

AIRBUS HELICOPTERS CANADA LIMITED
SUBJECT:

Required maintenance for the Cabin Heat Outlets Control (P/N 145- 702104).

APPLICABILITY :

Aircraft with the subject modification embodied in accordance with TCCA STC No. SH20- 49 or any relevant foreign approvals.

THE INFORMATION CONTAINED IN THIS DOCUMENT SHALL BE TREATED AS THE PROPERTY OF AIRBUS HELICOPTERS CANADA LIMITED (AHCA). THE RECIPIENT OF THIS DOCUMENT SHALL NOT DISCLOSE ANY INFORMATION CONTAINED HEREIN TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF AHCA, AND SHALL NOT USE OR REPRODUCE THIS DOCUMENT IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN ITS ORIGINALLY INTENDED PURPOSE, OR TO EVALUATE ITS CONTENTS.

	NAME AND SIGNATURE	DATE	COMPANY DEPARTMENT
PREPARED BY:	Deborah Kerr Digitally signed by Deborah Kerr Date: 2021.05.18 13:49:22 -04'00'		AHCA ENGINEERING
PREPARED BY:			
CHECKED BY:	Loïc Meuret Digitally signed by Loïc Meuret Date: 2021.05.18 16:02:32 -04'00'		AHCA ENGINEERING
CHECKED BY:	Dan Kapuscinsky Digitally signed by Dan Kapuscinsky Date: 2021.05.21 07:41:04 -04'00'		AHCA QUALITY ASSURANCE
REV. 1 ACCEPTED (Civil A/W Authority)	(As per ICA Compliance Check Sheet)		TCCA
REV. 1 RELEASED BY:	Peter Sharpe Digitally signed by Peter Sharpe Date: 2021.06.14 10:29:57 -04'00'		AHCA ENGINEERING
REV. 2 RELEASED BY:	Loïc Meuret Digitally signed by Loïc Meuret Date: 2021.09.21 14:46:51 -04'00'		
REV. 3 RELEASED BY:	Loïc Meuret Digitally signed by Loïc Meuret Date: 2021.12.16 15:02:24 -05'00'		

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 23	Original issue.	D. Kerr 12 Dec. 2020	L. Meuret 14 Dec. 2020	TCCA S. Camer 15 Dec. 2020	P. Sharpe 15 Dec. 2020
1	1 through 23	Addition of D-3 model. Minor text revision. Minor revision to Figures. (Pages 4 to 7 and 14)	D. Kerr 18 May 2021	D. Kapuscinsky 21 May 2021	TCCA S. Camer 11 June 2021	P. Sharpe 14 June 2021
2	1 to 12, 14 to 23	Addition of a clamp and spacer on RH side channel. Revised to show rotor brake system in RH side channel. (Pages 4, 8, 16, 18 to 20)	D. Kerr 20 September 2021	J. Le Roux 21 September 2021	N/A	See page 1.
3	1 to 13, 15 to 24	Addition of Figure 9 showing alternate installation compatible with Cargo Hook release provisions. Corrected VIEW to SECTION in Figure 4. (Pages 2, 7, 12, 17, 19, 21, 22 & 24)	Deborah Kerr Digitally signed by Deborah Kerr Date: 2021.12.16 14:55:35 -05'00'	Jeremy Le Roux Digitally signed by Jeremy Le Roux Date: 2021.12.16 15:00:14 -05'00'	N/A	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.

NOTE: Minor changes are released in accordance with TCCA - ACCEPTED CAR 521.154 procedures (ref. DAPM- E- 0001).

Transport Canada - Accepted

CONTENTS

SECTION	TITLE	PAGE
1	GENERAL	4
2	AIRWORTHINESS LIMITATIONS	14
3	CONTROL AND OPERATION	15
4	INSPECTION SCHEDULE AND MAINTENANCE ACTION	16
5	REPLACEMENT COMPONENTS AND REPAIR / OVERHAUL INFORMATION	18
6	TROUBLESHOOTING	18
7	SPECIAL TOOLING	18
8	REMOVAL AND REPLACEMENT	19
9	WEIGHT AND BALANCE DATA	23
10	PLACARDS AND MARKINGS	24

FIGURES

FIGURE	TITLE	PAGE
1	Cabin Heat Outlets Control location in centre console	4
2	General Layout	5
3	Bowden cable routing	6
4	Bowden cable routing (continued)	7
5	Bowden cable routing on RH side	8
6	Bowden cable routing at RH duct assembly	9
7	Bowden cable routing on LH side	10
8	Bowden cable routing at LH duct assembly	11
9	Alternate installation with cargo hook release provisions	12
10	Placard location on centre console	24

TABLES

TABLE	TITLE	PAGE
1	Inspection Schedule and Maintenance Action Before the first flight of each day (when OAT is <- 30°C with the electric heater, or - 15°C without)	16
2	Inspection Schedule and Maintenance Action Every 800 FH or 36 M (Margin: 80 FH or 3M)	16
3	Troubleshooting Guide	18

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED

1. GENERAL

A. The Cabin Heat Outlets Control allows the pilot to control the opening/closing of the cabin outlets through two push/pull (open/close) actuators located in the centre console. Refer to Figure 1.

Each actuator is linked to a Bowden Cable which is routed below the cabin floor to the cabin outlets.

Pre modification, in accordance with the approved Flight Manual, when the OAT is below -30°C with the electric heater (or -15°C without), the cabin heating outlets must be blocked using fixed plates in order to prioritize all warm air to the windscreen for defogging/defrosting. With the subject modification, the blocking plates are no longer required and the pilot can direct some warm air to the cabin or direct all the warm air to the cockpit based on the need for additional warm air to defog/defrost the windscreen.

The Cabin Heat Outlets Control is installed in accordance with drawings specified in Master Drawing List MDL-20-003.

