

AIR COMM CORPORATION
3330 AIRPORT ROAD
BOULDER, COLORADO 80301

BELL HELICOPTERS
MODELS 206L, 206L1, 206L3 & 206L4
250-C20B, 250-C20R, 250-C28B, 250-C30P
ENGINES

FLIGHT MANUAL SUPPLEMENT
FOR

BLEED AIR CABIN HEATER

206H-202

FAA APPROVED

The information contained in this document is FAA approved material, which must be carried in the basic Flight Manual, after the rotorcraft has been modified by installation of the cabin heater system in accordance with Air Comm Corporation STC No. SH3887NM.

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.

NOTE

206L3 Performance Data is to be used for 206L1 rotorcraft that have been modified IAW BHT-206-SI-2050.

NOTE

206L4 Performance is to be used for 206L1 rotorcraft that have been modified IAW BHT-206-SI-2050 and BHT-206-SI-2052 and 206L3 rotorcraft that have been modified IAW BHT-206-SI-2052.

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AIR COMM CORPORATION
Boulder, CO

FAA APPROVED
FLIGHT MANUAL SUPPLEMENT

MODELS 206L, 206L1, 206L3, 206L4

BLEED AIR CABIN HEATER

LOG OF PAGES			
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MODELS 206L, 206L1, 206L3, 206L4

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7	02/25/11	Revised Pg 1 - 16. Deleted pgs 17-35	
Note: Revisions are indicated by a black vertical line.			

INTRODUCTION

The cabin heating system is a bleed air type which consists of bleed air plumbing, a bleed air valve, and four heater ejectors.

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. The ejectors are located under the front seats. The warm air is ducted forward and aft through swivel outlets, which are located in the seat box structure. The outlet flow can be individually adjusted by rotation of the swivel outlets (opt-fwd 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.

The system features an optional defroster system. The system consists of an ON-OFF valve, located in the center console, and ejectors, located in each defroster eyebrow. 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. An 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.

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MODELS 206L, 206L1, 206L3, 206L4

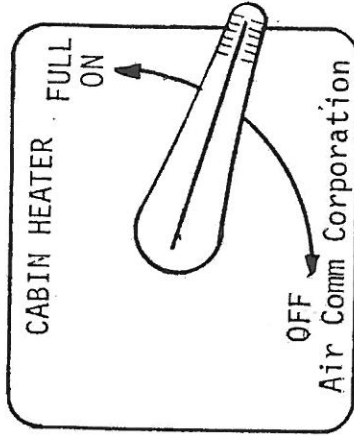
BLEED AIR CABIN HEATER

The valve, which is located inside the RH engine access door, is automatic (closed by engine pressure). Both the "heater" and "defroster" valves are infinitely adjustable from OFF to FULL ON, and may be set at the discretion of the operator.

SECTION 1 OPERATING LIMITATIONS

Applicable to aircraft with C-20B and C-20R/2 (206L) engine:
Flight with heater operating is prohibited during takeoff, hover, and/or landing.

PLACARD AND MARKINGS



Applicable to 206L, 206L1, 206L3. Located of front side of RH seat support box.

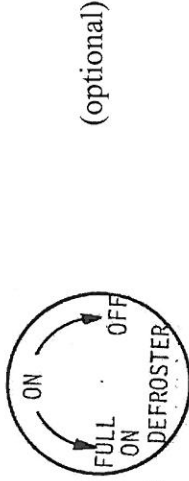
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MODELS 206L, 206L1, 206L3, 206L4

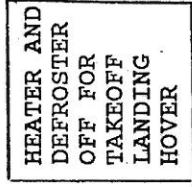
BLEED AIR CABIN HEATER

SECTION 1 (cont'd) OPERATING LIMITATIONS

PLACARDS
AND
MARKINGS



Applicable to 206L, 206L1, and 206L3. Located on the Defroster Control Knob



Applicable aircraft with C-20 and C-20R/2 (206L) engine. Located on instrument panel.

