SUBJECT:

Required maintenance for the Improved Heating System (P/N 120-701014).

APPLICABILITY:

Aircraft with the subject modification embodied in accordance with TCCA STC. No. SH02-39 or any relevant foreign approvals.

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~~APP'D~~ / ACCEPTED (Civil A/W Authority)	(As per ICA Compliance Check Sheet) G. David	2013.05.08	TCCA
RELEASED BY:	P. Sharpe For C. Timmins	10th May 2013	ECL ENGINEERING

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 9	Original Issue	H. Paulisch 26 Nov., 2002	T. Czarnecki 26 Nov., 2002	TCCA E. Cheung 29 Nov., 2002	R. Manson 26 Nov., 2002
1	1 through 11	Pages 1 to 10. Format revisions, addition of two labels and drawing changes.	D. Kerr 22 June 2004	T. Czarnecki 22 June 2004	TCCA E. Cheung 24 June 2004	R. Manson 24 June 2004
2	1 through 25	Format revised. Wiring diagram incorporated. Spacers added, fire extinguisher relocated for accessibility (Pages 4 - 6, 8 - 25)	D. Kerr 20 July 2005	T. Czarnecki 20 July 2006	TCCA E. Cheung 16 Aug. 2005	R. Manson 16 Aug. 2005
3	1 through 28	Revised as per EASA approved configuration: relocation of cargo ring, T-handle cable installation improved. Format updated, and Section 8 expanded as per FAA request (Pages 3 to 6, 8 to 23, and 25 to 28)	D. Kerr 29 May 2006	C. Timmins 29 May 2006	TCCA Floyd Eaves 30 May 2006	R. Manson 31 May 2006
4	1 through 30	Revised to incorporate data plate relocation and change to Wiring Diagram (Pages 3, 4, 13 and 30)	D. Kerr 16 August 2006	T. Csarneckit 16 August 2006	TCCA Floyd Eaves 10 October 2006	R. Manson 12 October 2006
5	1 through 39	Addition of wiring diagram for installation with air conditioning. Addition of a boot, boot ring and nutplate to cabin floor. New valve, contact sleeve no longer used. Fire extinguisher relocated to inboard side of co-pilot seat structure, variants -01 and -02 discontinued. Illustrations and part list revised. (Pages 3 to 8, 11 to 38)	D. Kerr 15 June 2010	C. Timmins 17 June 2010	TCCA A. Pompei 7 October, 2010	R. Manson 20 October 2010

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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)
6	1 through 41	Minor template revisions. Addition of note regarding earlier installations of fire extinguishers being secured to the RHS of the center console. Torque reference corrected. Wiring drawing revised. (Pages 4 to 6, 12 to 14, 16, 17, 19, 21 and 24)	D. Kerr 10 September 2012	C. Timmins 10 September 2012	N/A	P. Sharpe 25 April 2013
7	1 through 41	Revised the Airworthiness Limitations statement in Section 2. Additional AMM references in Section 8. Minor corrections to drawing titles. (Pages 4, 7, 8, 11 to 13, 22, 24, 32 and 33)	See page 1.	See page 1.	See page 1.	See page 1.

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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CONTENTS

FIGURES

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FIGURES (continued)

TABLES

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1. GENERAL

A. The Improved Heating System is a bleed air heating system coming from the LH port of the engine providing additional heat to the existing overhead heating system, when required.

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

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

depending on pilot operation (LH or RH).
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.

NOTE: Some earlier installations of the Improved Heating System have the fire extinguisher secured to the RHS of the center console.

The Improved Heating System consists of the following main components:

Fixed Provisions
- deck doubler
- diffuser supports
- floor doubler (-01 variant) (original version)
- fire extinguisher doubler (-02 variant) (original version)

Detachable Provisions
- fire extinguisher
- holder assembly (-01 and -02 variant)
- support bracket assembly (updated fire extinguisher relocation)
- P2 Lines
- heating duct assembly
- protective cover upper assembly
- protective cover lower assembly

The improved heating system takes the hot P2 air from the LH port on the LH side of the engine and mixes it with outside air before it is fed through ducts under the front seats. Refer to Figure 3. The pilot operates a damper which controls the amount of heat supplied to the cabin through two outlets located under the forward seats.

The installation consists of additional P2 lines, an air flow control valve, a diffuser, heating duct and two air outlets.

B. These Instructions for Continued Airworthiness are applicable to aircraft with the subject modification embodied.

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GENERAL (continued)

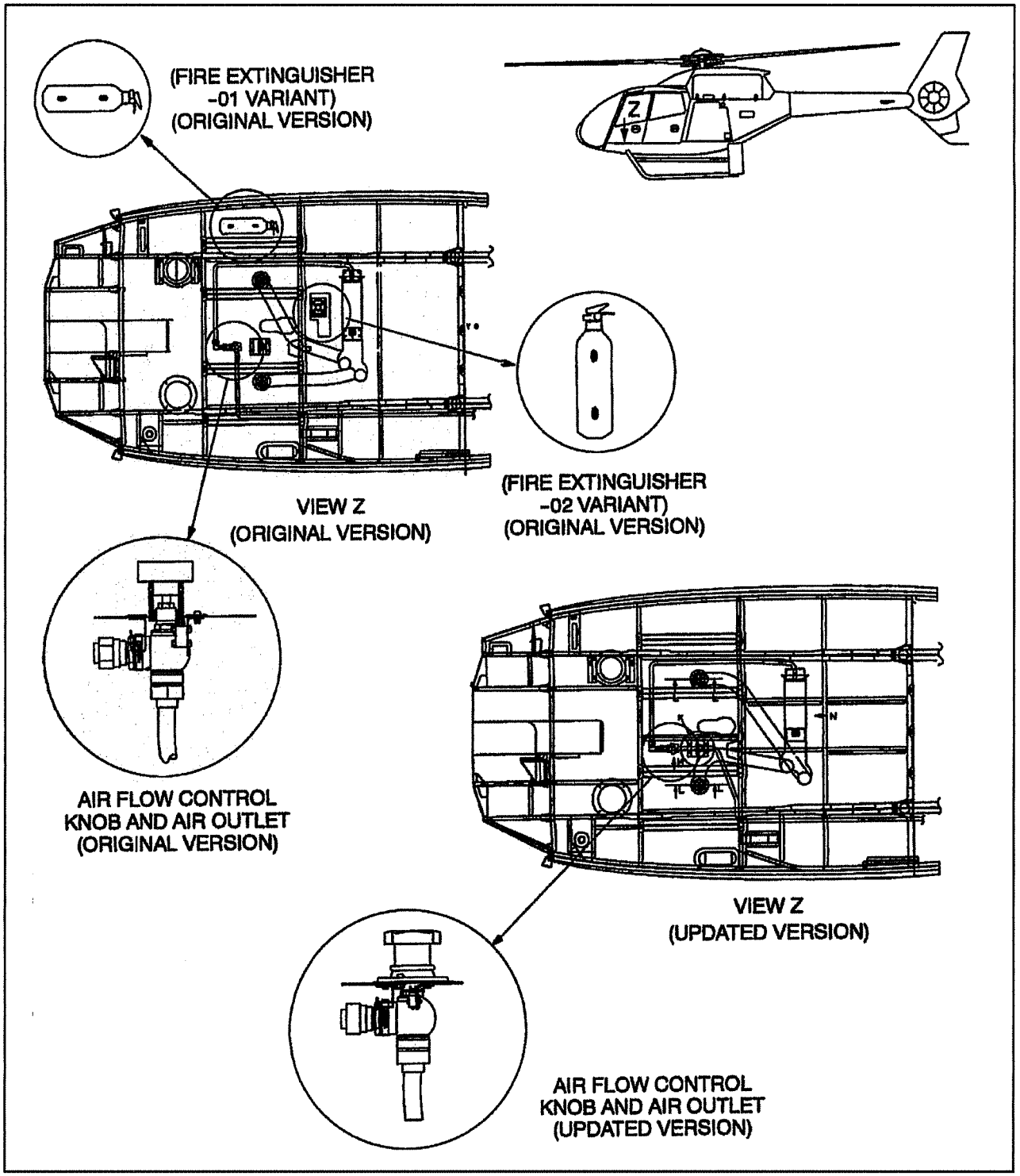

Figure 1 General Layout

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GENERAL (continued)

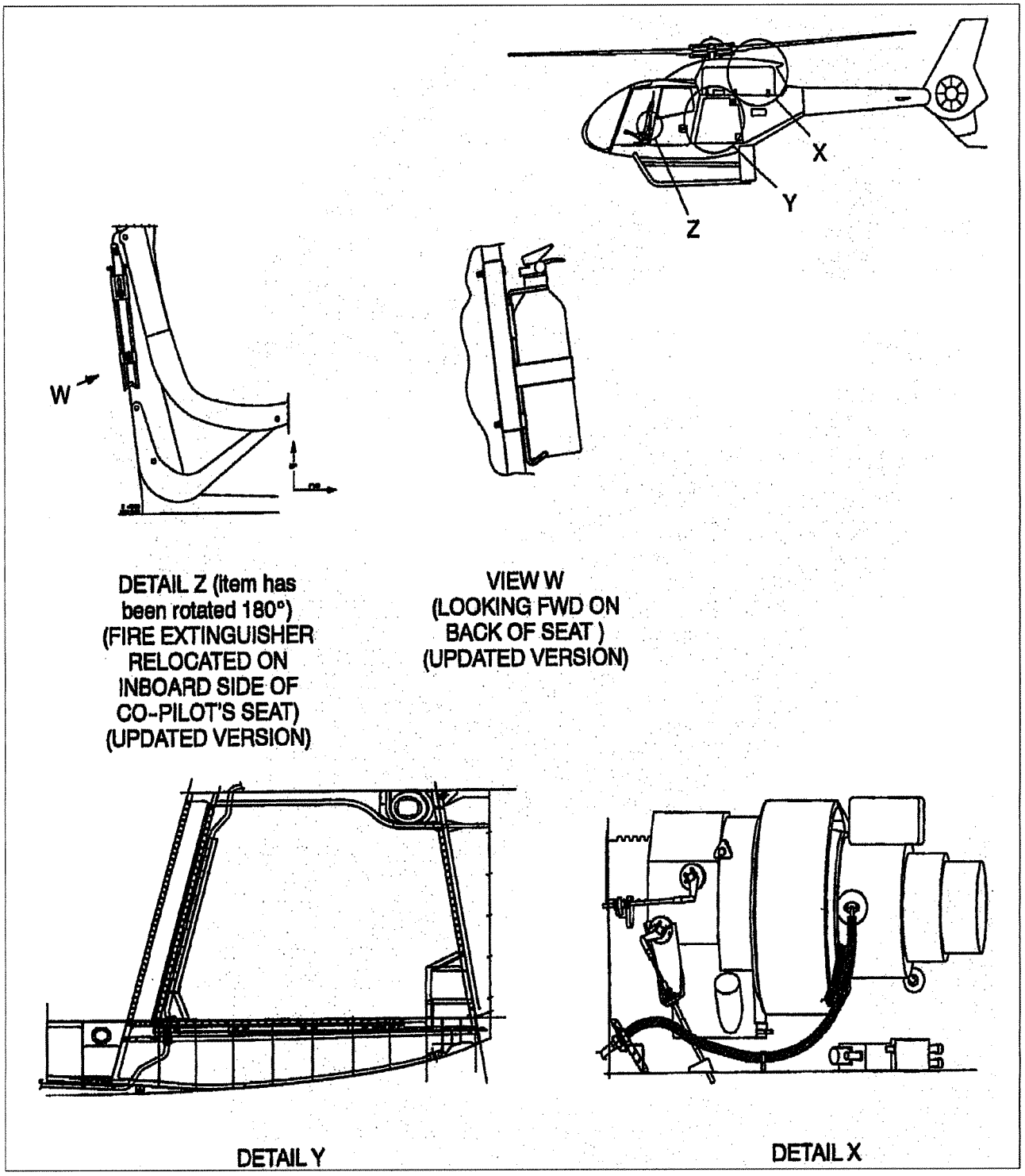

Figure 2 General Layout (continued)