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

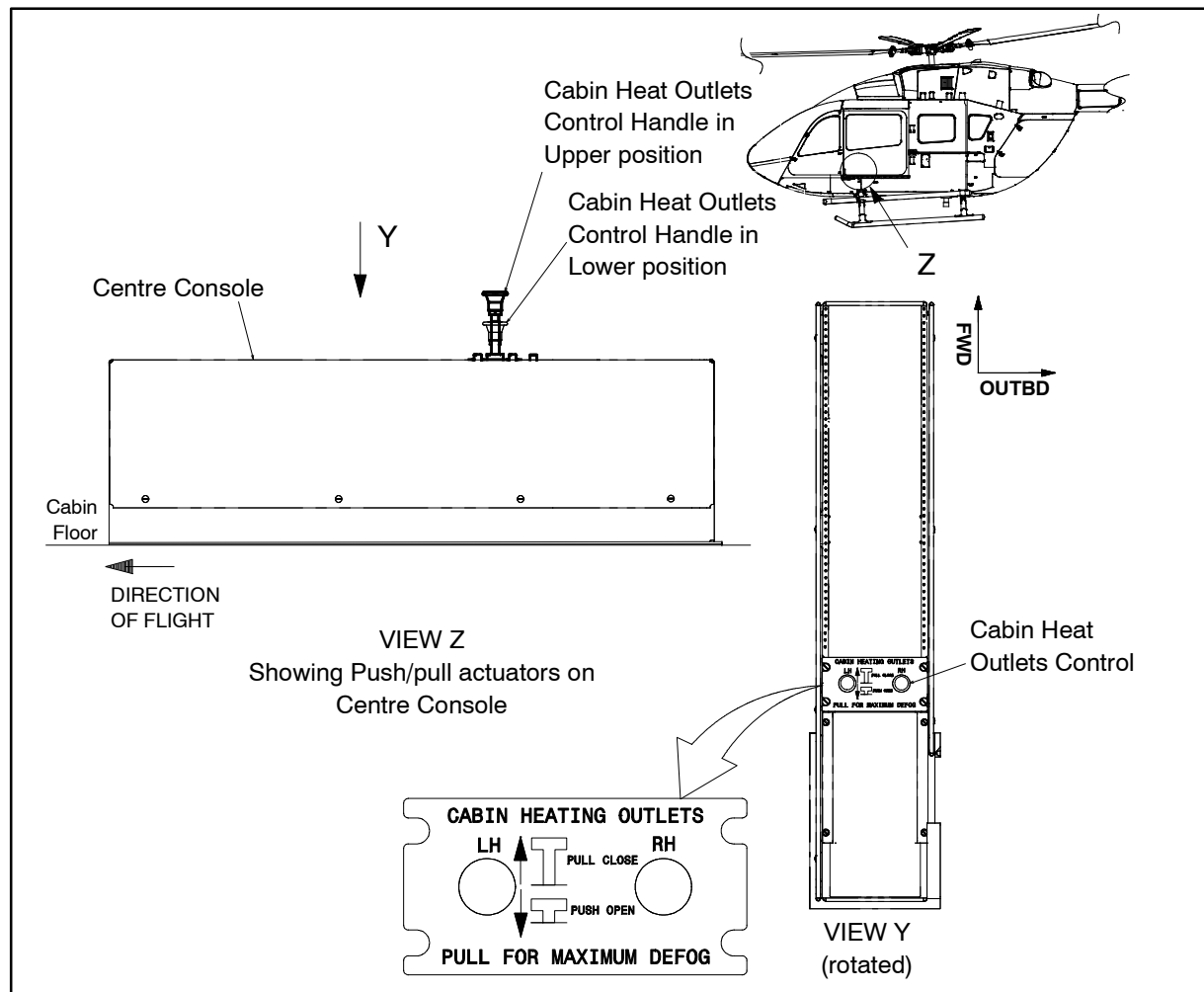


Figure 1 Cabin Heat Outlets Control location in centre console

Transport Canada - Accepted

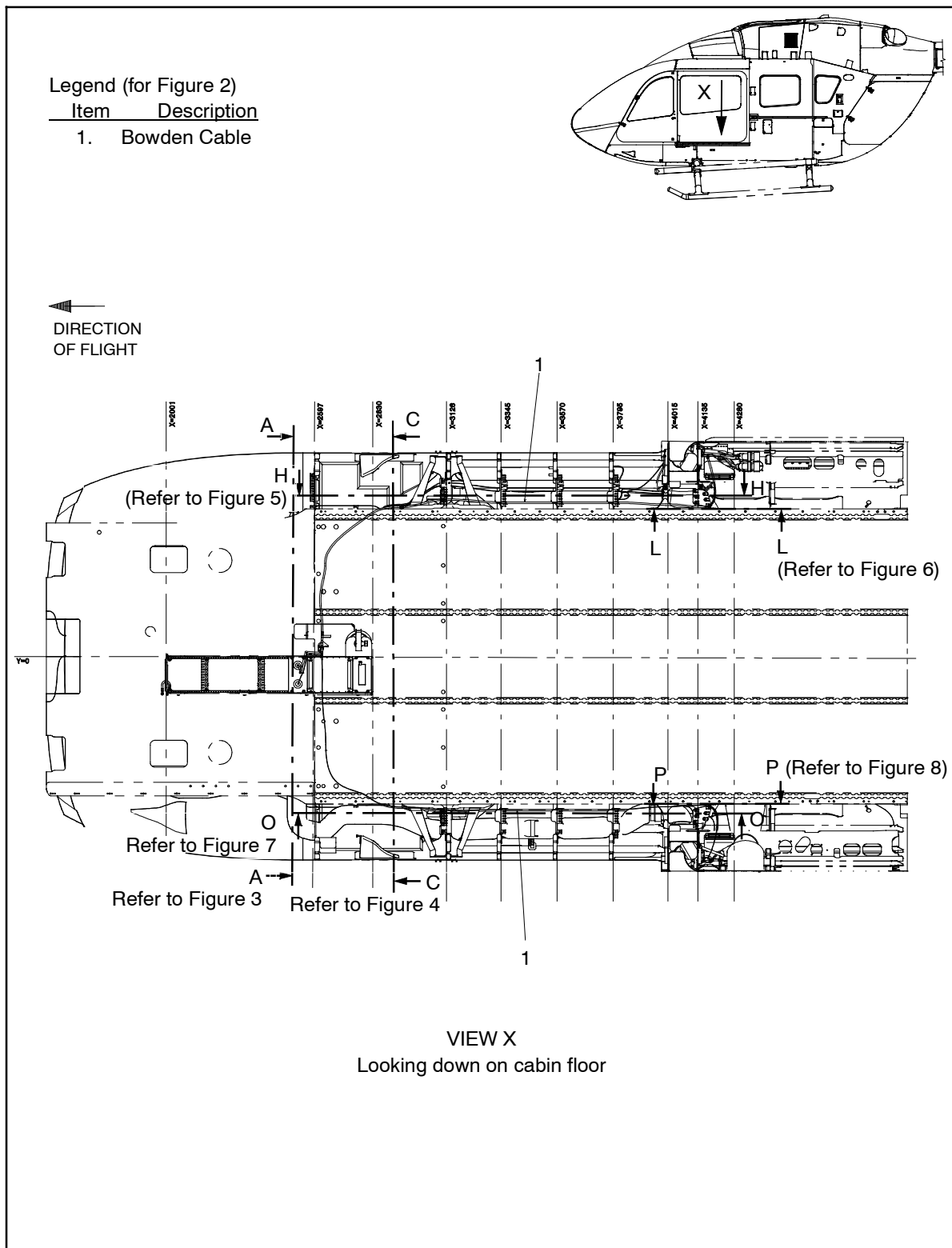
AIRBUS HELICOPTERS CANADA LIMITED


