Kit Inventory List	07/14/23
AE	1	12-26	Revised Kit Inventory List	04/22/24
N	1	27-30	Removed MSDS for touch-up paint	06/04/20
IR	2	1-4	Initial Release	11/04/09
IR	3	1-3	Initial Release	11/04/09
IR	4	1-2	Initial Release	11/04/09
IR	5	1-5	Initial Release	11/04/09
D	5	Insert	Updated drawings	05/22/15
E	5	Insert	Updated drawing	10/28/15
J	5	Insert	Updated drawing	06/12/19
K	5	Insert	Updated drawing	11/26/19
Q	5	45-50	Updated drawing	7/3/21
W	5	45-52	Updated 4-3-AS350 drawing	05/26/22
X	5	44-50	Updated 4-3-AS350 drawing	08/19/22
Y	5	44	Update instructions in Step 5.17 to remove resistor	11/28/22

Y	5	45-61	Updated 4-3-AS350, 4-13-AS350, & 5-10-AS350 drawings	11/28/22
AE	5	45-55	Updated 4-3-AS350, 4-13-AS350, 5-10-AS350, 5-21-AS350 & 3-5-AS350 drawings	04/22/24
X	5	52	Updated 5-10-AS350 drawing	08/19/22
T	5	56-58	Updated 5-21-AS350 drawing	03/18/22
W	5	56-59	Updated 5-21-AS350 drawing	05/26/22
Y	5	66-69	Updated 3-5-AS350 drawing	11/28/22
IR	6	1-5	Initial Release	11/04/09
D	6	Insert	Updated drawings	05/22/15
E	6	Insert	Updated drawing	10/28/15
Q	6	63-66	Updated drawing	07/3/21
X	6	63-64	Updated 7-22-AS350 drawing	08/19/22
X	6	67	Updated 7-25-AS350 drawing	08/19/22
Q	6	69-71	Updated drawing	07/3/21
Q	6	73-76	Updated drawing	07/3/21
X	6	69-70	Updated 7-28-AS350 & 7-29-AS350 drawing	08/19/22
Y	6	71	Added "*if required*" to end of p/n 261013	11/28/22
Y	6	73	Updated blower part number in Step 6.19	11/28/22
Y	6	75-77	Updated 7-22-AS350 drawing	11/28/22
AA	6	76-83	Updated 7-22-AS350, 7-23-AS350 & 7-24-AS350 drawings	02/07/23
AA	6	86-89	Updated 7-28-AS50 & 7-29-AS350 drawings	02/07/23
AE	6	57	Updated instructions in Step 6.2	04/22/24
AE	6	61-65	Updated 7-22-AS350, 7-23-AS350, 7-24-AS350, 7-28-AS350 & 7-29-AS350 drawings	04/22/24
IR	7	1-2	Initial Release	11/04/09
D	7	3	Steps 7.9 and 7.10	05/22/15
D	7	Insert	Updated drawings	05/22/15
E	7	Insert	Updated drawing	10/28/15
H	7	Insert	Updated drawing	01/14/19
J	7	Insert	Updated drawing	06/12/19
K	7	Insert	Updated drawing	11/26/19
R	7	80-86	Update 4-21-AS350 drawing	11/11/21
T	7	82-91	Update 4-21-AS350 drawing	03/18/22
U	7	80	Added doubler to Step 7.5 & grommet to Step 7.7	03/28/22
V	7	82-91	Update 4-21-AS350 drawing	05/05/22
X	7	74-82	Updated 4-21-AS350, 5-26-AS350 & 5-10-AS350 drawings	08/19/22

X	7	72	Updated instructions in Step 7.7	08/19/22
Y	7	87-102	Updated 4-21-AS350, 5-26-AS350 & 5-10-AS350 drawings	11/28/22
AA	7	93-106	Updated 4-21-AS350 & 5-26-AS350 drawings	02/07/23
AE	7	69-77	Updated 4-21-AS350, 5-26-AS350, 5-10-AS350 & 5-21-AS350 drawings	04/22/24
A	8	1-5	Revised Instructions	02/05/10
D	8	4	Step 8.9	05/22/15
D	8	Insert	Updated drawings	05/22/15
H	8	Insert	Updated drawings	01/14/19
J	8	Insert	Updated drawing	06/12/19
K	8	Insert	Updated drawing	11/26/19
X	8	88-92	Updated 6-2-AS350 & 6-3-AS350 drawings	08/19/22
Y	8	113-117	Updated 6-3-AS350 drawing	11/28/22
AA	8	116	Revised instructions in Steps 8.5 and 8.7	02/07/23
AA	8	121-126	Updated 6-3-AS350 drawing	02/07/23
AE	8	84-89	Updated 6-3-AS350 drawing	04/22/24
IR	9	1-2	Initial Release	11/04/09
D	9	2	Steps 9.4, 9.6, & 9.7	05/22/15
D	9	Insert	Updated drawings	05/22/15
E	9	2	Step 9.2	10/28/15
E	9	Insert	Updated and add drawings	10/28/15
H	9	Insert	Updated drawings	01/14/19
J	9	Insert	Updated drawings	06/12/19
K	9	Insert	Updated drawing	11/26/19
Q	9	121-123	Updated drawing	07/3/21
X	9	99-102	Updated 2-19-AS350, 2-16-AS350 & 2-25-AS350 drawings	08/19/22
X	9	103-106	Updated 7-2-AS350 drawing *(for reference)*	08/19/22
AA	9	133-134	Added electrical checkout procedures for use with Steps 9.1 through 9.7	02/07/23
AB	9	133-134	Revised electrical checkout procedures	04/21/23
AC	9	133-134	Added note to electrical checkout procedures on setting the VEMD (if equipped)	06/02/23
IR	10	1-3	Initial Release	11/04/09
D	10	Insert	Updated drawings	05/22/15
Y	10	135-138	Updated 3-5-AS350 drawing	11/28/22
AE	10	109-112	Updated 3-5-AS350 drawing	04/22/24
IR	11	1-2	Initial Release	11/04/09

D	11	2	Updated to RSG	05/22/15
D	11	Insert	Updated STC Cover Sheet	05/22/15
D	11	Insert	Updated RFMS's	05/22/15
E	11	Insert	Updated RFMS's	10/28/15
Y	11	141	Updated weight & balance data	11/28/22
X	11	114-135	Updated STC & foreign applicability	08/19/22
AA	11	156	Moved foreign applicability to website (www.rotorcraftservices.com/customer-support)	02/07/23
X	11	136-147	Updated MDL	08/19/22
Y	11	177-225	Updated RFMS	11/28/22
AA	11	169	Moved RFMS's to website (www.rotorcraftservices.com/customer-support)	02/07/23
AE	11	115	Updated weight & balance page (revision change)	04/22/24
AE	11	120-131	Updated MDL	04/22/24
IR	12	1-12	Initial Release	11/04/09
D	12	Insert	Updated ICA	05/22/15
J	12	Insert	Updated ICA	06/12/19
X	12	242-347	Updated ICA to Rev F	08/19/22
Y	12	227-345	Updated ICA	11/28/22
AE	12	134-238	Updated ICA ro Rev F-1	04/22/24
IR	13	1-5	Initial Release	11/04/09
D	13	1-5	Updated to RSG	05/22/15
X	13	348-353	Updated parts break down list	08/19/22
C	14	1-6	Warranty Revised	11/04/09
X	14	355-360	Updated warranty policy, removed warranty claim form & added new RMA form	08/19/22
AE	14	248-251	Updated warranty policy, warranty registration & RMA forms	04/22/24
IR	15	Insert	Initial Release	01/29/09
X	15	362-376	Updated TS guide with RSG logos & removed outdated information	08/19/22
Y	15	347-360	Updated TS guide	11/28/22

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). 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
Fax: 1-800-624-6603

Required Tools

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

Step 1

Kit Inventory

Insert AEC Basic Configuration Control List In Place of this Page

Step 2

Aircraft Pre-Inspection

Aircraft Pre-Inspection

STEP	PROCEDURE	MECH	INSP
2.1	Inspect the aircraft for other kits and Modifications that may effect 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 kit.		
2.4	Inspect aircraft paperwork for damage history that may effect the installation of this kit.		

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 is 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: Insure 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

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.		

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

STEP	PROCEDURE	MECH	INSP
4.1	Unbolt oil cooling fan and shroud tiewrap to transmission.		
4.2	Disconnect oil cooler assembly from aft cabin wall and the wrap to transmission. Do not disconnect oil lines.		
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-AS350		
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.		

Step 5

Installation of Aft Evaporator

Installation of Aft Evaporator

STEP	PROCEDURE	MECH	INSP
5.1	Remove Right Hand Transmission Cowling Forward latch. (See photo 1). Hold for reinstallation. Position the aft evaporator doubler P/N 260328-1 on the upper transmission deck per drawing 4-3-AS350 sheet 1 of 2. 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 260328-1 as a template.		
5.4	Install aft evaporator doubler P/N 260328-1 on right hand upper transmission deck in accordance with drawing 4-3-AS350 sheet 1 of 2 using rivets as shown. Re-install Right Hand Transmission Cowling Forward latch as shown in drawing 4-3-AS350 sheet 1 of 2.		
5.5	Next temporarily install Aft evaporator assembly P/N 560010-"O"-5 with 4 ea. AN3-5A bolts and 4 ea. AN960-10 washers per drawing 4-13-AS350.		
5.6	Position return air doubler P/N 260322-1 against aft cabin bulk head as shown in drawing 5-21-AS350 trace outline on bulkhead. Remove doubler and drill out rivets inside trace.		
5.7	Reposition doubler P/N 260322-1. Back drill all holes and Clelo in place. Using doubler as guide pen route out return air hole.		
5.8	Remove doubler, clean holes. Install doubler P/N 260322-1 and angle P/N 260322-2 rivet in place per drawing 5-21-AS350. **NOTE: Two different situations, requiring different doublers are utilized depending on the type and location of the aft seat harness reel (if installed). See drawing for specifics.**		