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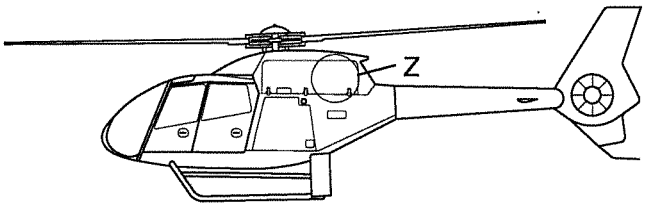
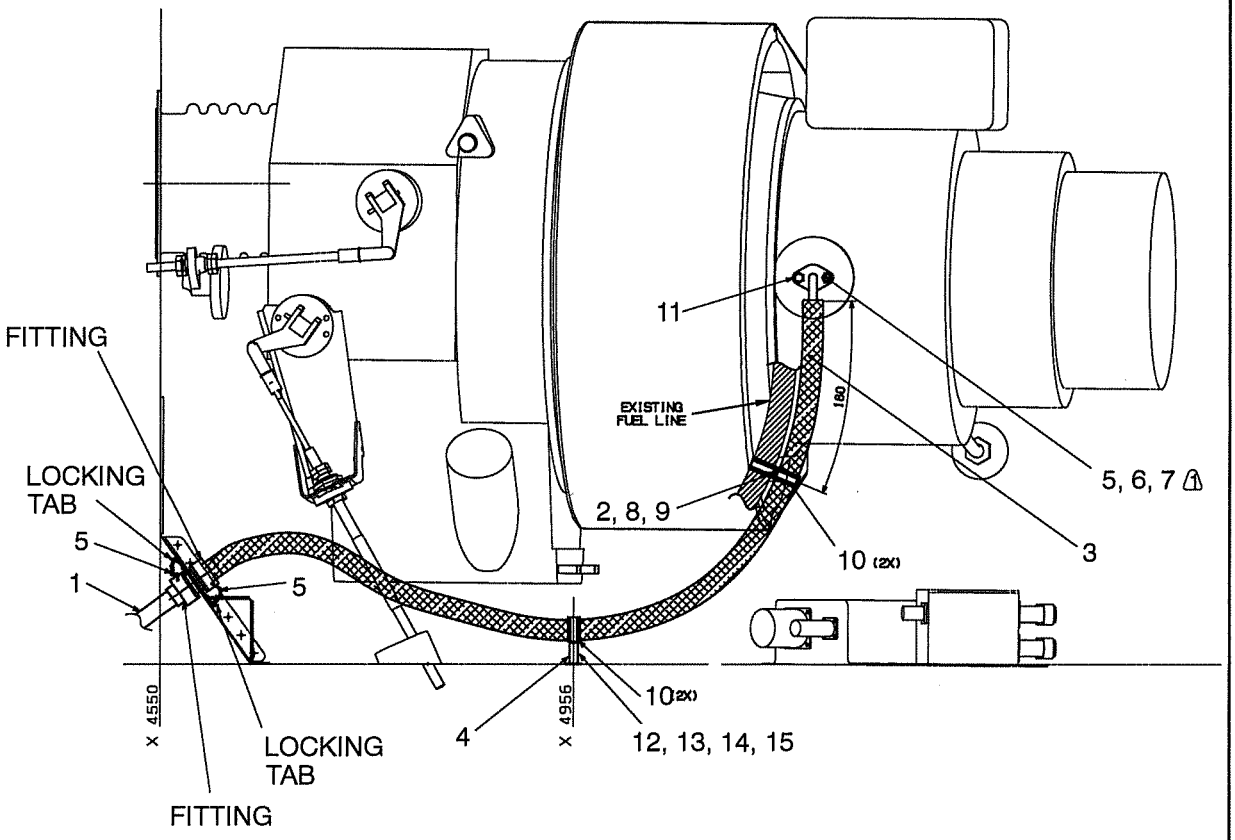
Legend (for Figure 3)

Item Description

1. Rigid P2 Line
2. Nut
3. Flexible P2 Line
4. Spacer
5. Lockwire
6. Washer
7. Bolt
8. Washer
9. Bolt
10. Line Clamp
11. Gasket (P/N 9945000140)
12. Washer
13. Screw
14. Nut
15. Washer





DETAIL Z

⚠ TORQUE TO 0.4 TO 0.5 m. daN (35.4 TO 44.2 IN.LB)

NOTES

Figure 3 Engine LH P2 Port

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C. REFERENCES

DOCUMENT	DOCUMENT TITLE
AC-43.13 - 1B	Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair
AMM	Aircraft Maintenance Manual
IP-ECL-104	Installation Procedure, Improved Heating System
MTC	Standard Practices Manual

D. ABBREVIATIONS & DEFINITIONS

ABBREVIATION	DEFINITION
EC	Eurocopter (France)
ECL	Eurocopter Canada Limited
FAA	Federal Aviation Administration
FWD	Forward
hrs	hours
LH	Left-Hand
P/N	Part Number
RH	Right-Hand
Vol.	Volume

E. UNITS OF MEASUREMENT

ABBREVIATION / SYMBOL	UNIT OF MEASUREMENT
in	inch
kg	kilogram
lb	pound
m	meter
mdan (in.lb)	Meter Deca Newton (inch.pound)

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2. AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister. Variations must also be approved.

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Section 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No airworthiness limitations associated with this installation.

3. CONTROL AND OPERATION

Apart from the following, control and operation of the aircraft remains unchanged.

To turn heat on, pull T-Handle to open position and turn control knob counter-clockwise. To turn heat off, turn control knob clockwise and push T-Handle to closed position.

4. INSPECTION SCHEDULE AND MAINTENANCE ACTION

NOTE: Use torque per MTC, Volume 2, Chapter 20-10-00,3-2, unless otherwise specified.

4.1. INSPECTION SCHEDULE

4.1.1. Every 100 flight hrs or 12 months (to coincide with the 100 hrs or 12 month helicopter inspection), whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect rigid P2 lines, item 1, in Figures 3, 6, 7, 8, 11, 12, 13 and 14 for: a. cracking b. secure fittings c. excessive wear	a. No cracking is allowed. If cracks are found, contact ECL for replacement parts. b. Re-tighten as required. c. Excessive wear is not permitted. If excessive wear is evident, contact ECL for replacement parts.
B	- Visually inspect flexible P2 lines, item 3, in Figures 3 and 6 for: a. cracking b. secure fittings c. excessive wear (frays, tears, cuts, areas have become worn, fluid soaked)	a. No cracking is allowed. If cracks are found, contact ECL for replacement parts. b. Re-tighten as required. c. Excessive wear is not permitted. If excessive wear is evident, contact ECL for replacement parts.
C	- Check attachment hardware, items 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, and 15, in Figure 3 for: a. security	a. Re-tighten as required.
D	- Check union, item 4, and attachment hardware, items 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16, in Figure 6 for: a. security	a. Re-tighten as required.
E	- Check union, item 4, and lockwire, item 5, in Figure 7 for: a. security	a. Re-tighten as required, and reinstall lockwire as per AMM, Chapter 20-10-00, 3-1.

Table 1 Inspection Schedule and Maintenance Action
Every 100 flight hrs or 12 months, whichever occurs first
(continued on following page)

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4. INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)

4.1. INSPECTION SCHEDULE (continued)

4.1.2. Every 100 flight hrs or 12 months (to coincide with the 100 hrs or 12 month helicopter inspection), whichever occurs first

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
F	- Visually inspect protective cover, upper assembly, item 2, and protective cover lower assembly, item 3, in Figure 7 for:	
	a. security	a. Secure velcro. If necessary, replace velcro.
	b. excessive damage (dents, deformity, impact damage)	b. Excessive damage is not permitted. If excessive damage is evident, contact ECL for replacement parts.
G	- Visually inspect sealing compound P/N PR1422-B2, item 2, in Figure 6, and Figure 8 for:	
	a. damage to sealant	a. Remove sealant from effected area. Clean area and reapply sealant in accordance with MTC, Chapter 20-10-00, 3-14.
H	- Visually inspect T-handle, item 1, in Figure 7. Visually inspect bolt, item 8 or screw, item 21, and T-Handle cable, item 14, in Figure 13 for:	
	a. function	a. If T-handle is not functioning correctly, loosen bolt, item 8 or screw, item 21, adjust cable and re-tighten bolt/screw.
I	- Visually inspect switch, item 15, in Figures 11 and 12 for:	
	a. function (P2 light should illuminate on VEMD when control valve is in open position)	a. If limit switch not functioning properly, contact ECL for replacement part.
	b. security of wires	b. Secure wires as required
	c. cracking, frayed or burned connections	c. No cracking, fraying or burning are allowed. If cracking or fraying are found, contact ECL for replacement parts. If burns are found, determine cause and contact ECL for replacement parts

Table 1 Inspection Schedule and Maintenance Action
Every 100 flight hrs or 12 months, whichever occurs first
(continued on following page)

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4. INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)

4.1. INSPECTION SCHEDULE (continued)

4.1.2. Every 100 flight hrs or 12 months (to coincide with the 100 hrs or 12 month helicopter inspection), whichever occurs first

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
J	- Visually inspect P2 diffuser, item 2, in Figures 13 and 14 for:	
	a. cracks	a. No cracking is allowed. If cracks are found, contact ECL for replacement parts.
	b. secure fittings	b. Re-tighten clamps, item 3 as required
K	- Visually inspect hoses, item 4, in Figures 13 and 14 for:	
	a. security	a. Re-tighten clamps (item 15) as required
	b. cracking	b. No cracks are allowed. If cracks are found, contact ECL for replacement parts.
L	- Visually inspect heating duct assembly, item 5 in Figures 13 and 14 for:	
	a. cracking	a. No cracks are allowed. If cracks are found, contact ECL for replacement parts.
M	- Check fire extinguisher installation attachment hardware items 1, 2, 3, 4, and 5, in Figure 15, and items 1, 2, 3 and 4 in Figure 16 for:	
	a. security	a. Re-tighten as required.
N	- Check placards and markings (refer to Section 10) for:	
	a. legibility	a. If placards have become illegible, contact Eurocopter Canada Limited for replacement parts.
	b. secure mounting	b. Secure or reattach placards and markings as required

Table 1 Inspection Schedule and Maintenance Action
Every 100 flight hrs or 12 months, whichever occurs first

5. REPLACEMENT COMPONENTS AND REPAIR / OVERHAUL INFORMATION

Contact ECL for replacement parts. No overhaul information required for this installation.

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6. TROUBLESHOOTING

For electrical system troubleshooting, refer to Figures 4 and 5 Wiring Diagrams.

ITEM	TROUBLE SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
A	No warm air output at floor outlets	Obstructed output screen	Check for and remove obstruction
		Valve closed	Open Valve
		Butterfly valve in heating duct closed	Operate T-Handle and check if butterfly valve is moving

Table 2 Troubleshooting Guide

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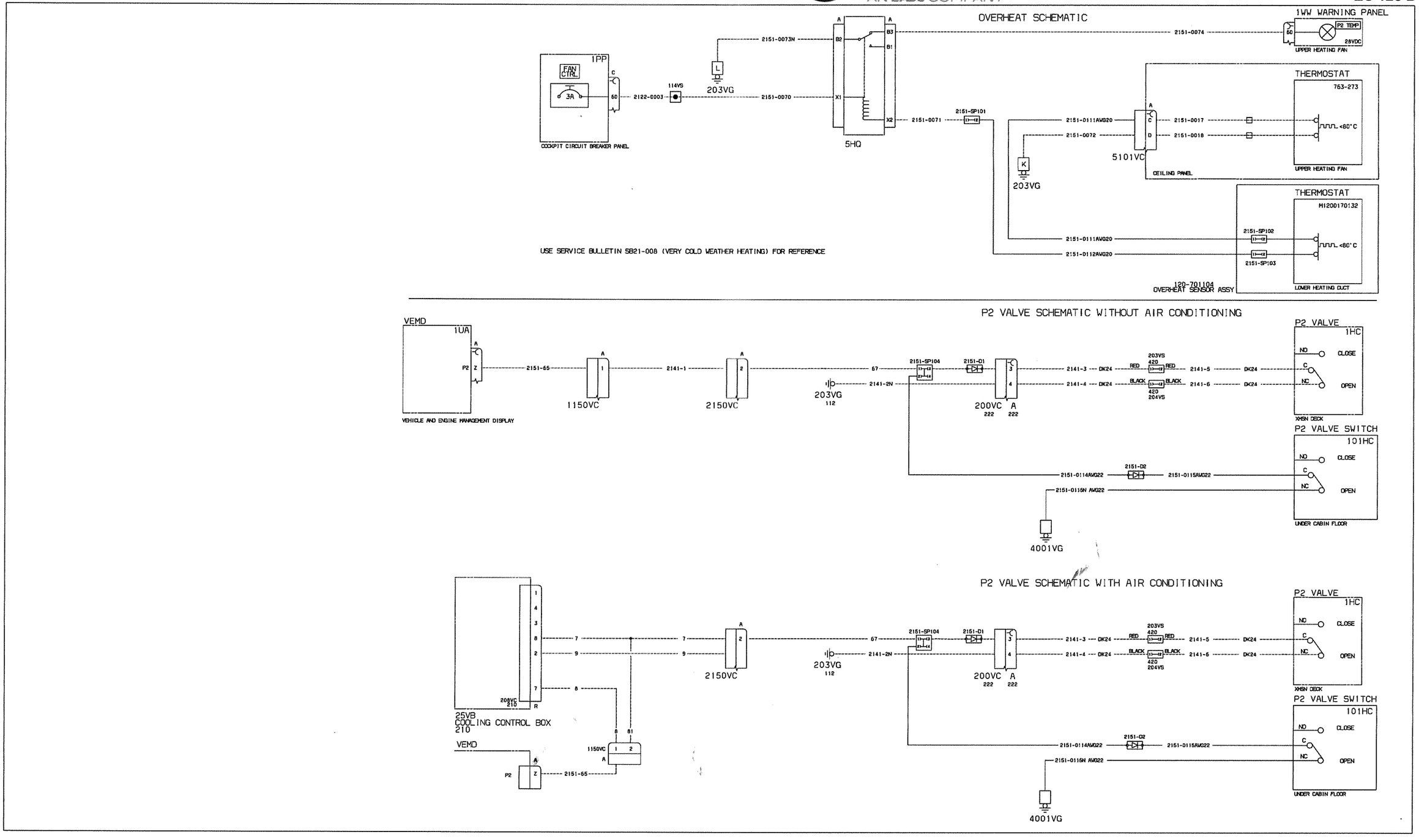

