

**AIR COMM CORPORATION  
Boulder Municipal Airport  
3300 Airport Road  
Boulder, CO 80301**

**Report 407H-500M-1**

**BELL MODEL 407 ENGINE COMPARTMENT BLEED AIR SYSTEM  
INSTALLATION INSTRUCTIONS**

April 19, 1996

This document contains:

Service Instructions  
STC Certificate  
Weight and Balance

**Revisions**

| <u>Rev</u> | <u>Description</u> | <u>Date</u> | <u>Appl</u> |
|------------|--------------------|-------------|-------------|
|------------|--------------------|-------------|-------------|

## Table of Contents

| <u>Item</u>  | <u>Page</u> |
|--|-------------|
| Revisions  | i           |
| Introduction   | I-1         |
| References   | I-1         |
| Installation Instructions - Engine Compartment<br>Bleed Air System | II-1        |
| Weight and Balance Data  | III-1       |
| STC Certificate  | IV-1        |
| Service Instructions   | V-1         |

## **Introduction**

This document presents a step-by-step procedure for installation of the ACC 407H-500 Engine compartment Bleed Air Systems in the Bell 407 Helicopter. The instructions contained herein are intended to supplement the information contained on the installation drawings.

This manual provides additional information which is required for operation and maintenance of the aircraft. This data is contained in sections III, IV, and V. After completion of this installation, the applicable sections are to be removed from this document, and placed with the appropriate existing documents.

## **References**

1. Master Drawing List: DL-500H; Bell 407 Cabin Heater and Windshield Defroster System
2. ACC Drawing 407H-500; Engine Compartment Bleed Air System.
3. AC43.13.1A; Acceptable Practices, Aircraft Alteration and Repair.

**Installation Instructions - Engine Compartment Bleed Air System**

1. Review the system installation drawings and read completely through the Installation Instructions. **BE SURE TO READ THE NOTES ON ALL DRAWINGS.**
2. Remove cowlings as necessary to gain access to the right side of the engine.
3. Remove existing bleed air port and install the supplied S-9703EC-2 fitting using the existing bolts and new 23007167 gasket.
4. Connect the remaining plumbing to the ES49028-8/10 Tee, as shown on the drawing.
5. Drill an .875 Dia hole in the firewall to accommodate the AN783K10 bulkhead fitting, as shown on sheet 5 of the 407H-500 drawing.
6. Connect the remaining plumbing and clamp as shown on sheet 4.
7. Review all notes on sheet 1, Dwg 407H-500. Inspect all plumbing fittings and hardware for security.
8. Leak test system as noted on sheet 1 of the drawing.
9. Safety wire all fittings per AC-65-9A.

**Bell Model 407 Engine Bleed Air System Weight and Balance Data**

Correct the aircraft licensed empty weight and center of gravity data as indicated below:

| <b><u>Item</u></b> | <b><u>Description</u></b>                              | <b><u>Wt (lbs)</u></b> | <b><u>Arm (in)</u></b> | <b><u>Moment (in-lbs)</u></b> |
|--------------------|--|------------------------|------------------------|-------------------------------|
| 1                  | Bleed Port and Elbow                                   | 1.0                    | 152.0                  | 152.00                        |
| 2                  | Braided Hose   | 0.4                    | 153.0                  | 61.20                         |
| 3                  | Tubes / Hardware<br>(2 ea including clamps and screws) | 0.8                    | 157.0                  | 125.60                        |
| 4                  | Bulkhead Fitting / Tee                                 | 1.0                    | 149.0                  | 149.00                        |
| 5                  | Tee with drain fitting                                 | 0.6                    | 156.0                  | 93.60                         |
| TOTAL              |  | 3.80                   | 153.00                 | 581.4                         |

**STC CERTIFICATE**

# Supplemental Type Certificate

Number SR00220DE

This certificate, issued to **Air Comm Corporation**

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: H2SW  
 Make: Bell Helicopter Textron, Inc.  
 Model: 407

*Description of the Type Design Change:*

Installation of engine compartment bleed air system in accordance with Air Comm Corp. Master Drawing List DL-500H, initial release, dated October 28, 1995, or later FAA approved revision.

*Limitations and Conditions:*

1. Approval of this change in type design applies to the above model rotorcraft only. This approval should not be extended to aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the interrelationship 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 rotorcraft.
2. A copy of this certificate must be maintained as part of the permanent records for the modified rotorcraft.

*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: August 8, 1995

Date reissued:

Date of issuance: March 29, 1996

Date amended: May 30, 1996



By direction of the Administrator

RONALD F. MAY (Signature) Manager  
 Denver Aircraft Certification Office  
 Northwest Mountain Region, Denver, Colorado  
 (Title)

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.