Figure 2 General Layout

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED

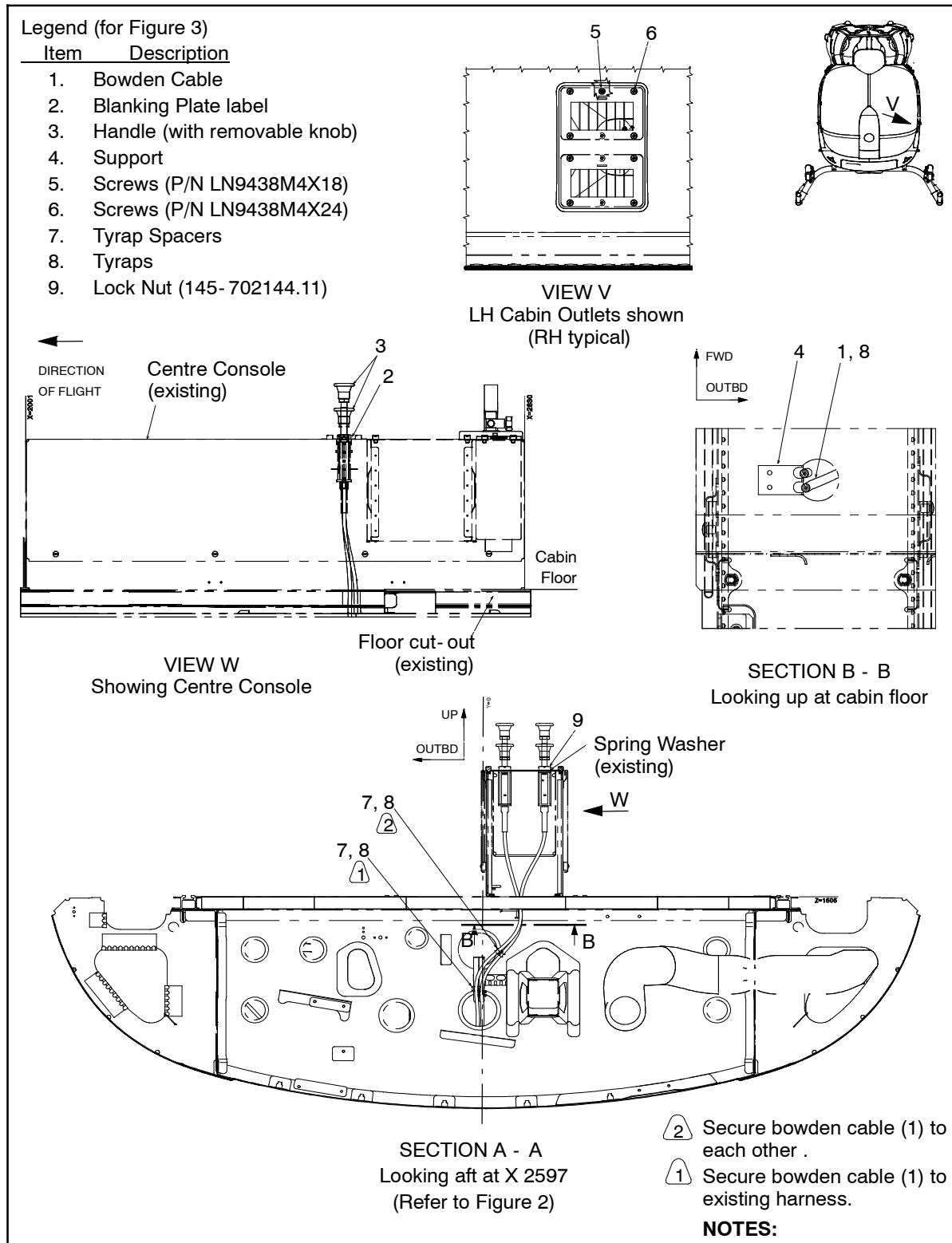


Figure 3 Bowden cable routing

Transport Canada - Accepted

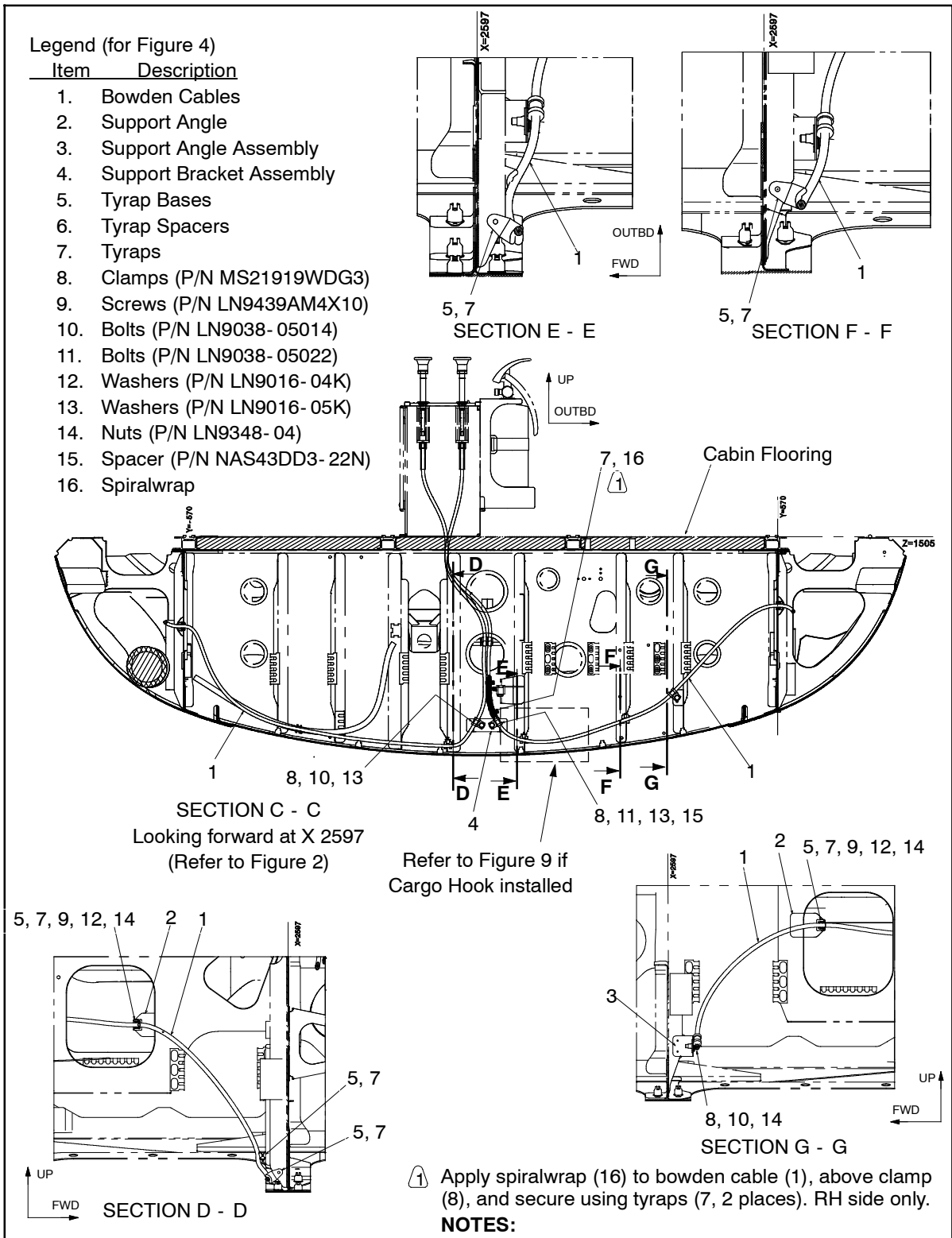


Figure 4 Bowden cable routing (continued)