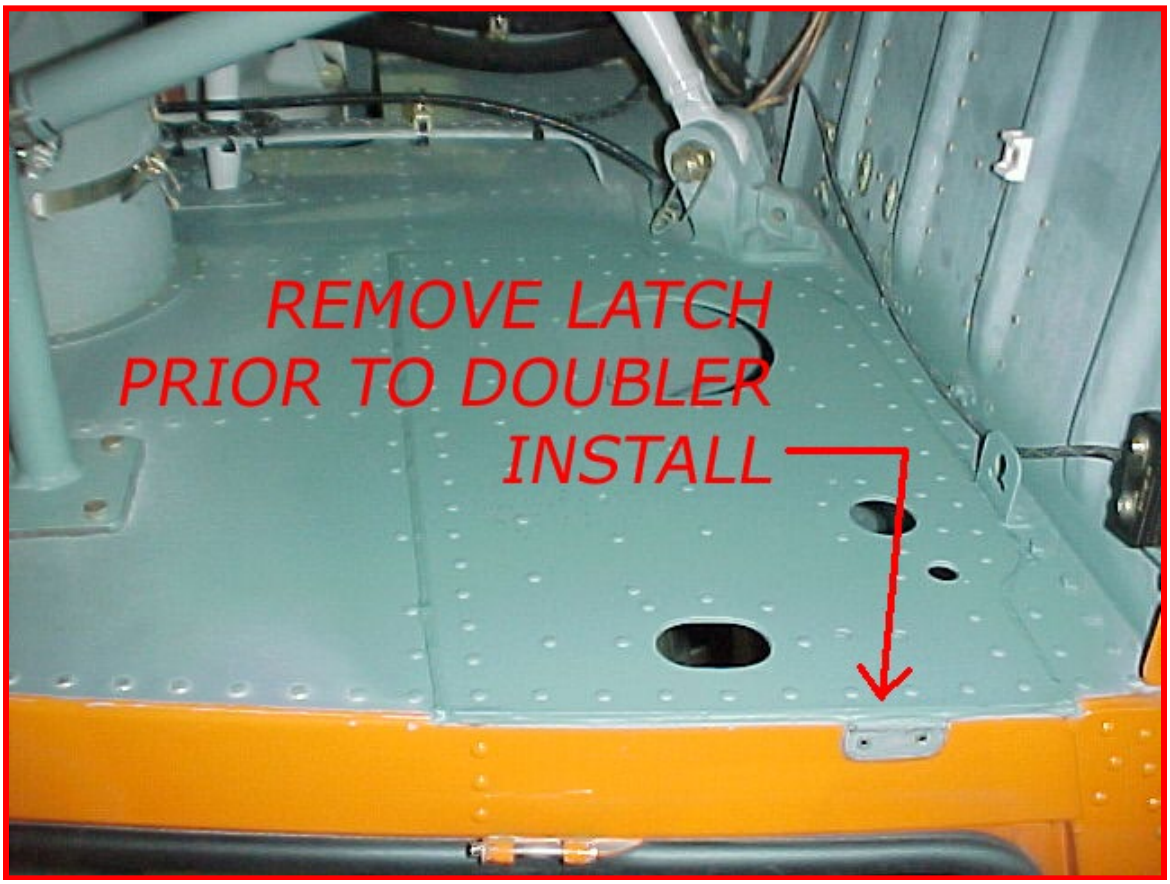


PHOTO 1

Installation of Aft Evaporator

STEP	PROCEDURE	MECH	INSP
5.9	Install return air screen P/N 080022-1 as per drawing 5-21-AS350.		
5.10	Locate "Return Air Connector" P/N 250166. 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 4-13-AS350. 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 Duct Connector PN: 250166 with rivets to the Evaporator PN: 560010-O-5 case per drawing 4-13-AS350. Next install the connector angle assembly P/N 510261, per drawing 4-3-AS350 Sheet 1 of 2 and 4-13-AS350. This holds the upper part of the return air duct.		
5.11	Position the aft evaporator return air duct P/N 250149 in the right side baggage compartment as shown on drawing 4-13-AS350. Use the return air opening to locate the return air duct. Trim the return air duct as required to fit.		
5.12	Remove the access panel from the outboard side of the aft evaporator P/N 560010-O-5.		
5.13	Temporarily install the aft evaporator, P/N 560010-O-5 using 4 each, AN3-5A, bolts and AN960-10, washers.		

Installation of Aft Evaporator

STEP	PROCEDURE	MECH	INSP
5.14	Locate and drill the holes for mounting the aft evaporator return air duct connector P/N 250166.		
5.15	Attach Return Air Duct P/N 250149 per drawings 4-3- AS350 sheet 1 of 2 and 4-13-AS350.		
5.16	SEAL THE EVAPORATOR TO THE RETURN AIR DUCT WITH ALUMINUM FOIL TAPE IFS PN: 070076 as required by reaching through the outboard opening in the evaporator. Re-install the aft evaporator access panel.		
5.17	Install the Aft Evaporator Fan Assembly, P/N 490017-1, using five each AN3-5A bolts, and 5 ea. AN960-10 washers. Attach Resistor Mount Assembly P/N 510463 and Resistor Assembly P/N 540020 per drawing 4-3-AS350 Sheet 2 of 2.		
5.18	Locate Transition Elbow P/N 520036-3. This will be mounted on upper Aft Cabin Wall on transmission side. See drawing 4-3-AS350 Sheets 1 and 2. Remove oil coolers from upper deck dog house. **(Do Not Disconnect oil Lines)** Position as to be able to modify Aft cabin wall. Do Not Re-install until step 5.22.		
5.19	Mark hole to be cut out in aft cabin wall per drawing 4-3-AS350 Sheet 1 of 2. Be careful not to but the cabin air duct bonded to aft cabin wall. Drill a couple of # 40 holes to see if you clear duct.		
5.20	Cut out hole and mount elbow as shown in drawing No. 4-3-AS350 Sheet 1 and 2 of 2.		
5.21	Install a 5-inch flex duct (25”in) long from the aft evaporator fan assembly to the aft air distribution elbow end with two each 6” band clamps P/N 060035. Insulate the duct with foam tape P/N 070078 and wrap with aluminum tape P/N 070076.		
5.22	Modify over head wemac’s as shown in drawing 5-10-AS350 if S/N 1302 or lower. Remove existing spacer air duct between oil coolers. Install new Air Duct Closure Assembly PN: 510092 using existing hardware. Re-install oil cooler assembly.		
5.23	Install hose doubler P/N 260369 per drawing 3-5-AS350.		

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 Air Inlet Doubler L.H. P/N 261013 *(if required – contact sales)* on the lower right side of the tail boom and Air inlet Doubler R.H. P/N 261013-2 on the lower right side of the tail boom. Secure doublers and Drawings 7-25 and 26-AS350. **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 (twice the diameter of hole, from center of hole to edge).		
6.5	Remove stringers on the inside of the tail boom (Drawing 7-22-AS350 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-AS350).		
6.8	Rivet doubler in place. Remove airframe skin to the inside edge of the doubler. Deburr, remove any shavings or debris.		
6.9	Install L.H. doubler of the same part number 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: 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 7-23-AS350 and 7-24-AS350.		
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-AS350. 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.		
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-AS350). 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 050143. 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 Baggage Compartment Close Out Panel P/N 250301 per drawing 7-22-AS350.		

NOTES:

Step 7

Installation of Forward Evaporator

Installation of Forward Evaporator

STEP	PROCEDURE	MECH	INSP
7.1	Relocate NR digital indicator. Higher 12" min., and aft of pitot static lines, using assisting hardware. See note on drawing 4-21-AS350.		
7.2	Relocate warning horn up and forward as required.		
7.3	Position forward evaporator assembly, P/N 560025-O, as shown in drawing 4-21-AS350. Mark rivets to be drilled out and existing bolts that will be used to mount evaporator. Also mark location on inboard forward mount hole on floor as shown in note on drawing 4-21-AS350.		
7.4	Remove and drill out rivets and marked hole. Install nut plate on evaporator.		
7.5	Position doubler P/N 260373-1 as shown in drawing 4-21-AS350, drill and install as shown. Cut out center. Line hole with Caterpillar, bond to edge of metal.		
7.6	Do not install evaporator until Freon lines are connected.		
7.7	Install drain line from the evaporator out through the cabin floor. The existing hole normally found in the aircraft skin (right forward side) can be utilized. Cutting of the aircraft skin will not usually be required. "IF" no vacant hole is found, locate and drill a hole according to the detail "A" on drawing 4-21-AS350. Secure drain line and cut off at a negative angle.		
7.8	When connecting Freon lines, make sure you install sensing bulb on #10 line. Wrap cork tape around fittings. See drawing 4-21 AS350 "Expansion Valve Detail". After all lines are attached install Fwd Evaporator with hardware per drawing 4-21-AS350.		

Air Distribution

STEP	PROCEDURE	MECH	INSP
7.9	**AIR DISTRIBUTION:** Drawings 5-26-AS350, 5-10-AS350 and 5-21-AS350 For config. -01: Locate the air outlets on the left and right underside of panel support bar as shown in drawing 5-26-AS350. For config. -02: Locate the air outlets on the left and right upper side of panel as shown in drawing 5-26-AS350.		
7.10	For config. -01: Install 2 each Air Outlet Assembly PN: 510259-3 per drawing 5-26-AS350 View A-A, sheet 1 of 3. For config. -02: Install 2 each Air Outlet Assembly PN's: 520156HP-01 and 520157HP-01 per drawing 5-26-AS350 sheet 2 of 3.		
7.11	After installation of air outlet assemblies, attach 2 ½" flex hoses from the assemblies to the evaporator. The hose to the right hand air outlet is very straight forward. The installation of the left side flexible air hose can vary according to the avionics package installed. In some aircraft, it is quite simple to route the hose aft of the radio stack through existing holes in the vertical sheet metal aircraft parts. In other aircraft, due to the type of radios installed, it will be necessary to cut a round hole in the vertical aircraft sheet metal components and route the flex hose through this hole after lining the edges with Caterpillar for protection against chafing of the hose.		

Step 8

Installation of Compressor

Installation of Compressor

STEP	PROCEDURE	MECH	INSP
8.0	**NOTE: MUST BE PERFORMED IN ACCORDANCE WITH CURRENT EUROCOPTER TECHNICAL DATA.**		
8.1	Place a support on the transmission deck to support the engine drive while the shaft is disconnected for belt installation.		
8.2	Remove the cotter pins from the four pins holding the "Gimble Ring" at the Thomas coupling.		
8.3	Slide the "Gimble Ring" aft to gain access to the Thomas coupling.		
8.4	Remove the 6 bolts and Thomas coupling connecting the drive shaft and shift slightly aft.		
8.5	Install two (2) Compressor Drive belts		
8.6	Reassemble the Thomas coupling per **AEC Specifications. Torque and Safety Coupling!! Torque Mark all bolts.**		
8.7	Secure 1 belt to the outside of the drive shaft cover for a spare and slip one through the housing and over the drive pulley. **NOTE: THE CURRENT BELT P/N 060018-1 HAS A SPECIFIC DIRECTION OF ROTATION. (See figure 1, page 3)** **NOTE: THE CURRENT BELT P/N 060005 HAS NO SPECIFIC DIRECTION OF ROTATION.**		

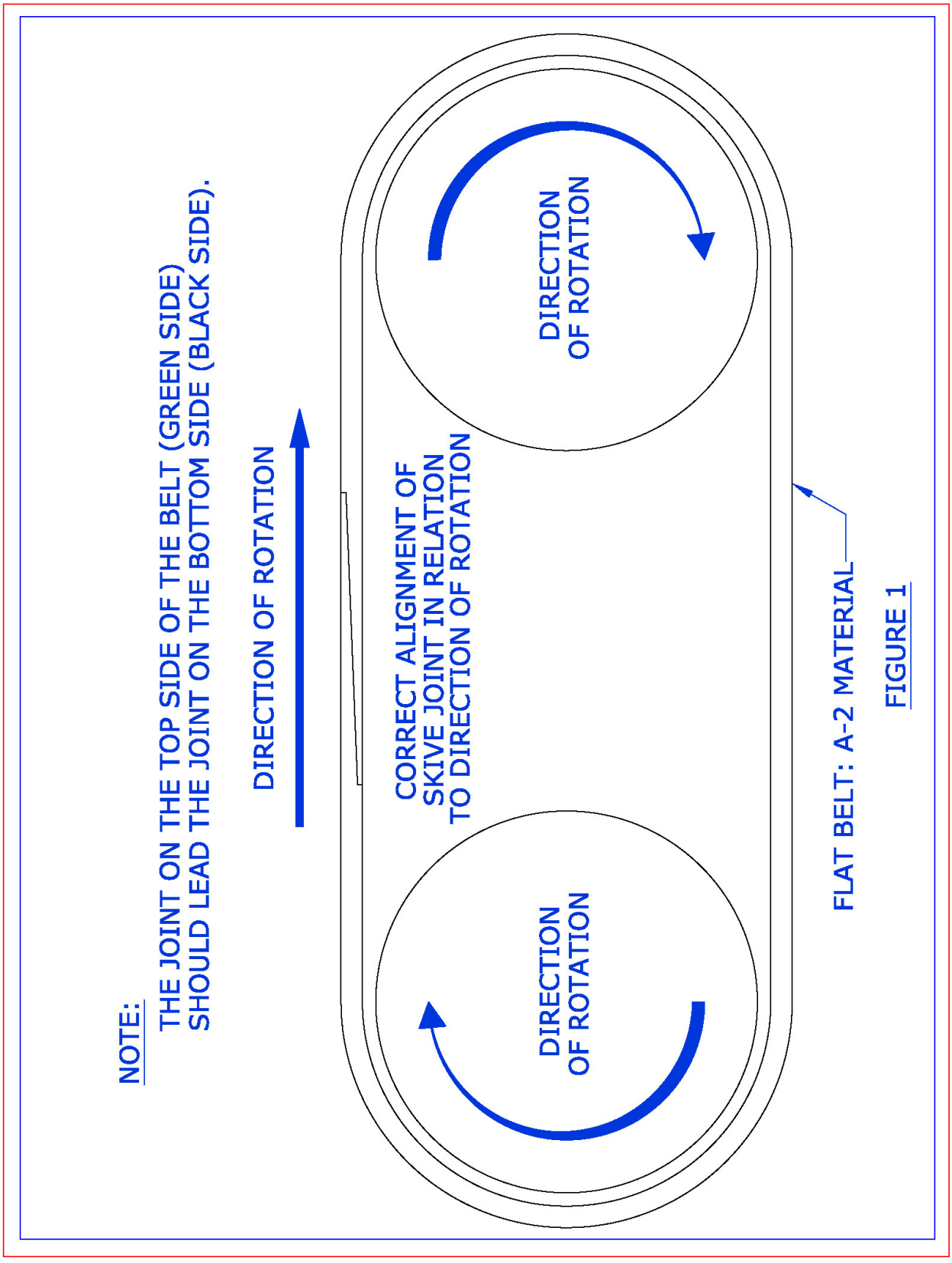

NOTE:
THE JOINT ON THE TOP SIDE OF THE BELT (GREEN SIDE)
SHOULD LEAD THE JOINT ON THE BOTTOM SIDE (BLACK SIDE).
DIRECTION OF ROTATION
CORRECT ALIGNMENT OF
SKIVE JOINT IN RELATION
TO DIRECTION OF ROTATION
DIRECTION
OF ROTATION
DIRECTION
OF ROTATION
FLAT BELT: A-2 MATERIAL

