

**EUROCOPTER CANADA LIMITED**

**SUBJECT:**

Required maintenance for the Forward Opening Rear Cargo Door (P/N 350-201014 and 130-201004).

**APPLICABILITY :**

Aircraft with the subject modification embodied in accordance with TCCA STC. No. SH97-34 or any relevant foreign approvals.

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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 15	Original Issue	D. Kerr 10 April 2006	C. Timmins 10 April 2006	TCCA Floyd Eaves 8 May 2006	R. Manson 6 July 2006.
1	1 through 18	Addition of alternative door, AS 355 N or AS 355 NP Door Mod with Bonding Jumpers and Ground Stud Installation. (Pages 3 to 6, 8 to 10, 12 to 16 and 18)	D. Kerr 19 June 2008	C. Timmins 19 June 2008	TCCA Floyd Eaves 25 June 2008	R. Manson 9 July 2008
2	1 through 19	Addition of the EC 130 B4 to the STC. Placard for the EC 130 B4 door incorporated. (Pages 4, 5 11, 13, 14, 15, 16 and 19)	D. Kerr 3 Sept. 2009	C. Timmins 4 Sept. 2009	N/A	R. Manson 10 Sept. 2009
3	1 through 19	Revision to Inspection Schedule, revision to dimensioning in Figure 6 (Pages 8 and 15)	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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**1. GENERAL**

**A. Introduction**

The Forward Opening Rear Cargo Door installation includes a composite door, two latching assemblies, one locking and the other non locking, two hinges mounted on the FWD edge of the door and a gas strut. The original AS 350 / AS 355 door can be used as an alternate once the door hinges and latch are removed and the door is reworked. Refer to Figures 6 and 7.

The AS 350 / AS 355 Forward Opening Rear Cargo Door replaces the original door equipped with hinges mounted on the bottom edge of the door and a single latch at the top edge, allowing for easy cargo access.

**B. Description**

The Forward Opening Rear Cargo Door consists of the following main components:

**Fixed Provisions**

- Hinge Mounts
- Upper and Lower Hinges
- Latch Assemblies
- Strut Mount Backing Plate
- Lower Hinge Backing Plate

**Detachable Provisions**

- ECL Rear Cargo Door or Reworked EC Rear Cargo Door
- Door Strut

If installation is on an AS 355 N or AS 355 NP, 2 inch copper tape is required around the cargo door opening with bonding jumpers and ground stud installation for improved electrical bonding. Refer to Figure 3.

If installation is on an EC 130 B4, the original door is replaced and secured using existing hardware.

For instructions for initial installation, see IP-ECL-117.

