



SUBJECT: IMPROVED HEATING SYSTEM (P/N 120-701014)

The Improved Heating System is an additional heating system that mixes hot P2 air, tapped from the port on the left hand side of the engine with outside air. The heating duct and two air outlets are located on the cabin floor under the forward seats.

APPLICABILITY :

This Flight Manual Supplement must be used when the Improved Heating System is installed on the helicopter.

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IMPORTANT NOTE



THE INFORMATION AND DATA CONTAINED IN THIS DOCUMENT SUPERSEDE OR SUPPLEMENT THAT CONTAINED IN THE BASIC APPROVED FLIGHT MANUAL FOR THE EC 120 B HELICOPTER IN THOSE AREAS LISTED HEREIN. FOR LIMITATIONS, PROCEDURES AND PERFORMANCE NOT CONTAINED IN THIS DOCUMENT REFER TO THE APPROVED FLIGHT MANUAL AND OTHER APPLICABLE APPROVED FLIGHT MANUAL SUPPLEMENTS.

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SECTIONS 2, 3, 4, AND 5 OF THIS DOCUMENT COMPRISE THE APPROVED FLIGHT MANUAL SUPPLEMENT. COMPLIANCE WITH SECTION 2, LIMITATIONS, IS MANDATORY.

SECTIONS 1 AND 6 ARE UNAPPROVED AND ARE PROVIDED FOR INFORMATION ONLY.

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RECORD OF REVISIONS

| Rev. | Pages at this Revision | Description, Reason, Changed Pages | Prepared (name and date) | Checked (name and date) | App'd/Acc'd (Civil A/W Authority) (name and date) | Released (name and date) |
|------|------------------------|---|--------------------------------|--------------------------------|---|-----------------------------|
| 0 | 1 through 5 | Original Issue | H. Paulish 25 Nov., 2002 | T. Czarniecki 25 Nov., 2002 | E. Cheung TCCA 29 Nov., 2002 | R. Manson 25 Nov., 2002 |
| 1 | 1 through 5 | Pages 3, 4, and 5 revised for clarity | T. Czarniecki 11 Nov., 2003 | G. Krebs 19 Nov., 2003 | TCCA J. Palmer 13 Feb., 2004 | R. Manson 13 Feb., 2004 |
| 2 | 1 through 7 | Format updated, "RH pilot only" limitation added for RH fire ext. location. TCCA requirement for access by pilot. (Pages 4 and 5) | D. Kerr 26 Nov., 2004 | C. Timmins 28 Nov., 2005 | TCCA E. Cheung 26 Nov., 2004 | R. Manson 26 Nov., 2004 |
| 3 | 1 through 7 | Flight envelope updated to match EASA approved Flight Manual Supplement (Page 5) | D. Kerr 16 February 2006 | C. Timmins 16 February 2006 | J. Palmer 7 March 2006 | C. Timmins 15 March 2006 |
| 4 | 1 through 10 | Abbreviations incorporated into General section. Illustrations incorporated showing Fire extinguisher variants -01 and -02 and Fire extinguisher relocation to inboard side of co-pilot seat structure. (Pages 3 to 6 and 10) | See Page 1. | See Page 1. | See Page 1. | See Page 1. |
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NOTE: Revisions to this document will be distributed to operators of this equipment by the STC holder.

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

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1. GENERAL (unapproved)

- A. This improved heating system is a bleed air heating system for additional heat when required. Heating is achieved by mixing hot P2 air, tapped from the port on the left hand side of the engine with outside air drawn from under the cabin floor.

The improved heating system consists of additional P2 lines, a P2 operating valve, a diffuser and under floor heating duct, and two air outlets in the cabin floor located under the forward seats.

The floor T-handle opens and closes a valve in the heating duct to prevent cold air draft when the P2 air floor control knob is in the full closed position.

Originally, the fire extinguisher was relocated from its position in the basic aircraft to either:

- floor outboard of RH seat, (-01 variant) or
- floor between LH and RH seats, (-02 variant)

depending on pilot operation (LH or RH). Refer to Figure 1.

Variants -01 and -02 are still valid. With this revision the fire extinguisher is relocated to the inboard side of the co-pilot's seat for both LH and RH pilot operation. Refer to Figure 2.