FIGURE 1

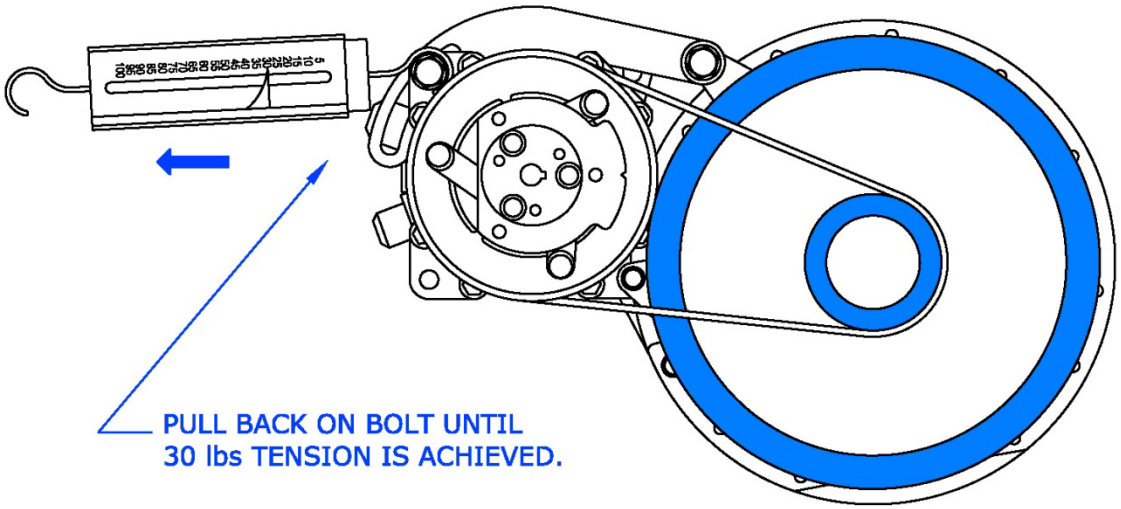
Installation of Compressor

STEP	PROCEDURE	MECH	INSP
8.8	Install the "Gimble Ring" pins and cotter pins. Remove supports.		
8.9	Installation of Bracket Kit P/N 350-11-031-02 in accordance with: 6-2-AS350, 6-12-AS350 and 6-21-AS350 or 6-3-AS350, 6-13-AS350 and 6-22-AS350.		
8.10	Install the Forward Compressor Bracket, Compressor Standoffs and Compressor per Drawings: 6-2-AS350, 6-12-AS350 and 6-21-AS350 or 6-3-AS350, 6-13-AS350 and 6-22-AS350		
8.11	Install the compressor drive belt on the drive pulley and the compressor clutch pulley. Tighten bolts at the adjustment arm assuring the belt proper amount of tension. Tighten the lower forward mounting bolt.		
8.12	This tension may be performed by either pull scale. (See Belt Tension Recommendation)		
8.13	50/30 lbs pull tension at tension adjustment bolt should provide adequate belt tension. (See figure 2, page 5)		

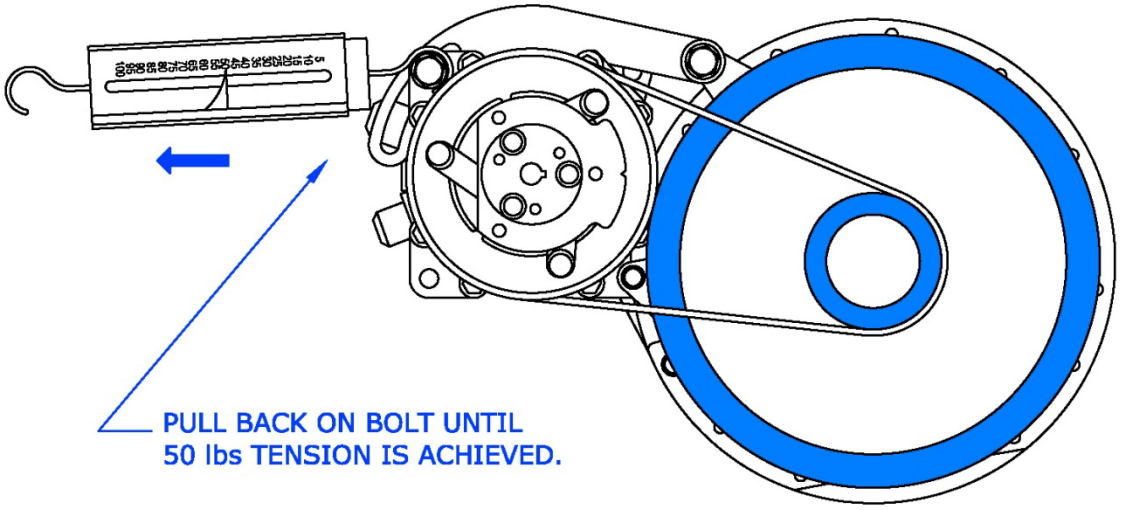
BELT TENSION RECOMMENDATION:

FLAT BELT IFS P/N 060018-1_____TENSION TO 50lbs

GROOVED BELT IFS P/N 060005_____TENSION TO 30lbs



060005 GROOVED BELT



060018-1 FLAT BELT

FIGURE 2

Step 9

Installation of Electrical

Installation of Electrical

STEP	PROCEDURE	MECH	INSP
9.1	Remove Battery Closeout panel. Re-position existing DZUS Receptacle Bracket on top of shelf, °180 to face down below shelf. 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 panel installation/removal. Remove the (4) rivets that attach to the right end of the shelf to the vertical support member and enlarge the rivet holes on both the shelf and the vertical member to accept #10 hardware.		
9.2	Locate the electrical box, P/N 540028-C-1-A, on the support shelf and match drill three each #10 holes per drawing 2-19-AS350. Install the electrical box using three ea. AN3-4A Bolts, 3 ea. AN960-10 Washers. (Refer to drawing 7-2-AS350 for optional location of electrical box and components associated)		
9.3	Re-attach shelf using 4 ea. AN525-10R8 Screws, 8 ea. AN960-10 Washers and 4 ea. MS21044-N3 Nuts per drawing 2-19-AS350.		
9.4	Install and route the electrical harness: P/N 540044-3 config. -01 or -02, per drawings 2-19-AS350, 2-16-AS350 and 2-25-AS350.		
9.5	Install and route electrical harness P/N 540045-1 using 1 ea. 8 x #10 Ring Terminal and ANL-50 Limiter (not incl.).		
9.6	Install Instrument Panel Switch P/N 540044-8 config. -01 or -02, per drawing 5-26-AS350.		
9.7	Install aft switch assembly P/N 540089 config. -01 or -02, per drawings 5-10-AS350, 2-19-AS350, 2-16-AS350 and 2-25-AS350		

Step 10

Installation of Hoses

Installation of hoses

STEP	PROCEDURE	MECH	INSP
10.1	Review Install Drawings 3-5-AS350 and 3-15-AS350.		
10.2	**WARNING: Before connecting hoses, be sure all fittings have R134 approved "O" Rings installed.**		
10.3	Route evaporator return line hose assembly #10 suction hose (tee fitting above deck), P/N 570087-O-A from the upper transmission deck down through the right side baggage compartment, through the existing opening in the baggage compartment floor, under the floor forward to the forward evaporator. The short length of hose connects to the Aft evaporator return fitting above the transmission deck. The longer length above the transmission deck is routed against the cabin back wall to the compressor suction fitting located on the left side of the transmission.		
10.4	Route the evaporator expansion valve supply line high pressure hose assembly #6, P/N 570072-O-A from the baggage department down through the existing opening in the baggage compartment floor, under the floor forward to the forward evaporator. The tee fitting connects to the "out" or supply fitting on the dryer bottle. The short length to the evaporator.		
10.5	Clamp the coil on the end of the expansion valve to the return hose fitting (#10 large line) with a 1-inch band clamp. Assure the fitting is clean where the coil is clamped. Insulate the coil completely with cork tape, P/N 070078-0, PER DRAWING NO. 3-5-A350		
10.6	Route THE CONDENSER SUPPLY LINE HOSE ASSEMBLY #8, P/N 570070-O-A from the compressor discharge fitting against the cabin back wall to the right side of the transmission deck. Route down the same opening in the transmission deck as the return hose was routed. Connect to cone condenser. Route hose assembly #6, P/N 570067-O-A, along beside #8 line as shown in Drawing No. 3-5-AS350.		

Installation of Hoses

STEP	PROCEDURE	MECH	INSP
10.7	Install drier mount bracket, P/N 260123-2 per Drawing No. 3-5-AS350 and drier bottle, P/N 090016-5.		
10.8	Do not connect drier bottle up until all lines are connected and you are ready to vacuum down system.		
10.9	Connect high and low pressure switches. Be sure to connect the correct wire to each switch. Low pressure switch P/N 050107, High pressure switch, P/N 90004.		

Step 11

Paperwork

DETAILED WEIGHT AND BALANCE DATA

FOR

RSG PRODUCTS INC.

FREON AIR CONDITIONING

UNIT INSTALLED IN A

TYPICAL HELICOPTER, MODEL AS350 B, BA, B1, B2, B3, C, D OR D1

PERTAINS TO KIT #350-00-031

ITEM	WEIGHT	ARM	MOMENT
Forward Evaporator Assembly	10.00	19.00	190.00
Forward Air Outlets	4.00	31.32	125.28
Aft Evaporator and Return Air	9.00	120.00	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 and Mount	15.00	147.80	2217.00
Electrical Relay Panes	4.0	153.70	614.80
Refrigerant, Hoses and Fittings	9.00	76.90	692.10
Sub Total: (Air Conditioner)	85.20	133.05	11,335.94

United States of America
Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

Number SH3509SW

This certificate issued to Integrated Flight Systems, 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.

Original Product -- Type Certificate Number: H9EU

Make: Eurocopter France

Model: AS-350 B, B1, B2, B3, BA, C, D, D1; EC130B4

Description of Type Design Change: Installation of a Single and Dual Condenser Blower Air Conditioning System in accordance with Integrated Flight Systems (IFS) Master Drawing List (MDL), Document No. DL-9 (Vapor Cycle Air Conditioning System with Belt Driven Compressor Utilizing Refrigerant R134a), Rev. R, dated 8/30/2010, or later FAA approved revision.

(See continuation sheet 3 of 3)

Limitations and Conditions:
The installer must determine whether this design change is compatible with previously approved modifications. If the holder agrees to permit another person to use this certificate to alter a product, the holder must 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 : September 10, 1984

Date of issuance : September 20, 1985

Date reissued : April 30, 1991; August 22, 2001; October 23, 2008

Date amended : February 11, 1999; February 9, 2009; February 23, 2009; November 5, 2010

By direction of the Administrator

(Signature)
James A. Richmond, Acting Manager
Rotorcraft Certification Office
Southwest Region

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.