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SECTION 2

NORMAL PROCEDURES

Engine Prestart Check

Heater Control – OFF

Before Takeoff

Aircraft with C-20B and C-20R/2 (206L) engine; Heater and Defroster Control - OFF.
Aircraft with C-28B or C-30P engines; Heater and Defroster Control - as desired.

In Flight Operations

Heater and Defroster Control - as desired.

Note: TOT increases with bleed air heater operation. Observe turbine outlet temperature limitation.

Descent and Landing

Aircraft with C-20B and C-20R/2 (206L) engine; Heater and Defroster Control - OFF.
Aircraft with C-28B (206L1), C-30P (206L3) engine; Heater and Defroster Control – as desired.

WARNING

Flight with heater or defroster operating is prohibited during takeoff, hover, and landing for aircraft equipped with C-20B and C-20R/2 (206L) engine.

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SECTION 3

EMERGENCY PROCEDURES

Operate Cabin Heater or Defroster Control to -OFF, for any of the following emergencies:

Engine Failure

Engine Overtemperature

Fuel Control and/or Governor Failure

Insufficient Power

SECTION 4

MALFUNCTION PROCEDURES

No change

SECTION 5

PERFORMANCE DATA

Applicable to aircraft with C-20B and C-20R/2(206L) engine:

No change in performance with heater off. Basic Flight Manual performance cannot be achieved with heater or defroster on.

NOTE

206L3 performance data is to be used for 206L1 rotorcraft that have been modified IAW BHT-206-SI-2050.

206L4 performance is to be used for 206L1 rotorcraft that have been modified IAW BHT-206-SI-2050 and BHT-206-SI-2052, and 206L3 rotorcraft that have been modified IAW BHT-206-SI-2052.

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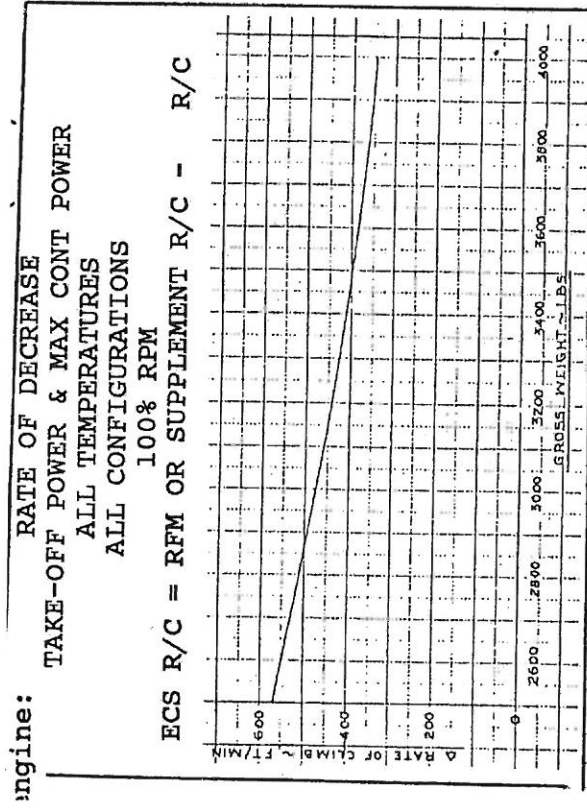
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BLEED AIR CABIN HEATER

SECTION 5

PERFORMANCE DATA

Applicable to aircraft with C-20B (206L)



Example R/C Chart

Determine rate of climb for desired altitude temperature and gross weight from Flight Manual or appropriate Supplement Chart.

Enter chart at gross weight and proceed vertically to intersect curve, then more left to obtain R/C decrement. Subtract R/C decrement from Flight Manual R/C Chart to obtain R/C with ECS operating.

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BLEED AIR CABIN HEATER

SECTION 5

PERFORMANCE DATA

Applicable to aircraft with C-28B (206L1) engine:

Reduce the performance data in basic flight manual or optional equipment supplement in accordance with the following charts when the bleed air heater or defroster is operating.