B. Abbreviations and Definitions

| ABBREVIATION | DEFINITION |
|--------------|---------------------------------|
| C | Celsius |
| ft | foot (feet) |
| Hp | Pressure altitude |
| LH | Left Hand |
| m | meter |
| Ng | Engine generator speed |
| OAT | Outside air temperature |
| P2 | Engine Bleed Air |
| STC | Supplemental Type Certificate |
| TEMP | Temperature |
| t4 | Power turbine inlet temperature |
| RH | Right Hand |

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GENERAL (continued)

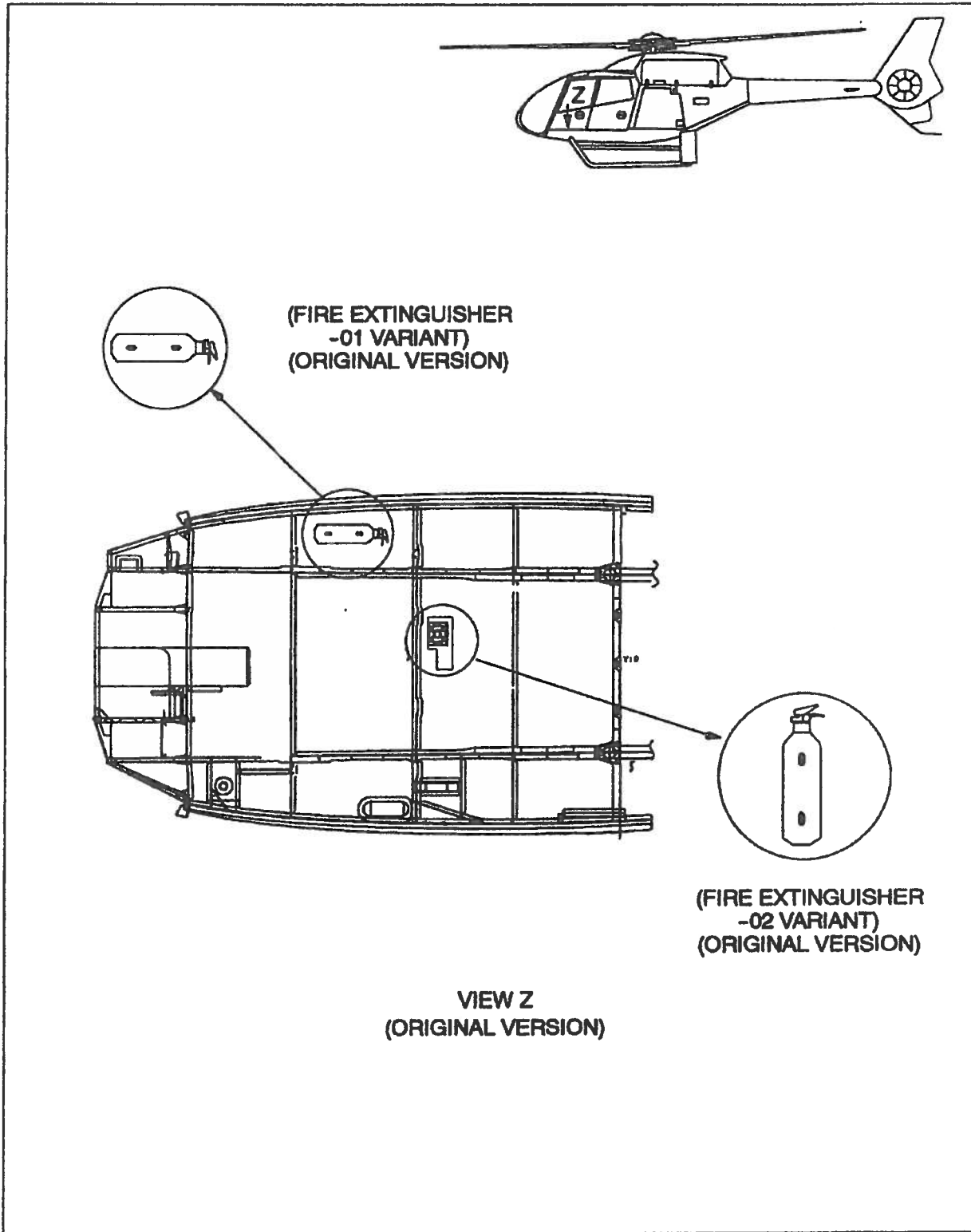


Figure 1 Fire Extinguisher Variants -01 and -02 Layouts

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GENERAL (continued)