Transport Canada - Accepted

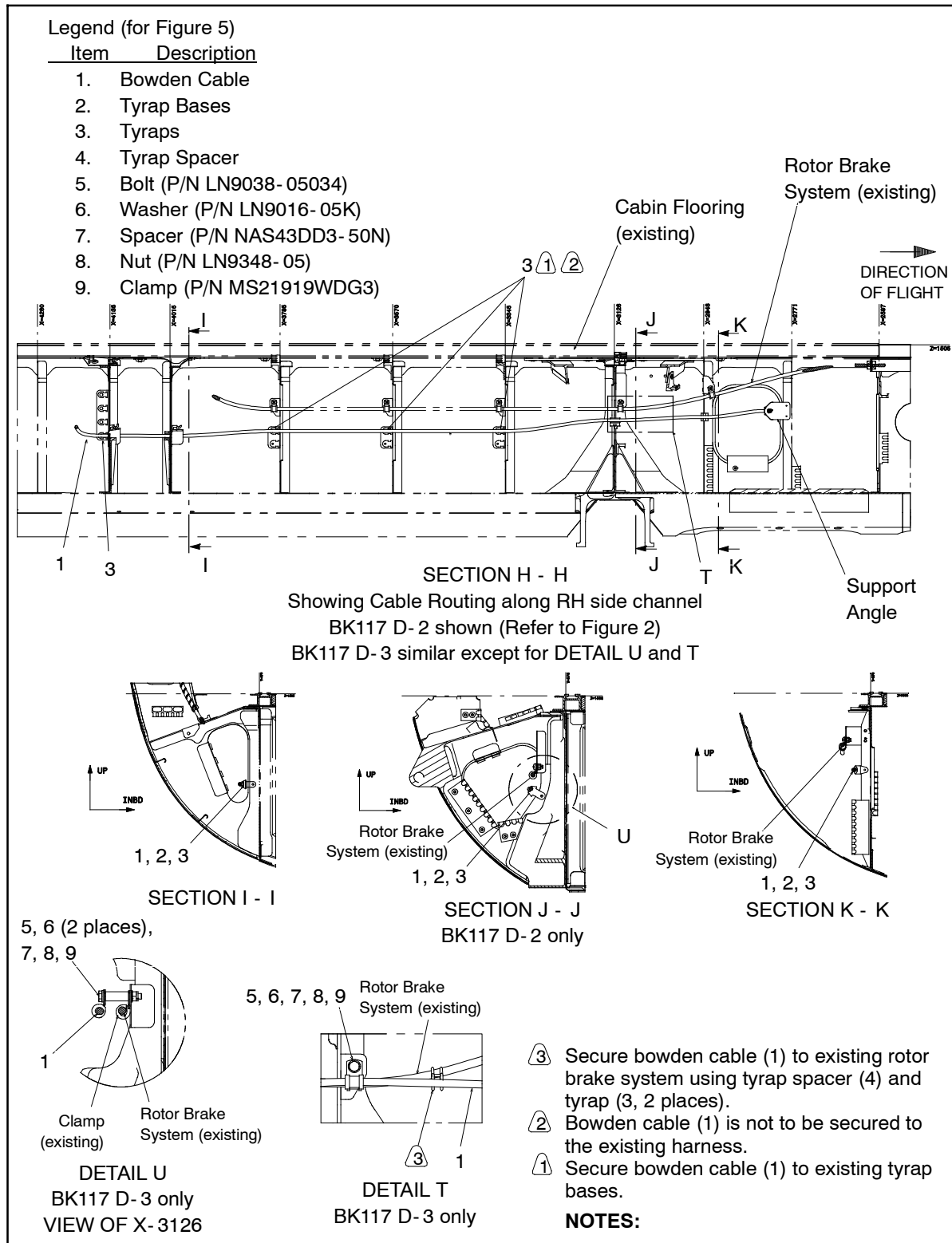


Figure 5 Bowden cable routing on RH side

Transport Canada - Accepted

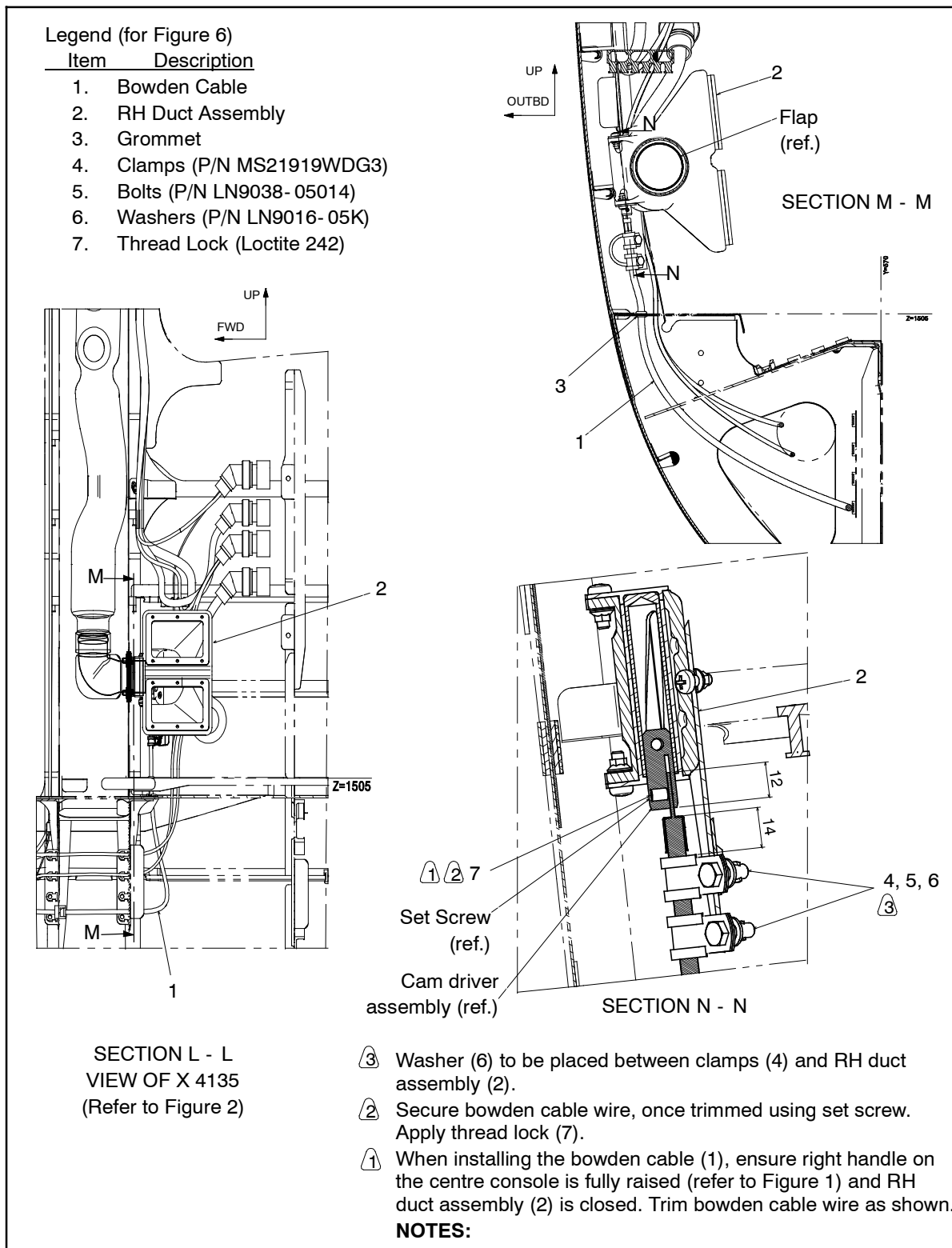
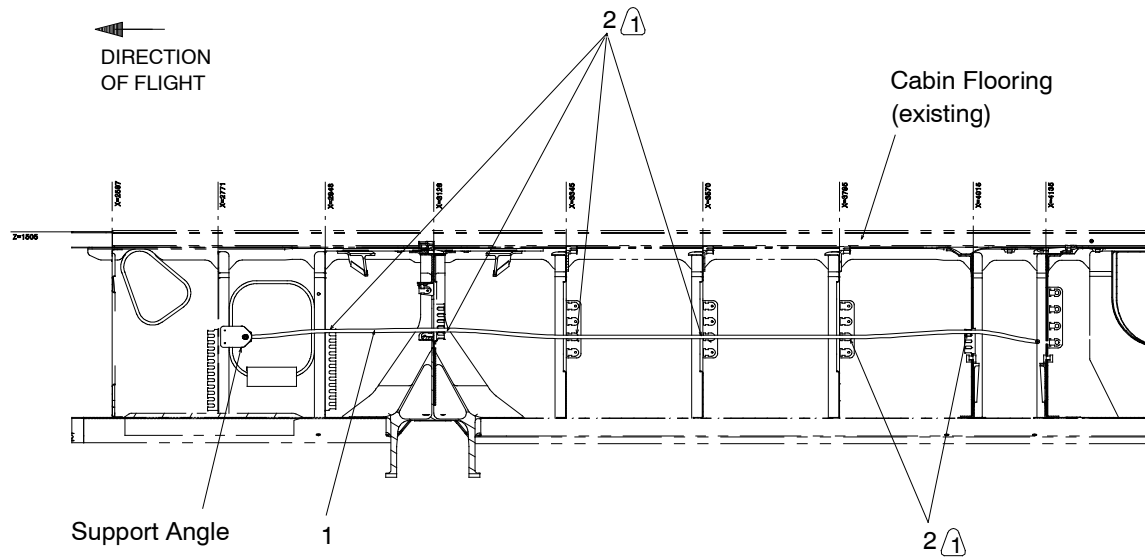
AIRBUS HELICOPTERS CANADA LIMITED


Figure 6 Bowden cable routing at RH duct assembly

Transport Canada - Accepted

Legend (for Figure 7)

Item	Description
1.	Bowden Cable
2.	Tywrap



SECTION O - O
 Showing Cable Routing along LH side channel
 (Refer to Figure 2)


 Secure bowden cable (1) to existing tywrap bases.
NOTES:

Figure 7 Bowden cable routing on LH side

Transport Canada - Accepted

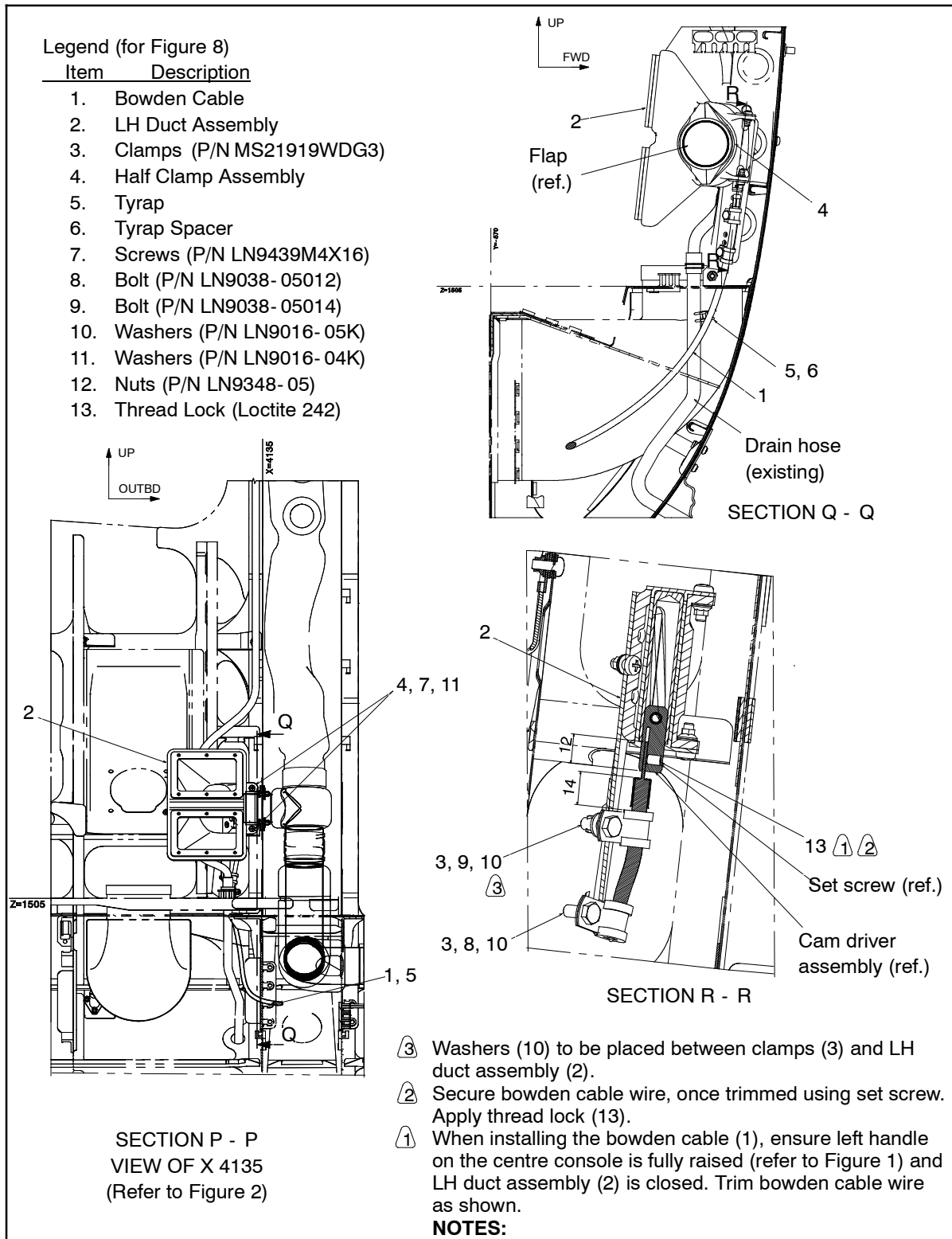
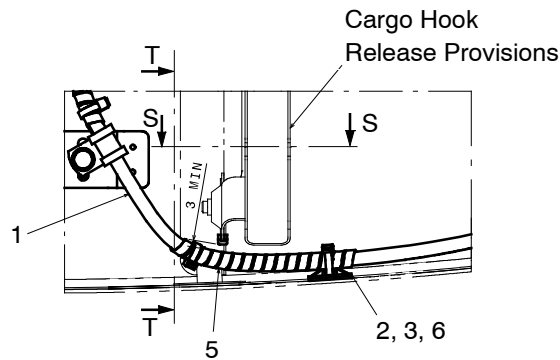
AIRBUS HELICOPTERS CANADA LIMITED


Figure 8 Bowden Cable Routing at LH duct assembly

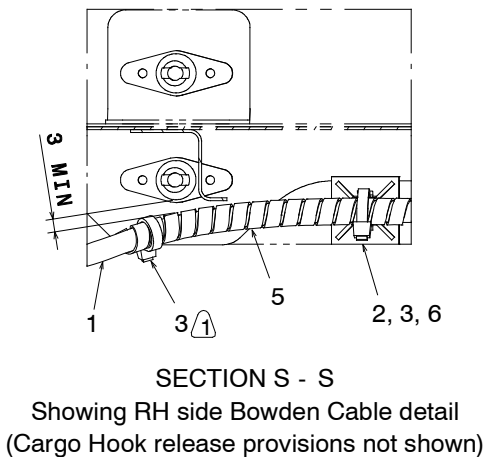
Transport Canada - Accepted

Legend (for Figure 9)

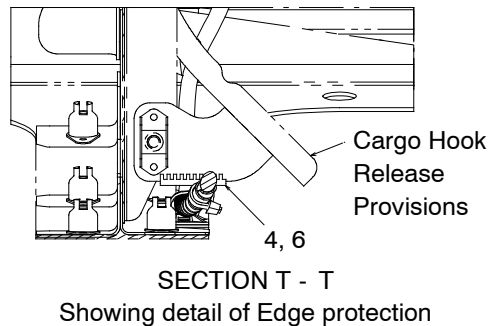
Item	Description
1.	Bowden Cable
2.	Tyrap Base
3.	Tyrap
4.	Edge protection (MBBN3413- 1)
5.	Spiralwrap
6.	Adhesive (P/N EA9395, EA9394, SLE- 3009, CB200- 40)



View looking forward at X 2597
Showing alternate installation with
Cargo Hook release provisions
(Refer to Figure 2)



SECTION S - S
Showing RH side Bowden Cable detail
(Cargo Hook release provisions not shown)



SECTION T - T
Showing detail of Edge protection

⚠️ Apply spiralwrap (5) to bowden cable (1).
Secure using tyrap (3, 2 places).

NOTES:

Figure 9 Alternate installation with cargo hook release provisions

AIRBUS HELICOPTERS CANADA LIMITED
C. REFERENCES

DOCUMENT	DOCUMENT TITLE
AMM	Aircraft Maintenance Manual
FMS- AHCA- 181	Flight Manual Supplement
MTC	Standard Practices Manual

D. ABBREVIATIONS & DEFINITIONS

ABBREVIATION	DEFINITION
Acc'd	Accepted
AHCA	Airbus Helicopters Canada Limited
App'd	Approved
A/W	Airworthiness
CAR	Canadian Aviation Regulations
DAPM	Design Approval Procedures Manual
FAA	Federal Aviation Administration
FMS	Flight Manual Supplement
FWD	Forward
ICA	Instructions for Continued Airworthiness
LH	Left- Hand
OAT	Outside Air Temperature
OUTBD	Outboard
P/N	Part Number
ref.	reference
Rev.	Revision
RH	Right- Hand
STC	Supplemental Type Certificate
TCCA	Transport Canada Civil Aviation

E. UNITS OF MEASUREMENT

ABBREVIATION / SYMBOL	UNIT OF MEASUREMENT
°C	Degrees Celcius
D	Days
FH	Flight Hours
hrs	hours
in	inch
kg	kilogram
lb	pound
m	meter
mm	millimeters
M	Months

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED**2. AIRWORTHINESS LIMITATIONS**Canadian Approval

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

FAA Approval

The Airworthiness Limitations section is FAA approved per Article II of the Bilateral Aviation Safety Agreement (BASA 2000) and Section III, Para. 3.2.2 of the implementation procedures, 2008 and specifies inspections and other maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

EASA Approval

The Airworthiness Limitations section is approved and variations must also be approved.

No Airworthiness Limitations associated with this installation.

Transport Canada - Approved

3. CONTROL AND OPERATION

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

Two push/pull actuators, one for each cabin outlet, are installed on a blanking plate on the centre console. Each actuator has two positions. The "PUSH OPEN" position on the centre console opens the cabin outlet to allow warm air to flow through out the cabin. The "PULL CLOSE" position closes the cabin heat outlet to keep all the warm engine air in the cockpit for maximum defogging/defrosting purposes.

