KEITH PRODUCTS, L.P.

ENVIRONMENTAL SYSTEMS

CERTIFICATION REPORT NO. CR-227-9

AIR CONDITIONING/HEATING SYSTEM INSTALLATION

FLIGHT MANUAL SUPPLEMENT

FOR

FAIRCHILD SA227-DC

STC NO. SA09190AC

Date: June 12, 1996
Rev: NC
Rev. Date:

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR

FAIRCHILD SA227-DC
S/N: _____
REG: _____

WITH

KEITH PRODUCTS, INC. AIR CONDITIONING SYSTEM

This supplement shall be attached to the applicable FAA approved flight manual when a Keith Products refrigerant R134a air conditioning system is installed in accordance with STC No. SA09190AC.

The information contained herein supplements the basic manual only in those areas listed herein. For limitations, procedures, performance, and weight and balance information not contained in this supplement, consult the basic flight manual.

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LOG OF REVISIONS

Original

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Keith

FAIRCHILD
MODEL SA227-DC

FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT
TO
FAIRCHILD SA227-DC

SECTION 1 LIMITATIONS

MAXIMUM WEIGHTS

Maximum Forward Baggage Compartment Load (baggage and equipment) .....365 lbs (165.6 kg)
Maximum Aft Baggage Compartment Load .....556 lbs (252.2 kg)

PLACARDS:

(Not Shown to Scale)

MAX. WT. BAGGAGE
365 POUNDS

ON THE INSIDE OF THE NOSE BAGGAGE DOOR

MAX. WT. CAPACITY
THIS AREA 17 LBS.

ON JEPPESEN STORAGE SHELF, R/H GALLEY

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PLACARDS: (Cont'd)

(Not Shown to Scale)

MAXIMUM ALLOWABLE WEIGHT OF THIS COMPARTMENT WITH TOILET IS 556 POUNDS

ON OPPOSITE AFT CARGO DOOR, R/H SIDE

BAGGAGE IN THIS COMPARTMENT RESTRICTED TO SOFT GOODS ONLY

ON L/H NOSE BAGGAGE COMPARTMENT DOOR

MAG. COMPASS IS UNRELIABLE WITH AIRCON. OR FAN ON

ON COCKPIT HEADLINER

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SECTION 2 **NORMAL PROCEDURES**

PREFLIGHT

NOSE SECTION - R/H Baggage Door Louvers
Visually Inspect Louvers for Obstructions.....Checked

BEFORE STARTING ENGINES
(If GPU available, after Batteries - On)
Air Conditioning.....As Desired

GPU START
Air Conditioning (Prior to Start).....OFF or FAN
Air Conditioning (After GPU Disconnect).....As Desired

GPU USE

Air conditioning may be operated with GPU or engines operating and the aircraft electrical system providing 28vDC to the main buss. To operate the system proceed as follows:

1) Turn ON air conditioning with switch located on the lower right side of the instrument panel.
2) For maximum cooling, select fan switch to high and close door.
3) Turn OFF air conditioning with switch. (It is recommended to leave the aft evaporator blower on "HIGH" for at least 30 seconds prior to turning off the air conditioning system).

FLIGHT IN ICING CONDITIONS
Air Conditioning .....OFF or FAN

ALTERNATE STATIC SOURCE
If use of alternate static source is required with gear down and flaps down, turn air conditioner to "OFF" or "FAN".

STOPPING ENGINES
Air Conditioning (prior to generators - OFF).....OFF

SECTION 3 EMERGENCY PROCEDURES

The Keith Air Conditioning System does not affect the Emergency procedures presented in the SA227-DC Flight manual.

SECTION 3A ABNORMAL PROCEDURES

In the event of an air conditioning/fan system failure or malfunction, the system should be de-activated as follows:

1) AIR CONDITION selector switch - OFF

In the event of generator failure:

Air conditioning switch shall be selected from "AIRCOND" to either "OFF" or "FAN", until both generators are operational. The compressor motor should have disconnected electrically ("load shed") automatically after generator failure. Fan use only is permitted, either High or Low positions.

SECTION 4 PERFORMANCE

ALTERNATE STATIC SOURCE

Altimeter and airspeed calibration corrections for alternate static source with air conditioning "OFF/FAN" and gear and flaps down are zero in the approach airspeed range.

SECTION 5 WEIGHT AND BALANCE

For the effect on the aircraft weight and balance of the Keith Products, Inc air conditioning system, see the Aircraft Weight and Balance Data, located in the Airplane Flight Manual. It includes the air conditioning system weights and new empty weight, CG and moment.

SECTION 6 MANUFACTURER'S DATA

GENERAL

This section provides information of general interest on the air conditioning system and provides basic airplane data that has been changed because of the air conditioning system installation.

The vapor cycle R-134a refrigerant based cooling system is installed for cockpit and cabin cooling during ground operations, in-flight cooling and cabin dehumidification. Air conditioning operation requires that either a Ground Power Unit or both on-board generators are available. The compressor drive motor will automatically load shed in the event of a single generator failure, but both evaporator fans will be operational.

DESCRIPTIVE DATA

The air conditioning system is electrically powered and consists of the following components:

An electrically operated compressor.
A condenser assembly mounted in the forward baggage compartment area.
An evaporator assembly mounted in the cockpit area.
An evaporator assembly mounted below the floor between F.S. 422.3 and F.S. 454.5.

A blue lamp next to the air conditioning switches is used to provide a redundant indication that the air conditioning system switch is selected to "AIR COND". It also has a "Press to Test" function.

Two circuit breakers are used to protect the air conditioning electrical system. The circuit breakers are located behind the pilot's seat in the J-Box. The 7.5 amp circuit breaker provides power to the air conditioning switches for forward evaporator usage, for energizing the aft evaporator blower relays, and for energizing the relays for compressor drive motor operation. The 25 amp circuit breaker provides power to the aft evaporator blower only.