Figure 4 Wiring Diagram for Improved Heating

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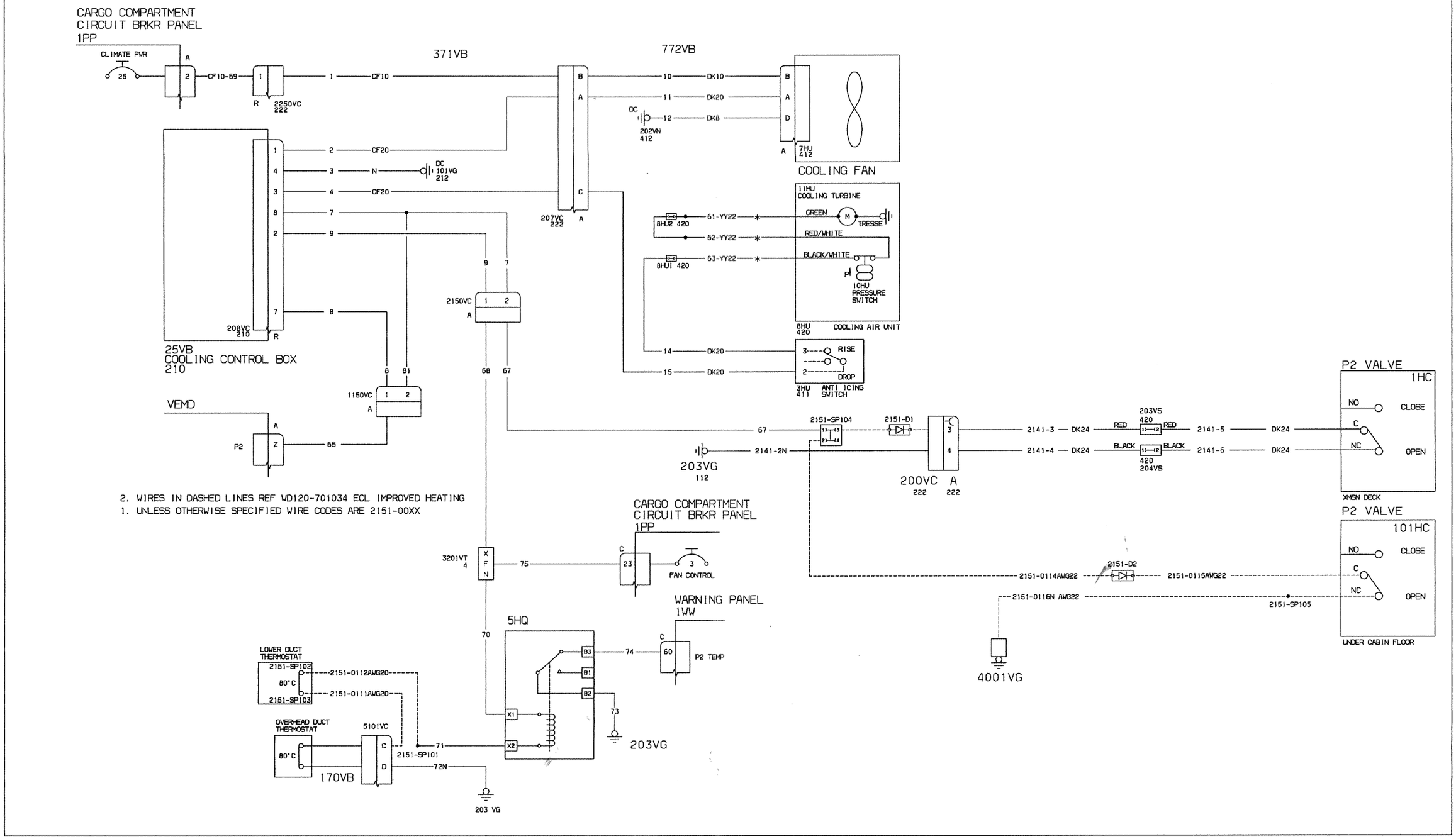

2. WIRES IN DASHED LINES REF WD120-701034 ECL IMPROVED HEATING
1. UNLESS OTHERWISE SPECIFIED WIRE CODES ARE 2151-00XX

Figure 5 Wiring Diagram for Air Conditioning Installation with Improved Heating

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7. SPECIAL TOOLING

No special test equipment or tools are required. Standard tools are adequate.

8. REMOVAL AND REPLACEMENT

Preliminaries

- Read Servicing - Energization of Electrical Systems on the Ground (refer to EC 120, AMM, Chapter 24-00-00, 2-1).
- Read General Safety Instructions - Air Conditioning (refer to EC 120, AMM, Chapter 21-00-00, 3-1).
- Read General Safety Instructions - Electrical Power Supply System (refer to EC 120, AMM, Chapter 24-00-00, 3-1).
- disconnect the external power unit and battery (Removal / Installation refer to EC 120, AMM, Chapter 24-33-00, 4-1).
- Remove LH fairing and center bottom fairing (Removal / Installation refer to EC 120, AMM, Chapter 53-70-00, 4-1).
- Fully open LHS inspection door on rear upper cowling and keep open with rod.

A. REMOVAL

1) Engine LH P2 Port (Refer to Figure 3)

a) Remove bolt (9), nut (2), and washer (8) from line clamp (10). Remove line clamp (10) from fuel line and flexible P2 line (3).

b) Remove screw (13), washer (12), spacer (4), washer (15), and nut (14) from line clamp (10). Remove line clamp (10).

c) Remove lockwire (5), bolt (7), and washer (6) and remove flexible P2 line (3) from P2 Port on aircraft.

NOTE If P2 line is removed from P2 engine port, gasket (11) must be replaced during installation (Turbomeca P/N 9945000140).

d) Remove lockwire (5) from locking tab in the fire wall fitting and disconnect flexible P2 line (3) from fitting. Cap off fitting until reinstallation of flexible P2 line (3).

2) Transmission Deck (Refer to Figure 6)

a) Remove screws (10), nuts (6), washers (7) (2 places, updated version only), washers (13) (original version only), and spacers (11) from both line clamps (8) on the rigid P2 line (1) on the transmission deck. Remove both line clamps (8).

b) Remove lockwire (5) from locking tab in the fire wall fitting and disconnect rigid P2 line (1).

c) Remove lockwire (5) from union (4). Disconnect rigid P2 line (1).

d) Remove screw (15), nut (6), washer (7), washer (14), and spacer (16) from line clamp (8). Remove line clamp (8).

e) Carefully remove rigid line (1) from transmission deck.

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8. REMOVAL AND REPLACEMENT (continued)

3) LH Side Cargo Compartment (Refer to Figures 6, 7 and 8)

a) Remove screw (15), nut (6), washer (7), washer (14) (original version only), and spacer (16) from line clamp (8) on transmission deck FWD of the union (4). Refer to Figure 6.

b) With LH cargo compartment door open, remove protective cover lower assembly (3), and protective cover upper assembly (2). Refer to Figure 7.

c) Remove screw (6), and washer (7) from line clamp (3). Remove line clamp (3) from cargo compartment wall. Refer to Figure 8.

d) Remove lockwire (5) from union (4) under cabin floor disconnecting rigid P2 line (1). Refer to Figure 7.

e) Carefully pull rigid P2 line (1) up through grommet (7) in cargo compartment floor. Then pull line out of cargo compartment while carefully pulling it down from transmission deck.

f) Remove screws (6), nuts (5), and washers (7) from line clamps (3) under cabin floor from STN's 2635 and 3048. Refer to DETAIL A and DETAIL B in Figure 8.

4) Control Valve (Original Version, refer to Figure 11)

a) Remove pin (9) from contact sleeve (6), and remove control knob (12).

b) Remove lockwire (5), seal (10), and disconnect union (11) and rigid P2 line (1) from valve (8).

NOTE Seal (11) must be replaced during installation (ECL P/N R13316Z12).

c) Remove lockwire (5) and disconnect elbow (20) and rigid P2 line (1) from valve (8).

d) Disconnect clamp (3) from valve support bracket (4) and remove valve (8).

Control Valve (Updated Version, refer to Figure 12)

a) Remove pin (9) from valve (8), and remove control knob (12) and boot (6).

b) Remove screws (22) (2 places) from boot ring (21) and remove boot ring (21).

c) Remove lockwire (5), seal (10), and disconnect union (11) and rigid P2 line (1) from valve (8).

NOTE Seal (11) must be replaced during installation (ECL P/N R13316Z12).

d) Remove lockwire (5) and disconnect elbow (20) and rigid P2 line (1) from valve (8).

e) Disconnect clamp (3) from valve support bracket (4) and remove valve (8).

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8. REMOVAL AND REPLACEMENT (continued)

5) Switch (Refer to Figure 11)

a) Remove screws (18), nuts (17) and washers (19) and remove switch (15) from contact bracket (7).

6) Heating Duct Assembly (Original Version, refer to Figures 10 and 13)

a) Remove clamp (16) and disconnect P2 line (1) from P2 diffuser (2). Refer to Figure 13.

b) Remove clamps (15) from both hoses (4). Disconnect hoses (4) from heating duct assembly (5).

c) Remove tywrap securing hoses (4) to tywrap base (13). Refer to Figure 13. Remove clamps (2) from each floor outlet and remove hoses (2) from under cabin floor. Refer to Figure 10.

d) Remove screw (4), washer (5) and nut (3) from line clamp (6). Remove line clamp (6) and P2 line from under cabin floor.

e) Remove T-Handle cable (14) from lever by removing nut (19) from screw (21) pull cable (14) from bushing (20).

f) Disconnect clamps (3) (2 places) from diffuser supports and remove heating duct assembly (5) and P2 diffuser (2).

6) Heating Duct Assembly (Updated Version, refer to Figures 10 and 14)

a) Remove clamp (16) and disconnect P2 line (1) from P2 diffuser (2). Refer to Figure 14.

b) Remove clamps (15) from both hoses (4). Disconnect hoses (4) from heating duct assembly (5).

c) Remove tywrap securing hoses (4) to tywrap base (13). Refer to Figure 14. Remove clamps (2) from each floor outlet and remove hoses (2) from under cabin floor. Refer to Figure 10.

d) Remove screw (4), washer (5) and nut (3) from line clamp (6). Remove line clamp (6) and P2 line from under cabin floor.

e) Remove T-Handle cable (14) from lever. Remove lockwire (17), from nuts (6). Remove lockwire (17) from nut (6) and bolt (8). Remove nut (6) bolt (8), and washer (18), from bushing (12) pull cable from bushing (12).

f) Disconnect clamps (3) (2 places) from diffuser supports and remove heating duct assembly (5) and P2 diffuser (2).

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8. REMOVAL AND REPLACEMENT (continued)

B. REPLACEMENT

NOTE Use torque per MTC, Volume 2, Chapter 20.10.00.3-2, unless otherwise specified.

For Safetying with Lockwire - refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

Sealing compound PR 1422-B2 - refer to method of application of sealants - Airframe, MTC, Chapter 20-10-00, 3-14.

1) Engine LH P2 Port (Refer to Figure 3)

a) Attach new gasket (11) and flexible P2 line (3) to LH P2 engine port and secure using washers (6), bolts (7) and lockwire (5). Torque bolts (7) to 0.4 to 0.5 m. daN (35.4 to 44.2 in.lb.).

b) Secure other end of flexible P2 line (3) to fitting in the fire wall. Apply lockwire (5) to locking tab and flexible P2 line (3). Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

c) Attach flexible P2 line (3) to existing fuel line using two line clamps (10). Secure line clamps using bolt (9), washer (8) and nut (2).

d) Secure flexible P2 line (3) at STN 4956 using line clamp (10), spacer (4), screw (13), washer (12), washer (15), and nut (14).

2) Transmission Deck (Refer to Figure 6)

a) Connect rigid P2 line (1) to fitting in the fire wall and to the union (4) on the transmission deck.

b) Secure rigid P2 line (1) to transmission deck using two line clamps (8). Secure line clamps (8) (2 places) to deck using screws (10), spacers (11), washers (7) (2 places), washers (13) (original version only), and nuts (6).

c) Apply lockwire (5) to the locking tab in the fire wall fitting and the rigid P2 line (1).

3) LH Side Cargo Compartment (Refer to Figures 6, 7 and 8)

a) Route rigid P2 line (1) from cargo compartment through grommet (12) on transmission deck and down through grommet (7) in cabin floor. Refer to Figure 6.

b) Connect rigid P2 line (1) to union (4) below cabin floor and secure using lockwire (5). Refer to Figure 7 and Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

c) Secure rigid P2 line (1) to transmission deck using line clamp (8), screw (15), nut (6), washer (7) (2 places), washer (14) (original version only), and spacer (16). Refer to Figure 6.

d) Secure rigid P2 line (1) to cargo compartment wall using line clamp (3), washer (7) and screw (6). Refer to Figure 8.

e) Secure rigid P2 line under cabin floor from STN's 2635 and 3048 using screws (6), nuts (5), and washers (7) from line clamps (3). Refer to DETAIL A and DETAIL B in Figure 8.

f) Attach protective cover upper assembly (2) and protective cover lower assembly (3) to cargo compartment wall. Refer to Figure 7.

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8. REMOVAL AND REPLACEMENT (continued)

4) Control Valve (Original Version, Refer to Figure 11)

a) Reposition valve (8) and secure to valve support bracket (4) using clamp (3).

b) Connect rigid P2 line (1) to valve (8) and secure using new seal (10), union (11) and lockwire (5). Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

c) Connect elbow (20) to valve (8) and secure using lockwire (5). Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

d) Connect rigid P2 line (1) elbow (20) and secure using lockwire (5). Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

e) Slide contact sleeve (6) over shaft, slide control knob (12) inside contact sleeve (6) and onto shaft. Align holes in shaft, contact sleeve (6) and control knob (12) and insert pin (9) through contact sleeve (6) control knob (12) and shaft to secure.

Control Valve (Updated Version, Refer to Figure 12)

a) Reposition valve (8) and secure to valve support bracket (4) using clamp (3).

b) Connect rigid P2 line (1) to valve (8) and secure using new seal (10), union (11) and lockwire (5). Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

c) Connect elbow (20) to valve (8) and secure using lockwire (5). Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

d) Connect rigid P2 line (1) elbow (20) and secure using lockwire (5).

e) Reposition boot ring (21) onto cabin floor and secure using screws (22) (2 places).

f) Slide boot (6) and control knob (12) onto shaft. Align holes in shaft, control knob (12) and insert pin (9) through valve (8) control knob (12) and shaft to secure.

