

CORPORATION
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Log of Pages

FAA APPROVED
SUPPLEMENT

MODEL 407
FLIGHT MANUAL

BELL HELICOPTER
MODEL 407 250-C47B ENGINE
FOR

BLEED AIR CABIN HEATER

407H -2

FAA APPROVED

The information contained in this documents FAA approved material, which must be carried in the basic Flight Manual, after the rotorcraft has been modified by the installation of the Cabin Heater System in accordance with Air Comm Corporation STC No. SR00221DE.

The information in this document supplements or supersedes the basic manual only in the items contained herein. For Limitations, Procedures, and Performance Data not contained in this supplement, consult the basic Flight Manual.

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BLEED AIR CABIN HEATER

Log of Revisions				
Original 0				
Rev. No.	Log of Pgs.	Pgs. Rev.	Date	Approval
N/C 1	1-10	2 & 8	Mar 17, 1997	<i>[Signature]</i>
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INTRODUCTION

The cabin heating system is a bleed air type which consists of bleed air plumbing, a heater control valve, and four heater ejectors. (as shown by figure 1) When the heater control valve is opened the bleed air flows from the engine compressor through the bleed lines to the ejectors, where it is mixed with cabin air and exhausted to both the front and rear passengers. Two of the ejectors are located under the front seats and two are located on the sides of the rear aft facing seats. For the front ejectors the warm air is ducted forward and through swivel outlets, which are located in the seat box structure. The aft ejectors are mounted on the sides of the aft cabin seat structure and warm air is ducted through the enclosures to the rear cabin area. The outlet flow can be individually adjusted by rotation of the swivel outlets or by rotating a flow control knob on the rear ejectors (opt-fwd and aft Flow control outlets). The heater control valve is mounted under the pilot's seat, and the heater control is located on the front of the seat box.

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INTRODUCTION (cont)

The system also features a defroster system. The system consists of an ON-OFF valve, located in the center console, and ejectors, located in each defroster diffuser. The ejectors pump warm air across the windshield. The original defroster blowers are not required but may remain installed at the option of the operator. The defroster and heater may be used simultaneously. Both the "heater" and "defroster" valves are infinitely adjustable from OFF to FULL ON, and may be set at the discretion of the operator.

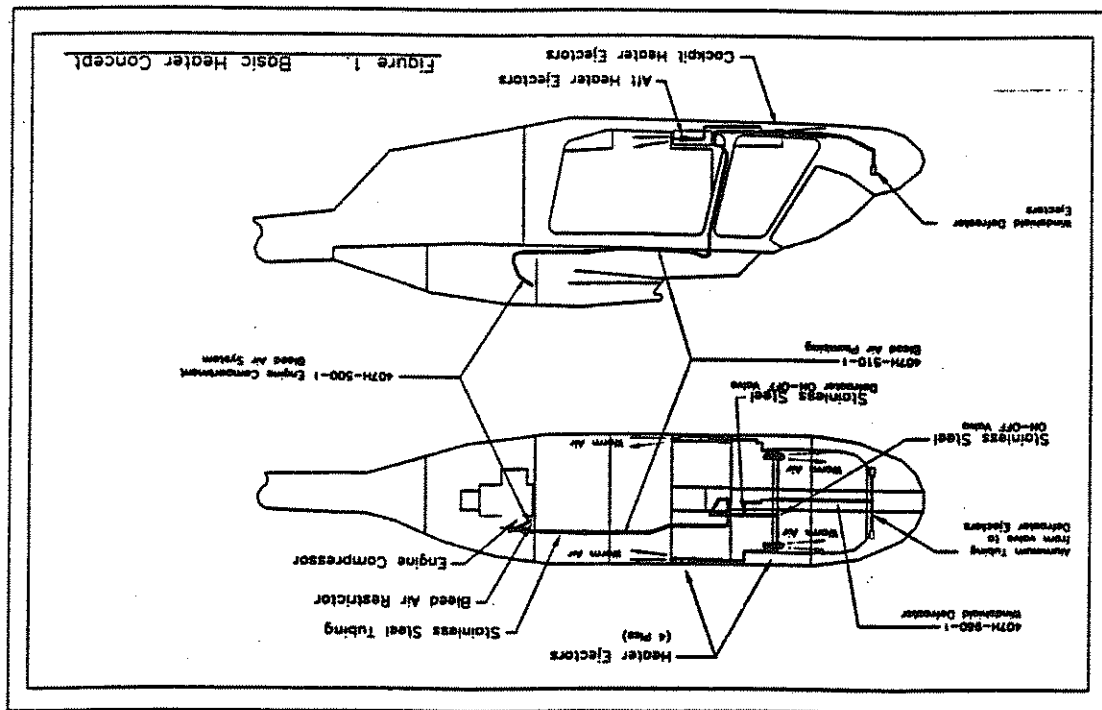
A drain valve is also incorporated as a part of the heater system. This valve is used to drain cleaning solution overboard when washing the internal parts of the engine. The valve, which is located inside the RH engine access door, is automatic (closed by engine pressure).