Pre modification, in accordance with the approved Flight Manual, when the OAT is below -30°C with the electric heater (or -15°C without), the cabin heating outlets must be blocked using fixed plates in order to prioritize all warm air to the windscreen for defogging/defrosting. With the subject modification, the blocking plates are no longer required and the pilot can direct some warm air to the cabin or direct all the warm air to the cockpit based on the need for additional warm air to defog/defrost the windscreen.

The cabin outlets shall be closed in accordance with the temperature limitations of the basic flight manual for blocked outlets as soon as any signs of fogging or frosting on the windshield occurs.

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED
4. INSPECTION SCHEDULE AND MAINTENANCE ACTION

Refer to Section 8 if removing or replacing any parts.

NOTE: Use torque per MTC, Chapter 20-02-05-404, unless otherwise specified.

4.1. INSPECTION SCHEDULE
4.1.1 Before the first flight of each day (when OAT is <- 30°C with the electric heater, or - 15°C without):

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Check Cabin Heat Outlets Control system, shown in Figure 1 for: a. correct operation (Fully Pulled =Outlet Close / Fully Pushed = Outlet Open each actuator)	a. If there is no freedom of movement check cable routing for kinks. Check flap at RH/LH heat ducts for freedom of movement. If cable is seized, contact AHCA for replacement bowden cable.

Table 1 Inspection Schedule and Maintenance Action

Before the first flight of each day (when OAT is <- 30°C with the electric heater, or - 15°C without)

4.1.2. Every 800 FH or 36 M (Margin: 80 FH or 3 M) to coincide with the 800 FH or 36 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Check Cabin Heat Outlets Control system, shown in Figure 1 for: a. correct operation (Fully Pulled =Outlet Close / Fully Pushed = Outlet Open each actuator)	a. If there is no freedom of movement check cable routing for kinking. Check flap at RH/LH heat ducts for freedom of movement. If cable is seized, contact AHCA for replacement bowden cable.
B	- Visually inspect Cabin Heater Outlets Control Handles RH/LH , shown in Figure 1 for: a. general condition (damage; cracking, bent)	a. If damaged , contact AHCA for replacement parts.
C	- Visually inspect bowden cable sheath along cable route shown in Figure 2 for: a. wear	a. No wear is allowed. If wear is found contact AHCA for replacement bowden cable.
D	- Check lock nut (9) located on centre console, shown in Figure 3 for: a. security	a. Secure as required.

Table 2 Inspection Schedule and Maintenance Action

Every 800 FH or 36 M, to coincide with the 80 FH or 36 M helicopter inspection, whichever occurs first (continued on following page)

Transport Canada - Accepted

4. INSPECTION SCHEDULE AND MAINTENANCE ACTION

4.1.2. Every 800 FH or 36 M (Margin: 80 FH or 3 M) to coincide with the 800 FH or 36 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
E	- Check tyrap along bowden cable (1) routing shown in Figures 3, 4, 5, 7 and 9, for: a. security	a. Secure bowden cable to tyrap bases using tyrap as necessary.
F	- BK117 D-3: Check mounting hardware items 5, 6, 7, 8 and 9, along RH side channel, shown in Figure 5, for: a. security	a. Secure as required.
G	- Check clamps along bowden cable (1) routing shown in Figures 4, 5, 6 and 8, for: a. security	a. Secure as required.
H	- Visually inspect LH/RH duct assemblies (2) as shown in Figures 6 and 8 for: a. general condition (damage, cracking)	a. If damaged, contact AHCA for replacement parts.
I	- Aircraft with Cargo Hook Installation: Visually inspect edge protection (4) shown in Figure 9, for: a. wear	a. Wear is not permitted. If wear is found, contact AHCA for replacement parts. Cut edge protection to size and secure using adhesive (6).
J	- Visually inspect bowden cable (1) at heat vents shown in Figures 6 and 8 for: a. kinking	a. No kinking is allowed. Remove bowden cable (1) at duct (2) location and remove kink. Resecure bowden cable (1) following dimensions given in Figures 6 and 8. NOTE: Ensure bowden cable (1) is securely attached to RH/LH duct assembly (2) and secure using existing set screw. Apply thread lock to set screw once secured.

Table 2 Inspection Schedule and Maintenance Action
 Every 800 FH or 36 M, to coincide with the 80 FH or 36 M helicopter inspection, whichever occurs first

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED
5. REPLACEMENT COMPONENTS AND REPAIR / OVERHAUL INFORMATION

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

For replacement component contact:

Airbus Helicopters Canada Limited
 1100 Gilmore Road, P.O. Box 250
 Fort Erie, Ontario L2A 5M9 Canada
 Telephone: (905) 871-7772

www.airbushelicopters.ca

6. TROUBLESHOOTING

ITEM	TROUBLE / SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
1	No heat from passenger air outlet with Cabin Heat Outlet Control Actuator Fully Pushed to lower position (Outlets open).	Dirt and dust in duct Flap jammed	Remove existing vent covers and clean duct with a lint cloth. Remove existing vent covers and interior panel to gain access to LH/RH duct assembly. Check correct operation of flap. Lubricate with Molykote TP42. Refer to BK117 AMM Chapter 21-42-01, 4-4. Check that the wire of bowden cable (1) is securely attached to RH/LH duct assembly (2) and existing set screw is secure. Refer to Figures 6 and 8. Contact AHCA for replacement part.
2	PUSH/PULL actuators fail to operate	Kinking Bowden Cable no longer connected to RH/LH handle	Remove bowden cable (1) at duct (2) location and remove kink. Resecure wire of bowden cable (1) following dimensions given in Figures 6 and 8. Contact AHCA for replacement Cable and reinstall in accordance with Section 8.

Table 3 Troubleshooting Guide

7. SPECIAL TOOLING

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

Transport Canada - Accepted

8. REMOVAL AND REPLACEMENT

PRELIMINARIES

- De-energize helicopter electrical system in accordance with De-energize - Electrical System Electrical Power Supply, AMM, Chapter 24-32-00, 2-1.

If removing LH/RH OUTLET:

- remove screws (5, 4 places) and screws (6, 8 places) securing the cabin outlets to the mid side panel. Retain hardware. Refer to Figure 3 and Removal - Grill Assys in the Passenger Compartment, BK117 AMM Chapter 21-42-01, 4-4.
- remove MID Side Panels. Refer to Removal - MID Side Panels, BK117 AMM Chapter 25-82-02, 4-3.

If removing BOWDEN CABLE:

- remove Mid Side Panels. Refer to Removal - MID Side Panels, BK117 AMM Chapter 25-82-02, 4-3.
- remove Bottom Access Cover (FWD). Refer to Removal - Bottom Access Cover (fwd), BK117 AMM Chapter 52-40-00, 4-2.
- remove Bottom Access Cover (AFT). Refer to Removal - Bottom Access Cover (aft), BK117 AMM Chapter 52-40-00, 4-3.
- remove Floor Access Cover assemblies as necessary. Refer to Removal - Floor Access Covers, BK117 AMM Chapter 52-50-00, 4-3.

- Open and secure applicable circuit breakers / fuse before any servicing action.

A. REMOVAL

CAUTION: CARE MUST BE USED AROUND OXYGEN LINES UNDER CABIN FLOOR.