5) Switch (Refer to Figures 11 and 12)

a) Align switch (15) on contact bracket (7) ensuring that center of actuator arm is to the centerline of contact sleeve (6) and secure using screw (18), washer (19), and nut (17). Refer to Note 1 in Figures 11 and 12.

b) Reconnect switch wire in accordance with wiring diagram shown in Figures 4 or 5 depending on system installed.

6) Heating Duct Assembly (Old style, refer to Figures 10 and 13)

a) Secure heating duct assembly (5) with P2 diffuser (2) to diffuser supports using clamps (3) (2 places). Refer to Figure 13.

b) Secure P2 line under cabin floor using screw (4), washer (5) and nut (3) to line clamp (6). Refer to Figure 10.

c) Connect both hoses (4) to heating duct assembly (5), and secure using clamps (15).

d) Connect one hose (2) to each floor outlet and secure using clamps (1). Refer to Figure 10. Secure hoses (4) to tywrap bases (13). Refer to Figure 13.

e) Feed washer (18) and bushing (12) from the bottom through hole in lever. Secure bushing (12) to lever using nuts (6). Secure nuts (6) using lockwire (17). Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

f) Feed T-Handle cable (14) through hole in bushing (20) and screw (21). Bend cable at right angle and secure using nut (19).

g) Secure rigid P2 line (1) to P2 diffuser (2) and secure using clamp (16).

Transport Canada Accepted

8. REMOVAL AND REPLACEMENT (continued)

6) Heating Duct Assembly (New style, refer to Figures 10 and 14)

a) Secure heating duct assembly (5) with P2 diffuser (2) to diffuser supports using clamps (3) (2 places).

b) Secure P2 line under cabin floor using screw (4), washer (5) and nut (3) to line clamp (6). Refer to Figure 10.

c) Connect both hoses (4) to heating duct assembly (5), and secure using clamps (15).

d) Connect one hose (2) to each floor outlet and secure using clamps (1). Refer to Figure 10. Secure hoses (4) to tywrap bases (13). Refer to Figure 14.

e) Feed washer (18) and bushing (12) from the bottom through hole in lever. Secure bushing (12) to lever using nuts (6). Secure nuts (6) using lockwire (17).Refer to Locking - Airframe, MTC, Chapter 20-10-00, 3-1.

f) Feed T-Handle cable (14) through hole in bushing (12). Secure T-Handle cable (14), bushing (12), with nut (6), and bolt (8). Once bushing (12) has sufficient amount of movement about the arm of the lever, tighten nut (6) and secure to bolt (8) using lockwire (17).

g) Secure rigid P2 line (1) to P2 diffuser (2) and secure using clamp (16).

7) Close all areas open for service in the PRELIMINARIES paragraph of this section.

8) Install the LH fairing and center bottom fairing (Removal / Installation refer to EC 120, AMM, Chapter 53-70-00, 4-1).

9) Before energizing the aircraft power supply system, read Servicing - Energization of Electrical Systems on the Ground (refer to EC 120, AMM, Chapter 24-00-00, 2-1).

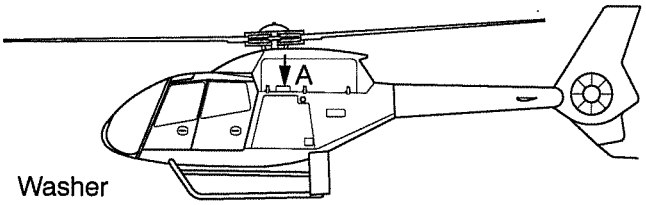
10) Reconnect the external power unit and battery (Removal / Installation refer to EC 120, AMM, Chapter 24-33-00, 4-1).

11) Perform functional tests in accordance with EC 120 B, AMM, Chapters 24-33-00, 5-1 and 24-33-00, 5-2.

12) Perform check after maintenance work - air conditioning in accordance with EC 120 B, AMM, Chapter 21-00-00, 6-1.

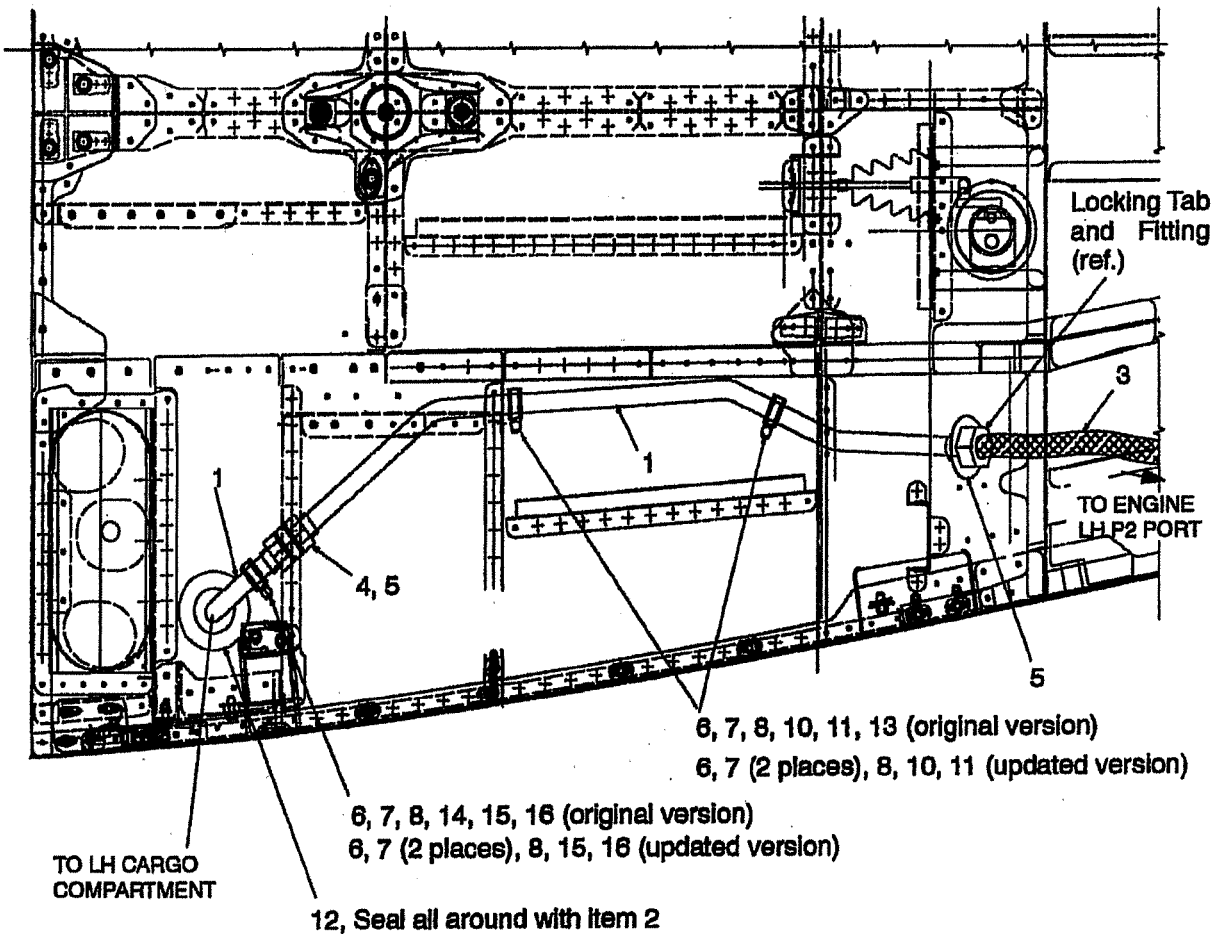
13) Perform functional tests - P2 Indicating System in accordance with EC 120 B, AMM, Chapter 21-41-00, 5-1

Transport Canada Accepted



Legend (for Figure 6)

Item	Description
1.	Rigid P2 Line
2.	Sealing Compound (P/N PR1422-B2)
3.	Flexible P2 Line
4.	Union
5.	Lockwire
6.	Nut
7.	Washer
8.	Line Clamp
9.	Washer
10.	Screw
11.	Spacer
12.	Grommet
13.	Washer
14.	Washer
15.	Screw
16.	Spacer



VIEW A

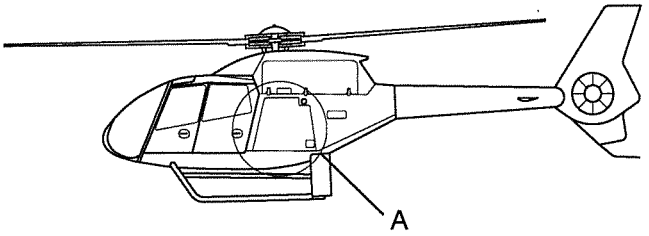
Figure 6 Transmission Deck

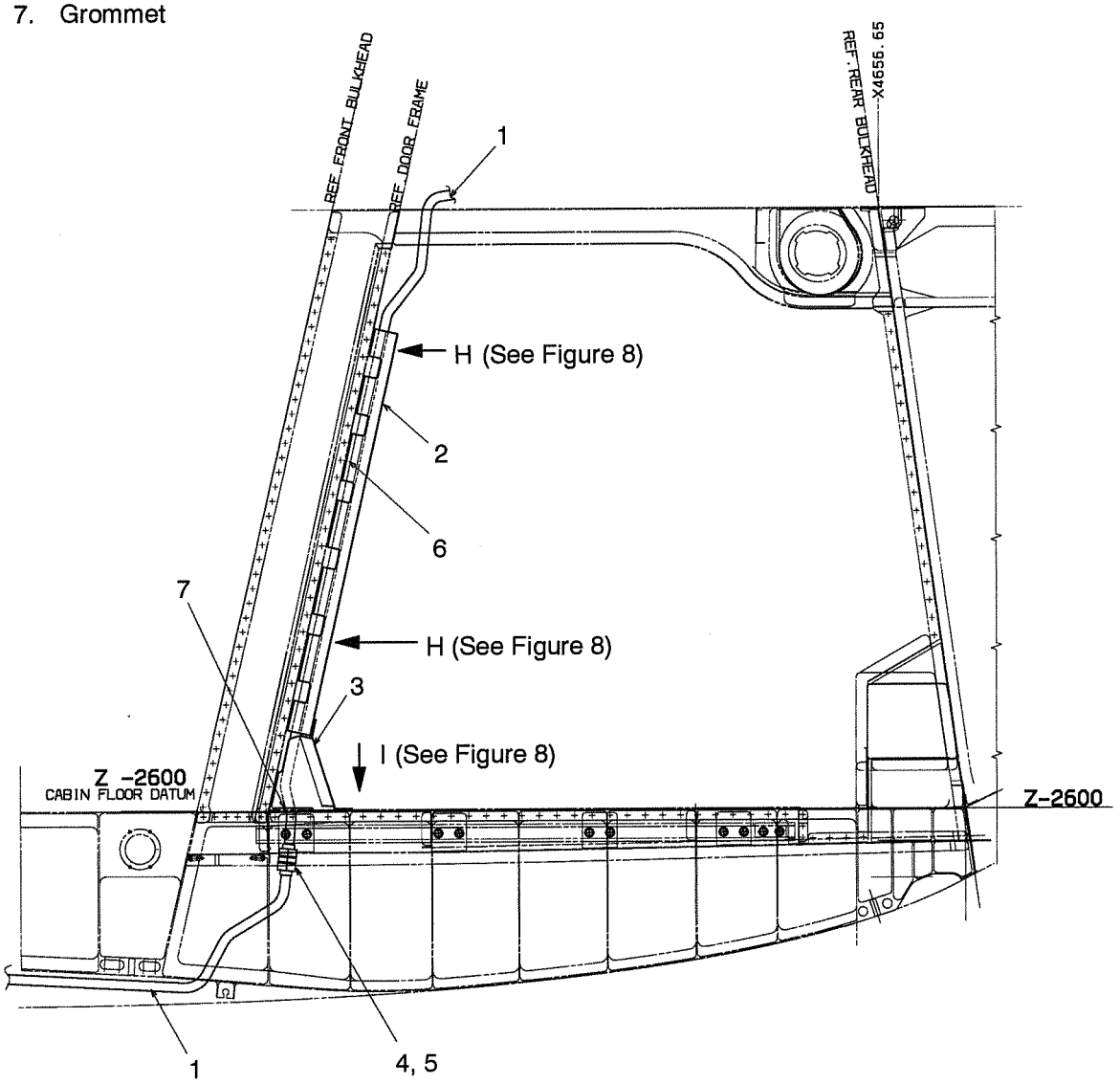
Transport Canada Accepted

Legend (for Figure 7)

Item Description

1. Rigid P2 Line
2. Protective Cover Upper Assembly
3. Protective Cover Lower Assembly
4. Union
5. Lockwire
6. Velcro
7. Grommet





DETAIL A

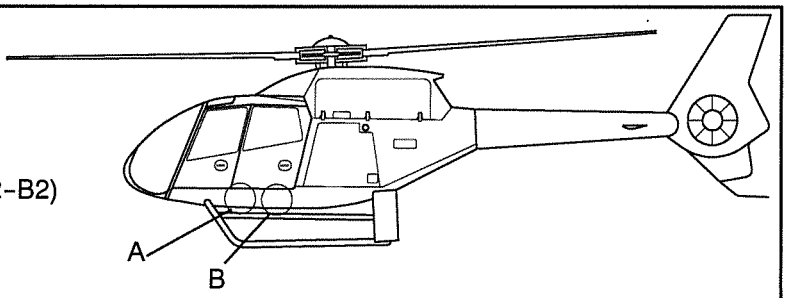
Figure 7 LH Side Cargo Compartment

Transport Canada Accepted

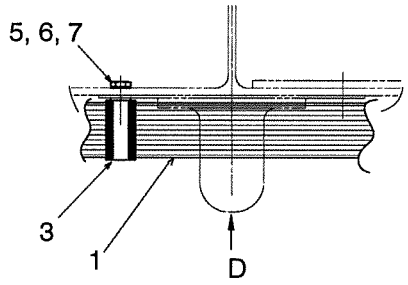
Legend (for Figure 8)