An optional Chin Bubble Defroster System may also be installed. This system shares bleed air with the defroster, thus when the defroster is on, the chin bubble defroster is operating.

An optional Hi-Output (Arctic) heater system may be installed. This system provides 70% more performance than the standard heater.

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BLEED AIR CABIN HEATER

SECTION 1

OPERATING LIMITATIONS

1. Limitations

1.1 Heater and Defroster Control shall be OFF during engine startup and shutdown.

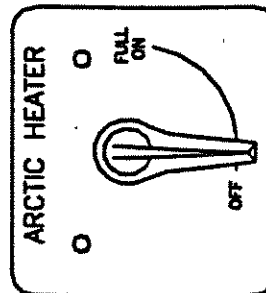
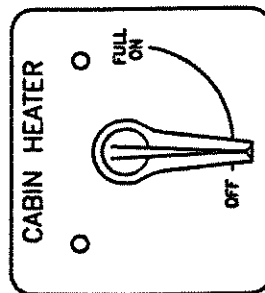
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BLEED AIR CABIN HEATER

SECTION 1 OPERATING LIMITATIONS

1.1 PLACARDS AND MARKINGS

Located on the front side of the RH seat support box..



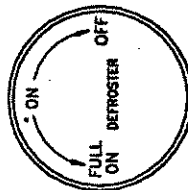
Located on the front side of the RH seat support box
(Optional Hi-Output heater)

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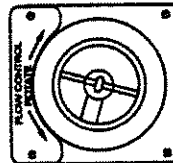
BLEED AIR CABIN HEATER

SECTION 1 OPERATING LIMITATIONS

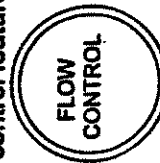
1.1 PLACARDS AND MARKINGS (cont)



Located on the Defroster Control Knob.



Located adjacent to the two forward air outlets.
(optional flow control feature)



Located on the control knob at aft heater outlets
(optional flow control feature)

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Section 2 Normal Procedures

Engine Prestart Check

Cabin heater valve - OFF
Defroster Control knob - OFF

Before Takeoff

Cabin heater valve - As desired
Defroster Control knob - As desired

In Flight Operations

Cabin heater valve - On as desired
Defroster Control knob - As desired

Descent and Landing

Cabin heater valve - As desired
Defroster Control knob - As desired

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Bleed Air Cabin Heater

Section 3 Emergency Procedures

**Heater & Defroster Valves - OFF
for any of the following emergencies:**

Engine Failure
Engine Overtemperature
Onboard Fire

Section 4 Malfunction Procedures

No Change

Section 5 Performance Data

For operations involving Heater / Defroster
only:

Refer to the basic Flight Manual FM-1 for
take-off, hover, and landing data.

Subtract 55 fpm from the basic FM for Heater ON
R/C performance.

For operations involving both the Heater /
Defroster and the particle separator:

Refer to the Particle Separator Supplement FMS-3
for applicable performance data.