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

FAA APPROVED

HELICOPTER FLIGHT MANUAL SUPPLEMENT

FOR

AEROSPATIALE HELICOPTER CORPORATION

MODEL: AS355E, F, F1, F2, N

REGISTRATION NO.: _______

SERIAL NO.: _______

This supplement must be attached to the DGAC/FAA approved Rotorcraft Flight Manual, dated January 16, 1981 or later FAA Approved revisions when an Integrated Flight Systems, Inc., air conditioning system is installed in accordance with STC No. SH5947SW. 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:

[Signature]

Richard E. Jennings
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Denver, Colorado 80207

DATE: June 5, 1985

REVISED: July 14, 1993
# LOG OF REVISIONS

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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 on one generator if total electrical load will exceed 150 amps (100 amps if AMS 07.1123 has not been incorporated).

- "MAG compass deviation may be excessive with air conditioner or fan - ON".

- 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".

3.2 D.C. GENERATOR FAILURE

- Automatic load shedding is not provided.

- Load shedding of the air conditioning system does not occur if a generator failure occurs.

- Air conditioning - "OFF"

- Ammeter to operating system - Monitor.

- Ammeter 129 amps or less (AMS 07.1123 incorporated) or

- Ammeter 69 amps or less w/o AMS 07.1123.

- Reduce electrical load - As required.

- Air conditioning - "ON", as desired.

- Ammeter - Monitor - 150 amps maximum continuous w/ AMS 07.1123

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EMERGENCY PROCEDURES (continued)

3.3 EXCESSIVE TEMPERATURE, FIRE, SMOKE

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

1. Cabin or other fire.

4.0 NORMAL PROCEDURES

4.1 GROUND OPERATION - ONE ENGINE - ONE GENERATOR

- Ammeter of operating generator- Monitor
- If 129 amps or less (AMS 07.1123 incorporated) or 69 amps w/o AMS 07.1123
- 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 for cockpit.
- Select desired blower speed for cabin.

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EMERGENCY PROCEDURES (continued)

3.3 EXCESSIVE TEMPERATURE, FIRE, SMOKE

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

1. Cabin or other fire.


4.0 NORMAL PROCEDURES

4.1 GROUND OPERATION - ONE ENGINE - ONE GENERATOR

- Ammeter of operating generator - Monitor

- If 129 amps or less (AMS 07.1123 incorporated) or 69 amps w/o AMS 07.1123

- 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 for cockpit.

- Select desired blower speed for cabin.

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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 Switches - As desired. (cockpit and cabin)

- Turn AIR CONDITIONER - "OFF" to obtain correct Magnetic Compass heading.

5.0 PERFORMANCE:

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

Kit 355-00-011 with STANDARD interior

A.0 SYSTEM AND DESCRIPTION

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

The air conditioning system provides for cabin comfort during all operations both on the ground and in flight. During ground operations when either 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, condenser blower, and belt driven compressor. The second rocker switch provides for "HIGH", "LOW", AND "MED" evaporator fan speed selection for the cockpit. Another three (3) speed evaporator fan switch is located in the aft cabin. Thermostatic temperature control is provided. A 5 amp circuit breaker below the thermostat control disconnects power to all relays.

A high pressure safety switch, located on the condenser, disengages the compressor and stops operation of the system in the event of excessive refrigerant pressures. This can occur due to failure of the condenser blower 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.

Temperature control is provided.

Single 7" Vane Axial Condenser Blower (1):
System electrical protection is provided by 2 each 15 amp, 1 each 25 amp, and 1 each 1 amp circuit breakers. Labeled EVAP, EVAP, COND, and RESET on the Air Conditioning Electrical Control Panel. This panel is located in the right side baggage compartment above the battery.

Electrical "soft start" is provided. When the "A/C" switch is positioned to "ON", both evaporator fan/blowers immediately start causing a 20 amp draw. A timer delays the condenser blower and clutch operation for about 4 seconds, when an additional 21 amps are added to the system load.
A-1 **ELECTRICAL LOADING** (7" Enviro System, Inc. blower)
The maximum electrical requirements of the air conditioning system are as follows:

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<th>Qty</th>
<th>Amps</th>
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<tr>
<td>Condenser Blower</td>
<td>1</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Compressor</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Evap. Fan (Fwd)</td>
<td>2</td>
<td>7</td>
<td>14</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
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<td><strong>36</strong></td>
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**LOAD SHEDDING**

Automatic electrical load shedding will not occur if a D.C. generator failure occurs.

For ground or in-flight operation, when safe operator of the system can be assured with only one generator operating, the air conditioner may be utilized. Maximum amperage per generator if 100 amps prior to AMS 07.1123 and 150 amps per generator after incorporation.

**NOTE:** During conditions of high D.C. current use, such as battery recharging after engine start, use of landing lights, etc., it is possible that the electrical power requirements with the air conditioning “ON” may exceed the rated output of one generator (150 amps, max.).

A-2 **WEIGHT AND BALANCE**

Weight and Balance must be computed with air conditioning system installed. Approximate weight is 79 pounds. See Installation Instructions supplied with kit for actual weight.