Item Description

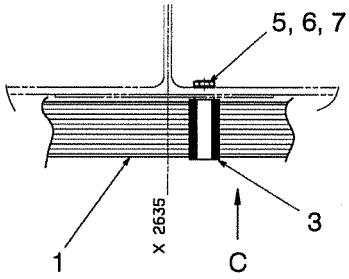
1. Rigid P2 Line
2. Sealing Compound (P/N PR1422-B2)
3. Line Clamp
4. Grommet
5. Nut
6. Screw, Hex Hd.
7. Washer



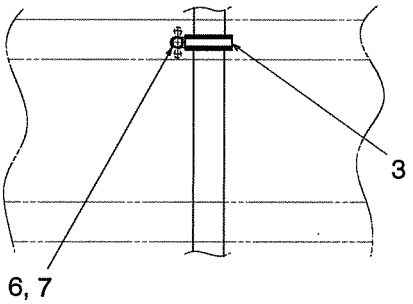
DETAIL B
(LOOKING INBOARD AT LH JACK POINT)



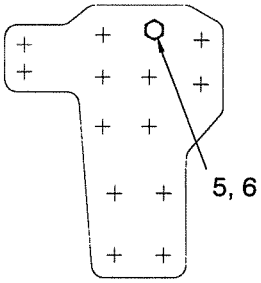
DETAIL A



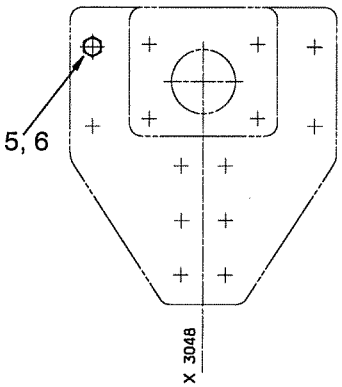
VIEW H (Refer to Figure 7)
(Typical - 2 places)
(PROTECTIVE COVER LOWER ASSEMBLY NOT SHOWN FOR CLARITY)



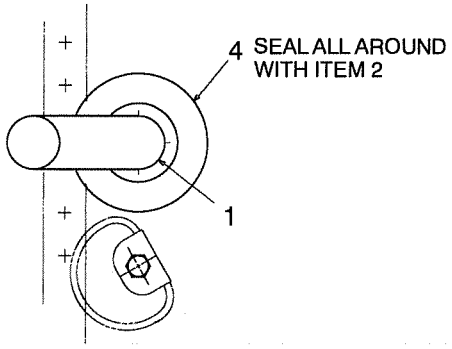
VIEW C



VIEW D
(P2 LINE NOT SHOWN FOR CLARITY)



VIEW I (Refer to Figure 7)
(LOOKING DOWN AT LH FWD CORNER OF CARGO FLOOR)
(PROTECTIVE COVER LOWER ASSEMBLY NOT SHOWN FOR CLARITY)
(ORIGINAL VERSION)



VIEW I (Refer to Figure 7)
(LOOKING DOWN AT LH FWD CORNER OF CARGO FLOOR)
(PROTECTIVE COVER LOWER ASSEMBLY NOT SHOWN FOR CLARITY)
(UPDATED VERSION)

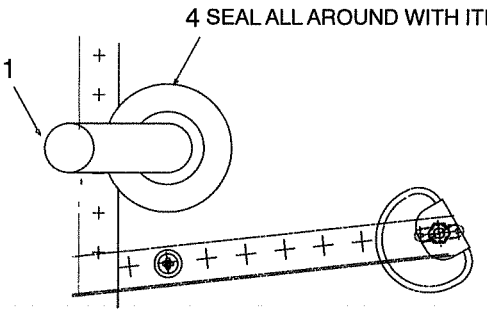


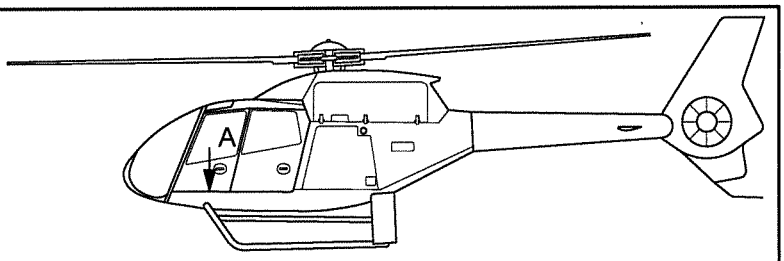
Figure 8 Installation Details

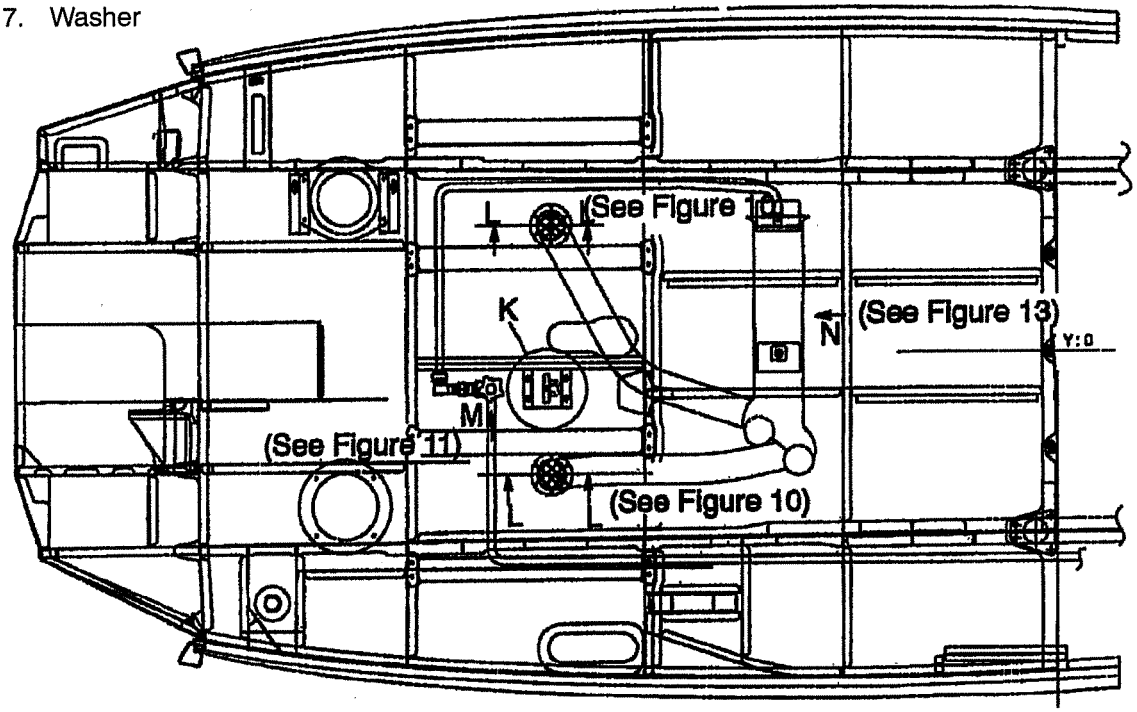
Transport Canada Accepted

Legend (for Figure 9)

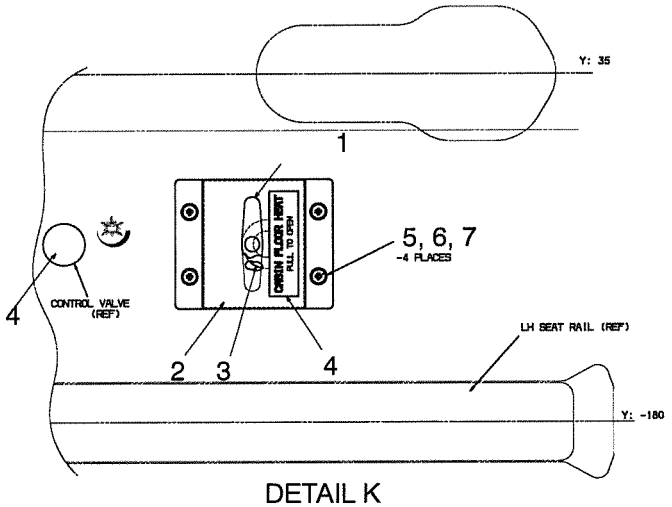
Item Description

1. T-Handle
2. Support Bracket
3. Grommet
4. Identification Label
5. Nut
6. Screw, Flat Hd.
7. Washer





VIEW A (ORIGINAL VERSION)



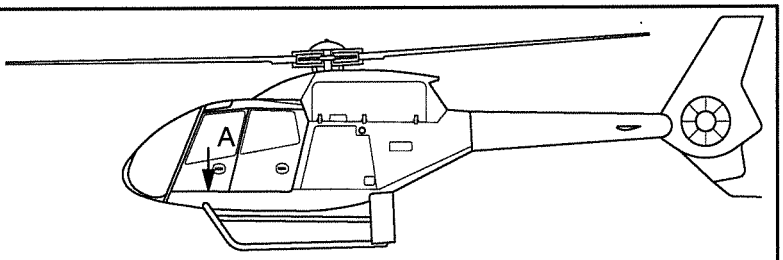
DETAIL K

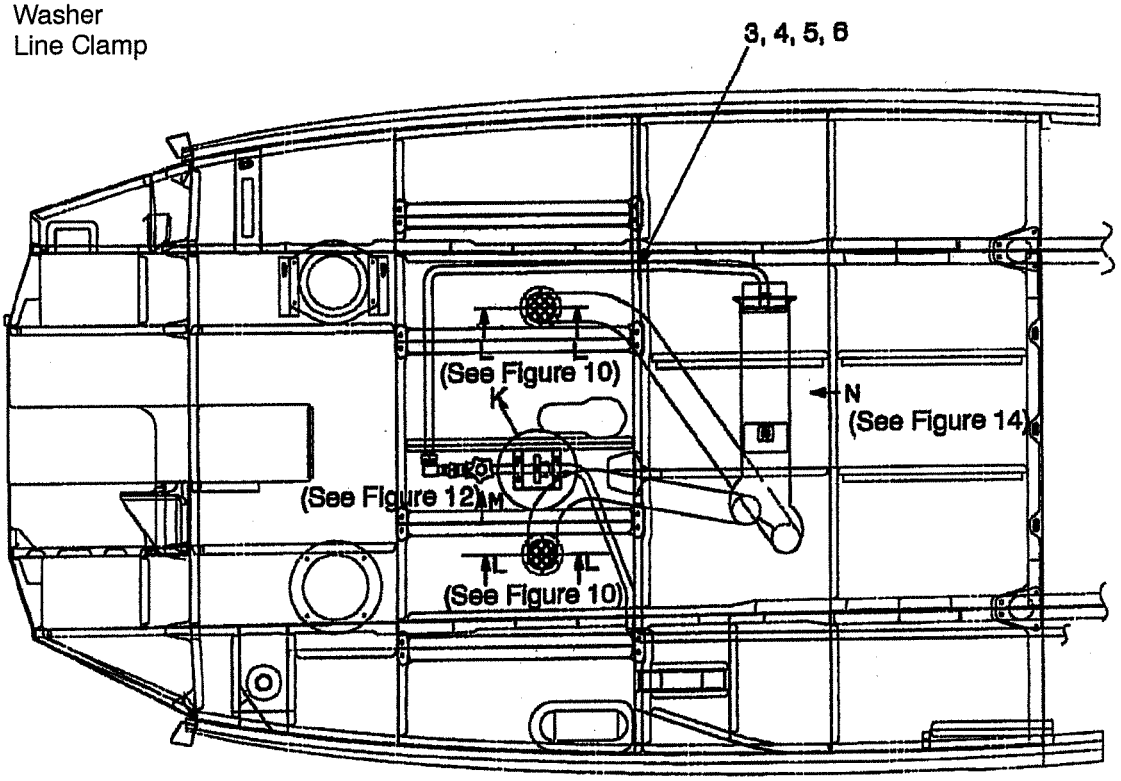
Figure 9 Cabin Floor Details (Original Version)

Transport Canada Accepted

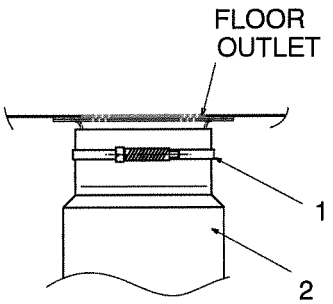
Legend (for Figure 10)

Item	Description
1.	Clamp
2.	Hose
3.	Nut
4.	Screw
5.	Washer
6.	Line Clamp





VIEW A (UPDATED VERSION)



SECTION L-L (Refer to Figure 9 and 10)
(Typical - 2 places)