United States of America

Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number SH3509SW

Date of Issuance: September 20, 1985

Date Amended: November 5, 2010

Description of Type Design Change (Continued):

FAA approved helicopter Flight Manual Supplement (FMS) dated 6/26/85, or later FAA approved revision is required for Models AS350B, C, D, and D1. Model AS350B1, requires FAA approved helicopter FMS dated 10/27/8, or later FAA approved revision. Model AS350B2 requires FAA approved Helicopter FMS dated 4/30/91, or later FAA approved revision. Model AS350BA requires FAA approved helicopter FMS dated 5/15/92, or later FAA approved revision. Model AS350B3 requires FAA approved Helicopter FMS dated 2/8/99, or later FAA approved revision. Model EC130B4 requires FAA approved Helicopter FMS dated 2/6/04, or later FAA approved revision.

Instructions for Continued Airworthiness, IFS Document No. IFSE-0007, Rev. C, dated 8/12/2010, or later revision is required.

Transport Canada
Civil Aviation

Transports Canada
Aviation Civile

Suite 620
800 Burrard Street
Vancouver, B.C.
V6Z 2J8

Your file *Votre référence*

Our file *Notre référence*
P-03-0350

July 8, 2003

Integrated Flight Systems, subsidiary
of Platinum Aviation Group, Inc.
4655 Aircenter Circle
Reno, Nevada 89502

Attn: Mr. Leroy Aday, President

Subject: Acceptance of FAA STCs SH3509SW and SH5947SW

Dear Mr. Aday:

This letter is in response to your application for Canadian acceptance of FAA STCs SH3509SW and SH5947SW, submitted to our office June 13, 2003, by the FAA Los Angeles Aircraft Certification Office.

In accordance with current Transport Canada policy concerning review of FAA-issued STCs for non-US state-of-design Normal Category rotorcraft, both STCs have been accepted in Canada without having to issue corresponding Canadian certificates.

Both FAA STC's will be entered into the national index of STCs that have been reviewed and accepted by Transport Canada for installation on Canadian-registered aeronautical products.

This letter confirms formal acceptance of the referenced STC by Transport Canada.

If you have any questions concerning this matter, I can be contacted by telephone at (604) 666-5269.

Yours truly,

David Bafia

David Bafia

For Regional Manager,
Aircraft Certification

Canada

ANAC

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

CERTIFICADO DE HOMOLOGAÇÃO SUPLEMENTAR DE TIPO

(Supplemental Type Certificate)

NÚMERO (Number) **2006S12-08**

Este certificado, emitido com base na Lei nº 7565 "Código Brasileiro de Aeronáutica", de 19 de dezembro de 1986,
(This certificate, issued in the basis of the Law No. 7565 "Código Brasileiro de Aeronáutica", dated 19 December 1986,

é conferido ao (à): (is granted to:) Integrated Flight Systems Corp.
4607 B. Aircenter Circle
Reno, Nevada 89502
USA

por ter a modificação ao projeto de tipo do produto abaixo citado, observadas as limitações e condições
(for having the change to the type design of the product mentioned below, with the limitations and conditions therefor as)

especificadas, satisfeito aos requisitos de aeronavegabilidade aplicáveis.
(specified hereon, met the applicable airworthiness requirements.)

Produto Original - Número do Certificado de Tipo: (Original Product – Type Certificate No:) 84 (FN 157).

Fabricante: (Manufacturer:) Eurocopter France.

Modelo(s): (Model(s):) AS 350 B.

DESCRIÇÃO DA MODIFICAÇÃO AO PROJETO DE TIPO:
(Description of Type Design Change:)

Installation of a Belt-Driven Freon Air Conditioning System in accordance with Integrated Flight Systems Drawing List No. DL-9 (single Condenser blower), Rev. J, dated 5 Dec. 2003, or later approved revision or Drawing List No. DL-9-1 (Dual Condenser blower), Rev. NC, dated 1 Jan. 1992, or later approved revision.
This CHST validates in Brazil the STC # SH3509SW, issued by FAA (USA).

LIMITAÇÕES E CONDIÇÕES:
(Limitations and Conditions:)

See continuation sheet for applicable data.

DATAS:
(Dates of:)

Do Requerimento: (Application:) 28 Aug. 2006 **Da emissão**: (Issue:) 13 Dec. 2006 **Da reemissão**: (Reissue:)

CLÁUDIO PASSOS SIMÃO
Gerente Geral, Certificação de Produtos Aeronáuticos
(Manager, Aeronautical Products Certification)

MILTON ZUANAZZI
Diretor-Presidente
(Director President)

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL

Folha de Continuação ao
(Continuation Sheet to)

CERTIFICADO DE HOMOLOGAÇÃO SUPLEMENTAR DE TIPO
(Supplemental Type Certificate)

NÚMERO 2006S12-08
(Number)

LIMITAÇÕES E CONDIÇÕES:
(Limitations and Conditions:)

I. The approval of this type design change should not be extended to other aircraft of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in Type Design, will introduce no adverse effect upon the airworthiness of that aircraft.

II. 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.

III. This installation is approved only for VFR operations.

IV. Operation must be performed in accordance with the FAA approved Helicopter Flight Manual Supplement (FMS), Rev. B, dated 30 Apr. 1991, or later approved revision.

V. For the Instructions for Continued Airworthiness, see the Operators Manual supplied with the Air Conditioning Kits.

VI. A copy of this Certificate and the Supplement referred on item IV above shall be maintained as part of the permanent records of the modified aircraft.

---------- END ----------

ANAC

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

CERTIFICADO DE HOMOLOGAÇÃO SUPLEMENTAR DE TIPO

(Supplemental Type Certificate)

NÚMERO (Number) **2006S12-09**

Este certificado, emitido com base na Lei nº 7565 "Código Brasileiro de Aeronáutica", de 19 de dezembro de 1986,
(This certificate, issued in the basis of the Law No. 7565 "Código Brasileiro de Aeronáutica", dated 19 December 1986,

é conferido ao (à): (is granted to:) Integrated Flight Systems Corp.
4607 B. Aircenter Circle
Reno, Nevada 89502
USA

por ter a modificação ao projeto de tipo do produto abaixo citado, observadas as limitações e condições
(for having the change to the type design of the product mentioned below, with the limitations and conditions therefor as)

especificadas, satisfeito aos requisitos de aeronavegabilidade aplicáveis.
(specified hereon, met the applicable airworthiness requirements.)

Produto Original - Número do Certificado de Tipo: (Original Product – Type Certificate No:) 8812 (ANAC).

Fabricante: (Manufacturer:) Eurocopter France.

Modelo(s): (Model(s):) AS 350 B1, AS 350 B2, AS 350 B3, AS 350 BA and. EC 130 B4.

DESCRIÇÃO DA MODIFICAÇÃO AO PROJETO DE TIPO:
(Description of Type Design Change:)

Installation of a Belt-Driven Freon Air Conditioning System in accordance with Integrated Flight Systems Drawing List No. DL-9 (single Condenser blower), Rev. J, dated 5 Dec. 2003, or later approved revision or Drawing List No. DL-9-1 (Dual Condenser blower), Rev. NC, dated 1 Jan. 1992, or later approved revision.
This CHST validates in Brazil the STC # SH3509SW, issued by FAA (USA).

LIMITAÇÕES E CONDIÇÕES:
(Limitations and Conditions:)

See continuation sheet for applicable data.

DATAS:
(Dates of:)

Do Requerimento: (Application:) 28 Aug. 2006 **Da emissão**: (Issue:) 13 Dec. 2006 **Da reemissão**: (Reissue:)

CLÁUDIO PASSOS SIMÃO
Gerente Geral, Certificação de Produtos Aeronáuticos
(Manager, Aeronautical Products Certification)

MILTON ZUANAZZI
Diretor-Presidente
(Director President)

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL

Folha de Continuação ao
(Continuation Sheet to)

CERTIFICADO DE HOMOLOGAÇÃO SUPLEMENTAR DE TIPO
(Supplemental Type Certificate)

NÚMERO (Number) **2006S12-09**

LIMITAÇÕES E CONDIÇÕES:
(Limitations and Conditions:)

I. The approval of this type design change should not be extended to other aircraft of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in Type Design, will introduce no adverse effect upon the airworthiness of that aircraft.

II. 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.

III. This installation is approved only for VFR operations.

IV. Operation must be performed in accordance with the FAA approved Helicopter Flight Manual Supplement (FMS), as applicable:

- Model AS 350 B1, requires FMS, Rev. A, dated 30 Apr. 1991 or later FAA approved revision;
- Model AS 350 B2, requires FMS, Rev. NC, dated 30 Apr. 1991 or later FAA approved revision;
- Model AS 350 B3, requires FMS, Rev. NC, dated 8 Feb. 1999 or later FAA approved revision;
- Model AS 350 BA, requires FMS, Rev. NC, dated 15 May 1992 or later FAA approved revision;
- Model EC 130 B4, requires FMS, Rev. NC, dated 6 Feb. 2004 or later FAA approved revision.

V. For the Instructions for Continued Airworthiness, see the Operators Manual supplied with the Air Conditioning Kits.

VI. A copy of this Certificate and the Supplement referred on item IV above shall be maintained as part of the permanent records of the modified aircraft.

---------- END ----------

ANAC

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

CERTIFICADO DE HOMOLOGAÇÃO SUPLEMENTAR DE TIPO

(Supplemental Type Certificate)

NÚMERO (Number) **2006S12-10**

Este certificado, emitido com base na Lei nº 7565 "Código Brasileiro de Aeronáutica", de 19 de dezembro de 1986,
(This certificate, issued in the basis of the Law No. 7565 "Código Brasileiro de Aeronáutica", dated 19 December 1986,

é conferido ao (à): (is granted to:) Integrated Flight Systems Corp.
4607 B. Aircenter Circle
Reno, Nevada 89502
USA

por ter a modificação ao projeto de tipo do produto abaixo citado, observadas as limitações e condições
(for having the change to the type design of the product mentioned below, with the limitations and conditions therefor as)

especificadas, satisfeito aos requisitos de aeronavegabilidade aplicáveis.
(specified hereon, met the applicable airworthiness requirements.)

Produto Original - Número do Certificado de Tipo: (Original Product – Type Certificate No:) 8001 (ANAC).

Fabricante: (Manufacturer:) Helicópteros do Brasil S/A.

Modelo(s): (Model(s):) HB-350B.

DESCRIÇÃO DA MODIFICAÇÃO AO PROJETO DE TIPO:
(Description of Type Design Change:)

Installation of a Belt-Driven Freon Air Conditioning System in accordance with Integrated Flight Systems Drawing List No. DL-9 (single Condenser blower), Rev. J, dated 5 Dec. 2003, or later approved revision or Drawing List No. DL-9-1 (Dual Condenser blower), Rev. NC, dated 1 Jan. 1992, or later approved revision.
This CHST validates in Brazil the STC # SH3509SW, issued by FAA (USA).

LIMITAÇÕES E CONDIÇÕES:
(Limitations and Conditions:)

See continuation sheet for applicable data.

DATAS:
(Dates of:)

Do Requerimento: (Application:) 28 Aug. 2006 **Da emissão**: (Issue:) 13 Dec. 2006 **Da reemissão**: (Reissue:)

CLÁUDIO PASSOS SIMÃO
Gerente Geral, Certificação de Produtos Aeronáuticos
(Manager, Aeronautical Products Certification)

MILTON ZUANAZZI
Diretor-Presidente
(Director President)

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL

Folha de Continuação ao
(Continuation Sheet to)

CERTIFICADO DE HOMOLOGAÇÃO SUPLEMENTAR DE TIPO
(Supplemental Type Certificate)

NÚMERO (Number) **2006S12-10**

LIMITAÇÕES E CONDIÇÕES:
(Limitations and Conditions:)

I. The approval of this type design change should not be extended to other aircraft of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in Type Design, will introduce no adverse effect upon the airworthiness of that aircraft.

II. 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.

III. This installation is approved only for VFR operations.

IV. Operation must be performed in accordance with the FAA approved Helicopter Flight Manual Supplement (FMS), Rev. B, dated 30 Apr. 1991, or later approved revision.

V. For the Instructions for Continued Airworthiness, see the Operators Manual supplied with the Air Conditioning Kits.

VI. A copy of this Certificate and the Supplement referred on item IV above shall be maintained as part of the permanent records of the modified aircraft.