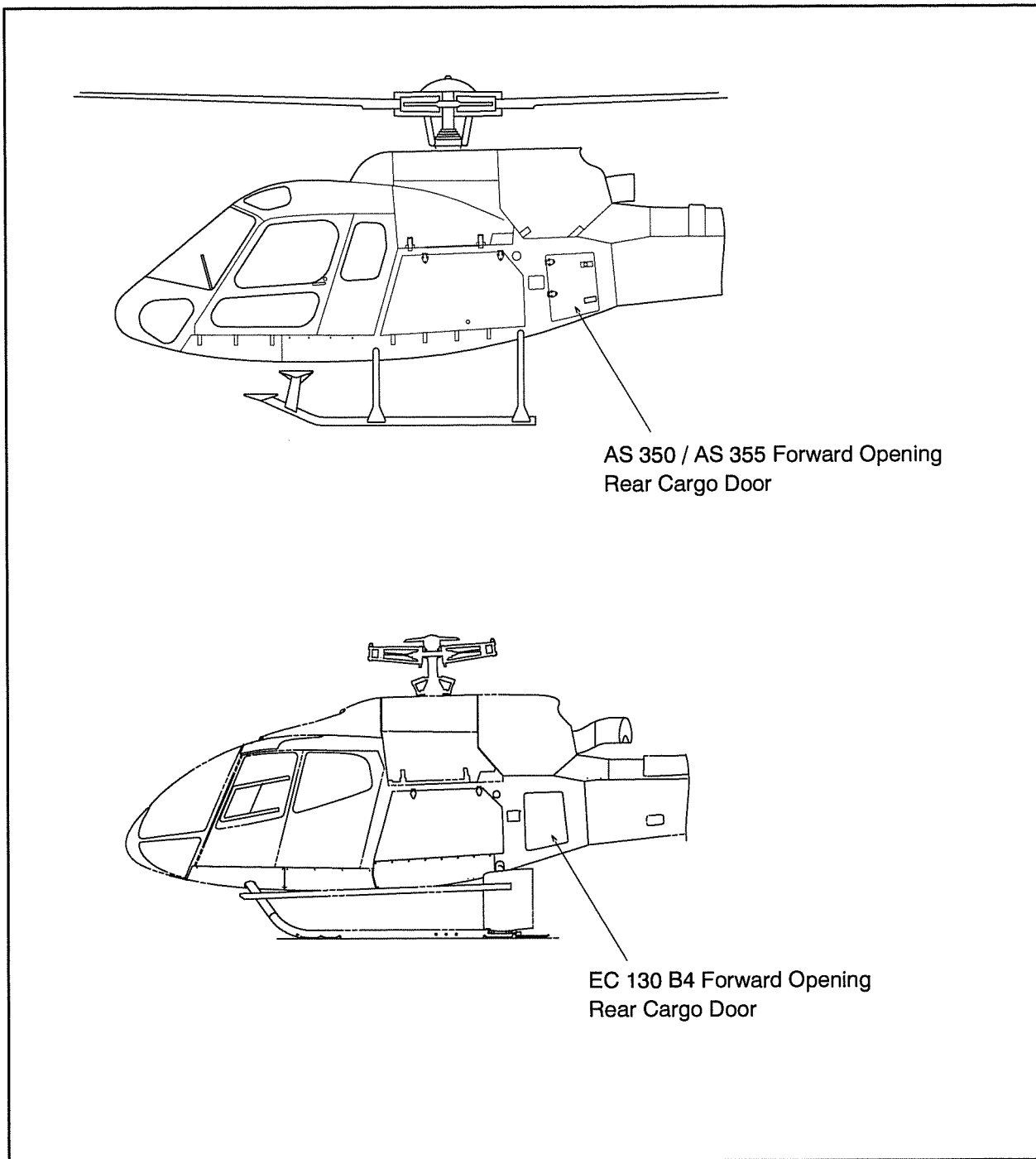


Figure 1 General Layout for all door variants (AS 350 / AS 355 and EC 130 B4)

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**C. REFERENCES**

DOCUMENT	DOCUMENT TITLE
AC-43.13 - 1B	Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair
IP-ECL-117	Installation Procedure, Forward Opening Rear Cargo Door
MTC	Standard Practices Manual

**D. ABBREVIATIONS & DEFINITIONS**

ABBREVIATION	DEFINITION
EC	Eurocopter (France)
ECL	Eurocopter Canada Limited
FWD	Forward
hrs	hours
LHS	Left-Hand Side
A/C	Aircraft

**E. UNITS OF MEASUREMENT**

ABBREVIATION / SYMBOL	UNIT OF MEASUREMENT
in	inch
kg	kilogram
lb	pound
m	meter

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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.

No airworthiness limitations associated with this installation.

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**3. CONTROL AND OPERATION**

Control and operation of the aircraft remains unchanged.

**4. INSPECTION SCHEDULE AND MAINTENANCE ACTION**

Use torque per EC, MTC, Volume 2, Chapter 20.02.05.404, 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 the forward opening rear cargo door for: a. general condition, visible damage  b. security	a. If cracking, delamination or debonding is found, repairs must be performed by qualified composite personnel. Repairs may be accomplished in accordance with EC MTC, Volume 3, Chapter 20.03.07.101, or AC-43.13-1B, Chapter 3, Section 1. (Refer to Figure 6 for Composite Lay up).  b. Secure as required.
B	- Visually inspect both straight pins, item 1, in the door hinges, item 2 in Figure 2 for: a. security	a. Secure both straight pins as required.
C	- Test both door latch assemblies, items 3 and 4, in Figure 2, for: a. freedom of movement  b. proper latching	a. Clean and lubricate to restore freedom of movement.  b. Adjust striker bolt (item 2, Figure 4) as required to ensure adequate seal between the door and door seal.
D	- Perform functional test of locking latch assembly, item 4, in Figure 2, for: a. proper locking function	a. Clean and lubricate to restore proper locking function.
E	- Visually inspect existing door seal, in Figure 5 for: a. condition	a. If tears or cracks are evident replace door seal.