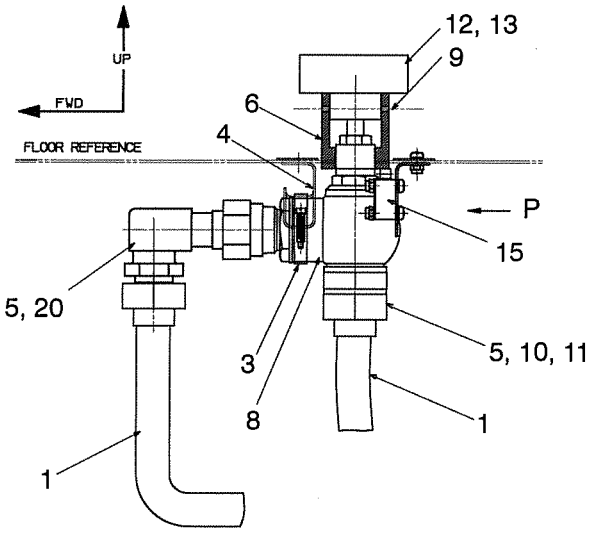
Figure 10 Cabin Floor Details (Updated Version)

Transport Canada Accepted

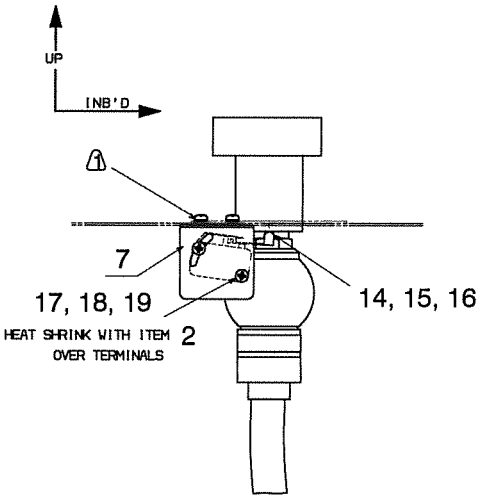
Legend (for Figure 11)

Item Description

1. Rigid P2 Line
2. Shrink Tubing
3. Clamp
4. Valve Support Bracket
5. Lockwire
6. Contact Sleeve
7. Contact Bracket
8. Valve
9. Pin
10. Seal (P/N R13316212)
11. Union
12. Control Knob
13. Label
14. Terminal
15. Switch
16. Actuator
17. Nut
18. Screw, Hex Hd.
19. Washer
20. Elbow



VIEW M (Refer to Figure 9)



VIEW P

1 MAKE ANY FINAL ADJUSTMENTS TO SWITCH POSITION SO THAT ACTUATOR ENGAGES WHEN CONTROL KNOB IS IN DOWN CLOCKWISE POSITION (HEAT OFF) DISENGAGED WHEN CONTROL KNOB IS MOVED FROM DOWN COUNTER-CLOCKWISE POSITION (HEAT ON)

NOTES

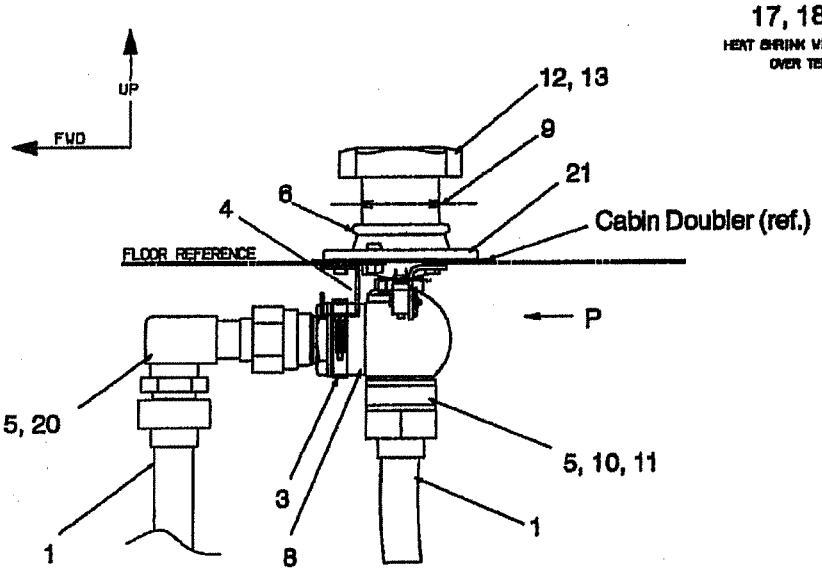
Figure 11 Air Flow Control Knob and Air Outlet (Original Version)

Transport Canada Accepted

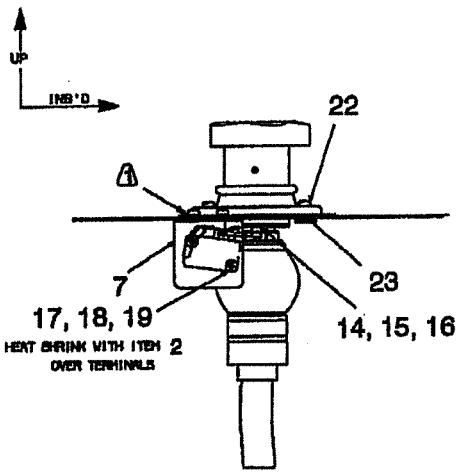
Legend (for Figure 12)

Item Description

1. Rigid P2 Line
2. Shrink Tubing
3. Clamp
4. Valve Support Bracket
5. Lockwire
6. Boot
7. Contact Bracket
8. Valve
9. Pin
10. Seal (P/N R13316212)
11. Union
12. Control Knob
13. Label
14. Terminal
15. Switch
16. Actuator
17. Nut
18. Screw, Hex Hd.
19. Washer
20. Elbow
21. Boot Ring
22. Screw
23. Nutplate



VIEW M (Refer to Figure 10)



VIEW P

A MAKE ANY FINAL ADJUSTMENTS TO SWITCH POSITION SO THAT ACTUATOR ENGAGES WHEN CONTROL KNOB IS IN DOWN CLOCKWISE POSITION (HEAT OFF) DISENGAGED WHEN CONTROL KNOB IS MOVED FROM DOWN COUNTER-CLOCKWISE POSITION (HEAT ON)

NOTES

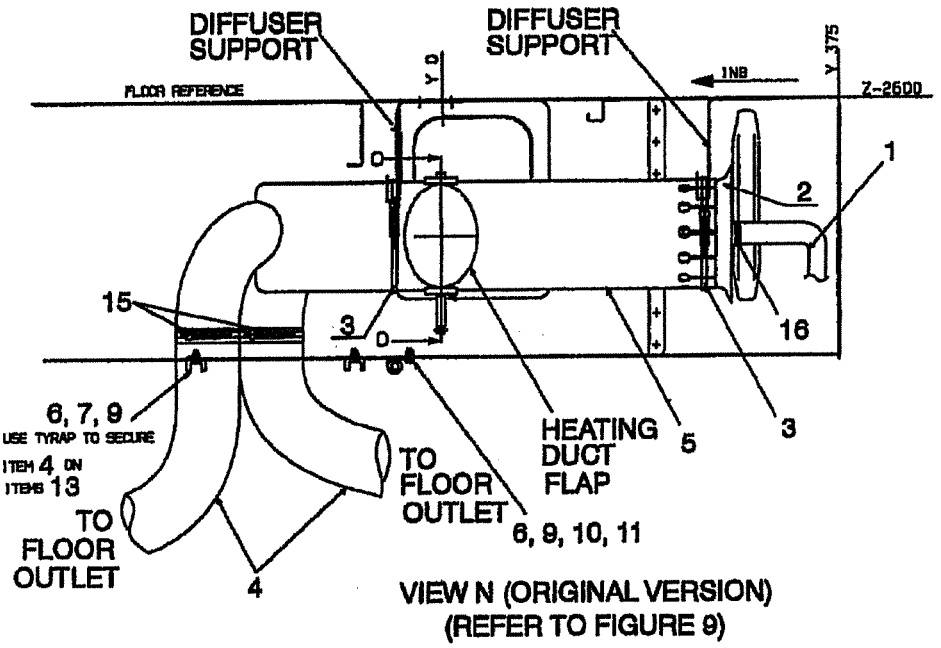
Figure 12 Air Flow Control Knob and Air Outlet (Updated Version)

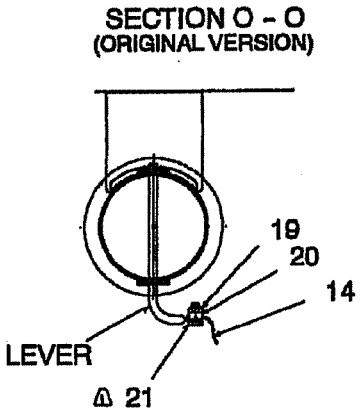
Transport Canada Accepted

Legend (for Figure 13)

Item Description

1. Rigid P2 Line
2. P2 Diffuser
3. Clamp
4. Hose
5. Heating Duct Assembly
6. Nut
7. Screw, Rd Hd.
8. Bolt
9. Washer
10. Cable Clamp
11. Bolt
12. Bushing
13. Tywrap Base
14. T-Handle Cable
15. Clamp
16. Clamp
17. Lockwire
18. Washer
19. Washer
20. Bushing
21. Screw





NOTES

2. LEAVE SUFFICIENT PLAY TO ALLOW FREE MOVEMENT OF BUSHING (12) ABOUT THE ARM OF THE LEVER

1. HEATING DUCT FLAP IS OPEN WHEN HANDLE IS PULLED UP
HEATING DUCT FLAP IS CLOSED WHEN HANDLE IS PUSHED DOWN
FLAP LEVER IS ROTATING CLOCKWISE FROM CLOSE TO OPEN POSITION (45° ROTATION)
FLAP ANGLE RELATIVE TO LEVER IS 45° CLOCKWISE (LOOKING FROM THE TOP)

Figure 13 Heating Duct Assembly and Floor Outlet

Transport Canada Accepted

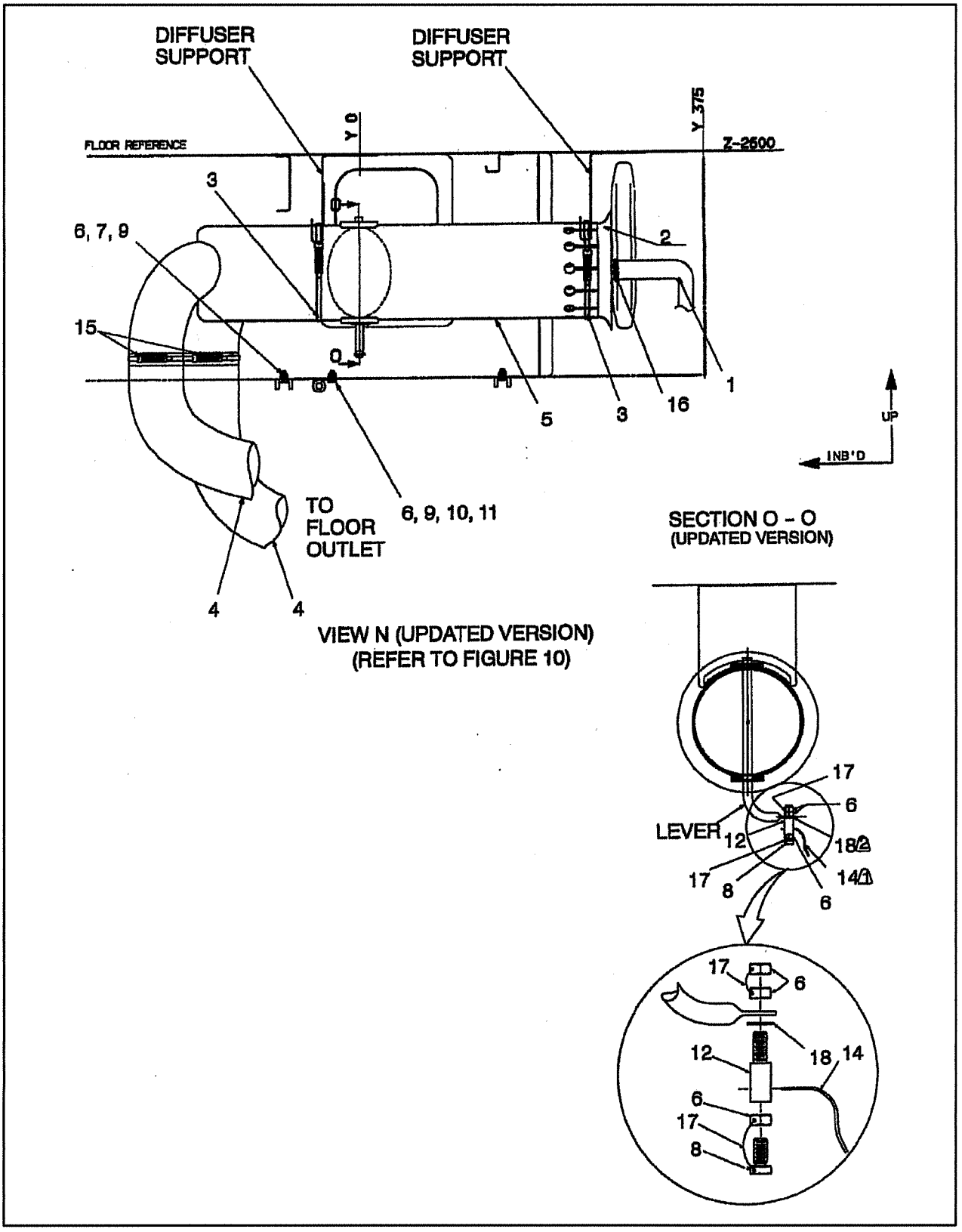
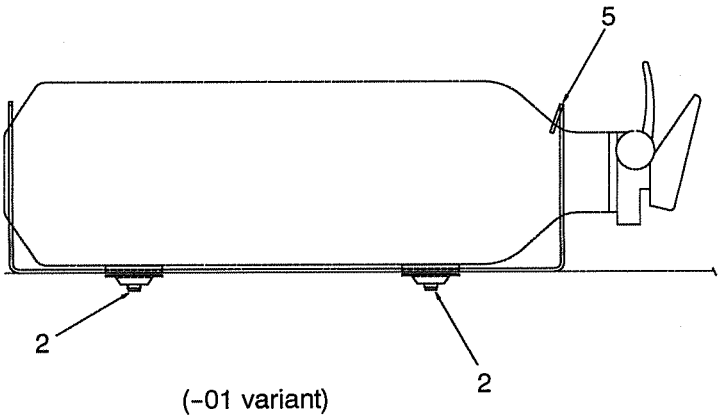
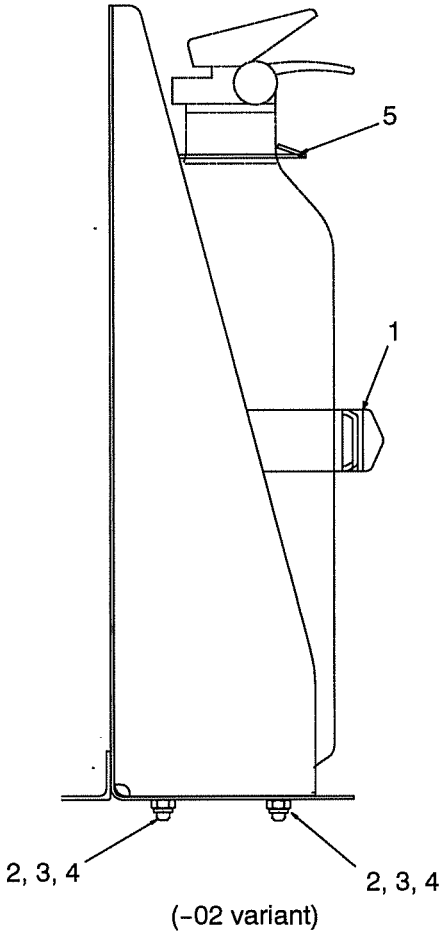