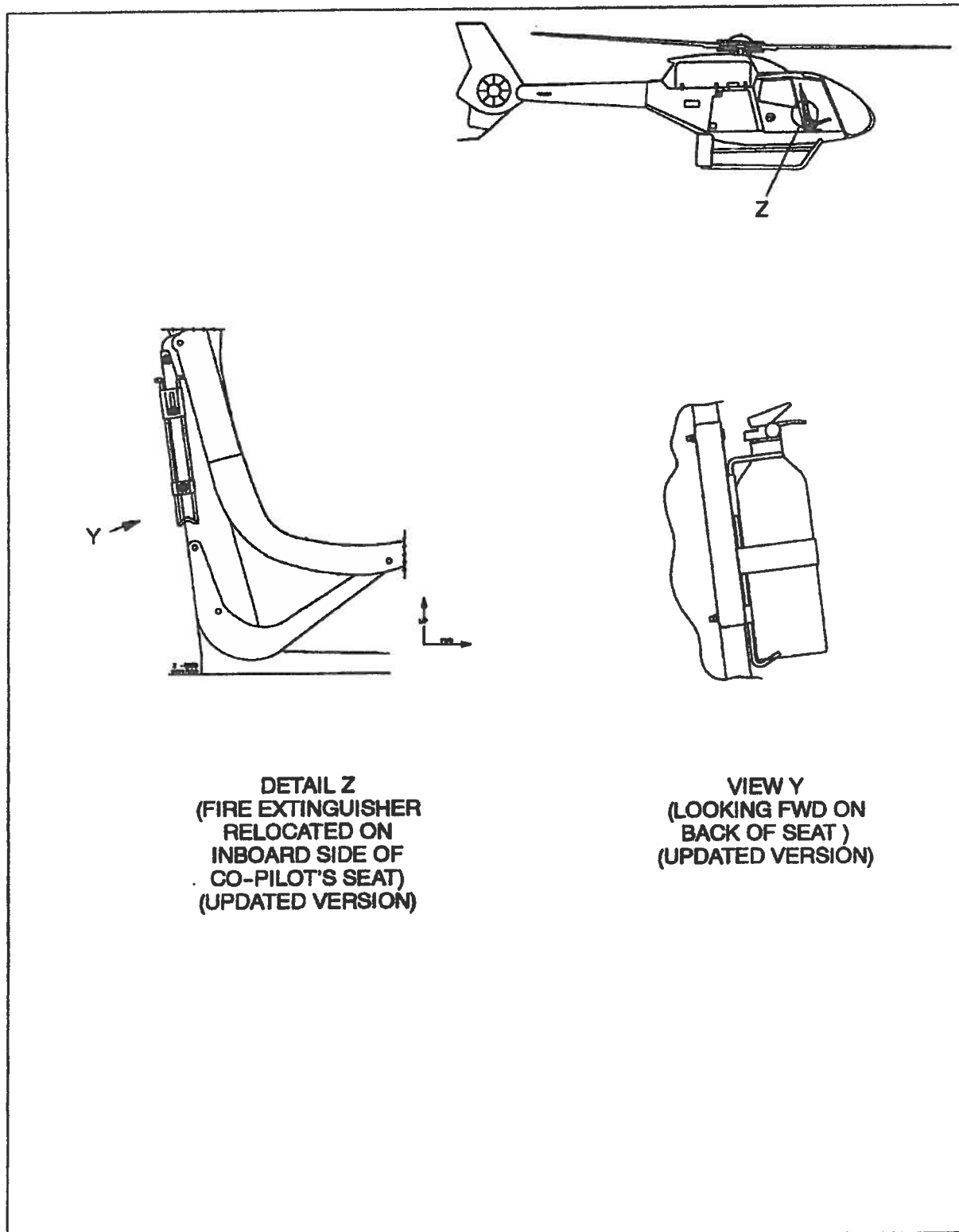


Figure 2 Fire Extinguisher Relocation

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2. LIMITATIONS

The limitations specified in the basic flight manual and in the flight manual supplements remain applicable and are completed or modified by the following:

- If fire extinguisher is mounted on floor outboard of RH seat, pilot-in-command must occupy the right-hand seat. Operation by the pilot-in-command in the left-hand seat is prohibited.
- This improved heating system shall only be used in conjunction with the existing heating system.
- Cabin heating shall be used with the "Improved Heating System" full-on or full-off. The adjustment of cabin temperature shall be controlled by the standard upper heating system.
- Use of P2 air bleed is forbidden above the maximum continuous rating (Ng or T4)
- Table 1. shows the approved flight envelope for the use of the improved heating system.