# Supplemental Type Approval

Number: SH96-63

This approval is issued to:

Air Comm Corporation

Issue No.: 1

Approval Date: June 7, 1996

Issue Date: June 7, 1996

Responsible Region:

Headquarters

Aircraft/Engine Type or Model:

Bell 407

Canadian Type Approval or Equivalent:

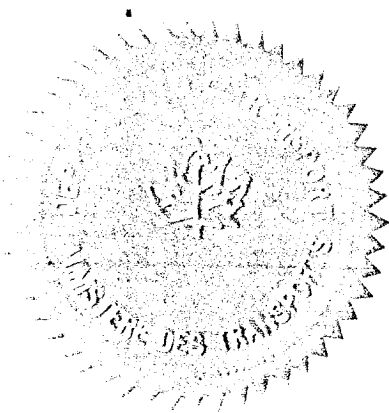
H-92

Description of Type Design Change:

Installation of an engine compartment bleed air system in accordance with FAA STC SR00220DE

Installation/Operating Data,  
Required Equipment  
and Limitations:

Installation of an engine compartment bleed air system is to be done in accordance with Air Comm Corp. Master Drawing List DL-500H, initial release, dated October 28, 1995 or later approved revision



**Conditions:** This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.

*F. R. Davies*  
F. R. Davies

Airworthiness Branch Ottawa  
For Minister of Transport

**Mitteilung  
über die  
Ergänzung der Musterzulassung  
Nr.:  
0806/3034**

Revision:

|                      |                              |
|----------------------|------------------------------|
| EMZ-Inhaber:         | Fa. ACC Air Comm Corporation |
| Änderung:            | Bleed Air System             |
| Muster/Baureihe:     | Bell 407                     |
| Geräte-Kennblatt Nr. | 3034                         |

**1. Die Musterzulassung des o.a. Luftfahrzeuges wird durch folgende Angaben ergänzt:**

Der Einbau einer Triebwerks-Zapfluftanlage (bleed air system) gemäß FAA-STC No. **SR00220DE** in Hubschraubermuster der o. g. Baureihe ist zugelassen.

**2. Definition der Änderung:**

- a) Air Comm Corp. Master Drawing List DL-500H vom 28. Oktober 1995 oder spätere, FAA-  
anerkannte Revision.
- b) Air Comm Corp. Bausatz-Nr: P/N 407H-500-1

**2. Ergänzende Betriebsanweisungen:**

**Bell Model 407 Engine Compartment Bleed Air System  
Installation Instructions  
AIR COMM CORPOPRATION Report No. 407H-500M-1.**

Unterlagen sind zu beziehen bei:

**AIR COMM CORPOPRATION  
Boulder Municipal Airport  
3300 Airport Road  
Boulder, CO 80301  
U.S.A.**

Diese Mitteilung gilt in Verbindung mit dem Drehflügler-Kennblatt Nr. 3034 in der jeweils gültigen Ausgabe.

**Remove the following section  
and retain with the  
aircraft documents.**

**AIR COMM CORPORATION  
Boulder Municipal Airport  
3300 Airport Road  
Boulder, Colorado 80301**

**Report 407H-500M-1**

**Service Instructions-Bell Model 407  
Engine Compartment Bleed Air System**

**April 19, 1996**

## **Introduction**

The Engine Compartment Bleed Air System consists of the bleed air plumbing within the engine compartment and provides fitting connections for the particle separator, and or the cabin heater system.

This system also includes an automatic bleed line drain valve which allows condensation or engine wash solution to drain overboard.