Figure 14 Heating Duct Assembly and Floor Outlet (continued)

Transport Canada Accepted



(-01 variant)



(-02 variant)

Legend (for Figure 15)

Item	Description
1.	Clamp
2.	Screw
3.	Washer
4.	Self Locking Nut
5.	Spring Clamp

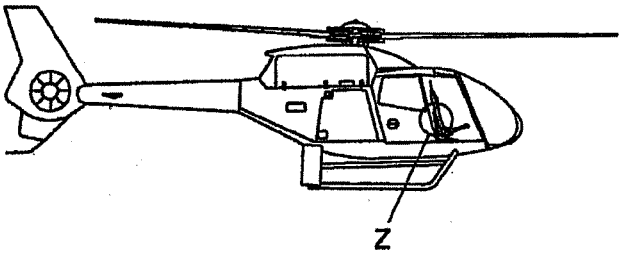
Figure 15 Fire Extinguisher Installation

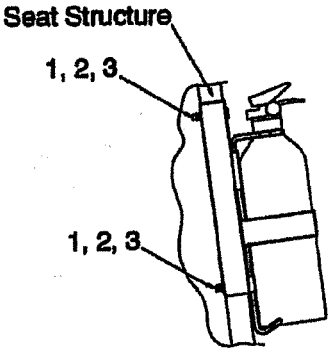
Transport Canada Accepted

Legend (for Figure 16)

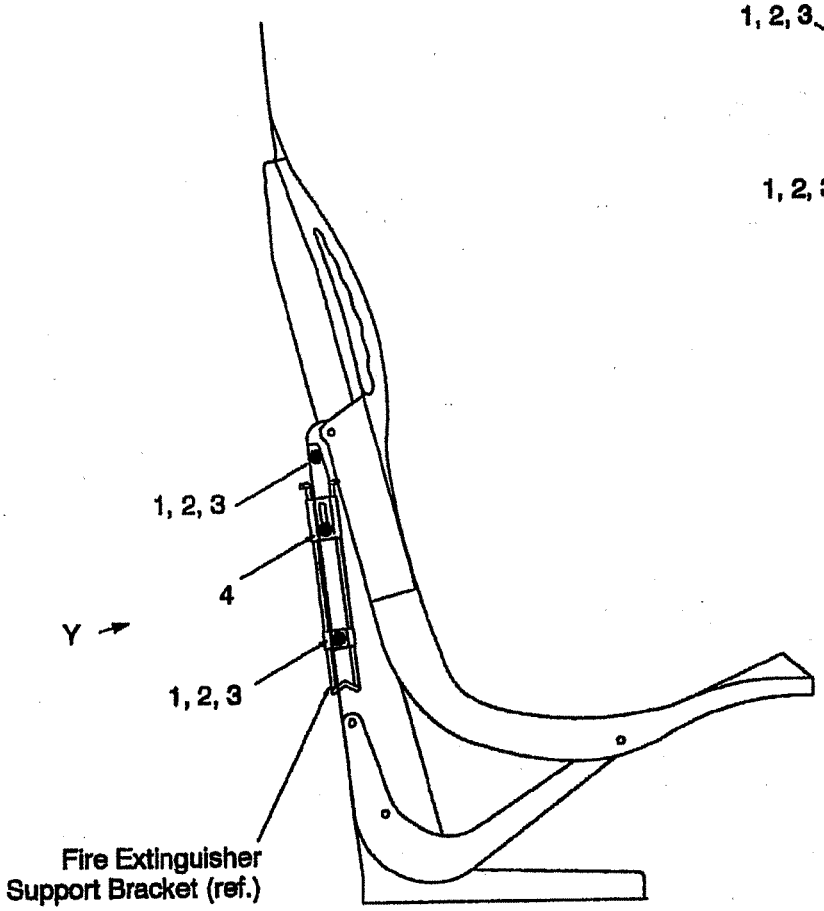
Item Description

1. Screw
2. Washer
3. Nut
4. Screw





VIEW Y
(LOOKING FWD ON
BACK OF SEAT)
(UPDATED VERSION)



DETAIL Z
(FIRE EXTINGUISHER
RELOCATED ON
INBOARD SIDE OF
CO-PILOT'S SEAT)
(UPDATED VERSION)

Figure 16 Fire Extinguisher Relocation for both LH and RH Pilot Operation

Transport Canada Accepted

9. WEIGHT AND BALANCE DATA

Improved Heating (-01 variant and Fire Extinguisher Relocation)

A. Removed Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
Not applicable	0.00	0.0	0.00	0.0	0.00	0.0
Total	0.00	0.0	0.00	0.0	0.00	0.0

B. Added Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
Fixed Provisions	2.04	4.5	2.87	112.9	5.85	508.1
Detachable Provisions	5.45	12.0	3.56	140.2	19.41	1682.4
-01 variant and Fire Extinguisher Relocation	1.68	3.7	2.44	96.1	4.10	355.6
Total	9.17	20.2	3.20	126.0	29.36	2546.0

Improved Heating (-02 variant)

A. Removed Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
Not applicable	0.00	0.0	0.00	0.0	0.00	0.0
Total	0.00	0.0	0.00	0.0	0.00	0.0

B. Added Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
Fixed Provisions	2.04	4.5	2.87	112.9	5.85	508.1
Detachable Provisions	5.45	12.0	3.56	140.2	19.41	1682.4
-02 variant	1.68	3.7	2.67	105.1	4.49	388.9
Total	9.17	20.2	3.24	127.7	29.74	2579.3