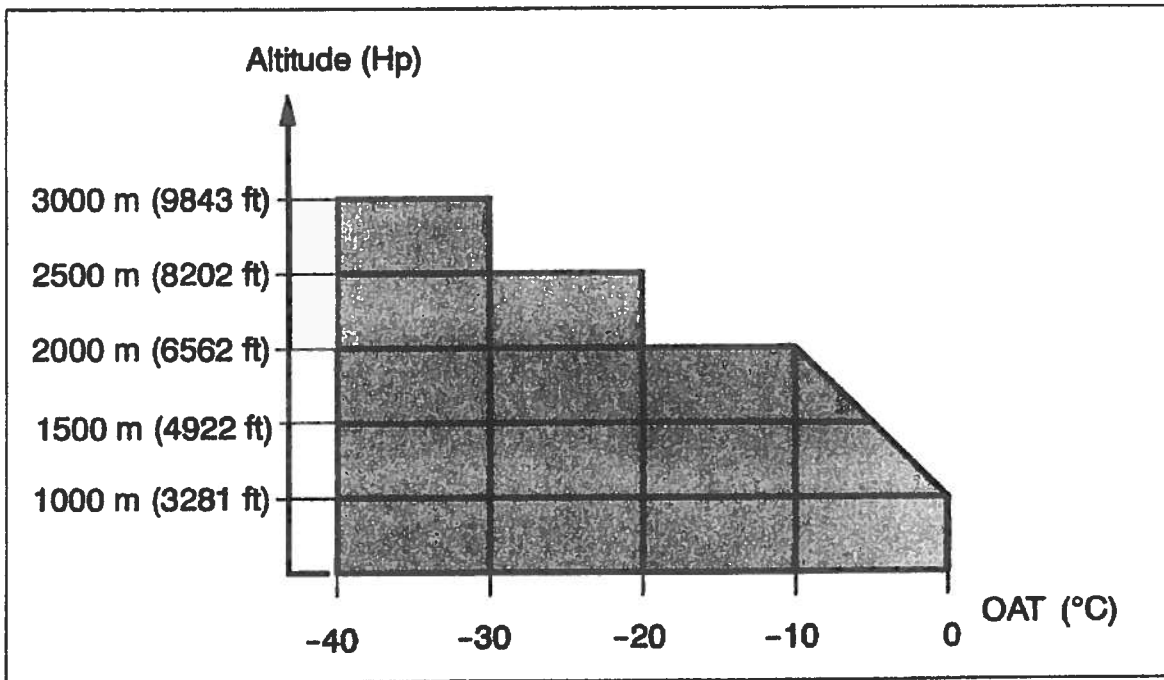


Table 1. Flight Envelope for use of Improved Heating System

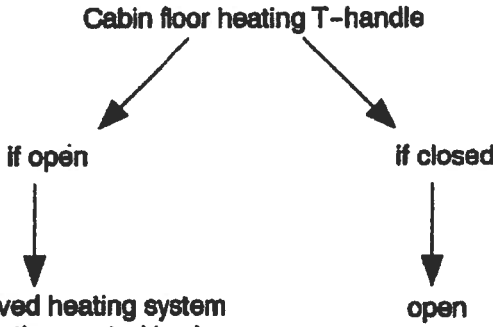
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3. EMERGENCY PROCEDURES

The emergency procedures specified in the flight manual and in the flight manual supplements remain applicable and are completed or modified by the following:

a. Duct Over-Temperature Indicator Illuminated

| WARNING PANEL | CORRECTIVE ACTION |
|---|--|
| <div style="background-color: black; color: white; padding: 10px; text-align: center; font-weight: bold; font-size: 1.2em;">P2 TEMP</div> | <p>1. Follow standard flight manual emergency procedures for P2 TEMP caution light.</p> <p>2. If P2 TEMP remains illuminated follow corrective action below:</p> <div style="text-align: center; margin: 20px 0;"> <p>Cabin floor heating T-handle</p>  <pre> graph TD A[Cabin floor heating T-handle] --> B[if open] A --> C[if closed] B --> D[turn off improved heating system using floor heating control knob. Once P2 TEMP extinguishes, place floor heating T-handle to closed position] C --> E[open] </pre> </div> |

4. NORMAL PROCEDURES

a. Pre-Flight Check

Floor Heating T-Handle : At full closed position
 Floor Heating Control Knob : At full closed position

b. Operation

NOTE: The use of the Improved Heating System outside the Flight envelope as shown in Table 1 is not permissible.

Floor Heating T-Handle : To full open position
 Floor Heating Control Knob : Rotate to full open position

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5. PERFORMANCE DATA

No Change.

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6. WEIGHT AND BALANCE (removable Items) (unapproved)

Total changes to weight and balance resulting from this modification are covered in the applicable Instructions for Continued Airworthiness (ICA).

Items that are removed between routine operation: Not applicable

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