## **References**

1. ACC Dwg 407H-500-1 Engine Compartment Bleed Air System
2. FAA-STC No. SR00220DE; Engine Compartment Bleed Air System

## **Continued Airworthiness Requirements**

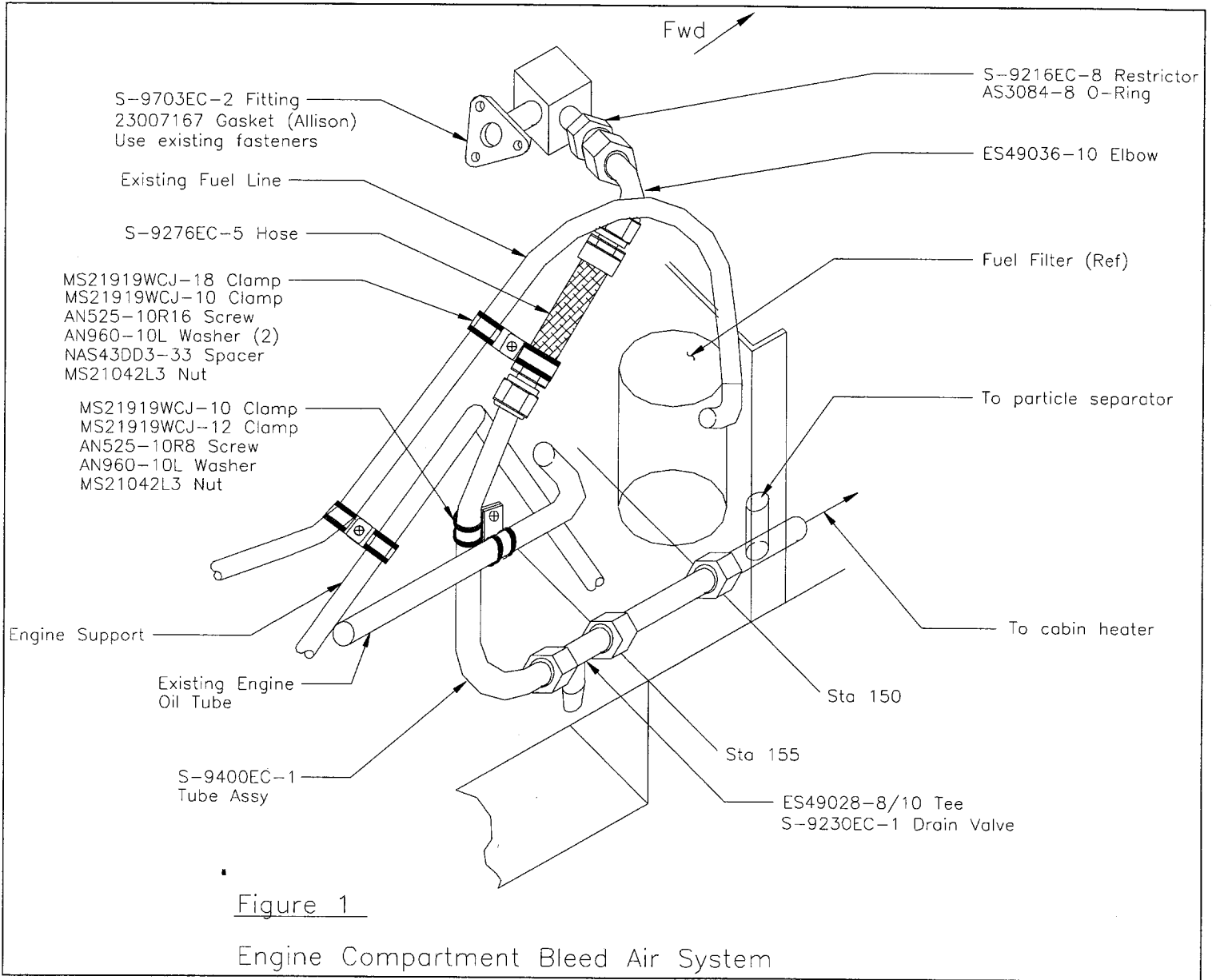
1. The system drain valve incorporates a spring load ball valve and an O-ring seal.

This valve should be removed and disassembled and cleaned annually and to check for corrosion or damage to the o-ring.

2. Check the function of the automatic drain valve to insure that the valve is closed when the engine is operating. The valve should be checked with the heater "full ON" (if installed). Slight leakage is permitted.
3. Inspect bleed air hose and tube assemblies for evidence of damage or deterioration. Replace if any of the above exists.

## **Spares List**

| <u>Name</u> | <u>P/N</u>  |
|-------------|-------------|
| Ball        | S-9230EC-12 |
| Spring      | S-9230EC-13 |
| O-Ring      | 2-009       |



# WARRANTY

## **AIR COMM CORPORATION** **Cabin Heating & Air Conditioning Systems**

### Warranty Terms

Air Comm Corporation (hereafter referred to by ACC) warrants that products manufactured by ACC shall be free of defects in materials and workmanship for a period of one year from the date of installation and / or 1000 hours of flying time, which ever occurs first.

### Limitations and Exclusions

Installation, maintenance and operation of the product must be in accordance with the specifications and instructions provided by ACC. The warranty registration must be returned to ACC within ten days of the date of installation.

This warranty shall not apply to any product repaired or altered by parties other than ACC unless express prior authorization is granted; nor shall this warranty apply to any product subjected to misuse or accident unless proof is submitted to the satisfaction of ACC that such misuse or accident was not a cause for the claimed defect.

The sole responsibility and liability of ACC and your exclusive remedy under any claim arising out of, connected with, or resulting from, this sale or the performance of breach of any condition of warranty thereunder, or from the manufacture, delivery, or use of the product shall be the repair or replacement of defective parts. Labor costs shall not be covered under any circumstances.

In no event, whether as a result of a breach of contract, warranty, tort (including negligence) or otherwise, shall ACC 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 cost 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 OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING OR USAGE OF TRADE ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED.

Acceptance of the product by you shall constitute your acknowledgment and acceptance of the terms, provisions, limitations and exclusions set forth herein. Such terms, provisions, limitations and exclusions shall not be modified, deleted or supplemented except by an express written acknowledgment of ACC.

WARRANTEE PERFORMANCE: All claims under this warranty shall be made to ACC. All returned parts must be shipped prepaid for evaluation. Full details of the symptoms of the malfunction should be included to assist in the evaluation. Warranty credit or replacement will be extended only after ACC has determined that all conditions of this warranty have been met.

Air Comm Corporation  
3300 Airport Road  
Boulder, CO. 80301  
Phone 303-440-4075  
Fax 303-440-6355