---------- END ----------

European Aviation Safety Agency

SUPPLEMENTAL TYPE CERTIFICATE

EASA.IM.R.S.01243

This certificate, established in accordance with Regulations (EC) No 1592/2002 and (EC) No 1702/2003 and issued to:

Integrated Flight Systems Corp.
4607 B Aircentre Circle
Reno
Nevada 89502
USA

certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable type certification basis and environmental protection requirements when operated within the conditions and limitations specified below:

Original Product Type Certificate number: *EASA TCDS EASA.R.008*
Manufacturer: *Eurocopter*
Model: *AS 350 B, B1, B2, B3, BA, D, EC130B4*
Original STC Number: *SH3509SW*

Description of Design Change:

Installation of a Belt Driven Freon Air Conditioning System (FAA STC SH3509SW).

Associated Technical Documentation:

- DL-9 rev A dated 12 Sept 1985 – Drawing List, Single Condenser Blower
- DL-9-1 rev N/C dated 10 Jan 1992 – Drawing List, Dual Condenser Blowers
- Models AS350B & D, FMS dated 26 June 1985 or later approved revision
- Model AS 350B1, FMS dated 27 October 1988 or later approved revision
- Model AS350B2, FMS dated 30 April 1991 or later approved revision
- Model AS350BA, FMS dated 15 May 1992 or later approved revision
- Model AS350B3, FMS dated 8 February 1999 or later approved revision
- Model EC130B4, RFM-130-00-031HP rev Original dated 6 February 2004 or later approved revision

Limitations and Conditions:

1. VFR Operations only

2. This STC is approved only for the product configuration as defined in the approved design data referred to in the paragraphs "Description" and "Associated Technical Documentation". Compatibility with other aircraft/engine configurations shall be determined by the installer.

This certificate shall remain valid unless otherwise surrendered or revoked.

For the European Aviation Safety Agency,
Date of Issue: 26 April 2007

Massimo Mazzoletti
Certification Manager
Rotorcraft, Balloons & Airships

FLIGHT MANUAL

SUPPLEMENT

FOR

AS350B, C, D AND D1

INTEGRATED FLIGHT SYSTEMS, INC.
POST OFFICE BOX 25687
COLORADO SPRINGS, CO 80936

FAA APPROVED

HELICOPTER FLIGHT MANUAL SUPPLEMENT

FOR

AEROSPATIALE HELICOPTER CORPORATION

MODEL: AS350 B,C,D,D1

Registration No. _____

Serial No. _____

This supplement must be attached to the DGAC/FAA approved Rotorcraft Flight Manual, dated June 7, 1978, when an Integrated Flight Systems, Inc. air conditioning system is installed in accordance with STC No. SH3509SW. The information contained herein supplements or supersedes the basic Rotorcraft Flight Manual only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.

FAA APPROVED: Dan T. Brown for _____

Michael H. Borfitz,
Supervisor, Denver Aircraft
Certification Field Office
2390 Sycrause
Denver, Colorado 80207

Date: June 26, 1985

Revision: April 30, 1991

MODEL AS350 B,C,D,D1

FLIGHT MANUAL SUPPLEMENT

LOG OF REVISIONS

Original..... Dated: June 26, 1985

PAGE	REVISION NO.	FAA APPROVED	INITIAL
1 thru 8	original	June 26, 1985	dlg
1 thru 2	"A" reissued	Oct. 27, 1988	dlg
Company name was:	Consolidated Aire Systems		
Company name is:	Av-Aire Corporation		
1 thru 2	"B" reissued	April 30, 1991	dlg
Company name was:	Av-Aire Corporation		
Company name is:	Integrated Flight Systems, Inc.		

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

INDEX

1.0 OPERATING LIMITATIONS

- The air conditioning system must be "OFF" during engine start.

- Operation of the air conditioning system is prohibited if the generator is inoperative.

- "MAG compass deviation may be excessive with air conditioner or fan - ON". Turn air conditioner "OFF" to read mag compass.

- The air conditioning system must be turned "OFF" during take-off, approach and landing above 7000 feet density altitude.

- The air conditioning system must be turned "OFF" to obtain the FAA approved Rotorcraft Flight Manual performance above 7000 feet density altitude.

2.0 NORMAL PROCEDURES

2.1 GROUND OPERATION

- Air conditioning system operation: The air conditioning control switches are located to the right of the instrument console.
- To turn air conditioner "ON" - Move switch to "A/C".
- To turn air conditioner "OFF" - Move switch to OFF".
- For air circulation without cooling - Move switch to "FAN".
- Select desired blower speed.

2.2 NORMAL PROCEDURES

GROUND AND FLIGHT OPERATIONS

- Ventilation Control - As desired
  (Close for cockpit/cabin cooling)
- Air conditioning Control Switch - As desired.
- Air conditioning Fan Speed Control Switch - As desired.

3.0 EMERGENCY PROCEDURES

3.1 EMERGENCY PROCEDURES

- In the event of an engine failure, turn air conditioner "OFF".

- In the event of electrical power failure, turn air conditioner "OFF".

3.2 EXCESSIVE TEMPERATURE, FIRE, SMOKE

In the event of any of the following, turn air conditioner "OFF":

1. Cabin or other fire

2. Presence of smoke

4.0 PERFORMANCE:

The air conditioning system must be turned "OFF" to obtain FAA approved Rotorcraft Flight Manual performance above 7000 feet density altitude.

A.0 SYSTEM AND DESCRIPTION

The air conditioning installation consists of a belt driven vapor cycle (freon) air-conditioning system.

The air conditioning system provides for cabin comfort during all operations both on the ground and in flight. During ground operations when the engine is running, cooling may be provided. Controls for the air conditioning system are to the right of the instrument panel. Two 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, dual condenser blowers, and belt driven compressor. The second rocker switch provides for "HIGH", "LOW", AND "MED" evaporator fan speed selection for the cockpit. Another evaporator fan speed switch is located in the aft cabin. It provides two speed selections. Thermostatic temperature control is not provided. A 5 amp circuit breaker below the left air outlet disconnects power to all relays.

A high pressure safety switch, located on the condenser or compressor, disengages the compressor and stops operation of the system in the event of excessive freon pressure. This can occur due to failure of the condenser blowers or restricted air intake. The switch will automatically reset itself and the system will cycle on again when the pressures are reduced below a predetermined point.

The evaporator fan system may be used anytime air circulation is desired. This is accomplished by placing the selector switch in the "FAN" position.

System electrical protection is provided by 2 each 15 amp and 2 each 20 amp circuit breakers. Labeled CONDENSER FAN and EVAPORATOR FANS, in the Air Conditioning Electrical Control Panel. This panel is located in the right side baggage compartment above the battery.

A-1 ELECTRICAL LOADING

The maximum electrical requirements of the air conditioning system are as follows:

Condenser Blowers	2 each @ 13 amps	= 26 amps
Compressor	1 each @ 2 amps	= 2 amps
Evaporator Fan	1 each @ 7 amps	= 7 amps
Evaporator Fan	1 each @ 13 amps	= 13 amps
	TOTAL	**48 amps**

A-2 WEIGHT AND BALANCE

Weight and Balance must be computed with air conditioning system installed. Approximate air conditioning weight is 80 pounds. See Installation Instructions supplied with kit for actual weight.

FLIGHT MANUAL

SUPPLEMENT

FOR

AS350BA

INTEGRATED FLIGHT SYSTEMS, INC.
POST OFFICE BOX 25687
COLORADO SPRINGS, CO 80936

FAA APPROVED

HELICOPTER FLIGHT MANUAL SUPPLEMENT

FOR

AEROSPATIALE HELICOPTER CORPORATION

MODEL: AS350BA

Registration No. _____

Serial No. _____

This supplement must be attached to the DGAC/FAA approved Rotorcraft Flight Manual, dated March 11, 1992 when an Integrated Flight Systems, Inc. air conditioning system is installed in accordance with STC No. SH3509SW. The information contained herein supplements or supersedes the basic Rotorcraft Flight Manual only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.

FAA APPROVED: _____

Richard E. Jennings, Supervisor
Denver Aircraft Certification
Field Office
Northwest Mountain Region
Denver, Colorado 80207

Date: May 15, 1992

MODEL AS350BA

FLIGHT MANUAL SUPPLEMENT

LOG OF REVISIONS

Original..... Dated: May 15, 1992

PAGE	REVISION NO.	FAA APPROVED	INITIAL

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

INDEX

1.0 GENERAL

The installation consists of a belt driven vapor-cycle (freon) air conditioning system.

2.0 OPERATING LIMITATIONS

- The air conditioning system must be "OFF" during engine start.
- Operation of the air conditioning system is prohibited if the generator is inoperative.
- "MAG compass deviation may be excessive with air conditioner or fan - ON". Turn air conditioner "OFF" to read mag compass.
- The air conditioning system must be turned "OFF" during take-off, approach and landing above 7000 feet density altitude.
- The air conditioning system must be turned "OFF" to obtain the FAA approved Rotorcraft Flight Manual performance above 7000 feet density altitude.

3.0 EMERGENCY PROCEDURES

3.1 EMERGENCY PROCEDURES

- In the event of an engine failure, turn air conditioner "OFF".
- In the event of electrical power failure, turn air conditioner "OFF".

3.2 EXCESSIVE TEMPERATURE, FIRE, SMOKE

In the event of any of the following, turn air conditioner "OFF":

1. Cabin or other fire
2. Presence of smoke

4.0 NORMAL PROCEDURES

2.1 GROUND OPERATION

- Air conditioning system operation: The air conditioning control switches are located to the right of the instrument console.
- To turn air conditioner "ON" - Move switch to "A/C".
- To turn air conditioner "OFF" - Move switch to OFF".
- For air circulation without cooling - Move switch to "FAN".
- Select desired blower speed.

2.2 NORMAL PROCEDURES

GROUND AND FLIGHT OPERATIONS

- Ventilation Control - As desired
  (Close for cockpit/cabin cooling)
- Air conditioning Control Switch - As desired.
- Air conditioning Fan Speed Control Switch - As desired.

5.0 PERFORMANCE:

The air conditioning system must be turned "OFF" to obtain FAA approved Rotorcraft Flight Manual performance above 7000 feet density altitude.

A.0 SYSTEM AND DESCRIPTION

The air conditioning installation consists of a belt driven vapor cycle (freon) air-conditioning system.

The air conditioning system provides for cabin comfort during all operations both on the ground and in flight. During ground operations when the engine is running, cooling may be provided. Controls for the air conditioning system are to the right of the instrument panel. Two 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, dual condenser blowers, and belt driven compressor. The second rocker switch provides for "HIGH", "LOW", AND "MED" evaporator fan speed selection for the cockpit. Another evaporator fan speed switch is located in the aft cabin. It provides two speed selections. Thermostatic temperature control is not provided. A 5 amp circuit breaker below the left air outlet disconnects power to all relays.

A high pressure safety switch, located on the condenser or compressor, disengages the compressor and stops operation of the system in the event of excessive freon pressure. This can occur due to failure of the condenser blowers or restricted air intake. The switch will automatically reset itself and the system will cycle on again when the pressures are reduced below a predetermined point.

The evaporator fan system may be used anytime air circulation is desired. This is accomplished by placing the selector switch in the "FAN" position.

System electrical protection is provided by 2 each 15 amp and 2 each 20 amp circuit breakers. Labeled CONDENSER FAN and EVAPORATOR FANS, in the Air Conditioning Electrical Control Panel. This panel is located in the right side baggage compartment above the battery.

A-1 ELECTRICAL LOADING

The maximum electrical requirements of the air conditioning system are as follows:

Condenser Blowers	2 each @ 13 amps =	26 amps
Compressor	1 each @ 2 amps =	2 amps
Evaporator Fan	1 each @ 7 amps =	7 amps
Evaporator Fan	1 each @ 13 amps =	13 amps
	TOTAL	**48 amps**

A-2 WEIGHT AND BALANCE

Weight and Balance must be computed with air conditioning system installed. Approximate air conditioning weight is 80 pounds. See Installation Instructions supplied with kit for actual weight.