EXAMPLE

What gross weight loss in hover performance could be expected under the following conditions:

Standard skid gear. Outside air temp = +5°C
IGE hover Press. Alt = 12,000 ft
Anti-ice off

Using the appropriate IGE chart, enter at OAT (+5°C), move vertically to intersect pressure altitude curve (or outermost curve, whichever comes first), then proceed horizontally to obtain the gross weight loss (450 pounds). Apply this weight loss to the weight obtained from appropriate hover performance chart in basic flight manual or supplement.

There is no loss in hover performance when the outside air temperature is to the left of the pressure altitude curve. It can be seen in the above example that at +5°C there is no loss in IGE hover performance from sea level to 10,000 feet.

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SECTION 5

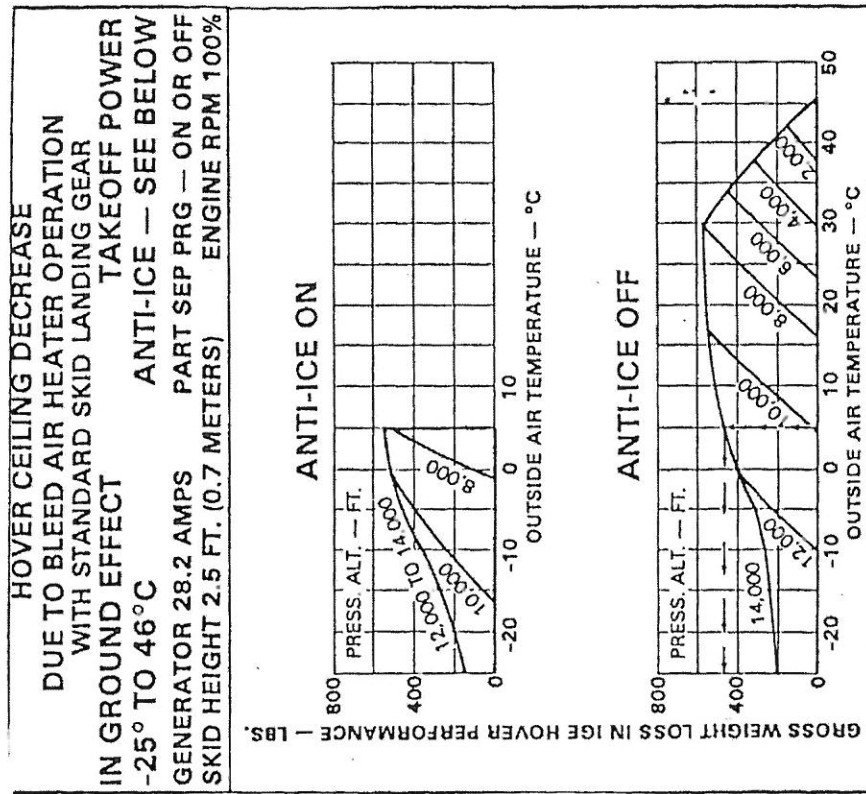
PERFORMANCE DATA

SECTION 5

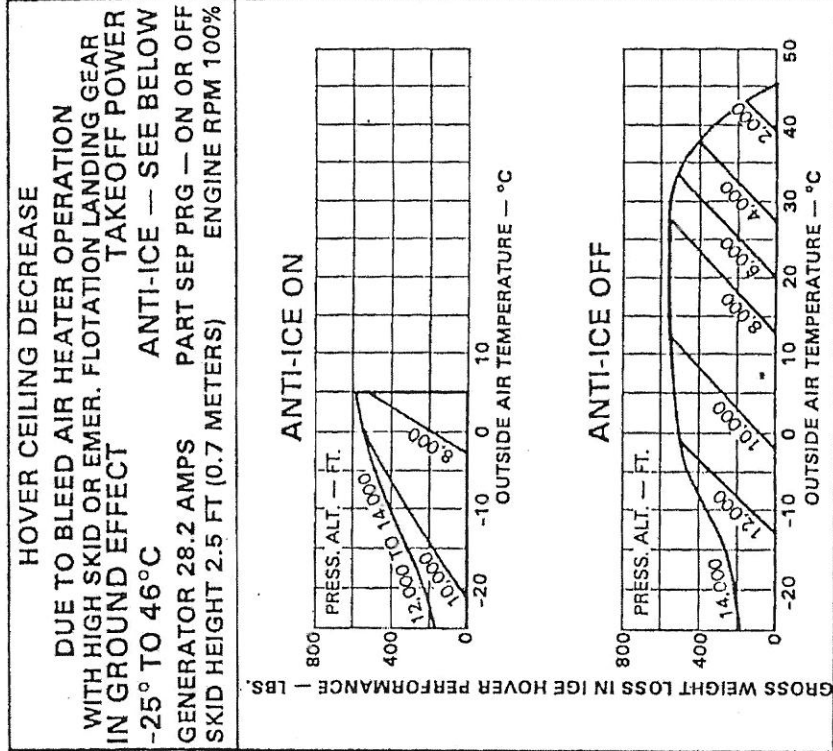
PERFORMANCE DATA

Applicable to aircraft with C-28B (206L1) engine:

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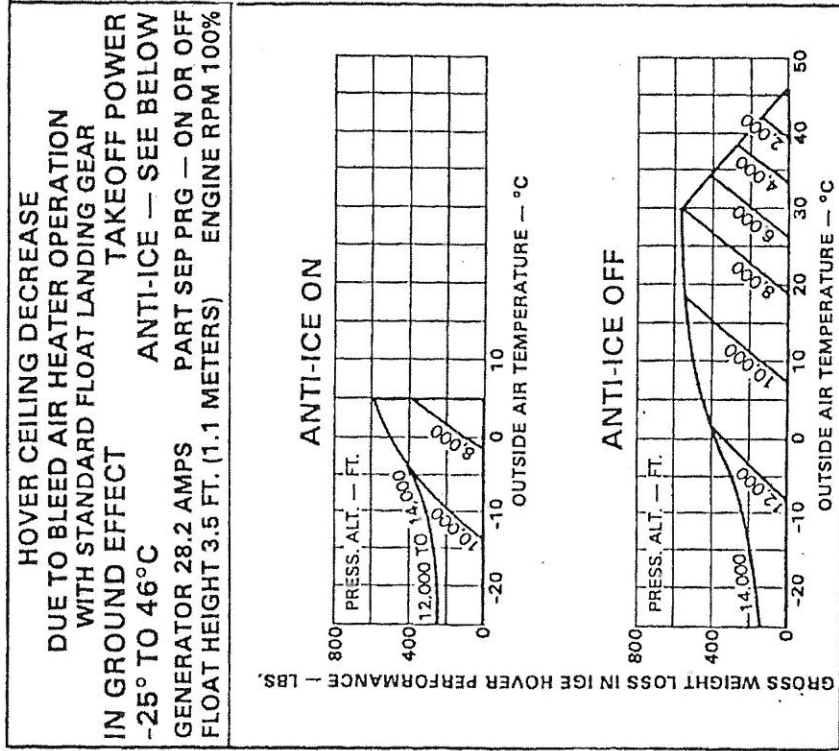
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SECTION 5 PERFORMANCE DATA

Applicable to aircraft with C-28B (206L1) engines:



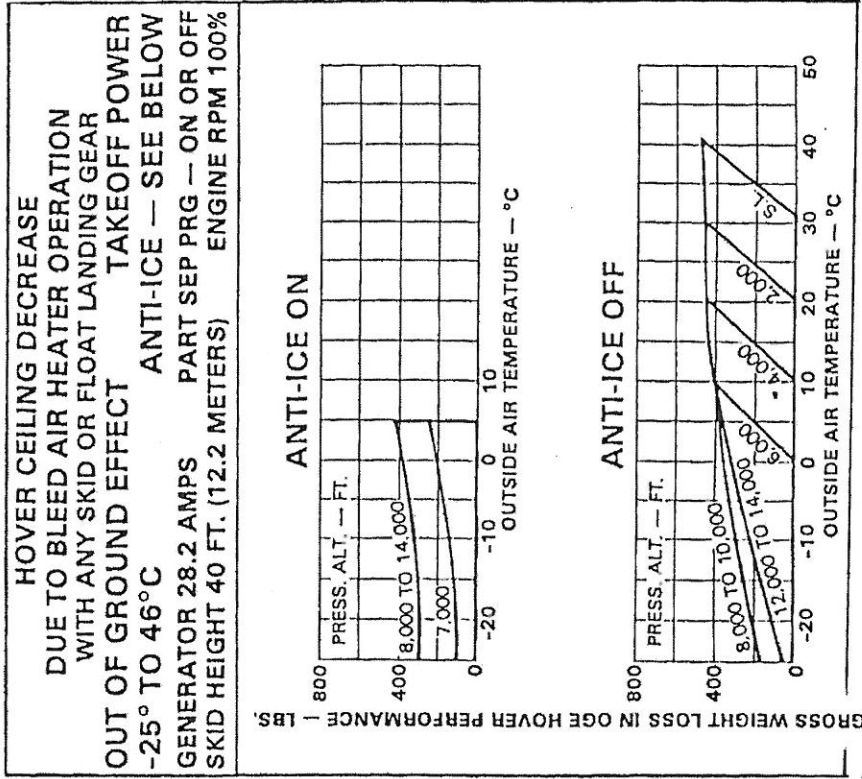
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SECTION 5 PERFORMANCE DATA

Applicable to aircraft with C-28B (206L1) engines:



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SECTION 5 PERFORMANCE DATA

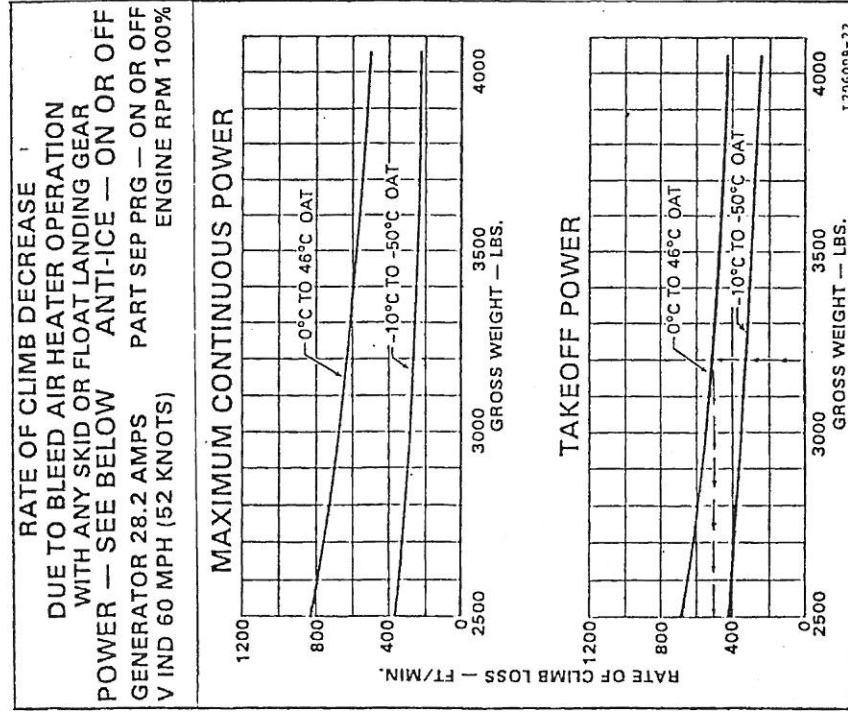
BLEED AIR CABIN HEATER

Applicable to aircraft with C-28B (206L1) engines:

Applicable to aircraft with C-30P (206L3/L4) engine:

For Bell Model 206L3 heater ON rotorcraft performance data refer to the basic Flight Manual, document BHT-206L3-FMS-2, rev 0 or subsequent FAA approved revisions.

For Bell Model 206L4 heater ON rotorcraft performance data refer to the basic Flight Manual, document BHT-206L4-FMS-2, rev 0 or subsequent FAA approved revisions.



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