Transport Canada Accepted

10. PLACARDS AND MARKINGS

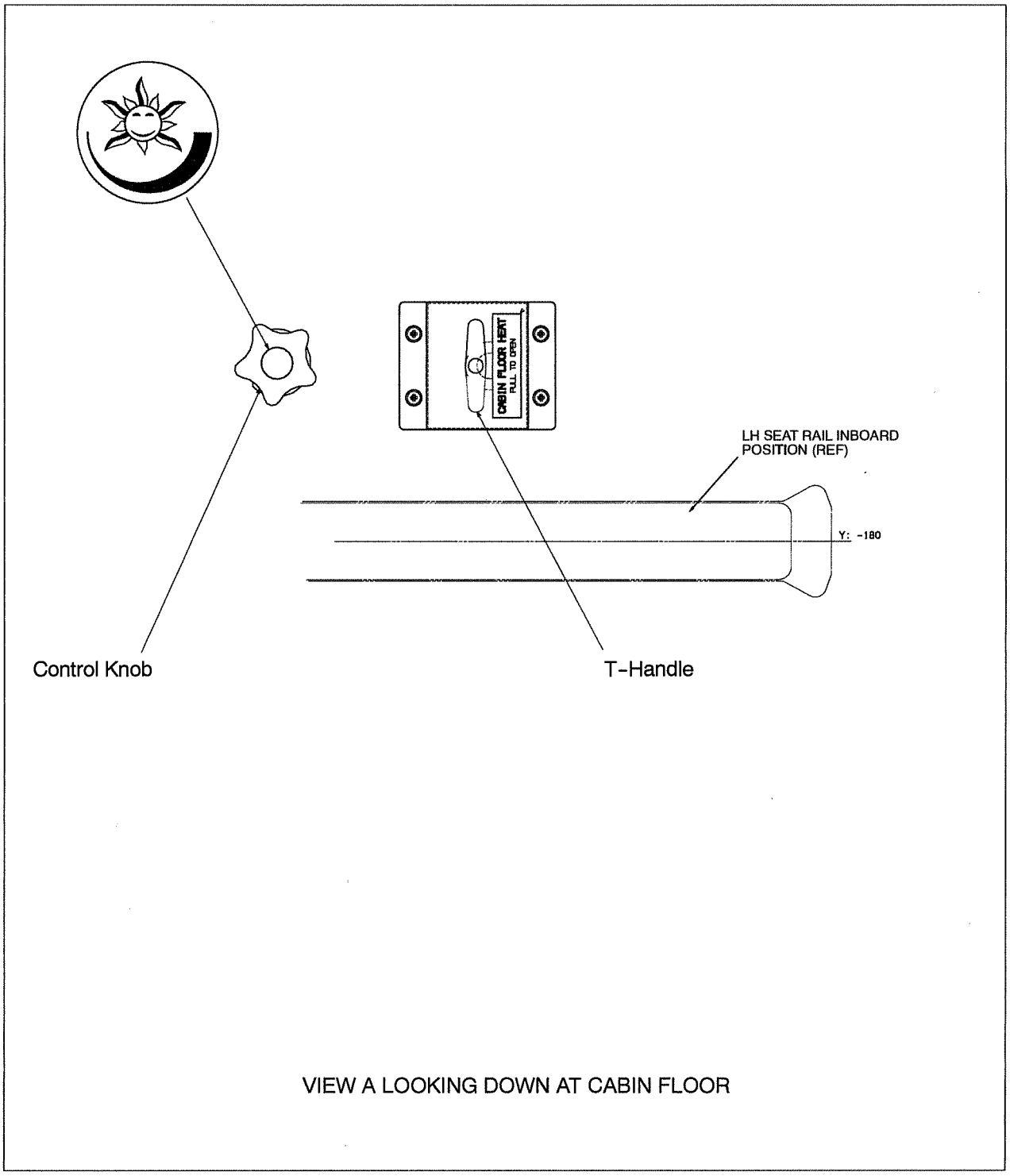


Figure 17 Typical label location on control knob

Transport Canada Accepted

11. PLACARDS AND MARKINGS

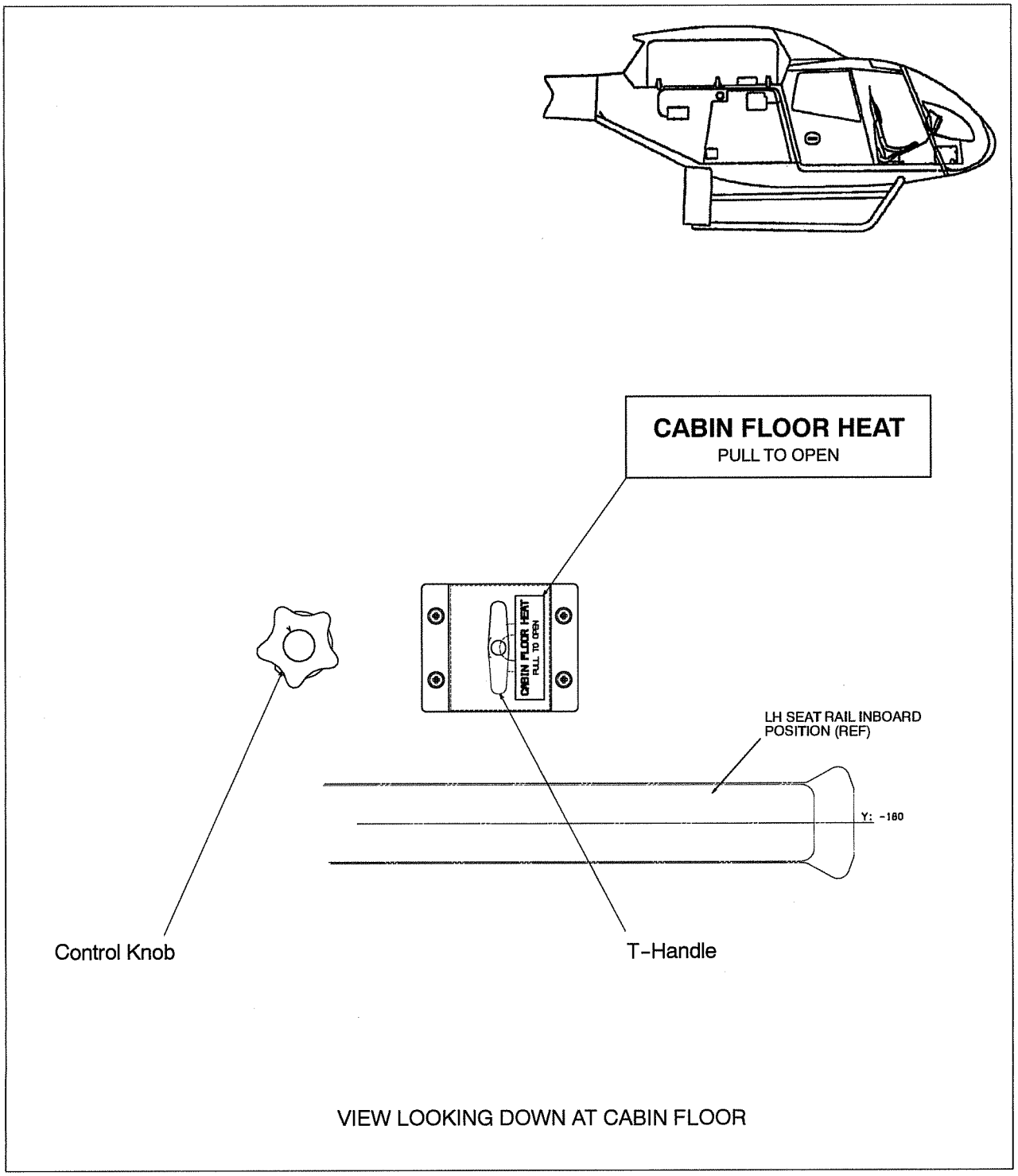
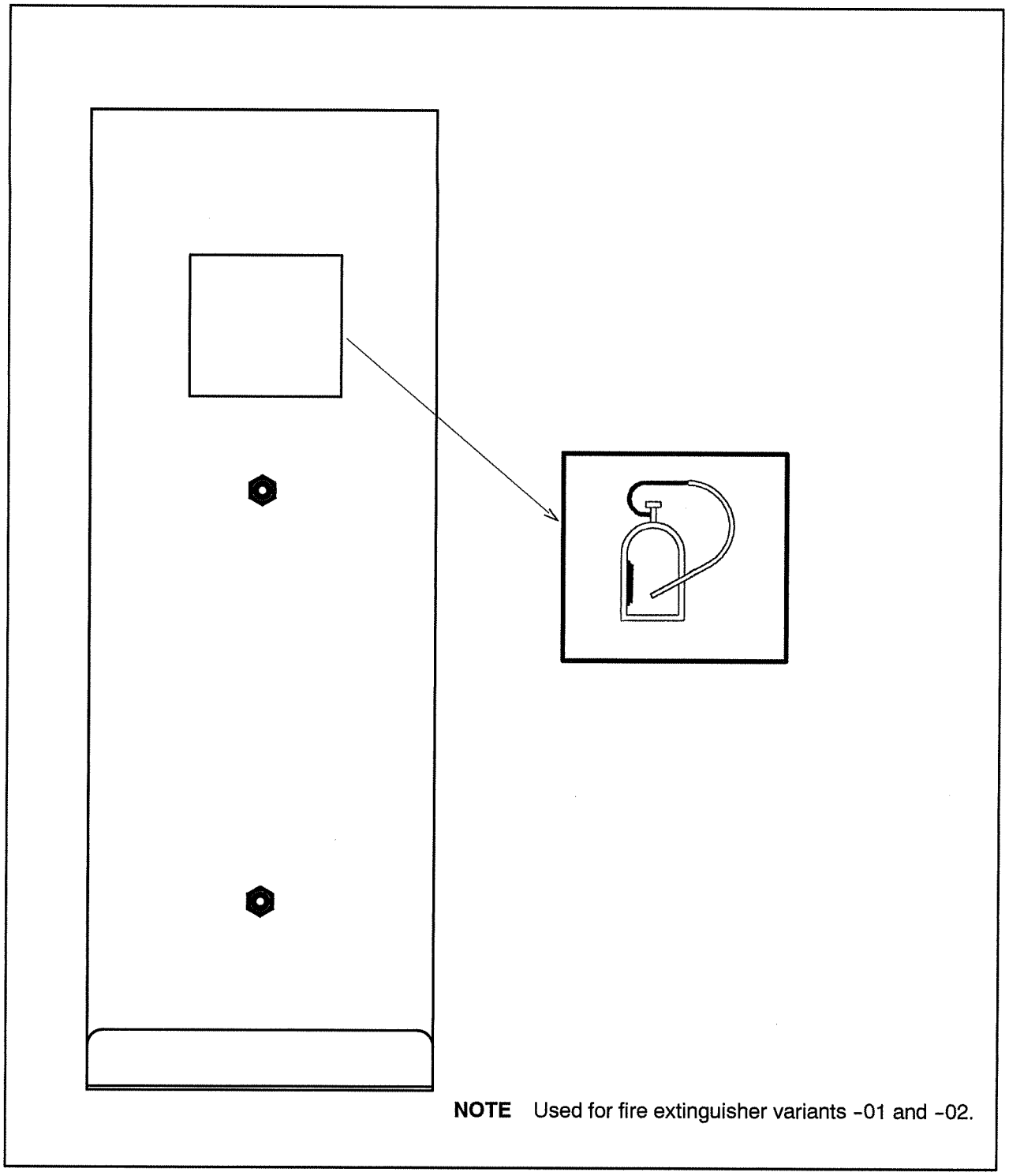


Figure 18 Typical placard on support bracket

Transport Canada Accepted

PLACARDS AND MARKINGS (continued)

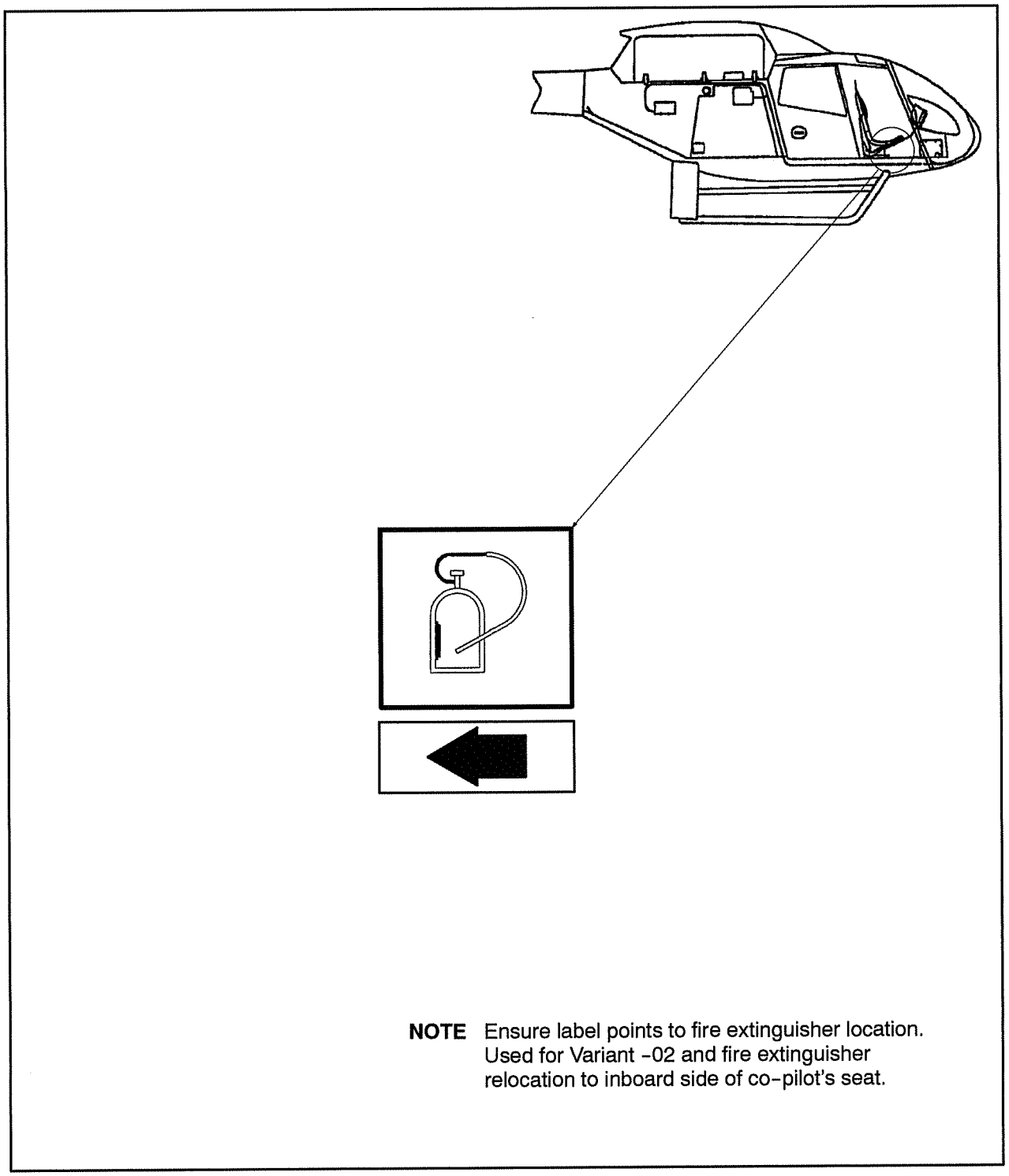


NOTE Used for fire extinguisher variants -01 and -02.

Figure 19 Placard location on back of fire extinguisher holder assembly (Original Version)

Transport Canada Accepted

PLACARDS AND MARKINGS (continued)



NOTE Ensure label points to fire extinguisher location. Used for Variant -02 and fire extinguisher relocation to inboard side of co-pilot's seat.

Figure 20 Typical label location on center console

Transport Canada Accepted

10. PLACARDS AND MARKINGS (continued)

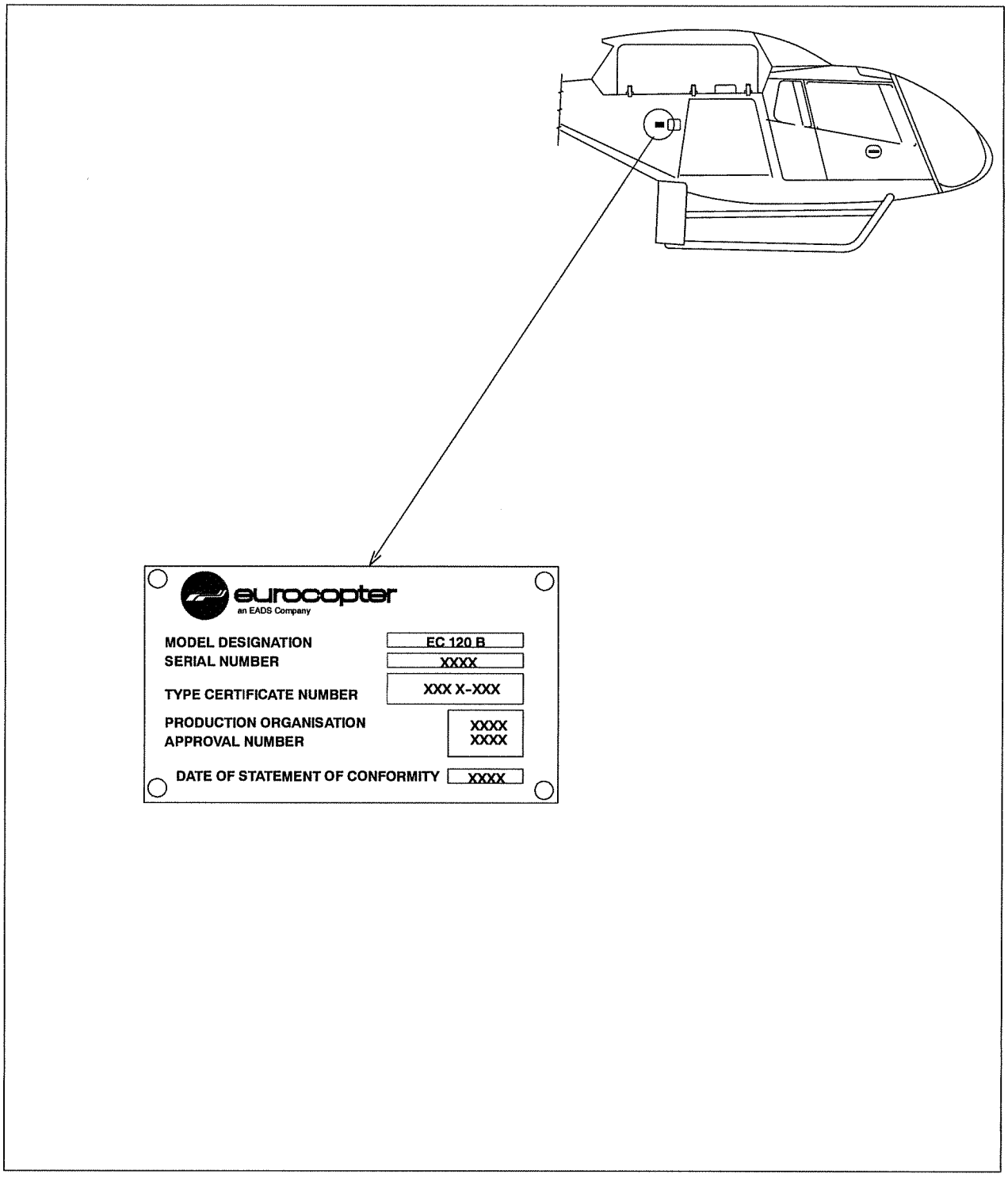


Figure 21 Data Plate Relocation

Transport Canada Accepted