FLIGHT MANUAL

SUPPLEMENT

FOR

AS350B1

INTEGRATED FLIGHT SYSTEMS, INC.
POST OFFICE BOX 25687
COLORADO SPRINGS, CO 80936

FAA APPROVED

HELICOPTER FLIGHT MANUAL SUPPLEMENT

FOR

AEROSPATIALE HELICOPTER CORPORATION

MODEL: AS350B1

Registration No. _____

Serial No. _____

This supplement must be attached to the DGAC/FAA approved Rotorcraft Flight Manual, dated February 13, 1987 when an Integrated Flight Systems, Inc. air conditioning system is installed in accordance with STC No. SH3509SW. The information contained herein supplements or supersedes the basic Rotorcraft Flight Manual only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.

FAA APPROVED: David T. Grossman for

Michael H. Borfitz,
Supervisor, Denver Aircraft
Certification Field Office
2390 Sycrause
Denver, Colorado 80207

Date: October 27, 1988

REVISION: April 30, 1991

MODEL AS350B1

FLIGHT MANUAL SUPPLEMENT

LOG OF REVISIONS

Original..... Dated: October 27, 1988

PAGE	REVISION NO.	FAA APPROVED	INITIAL
1 thru 7	original	October 27, 1988	dg
1 thru 2	"A" reissued	April 30, 1991	dg

Company name was: Av-Aire Corporation

Company name is: Integrated Flight Systems, Inc.

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

INDEX

APPENDIX

1.0 GENERAL

The installation consists of a belt driven vapor-cycle (freon) air-conditioning system.

2.0 OPERATING LIMITATIONS

- The air conditioning system must be "OFF" during engine start.
- Operation of the air conditioning system is prohibited if the generator is inoperative.
- "MAG compass deviation may be excessive with air conditioner or fan - ON". Turn air conditioner "OFF" to read mag compass.
- The air conditioning system must be turned "OFF" during take-off, approach and landing above 7000 feet density altitude.
- The air conditioning system must be turned "OFF" to obtain the FAA approved Rotorcraft Flight Manual performance above 7000 feet density altitude.

3.0 EMERGENCY PROCEDURES

3.1 EMERGENCY PROCEDURES

- In the event of an engine failure, turn air conditioner "OFF".
- In the event of electrical power failure, turn air conditioner "OFF".

3.2 EXCESSIVE TEMPERATURE, FIRE, SMOKE

In the event of any of the following, turn air conditioner "OFF":

1. Cabin or other fire.
2. Presence of smoke

4.0 NORMAL PROCEDURES

4.1 GROUND OPERATION

- Air conditioning system operation: The air conditioning control switches are located to the right of the instrument console.
- To turn air conditioner "ON" - Move switch to "A/C".
- To turn air conditioner "OFF" - Move switch to "OFF".
- For air circulation without cooling - Move switch to "FAN".
- Select desired blower speed.

4.2 NORMAL PROCEDURES

GROUND AND FLIGHT OPERATIONS

- Ventilation Control - As desired (Close for cockpit/cabin cooling)
- Air conditioning Control Switch - As desired.
- Air conditioning Fan Speed Control Switch - As desired.

5.0 PERFORMANCE:

The air conditioning system must be turned "OFF" to obtain FAA approved Rotorcraft Flight Manual performance above 7000 feet density altitude.

A.0 SYSTEM AND DESCRIPTION

The air conditioning installation consists of a belt driven vapor cycle (freon) air-conditioning system.

The air conditioning system provides for cabin comfort during all operations both on the ground and in flight. During ground operations when the engine is running, cooling may be provided. Controls for the air conditioning system are to the right of the instrument panel. Two 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, dual condenser blowers, and belt driven compressor. The second rocker switch provides for "HIGH", "LOW", AND "MED" evaporator fan speed selection for the cockpit. Another evaporator fan speed switch is located in the aft cabin. It provides two speed selections. Thermostatic temperature control is not provided. A 5 amp circuit breaker below the left air outlet disconnects power to all relays.

A high pressure safety switch, located on the condenser or compressor, disengages the compressor and stops operation of the system in the event of excessive freon pressure. This can occur due to failure of the condenser blowers or restricted air intake. The switch will automatically reset itself and the system will cycle on again when the pressures are reduced below a predetermined point.

The evaporator fan system may be used anytime air circulation is desired. This is accomplished by placing the selector switch in the "FAN" position.

System electrical protection is provided by 2 each 15 amp and 2 each 20 amp circuit breakers. Labeled CONDENSER FAN and EVAPORATOR FANS, in the Air Conditioning Electrical Control Panel. This panel is located in the right side baggage compartment above the battery.

A-1 ELECTRICAL LOADING

The maximum electrical requirements of the air conditioning system are as follows:

Condenser Blowers	2 each @ 13 amps = 26 amps
Compressor	1 each @ 2 amps = 2 amps
Evaporator Fan	1 each @ 7 amps = 7 amps
Evaporator Fan	1 each @ 13 amps = 13 amps
	TOTAL 48 amps

A-2 WEIGHT AND BALANCE

Weight and Balance must be computed with air conditioning system installed. Approximate air conditioning weight is 80 pounds. See Installation Instructions supplied with kit for actual weight.

FLIGHT MANUAL

SUPPLEMENT

FOR

AS350B2

INTEGRATED FLIGHT SYSTEMS, INC.
POST OFFICE BOX 25687
COLORADO SPRINGS, CO 80936

FAA APPROVED

HELICOPTER FLIGHT MANUAL SUPPLEMENT

FOR

AEROSPATIALE HELICOPTER CORPORATION

MODEL: AS350B2

Registration No. _____

Serial No. _____

This supplement must be attached to the DGAC/FAA approved Rotorcraft Flight Manual, dated June 8, 1990 when an Integrated Flight Systems, Inc. air conditioning system is installed in accordance with STC No. SH3509SW. The information contained herein supplements or supersedes the basic Rotorcraft Flight Manual only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.

FAA APPROVED: Dan T. Grossman
for Michael H. Borfitz,
Supervisor, Denver Aircraft
Certification Field Office
2390 Sycrause
Denver, Colorado 80207

Date: April 30, 1991

MODEL AS350B2

FLIGHT MANUAL SUPPLEMENT

LOG OF REVISIONS

Original..... **Dated:** April 30, 1991

PAGE	REVISION NO.

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

INDEX

APPENDIX

1.0 GENERAL

The installation consists of a belt driven vapor-cycle (freon) air-conditioning system.

2.0 OPERATING LIMITATIONS

- The air conditioning system must be "OFF" during engine start.
- Operation of the air conditioning system is prohibited if the generator is inoperative.
- "MAG compass deviation may be excessive with air conditioner or fan - ON". Turn air conditioner "OFF" to read mag compass.

3.0 EMERGENCY PROCEDURES

3.1 EMERGENCY PROCEDURES

- In the event of an engine failure, turn air conditioner "OFF".
- In the event of electrical power failure, turn air conditioner "OFF".

3.2 EXCESSIVE TEMPERATURE, FIRE, SMOKE

In the event of any of the following, turn air conditioner "OFF":

1. Cabin or other fire.
2. Presence of smoke

4.0 NORMAL PROCEDURES

4.1 GROUND OPERATION

- Air conditioning system operation: The air conditioning control switches are located to the right of the instrument console.
- To turn air conditioner "ON" - Move switch to "A/C".
- To turn air conditioner "OFF" - Move switch to "OFF".
- For air circulation without cooling - Move switch to "FAN".
- Select desired blower speed.

4.2 NORMAL PROCEDURES

GROUND AND FLIGHT OPERATIONS

- Ventilation Control - As desired
  (Close for cockpit/cabin cooling)
- Air conditioning Control Switch - As desired.
- Air conditioning Fan Speed Control Switch - As desired.

5.0 PERFORMANCE:

The air conditioning system must be turned "OFF" to obtain FAA approved Rotorcraft Flight Manual performance above 7000 feet density altitude.

A.0 SYSTEM AND DESCRIPTION

The air conditioning installation consists of a belt driven vapor cycle (freon) air-conditioning system.

The air conditioning system provides for cabin comfort during all operations both on the ground and in flight. During ground operations when the engine is running, cooling may be provided. Controls for the air conditioning system are to the right of the instrument panel. Two 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, dual condenser blowers, and belt driven compressor. The second rocker switch provides for "HIGH", "LOW", AND "MED" evaporator fan speed selection for the cockpit. Another evaporator fan speed switch is located in the aft cabin. It provides two speed selections. Thermostatic temperature control is not provided. A 5 amp circuit breaker below the left air outlet disconnects power to all relays.

A high pressure safety switch, located on the condenser or compressor, disengages the compressor and stops operation of the system in the event of excessive freon pressure. This can occur due to failure of the condenser blowers or restricted air intake. The switch will automatically reset itself and the system will cycle on again when the pressures are reduced below a predetermined point.

The evaporator fan system may be used anytime air circulation is desired. This is accomplished by placing the selector switch in the "FAN" position.

System electrical protection is provided by 2 each 15 amp and 2 each 20 amp circuit breakers. Labeled CONDENSER FAN and EVAPORATOR FANS, in the Air Conditioning Electrical Control Panel. This panel is located in the right side baggage compartment above the battery.

A-1 ELECTRICAL LOADING

The maximum electrical requirements of the air conditioning system are as follows:

Condenser Blowers	2 each @ 13 amps =	26 amps
Compressor	1 each @ 2 amps =	2 amps
Evaporator Fan	1 each @ 7 amps =	7 amps
Evaporator Fan	1 each @ 13 amps =	13 amps
	TOTAL	**48 amps**

A-2 WEIGHT AND BALANCE

Weight and Balance must be computed with air conditioning system installed. Approximate air conditioning weight is 80 pounds. See Installation Instructions supplied with kit for actual weight.

FLIGHT MANUAL

SUPPLEMENT

FOR

AS350B3

INTEGRATED FLIGHT SYSTEMS, INC.
MEADOW LAKE AIRPORT
8345 BLUE GILL DRIVE
FALCON, CO 80831

FAA APPROVED

HELICOPTER FLIGHT MANUAL SUPPLEMENT

FOR

EUROCOPTER HELICOPTER CORPORATION

MODEL: AS350B3

REGISTRATION NO.:_____

SERIAL NO.:_____

This supplement must be attached to the DGAC/FAA approved Rotorcraft Flight Manual May 7, 1998 when an Integrated Flight Systems, Inc., air conditioning system is installed in accordance with Supplemental Type Certificate number SH3509SW. The information contained herein supplements the basic Rotorcraft Flight Manual only in those areas listed. For limitations, procedures, and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.

FAA APPROVED: _____

Mr. Carl Mittag
Manager, Southwest Region
Certification Office ASW-170
Ft. Worth, Texas 76193-170

DATE: FEB 08 1999

MODEL AS350B3

LOG OF REVISIONS

Original. . . Dated:_____

PAGE	REVISION NO.
1 thru 7	Original

NOTE: Revised portions of affected pages are identified by vertical black line in the margin adjacent to the change.

INDEX

1.0 GENERAL

The installation consists of a belt drive vapor-cycle air conditioning system.

2.0 OPERATING LIMITATIONS

- The air conditioning system must be "OFF" during engine start.
- Operation of the air conditioning system is prohibited if the total electrical load will exceed 150 amps, continuous or if generator is inoperative.
- "MAG" compass deviation may be excessive with air conditioner or fans - "ON". Turn air conditioner "OFF" to read MAG compass.

3.0 EMERGENCY PROCEDURES

3.1 EMERGENCY PROCEDURES

- In the event of an engine failure, turn air conditioner "OFF".
- In the event of electrical power failure, turn air conditioner "OFF".

3.2 EXCESSIVE TEMPERATURE, FIRE, SMOKE

In the event of any of the following, turn air Conditioner "OFF":

1. Cabin or other fire.
2. Presence of smoke.

4.0 NORMAL PROCEDURES

4.1 Ground Operation

- Air conditioning system operation: The air conditioning control switches are located to the right of the instrument console.

- To turn air conditioner "OFF" - Move switch To "AC".

- For air circulation without cooling - Move switch to "FAN".

- Select desired blower speed.

4.2 Normal Procedures

GROUND AND FLIGHT OPERATIONS

- Ventilation Control - As desired (Close for cockpit/cabin cooling)

- Air conditioning Control Switch - As desired.

- Air conditioning Fan Speed Control Switch - As desired.

5.0 PERFORMANCE

The air conditioning system must be turned "OFF" to obtain FAA approved Rotorcraft Flight Manual performance above 7,000 feet density altitude.