1) BOWDEN CABLE (Refer to Figures 3, 4, 5, 6, 8 and 9)

- Remove set screw from LH/RH duct assembly (2). Refer to Figures 6 and 8.
- Remove clamps (4, 2 places, refer to Figure 6) or clamps (3, 2 places, refer to Figure 8) at heat outlet locations. Retain hardware for reinstallation.
- Begin removing tyrap securing bowden cable (1) to tywrap bases and tyrap spacers.
- Remove clamps (8, 2 places) securing bowden cable (1) at X=2597. Retain hardware for reinstallation. Refer to Figure 4.
- For BK117 D-3 only:
 - Remove clamp (9) securing bowden cable (1) along RH side channel and retain hardware for reinstallation. Refer DETAIL T in Figure 5.
 - Remove tyrap (3) securing tyrap spacer (4) to bowden cable (1) and rotor brake system. Refer to NOTE 3 in DETAIL T in Figure 5.
- For Aircraft with Cargo Hook release provisions only:
 - Remove tyrap (3) securing bowden cable (1) to tyrap base (2) at X=2597. Refer to SECTION S-S in Figure 9.
- Remove knob from cabin heat outlets control handle (3) from center console location. Refer to VIEW W in Figure 3.
- Remove lock nut (9) and existing spring washer securing bowden cable (1) to the blanking plate in the centre console. Pull bowden cable (1) back through centre console blanking plate. Refer to Figure 3.
- Carefully pull bowden cable (1) back through lightening hole at X=2597. Refer to Figures 3 and 4.

NOTE: Pull cable gently to avoid kinking.
Care must be taken around oxygen lines.

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED

8. REMOVAL AND REPLACEMENT**A. REMOVAL (continued)****2) RH/LH DUCT ASSEMBLY (Refer to Figures 6 and 8)**

- a) Remove half clamp assembly (4) from LH duct assembly (2) and retain hardware for reinstallation. Refer to SECTION Q- Q in Figure 8.
- b) Pull LH/RH duct assembly (2) out from the heat conduit.

B. REPLACEMENT**CAUTION: CARE MUST BE USED AROUND OXYGEN LINES UNDER CABIN FLOOR.****NOTE:** Use torque per MTC, Chapter 20- 02- 05- 404, unless otherwise specified.

Follow manufacturers instructions when using Loctite.

1) RH/LH DUCT ASSEMBLIES (Refer to Figure 6 and 8)

- a) Align LH/RH outlets (2) into existing heat conduits of cabin heating installation and push into place. Refer to Figures 6 and 8.
- b) Install half clamp assembly (4) to LH duct assembly (2) and secure using screws (7, 2 places), washers (11, 2 places). Refer to SECTION P- P in Figure 8.

2) BOWDEN CABLE (Refer to Figures 3, 4, 5, 6, 7, 8 and 9)**NOTE:** When installing the bowden cable (1), use gentle bends and exaggerated radiuses to use up extra cable as length may be longer than needed and to avoid kinking.

- a) Feed bowden cable (1) aft through lightening hole at X=2597 under cabin floor. Care must be taken around oxygen lines. Refer to VIEW A- A and VIEW B- B in Figure 3.
- b) Remove lock nut (9) and knob from cabin heat outlets control handle (3). Feed bowden cable (1) through opening in cabin floor up through to opening in centre console. Retain knob and lock nut for reinstallation. Refer to VIEW A- A and NOTE 3.
- c) Secure bowden cable (1) to centre console blanking plate using lock nut (9) and existing spring washer (supplied with bowden cable). Refer to VIEW A- A in Figure 3.
- d) Route bowden cable (1) aft along RH/LH side channels. Refer to Figures 5 or 7.
- e) At X=4135, bring bowden cable (1) up to LH/RH duct assembly (2). Refer to SECTION L- L and SECTION P- P in Figures 6 and 8 respectively.
- f) Ensure RH/LH handle (3, Figure 3) on centre console is fully raised and RH/LH duct assembly (2) is closed. Refer to Figures 6 and 8.
- g) Temporarily secure bowden cable (1) into RH/LH duct assembly (2) using the existing set screw. Ensure handle on the centre console is fully raised (refer to Figure 1) and RH/LH duct assembly (2) is closed. Refer to dimensions in Figures 6 and 8 and NOTE 2.
- h) Secure bowden cables (1) to support (4) under at floor at cut out. Secure using tyrap (8). Refer to VIEW B- B in Figure 3.
- i) Secure bowden cables (1) to each other, fwd of X=2597, using a tyrap spacer (7) and tyrap (8). Refer to VIEW A- A and NOTE 2 in Figure 3.
- j) Secure bowden cables (1) to existing harness using a tyrap spacer (7) and tywrap (8). Refer to VIEW A- A and NOTE 1 in Figure 3.

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED

8. REMOVAL AND REPLACEMENT (continued)

2) BOWDEN CABLE (Refer to Figures 3, 4, 5, 6, 7, 8 and 9) (continued)

NOTE: Installing RH bowden cable follow k). If installing the LH bowden cable continue with 8.2)v):

- k) Apply spiralwrap (16) to RH bowden cable (1), above clamp (8) and secure using tyrap (7, 2 places), aft of X=2597. Refer to NOTE 1 and SECTION C- C in Figure 4.
- l) Secure RH bowden cable (1) to support bracket assembly (4), aft of X=2597 using clamp (8), bolt (11), washer (13) and spacer (15). Refer to SECTION C- C in Figure 4.
- m) Secure RH bowden cable (1) to tywrap bases (5, 2 places) at X=2597 using tyrap (7, 2 places). Refer to SECTION E- E and SECTION F- F in Figure 4.
- n) For Aircraft with Cargo Hook release provisions only:
 - Apply spiralwrap (5) to RH bowden cable (1) and secure using tyrap (3). Refer to NOTE 1 and SECTION S- S in Figure 9.
 - Secure RH bowden cable (1) to tyrap base (2, 1 place) at X=2597 using tyrap (3). Refer to SECTION S- S in Figure 9.
- o) Secure RH bowden cable (1) to support angle assembly (3) using clamp (8) and bolt (10) and washer (13). Refer to SECTION G- G in Figure 4.
- p) Secure RH bowden cable (1) to tyrap base (5) on support angle (2) at using tyrap (7). Refer to SECTION G- G in Figure 4.
- q) Continue securing the RH bowden cable (1) routing the cable along the RH side channel. Do not secure bowden cable (1) to existing harness. Refer to NOTE 2 and SECTION H- H in Figure 5.
- r) Secure RH bowden cable (1) to tywrap bases (2) using tyrap (3). Refer to SECTION I- I, SECTION J- J and SECTION K- K in Figure 5.
- s) For BK117 D-3 only:
 - Secure RH bowden cable (1) along RH channel using clamp (9) secure to RH side channel using bolt (5), washer (6), spacer (7) and nut (8). Refer to DETAIL T in Figure 5.
 - Secure bowden cable (1) to existing rotor brake system using tyrap spacer (4) and tyrap (3). Refer to NOTE 3 in DETAIL T in Figure 5.
- t) At X=4135 remove the temporarily secured RH bowden cable (1) from RH duct assembly (2).
- u) Ensure RH handle (3, refer to Figure 3) on centre console is fully raised and RH duct assembly (2) is closed. Refer to SECTION N- N and NOTE 1 in Figure 6.
- v) Trim wire of RH bowden cable (1) and secure wire using existing set screw and thread lock (7). Refer to NOTES 1 & 2 and SECTION N- N in Figure 6.

NOTE: When installing the bowden cable (1), into duct assembly (2), hold the flap of duct assembly (2) in closed position to prevent pushing cam drive assembly of duct assembly (2) inward prior to tightening of set screw.

- w) Secure clamps (4, 2 places) to RH duct assembly (2) using bolts (5, 2 places), washers (6, 4 places) and nuts (7, 2 places). Install washers (6, 4 places) between clamps (4, 2 places) and RH duct assembly (2). Refer to NOTE 3 in Figure 6.

NOTE: If replacing RH bowden cable (1) only, refer to item 8.3).

- x) Secure LH/RH bowden cables (1) to support bracket assembly (4), aft of X=2597, using clamp (8), bolt (10) and washer (13). Refer to SECTION C- C in Figure 4.
- y) Secure LH bowden cable (1) to tyrap bases (5, 2 places) at X 2597 using tyrap (7, 2 places). Refer to SECTION D- D in Figure 4.