A-1 ELECTRICAL LOADING

The maximum electrical requirements of the air conditioning system are as follows:

Condenser Blowers	2 each @ 13 amps	= 26 amps
Compressor	1 each @ 2 amps	= 2 amps
Evaporator Fan	1 each @ 7 amps	= 7 amps
Evaporator Fan	1 each @ 13 amps	= 13 amps
	TOTAL	**48 amps**

A-2 WEIGHT AND BALANCE

Weight and Balance must be computed with air conditioning system installed. Approximate air conditioning weight is 80 pounds. See Installation Instructions supplied with kit for actual weight.

FAA APPROVED: FEB 08 1999

Step 12

Continued Airworthiness

General Description	
12.0	The Integrated Flight Systems air conditioning covered by this report for the Eurocopter Helicopter Corporation, Model AS350 consists of five major components. This kit is universal, as it can be used in various configurations "Corporate, Utility tour or EMS".
12.1	The belt driven compressor P/N 590008 with Belt P/N 060018-1 or P/N 590008-1 with Belt P/N 060005, is located immediately aft and to the left of the main transmission installed on a provided Bracket P/N 530027-3.
12.2	Aft evaporator is mounted in the right side baggage compartment with a 5" Vane Axial Blower P/N 050143 directly above on the main transmission deck. Expansion Valve P/N 090002-O, Resistor Assembly P/N 540020.
12.3	Forward evaporator P/N 560025-O is located directly in front of copilot pedals attached to the floor support with bolts. Expansion Valve P/N 090002-O, Fan Motor P/N 050052-1.
12.4	The condenser coil assembly P/N 550022 is mounted to the rear of the aft baggage area is attached to the existing aircraft frames by aluminum channels. The entire coil is wrapped with a sheet metal enclosure. Dual 5" inch diameter vane axial blowers P/N 050143 pull air through air inlet doublers in the bottom of the tail boom and exhausts the air out the 5" diameter holes on either side of the aircraft. The inlets and outlets have protective screens installed.
12.5	Electrical harness and hoses provide component connections and control from switch panel located near the instrument panel. A/C-Off-Fan Switch P/N 050001, Main Fuse ANL-50 (located in main power box aft baggage area).
12.6	It is assumed by the following instructions that the personnel engaged in Charging, Servicing or Maintenance of the system will be either an experienced air conditioning mechanic under the supervision of a qualified A & P mechanic or an A & P mechanic possessing good air conditioning skills.
12.7	Prior to charging the system with R-134a, the evaporator fan/blower and condenser blower should be checked for operation and direction of airflow. This is most easily done by utilizing a GPU unit for electrical power. Since the compressor is belt driven only by those maintenance and operational functions that are electrically powered may be checked either in the hanger or on the ramp without running the engine.

	PROCEDURE
12.8	After the GPU is connected to the aircraft and the Aircraft Master Switch is "On", the air conditioning system may be turned "On". Place the rocker switch on the Master Air Conditioning Control Panel to "A/C". It does not cause the compressor to run or refrigerant to be pumped. All evaporator blowers and the forward evaporator fan should start immediately. The 7" condenser blower and clutch will not engage until after approximately 4 seconds after evaporator fan start. **NOTE: SYSTEM MUST HAVE MINIMUM 30 PSI CHARGE.**
12.9	Check airflow of each evaporator fan/blower. Determine that air is coming out of the cockpit and the cabin air outlets.
12.10	Check airflow into and out of condenser air openings.
12.11	All evaporators fan/blower, condenser blowers, and controls are 28 volt DC.

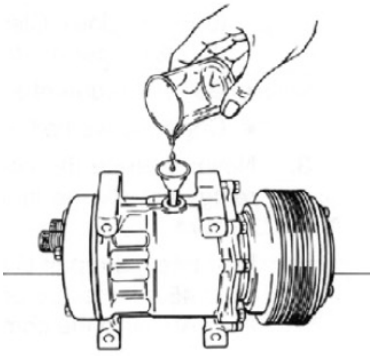
Charging Refrigerant (R-134a) Into System

	PROCEDURE
12.12	**DANGER:** R-134a, particularly liquid R-134a should never be allowed to come in contact with the eyes or skin. Under normal conditions, R134a 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.
12.13	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.**
12.14	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.

Charging Refrigerant (R-134a) Into System

PROCEDURE	
12.15	Should R-134a come in contact with the eyes or the 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.
12.16	The charging of the system should not be attempted unless qualified individuals are present. **The refrigerant used in this system is R-134a. No other refrigerant is to be considered.** Normal safety practices, such as wearing of gloves and the use of goggles should be utilized as R134a could freeze the eyeball instantly were it to come in contact with the eye. Also, frostbite could occur to areas of the skin if R-134a were allowed to come in contact.
12.17	Charging of the system is a simple procedure whether initial 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.
12.18	The system is made up of two evaporator assemblies. One is mounted above the floor, forward of the pilot's feet. The other is located in the top/forward area of the right side baggage compartment. The compressor for this system is located aft and to the left of the main transmission. Service ports are provided in the right side baggage compartment. The high side and low side service ports are readily accessible.

Oil Charging: R-134a Refrigerant

PROCEDURE	
12.19	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 R-12 REFRIGERANT ARE COMPLETELY DIFFERENT.**
12.20	Prior to charging each **newly installed** system with R-134a, obtain **FOUR (4) ounces (118.29 ml) of ESTER type oil as shown on the compressor label**. This oil should be added to the compressor prior to charging the system. **Do not add additional oil if replacing a compressor in an existing system.**
12.20a	Remove the oil filler plug and charge the compressor with the additional four (4) ounces of oil. Oil must be of the same type shown on the compressor label. (See fig. 1)
12.20b	Re-install oil plug. Seat and O-ring must be clean and not damaged. Torque to 11-18 ft-lb (15-25 N·m, 150-200 kgf·cm)
 **fig. 1**	
12.21	**The Sanden compressor in this application uses a100 viscosity, 500 SUS @ 100° F "ESTER" (Polyolester) type oil. No other type oil can be utilized, especially "PAG" (Polyalkylene Glycol) types.**

Initial Charging

PROCEDURE	
12.22	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 refrigerant mounted on 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.**
12.23	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 unit (expelling of refrigerant is illegal).
12.24	Connect a vacuum pump to the center manifold hose. Open both valves and evacuate the system for a minimum of twenty minutes. After twenty minutes of vacuum at sea 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 The System

PROCEDURE	
12.25	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.**
12.26	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.
12.27	The system is now ready for operation. **This must be performed on the flight line with the engine at 100%**. As soon as the "A/C" Master Control Switch is turned to "A/C" all 28VDC evaporator fans will immediately begin operations.
12.28	If, after the system has been in the "A/C" mode for a least 2 minutes and cooling is not being accomplished, then check all circuit breakers. Determine that 28 VDC power is available for control circuitry. Check operations of the relays and contacts.

Adding R-134a Refrigerant To The System

PROCEDURE	
12.29	**When servicing by weight Steps 12.29 and 12.30 should be utilized.** After the compressor has come on line, the entire system is operational. (In 82° or lower, the reading on the gauge should not be allowed to go below 10 PSI, as the low-pressure safety switch 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 to stop low side from cycling. Continue charging until you have 2.0 lbs. or the high gauge reads 280 psi, whichever comes first. **THE REFRIGERANT CHARGE SHOULD NOT EXCEED 2.5 POUNDS AT THIS TEMPERATURE OR LOWER.**
12.30	If the outside air temperature is 83° degrees Fahrenheit or more, the maximum amount of R-134a in the system is 2.0 lbs. **THE REFRIGERANT CHARGE SHOULD NOT EXCEED 2.0 POUNDS AT THIS TEMPERATURE OR HIGHER.**
12.31	**When servicing by best performance use step 12.31** The optimum method for best performance is to use at least two mechanical 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 T.D. is noted per the paragraph below. At that time, the correct amount of refrigerant is installed. At any time the high pressure gauge reaches 280 psi, stop servicing. Do not exceed 3.0 lbs of refrigerant. **Note:** If aircraft is being operated at a higher O.A.T. then when serviced, some refrigerant may need to be removed to maintain a high pressure of 280 psi or lower.

Adding R-134a Refrigerant To The System

PROCEDURE	
12.32	The test sheet enclosed 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 point. If a **Temperature Differential (T.D.)** of less than 20 degrees Fahrenheit with a humidity of 30% or less in recorded through the evaporators 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 difference may be recorded at humidity of 30% or less. This is due to less dense air moving more rapidly through the evaporators.

Effect of Humidity on T.D.

PROCEDURE	
12.33	It should be noted that in measurements taken and entered on a test sheet that similar measurements made at a later date, when the humidity is considerably higher, would dramatically change the T.D. The higher the humidity as compared to a previous T.D. reading taken with a low humidity, will result in a lower T.D. The reason for this lower T.D. measurement is that when a test is performed at lower humidity, only "SENSIBLE HEAT" is being removed. With higher humidity, a different condition exists. It requires that "LATENT HEAT" containing moisture borne heat must be removed prior to the removal of the sensible heat.
12.34	If the system is found to be completely empty of R-134a, a set of charging gauges should be connected to both 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 calves 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.

Recharging the System

PROCEDURE	
12.35	After the leaks have been found and corrected, connect a vacuum pump to the system and evacuate the system for a minimum of 20 minutes from both the high and low sides. If the system has been allowed to become contaminated, then the receiver/drier is to be replaced.
12.36	It is always good air conditioning practice to replace the receiver/drier whenever it is suspected that moisture has contaminated the system.
12.37	The balance of the recharging procedure is exactly the same as pointed out previously under the **Charging Operation.** A judgment must be made as to the amount of oil, if any, lost at the point of leakage. Additional oil may be required to be added to the system. If the refrigerant has been expelled rapidly by the rupture of a line or similar situation then two (2) ounces of refrigerant oil of the type previously specified should be applied to the system at this time and immediately prior to charging of the system with R-134a. No oil should be added for any other reason. Too much oil in the system will degrade air conditioning performance.

Airworthiness Maintenance
(To Accomplish Continued Airworthiness)

PROCEDURE	
12.38	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 after more than fifteen (15) years in the selection process. **"IN GENERAL" the IFS air conditioning system is "on an as required" maintenance schedule.** Few components require specific hours of in Service Inspections or Time Life replacement of components for: Continued Airworthiness". It is suggested that at each periodic inspection, whether at 50 or 100 hour intervals, at least a visual inspection be accomplished to the following items; to fulfill with inspection criteria – per Appendix D, Far-43; Para A, Para B, 2, Para C, 1, 7, Para D, 2, 7, 9, and Para F, G, I, 2, 3, and J. 1. Compressor 2. Compressor Clutch Bearing 3. Compressor Mount 4. Refrigerant Hose and Fittings 5 Evaporator Fans and Mountings 6 Condenser Blowers and Mountings 7 Condenser/Evaporator Coils 8 Belts
12.39	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.
12.40	Bolts are firmly attached.

PROCEDURE	
12.41	Clutch Bearing Inspection: Due to different climatic conditions, a set time to inspect for re-greasing of the clutch bearings is difficult to establish. Some Operators inspect and grease at scheduled times. Others operate on condition. It is **not mandatory** to grease the bearing. If the bearing is greased use a hypodermic needle, without removing the bearing using 3 to 5cc of Mobil 25 grease. This has proven to be satisfactory when performed at regularly scheduled inspections of 500 hours. Some operators flying as much as 200 hours per month have found that re-greasing can occur at more than 500 hour intervals, provided they **DO NOT OVER PACK THE BEARING. 100% capacity packing of the bearing can cause a failure to occur in 1 to 1 ½ hours.**
12.42	Belt tension and inspection.
12.43	Clutch Bearing Grease: **NOTE:** Sanden compressors are supplied with at least 3 different manufacturers bearings. Consultation with these suppliers has resulted in the following findings. 1. **"OVERPACKING"** of bearing can cause premature bearing failure. 2. All bearings being supplied in new compressors will be **PACKED** with manufacturers grease. 3. IFS recommends that Mobil 28 continue to be used in the **"FIELD"** to repack bearings in moderate climates. **DO NOT OVER PACK!** "IF" another grease is selected, the bearing should have all the grease removed prior to installing another type of grease. This is true **EVEN IF THE NEW GREASE MEETS THE SAME MIL-SPEC.**

PROCEDURE	
12.43 (cont.)	**NOTICE: ALTERNATE GREASE FOR EXTREME CLIMATES.** 5. IFS has determined that in extremely hot climates (100 degrees Fahrenheit or higher) that it is desirable to use LUBRIPLATE type GR-132 grease. This product will endure a temperature of 430 degrees Fahrenheit.
12.44	Inspect hoses for general condition, cuts or swelling. Replace as required. Security of clamps and Anti-chaff material.
12.45	Aft evaporator motor has two (2) removable brushes. Inspect every 200 hours. Detach elbow from top of blower assembly. Remove brushes one (1) at a time. Note position relative to curvature of armature. Inspect brush for wear. Replace if brush is 5/16" or less. Install new brushes and run at 12 VDC (utilizing an independent power source). Until seating occurs on 70% of the surface (this should be accomplished with motor assembly removed from aircraft). This action will greatly enhance brush life. Reconnect wires to aircraft system and reinstall insulated duct. Run both of the blower/fans in the "FAN" position and perform visual inspection of the assemblies to see that foreign materials have not been ingested into the blower/fan, which might cause blade damage. The blower/fan should also be run at the various speeds available to check the motor operation.
12.46	Condenser Blower: P/N 050084-4 of -6 (contains same motor). Two (2) brushes are located under caps on each side of the motor. Inspect brushes every 300 hours. Replace brush with 5/16" or less. Remove, replace, and run in as called out in Section 12.45. **NOTE: TAKE CARE WHEN INSTALLING BRUSHES THAT BRAIDED POSITIVE LEAD DOES NOT CONTACT HOUSING, CAUSING A SHORT.**
12.47	The fins of the condenser coil, a well as the evaporator 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 then in like new condition.

Step 13

Parts Break Down

MASTER PARTS LIST

IN

ALL AS350 SERIES

FOR

KIT # 350-00-031-HP

with

AFT MOUNTED CONDENSER
(DUAL CONDENSER BLOWERS)

"ESTER OIL EQUIPPED COMPRESSOR"
Model: SD-507

Revised: **May 22, 2015**
November 4, 2009
August 28, 2006
February 1, 2002
March 1, 2001
August 6, 2001

MASTER PARTS LIST

AS350 SERIES

05/22/15

KIT #350-00-031HP

SINGLE CONDENSER BLOWER

ITEM	DESCRIPTION	PART #
1.	**BELT - FLAT**	060018-1 060018 (Alt)
	BELT - GROOVED	060005
2.	**SD-507 COMPRESSOR ASSEMBLY** COMPLETE W/ FLAT PULLEY, 24 VDC COIL **(FOR USE WITH R-134a ONLY,** **"ESTER oil equipped)**	590008
	SD-507 COMPRESSOR ASSEMBLY COMPLETE W/ GROOVED PULLEY, 24 VDC COIL **(FOR USE WITH R-134a ONLY,** **"ESTER oil equipped)**	590008-1

COMPRESSOR PARTS

FOR: SD-507 W/ 5.0" CLUTCH

3.	**BEARING (ONLY):** SD-507 COMPRESSOR W/ 5.0" CLUTCH	010011
4.	**24 VDC COIL (GREEN WIRE)**	050033

COMPRESSOR PARTS

ITEM	DESCRIPTION	PART #
5.	**PULLEY (FLAT)**	300355
	(Alt)	300355-2
	PULLEY (GROOVED)	300396
6.	**PULLEY FACE PLATE 5.0"** (A6H)	010013
7.	**PULLEY FACE PLATE 5.0"** (A3G/A2Y)	010015

EVAPORATOR BLOWER PARTS

8.	**5" VANE AXIAL BLOWER ASSY.** (SINGLE FLANGE W/NYLON BLADE) For: AFT EVAPORATOR BLOWER ASSY. P/N 490017-1	050143
9.	**MOTOR:** 5" VANE AXIAL BLOWER	050145
10.	**NYLON BLADE AND HUB ASSY.** FITS 5" VANE AXIAL BLOWER,	580000
11.	**BRUSHES** (2 EACH)/MOTOR	050031
12.	**MOTOR,** FORWARD EVAPORATOR 24VDC, single shaft, right hand	050052-1
13.	**WHEEL,** FORWARD EVAPORATOR, fan, metal, CC rotation, 5/16" bore	040004-8

DUAL CONDENSER BLOWER PARTS

14.	**5" VANE AXIAL BLOWER ASSY.** (SINGLE FLANGE W/NYLON BLADE) For: AFT EVAPORATOR BLOWER ASSY. P/N 490017-1	050143

ITEM	DESCRIPTION	PART #
15.	**MOTOR:** 5" VANE AXIAL BLOWER	050145
16.	**NYLON BLADE AND HUB ASSY.** FITS 5" VANE AXIAL BLOWER,	580000
17.	**BRUSHES** (2 Brush motor)	050031
18.	(INTENTIONALLY BLANK)	
19.	(INTENTIONALLY BLANK)	

MISC. PARTS

20.	**RECEIVER/DRIER** **1991 & ON - "O" RING TYPE**	090016-5
21.	**EXPANSION VALVE** **1992 & ON - FWD. AND AFT EVAP.** **"O" RING TYPE**	090002-"O"
22.	**HIGH PRESSURE SAFETY SWITCH** (ALL YEARS)	090004
23.	**LOW PRESSURE SAFETY SWITCH** **1991 & ON -** NON-ADJUSTABLE (7 OUT/22 IN)	050107

RSG Products Inc.

Pressure Switch Identification

for all

vapor cycle air conditioning kits

using R-134a

Low Pressure Switch: P/N 050107

Leads are: **BLUE** in color

Mfg. P/N on switch: 20PS003MA022C007C

Opens: 7PSI Closes: 22 PSI

High Pressure Switch: 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: 20PS104MB350K250K
Opens: 350 PSI Closes: 250 PSI

P/N 090004 (Both Types)

Step 14

Warranty/Repair

Integrated Flight Systems Corporation
Standard Terms and Conditions of Sale

1. Terms of Payment: Unless prior arrangements are made to establish credit terms with Integrated Flight Systems Corp ("IFS"), all sales are prepaid in full prior to shipment. Payment may be made via cash, check or electronic transfer to IFS 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. Integrated Flight Systems Corp. Fort Worth Texas, in accordance with standard packaging procedures.

5. Delays: IFS 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: IFS' technical support staff is available for telephone consultation concerning the products it manufactures; however, IFS 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, IFS does not guarantee that Buyer has purchased the correct product or that a specified product will fit the intended aircraft. Further, IFS 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 IFS. If IFS does agree to accept a return, a twenty percent (20%) restocking fee will be charged. All items returned to IFS 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 IFS 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 $250 evaluation fee.

10. Certificate of Conformity: IFS 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, IFS will either replace the item or adjust the matter fairly and promptly, but under no circumstances shall IFS 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 IFS harmless from, and release and not make claim or suit against IFS 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 IFS.
.

13. Warranty Registration and Claims: The terms of Integrated Flight Systems Corporation's Limited Warranty is written on the Warranty Registration Card and published on the IFS website www.integratedflightsys.com. The registration form must be completed and returned to IFS upon receipt of a product. The completed form may be faxed to 1+817 624 6601. Failure to complete the Warranty Registration Card may result in denial of a claim. In order to process a warranty claim, call IFS at 1+ 817 624 6600 or fax 1+ 817 624 6601. A Warranty Claim without a Return Material Authorization (RMA) Number will cause delays and a possible denial of the claim.

WEBSITE

Terms of Use. When you access, browse or use this Site, you accept, without limitation or qualification, the terms and conditions set forth below. If you do not agree to them, do not use the Site or download any materials from integratedflightsys.com. The information herein contained may include technical inaccuracies or typographical errors. Changes may periodically be made to the information and will be incorporated in new editions of this document without notice. In no event will Integrated Flight Systems Corp ("IFS") be liable to any party for any direct, indirect, special or other consequential damages for any use of this web site or any other hyper linked site; including without limitation any lost profits, business interruption, loss of programs or other data on your information handling system.

Site Information. Site information regarding IFS Products, services, technical parts and components, including their availability, appearance, price and specifications are subject to change without notice. In no event shall IFS be held liable for indirect or consequential damages or any damages resulting from the use of information from this Site. The information on this Site is at the recipient's own risk.

Links. This site contains links to other Sites on the World Wide Web. IFS provides such links for your convenience only, and is not responsible for the content of any Site linked to or from this Site. Links from this Site to any other Site does not mean that IFS approves of, endorses or recommends that Site.

Rights of Use. Any person is hereby authorized to view, copy, print, and distribute any document published by Integrated Flight Systems Corp provided that it is: for personal use, for information purposes and reference only, reference must be made to IFS when the document is used.

Information Collected. When you visit this site, IFS may collect information in two ways – through information automatically gathered from your computer or through information you voluntarily provide. As to automatically gathered information, IFS collects navigational information about where visitors go on our Site, how many visits are made to the Site, when the Site is visited and other non-personally identifiable information (for example, this can include domain type, browser version, service provider, IP address). The navigational information that is automatically gathered when you visit integratedflightsys.com is used on an aggregate basis to evaluate and effectiveness of our Site, to analyze trends and to administer the Site. This navigational information allows us to determine such things as which areas are most visited and difficulties our visitors may experience in accessing out Site. Voluntarily provided information is collected online if you elect to e-mail IFS. Whenever this act is made the information you voluntarily provide, name, e-mail address, phone number, specific information comments or questions, is not distributed and is confidential. All information collected from our site and/or information voluntarily provided is kept confidential and is not distributed for any reason without your approval.

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 IFS, and any attempt to alter or omit any of such terms shall be deemed a rejection and a counteroffer.

Integrated Flight Systems, Corp.

Warranty Terms

Integrated Flight Systems Corporation, ("IFS"), 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 sale if, and only if, installation, maintenance and operation of the Equipment is in accordance with the specifications and instructions provided by IFS and no substitute parts are installed in the Equipment without the prior written authorization from IFS. For the Equipment, the warranty period is 12 months or 1,000 hours, whichever comes first, from the date of sale. In the case of new spare parts, this warranty is further limited to a period of six (6) months from the date of sale. In the case of overhauled products, this warranty is further limited to a period of three (3) months from the date of sale. In the case of repaired products, this warranty is further limited to a period of thirty (30) days from the date of sale and applies only to the parts used for the repair.

Any claims under this warranty shall be made to Integrated Flight Systems Corp, 3900 Falcon Way West Hanger 16S, Fort Worth, Texas 76106, USA. Warranty is not valid unless the enclosed Registration Card is completed and returned to IFS prior to any claim. The Warranty Claim Form must be completed and returned with the Equipment. 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 IFS 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 IFS.

The sole responsibility and liability of IFS and your exclusive remedy under any claim arising out of, connected with, or resulting from this 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 IFS with transportation, customs and any applicable import duties prepaid and provided that an inspection by IFS discloses that the equipment is defective and covered by this warranty. IFS 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 IFS 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 IFS as to certain equipment, the terms of that agreement shall supersede the warranty.

INTEGRATED FLIGHT SYSTEMS, CORP.

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 CON. 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 Terms; effective 4 November 2009

PLEASE REVIEW THE ATTACHED WARRANTY POLICY PRIOR TO SUBMITTING THIS REGISTRATION FORM.

WARRANTY
CLAIM FORM
FILL OUT & FAX TO 775-826-1067

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 CON. INSTALLATION COMPANY: _____

DATE INSTALLED: _____ T.T AT INSTALLATION: _____

DATE REMOVED: _____ T.T AT REMOVAL: _____

REASON FOR RETURNING COMPONENT: _____

PLEASE ANSWER THE FOLLOWING QUESTIONS WITH RESPECT TO THE ROTORCRAFT ON WHICH YOU SEEK WARRANTY ASSISTANCE:
HAVE ALL REQUIRED ROUTINE MAINTENANCES BEEN PERFORMED?

YES ☐ NO ☐ PLEASE PROVIDE COPIES OF T.T. LOG BOOK ENTRIES TO THE ATTACHED FORM.

SIGNATURE: _____

Step 15

Trouble Shooting

Guide