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED

8. REMOVAL AND REPLACEMENT (continued)

- z) Secure LH bowden cable (1) to tyrap base (5) on support angle (2) at using tyrap (7). Refer to SECTION D- D in Figure 4.
- aa) Continue securing LH bowden cable (1) to existing tyrap bases along LH side channel using tyrap (2). Refer to NOTE 1 and Figure 7.
- bb) Secure bowden cable (1) to existing tyrap base using tyrap (5). Refer to SECTION P- P in Figure 8.
- cc) Secure bowden cable (1) to existing drain hose using tyrap spacer (6) and tywrap (5). Refer to SECTION Q- Q.
- dd) At X=4135 remove the temporarily secured LH bowden cable (1) from LH duct assembly (2). Refer to SECTION R- R in Figure 8.
- ee) Ensure LH handle (3, refer to Figure 3) on centre console is fully raised and LH duct assembly (2) is closed. Refer to NOTE 2 in Figure 8.
- ff) Trim wire of LH bowden cable (1) and secure wire using existing set screw and thread lock (13). Refer to NOTES 1 & 2 and SECTION R- R in Figure 8.

NOTE: When installing the bowden cable (1), into duct assembly (2), hold the flap of duct assembly (2) in closed position to prevent pushing cam drive assembly of duct assembly (2) inward prior to tightening of set screw.

- gg) Secure bowden cable (1) to LH duct assembly (2) using clamps (3, 2 places). Refer to SECTION R- R.
 - hh) Secure clamp (3) closest to the duct using bolt (9) and washers (10, 2 places). Install washers (10) between clamp (3) and LH duct assembly (2). Refer to SECTION R- R.
 - ii) Secure remaining clamp (3) using bolt (8) and washer (10). Refer to SECTION R- R.
- 3) Reattach knob to handle (3). Refer to Figure 3.
 - 4) Close all circuit breakers/fuses opened in the PRELIMINARIES paragraph of this section.
 - 5) Perform Operational Test as per Section 8.C).
 - 6) Install Mid Side Panels. Refer to Installation - MID Side Panels, BK117 AMM Chapter 25- 82- 02, 4- 3.
 - 7) Install Bottom Access Cover (FWD). Refer to Installation - Bottom Access Cover (FWD), BK117 AMM Chapter 52- 40- 00, 4- 2.
 - 8) Install Bottom Access Cover (AFT). Refer to Installation - Bottom Access Cover (AFT), BK117 AMM Chapter 52- 40- 00, 4- 3.
 - 9) Install Floor Access Cover assemblies as necessary. Refer to Installation - Floor Access Covers, BK117 AMM Chapter 52- 50- 00, 4- 3.
 - 10) Reposition cabin outlet and secure using screws (5, 4 places) and screws (6, 8 places). Refer to Figure 3 and Installation - Grill Assys in the Passenger Compartment, BK117 AMM Chapter 21- 42- 01, 4- 4.
 - 11) Energize helicopter electrical system in accordance with Energize - Electrical System Electrical Power Supply, BK117 AMM, Chapter 24- 32- 00, 2- 1.
 - 12) Perform operational check of all systems that were serviced in accordance with the AMM procedures and the system's installation/operation manual.

Transport Canada - Accepted

AIRBUS HELICOPTERS CANADA LIMITED
8. REMOVAL AND REPLACEMENT (continued)
C) OPERATIONAL TEST
1) BOWDEN CABLE (Refer to Figure 1)

- Fully "PUSH OPEN" the actuator on the centre console and verify that the cabin heat outlet is open.
- Fully "PULL CLOSE" the actuator on the centre console and verify that the cabin heat outlet is closed.
- If PUSH/PULL actuator fails to operate properly, refer to Troubleshooting in Section 6.

9. WEIGHT AND BALANCE DATA
A. Removed Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
LH Duct	- 0.13	- 0.29	4.22	166.1	- 0.55	- 49.8
RH Duct	- 0.13	- 0.29	4.22	166.1	- 0.55	- 49.8
Blanking Plate	- 0.07	- 0.15	2.53	99.6	- 0.18	- 19.9
Total	- 0.33	- 0.73	3.86	152.0	- 1.27	- 110.6

B. Added Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Cabin Heat Outlets Control Installation	1.82	4.01	3.53	138.8	6.42	556.9
Total	1.82	4.01	3.53	138.8	6.42	556.7

Transport Canada - Accepted

10. PLACARDS AND MARKINGS

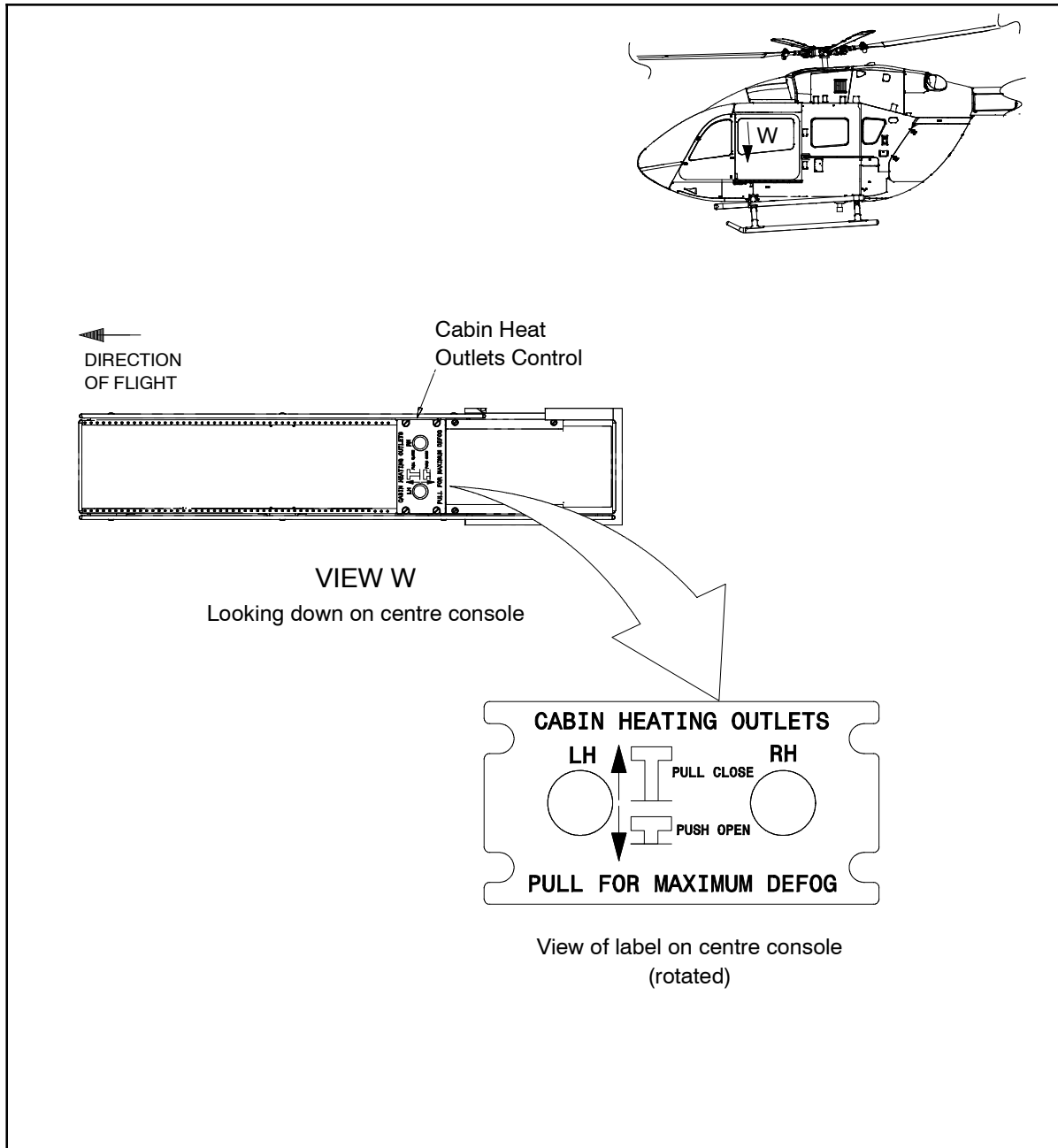


Figure 10 Placard location on centre console

Transport Canada - Accepted