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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4.1. 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 upper and lower door hinge, item 2, in Figures 2 and 3 for: a. security	a. Secure as required.
G	- Visually inspect bonding jumper, item 9, in Figure 3, for: a. security b. corrosion	a. Secure as required. b. No corrosion is allowed. If corrosion is found, contact Eurocopter Canada Limited for replacement parts.
H	- Visually inspect 2" copper tape, item 19, in Figure 3, for: a. security	a. Secure as required.
I	- Visually inspect door strut, item 1, in Figure 4, for: a. correct operation	a. If door strut does not hold the door in the open position, contact ECL for replacement part.
J	- Check placards and markings (refer to Section 10) for: a. legibility  b. secure mounting	a. If placards have become illegible, contact ECL for replacement parts. Refer to IP-ECL-117 for placard part number. b. Secure or reattach placards and markings as required

Table 2 Inspection Schedule and Maintenance Action  
Every 100 flight hrs or 12 months, whichever occurs first

5. OVERHAUL REQUIREMENTS

No overhaul requirements for this installation.

6. TROUBLESHOOTING

There are no unique characteristics which require special troubleshooting techniques; standard techniques are adequate.

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**7. SPECIAL TOOLING**

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

**8. REMOVAL AND REPLACEMENT**

Proceed as follows if any of these items need to be removed.

**A. REMOVAL**

1) Forward Opening Rear Cargo Door (Refer to Figures 2, 3 and 4)

- a) With door in the open position, disconnect door strut (1) from the ball stud (5) located on the strut mount backing plate (2) by lifting the locking tab on the door strut (1). Refer to Figure 4.
- b) Disconnect door strut (1) from the strut bracket (6) by lifting the locking tab on the door strut (1). Remove door strut (1) from aircraft. Refer to Figure 4.

**NOTE:** If removing door from an AS 355 N or AS 355 NP, disconnect the upper and lower bonding jumper (9) from inside the LHS of the baggage compartment. Refer to Figure 3.

- c) Remove cotter pins (5) (2 places) and washers (6) (2 places) and remove straight pins (1) (2 places) from hinge mounts (7) (2 places) while holding door. Refer to Figure 2, Section B-B.

2) Locking and Non-Locking Latch Assemblies (Refer to Figures 2 and 5)

- a) With door open, position door latch assemblies (3 and 4) in the latched position. Refer to Figure 2.
- b) Remove latch assembly mounting screw (1) from each door latch assembly (3 and 4). Remove both door latch assemblies (3 and 4) from door. Refer to Figure 5.

**B. REPLACEMENT**

**NOTE** Use torque per EC, MTC, Volume 2, Chapter 20.02.05.404, unless otherwise specified.

1) Forward Opening Rear Cargo Door (Refer to Figures 2, 3 and 4)

- a) Position Door on aircraft aligning upper and lower hinges (2) in hinge mounts (7) (2 places). Refer to Figure 2.
- b) Insert straight pins (1) (2 places) into hinge mounts (7) (2 places) and secure using washers (6) (2 places) and cotter pins (5) (2 places).
- c) Secure door strut (1) to strut bracket (6). Reconnect door strut (1) to ball stud (5) located on the strut mount backing plate (2). Refer to Figure 4.

**NOTE:** If installing door on an AS 355 N or AS 355 NP, secure the upper and lower bonding jumper (9) to the inside the LHS of the baggage compartment. Refer to Figure 3.

2) Locking and Non-Locking Latch Assemblies (Refer to Figures 2 and 5)

- a) Position both door latch assemblies (3 and 4) into door in the latched position. Refer to Figure 2.
- b) Secure using the latch assembly mounting screws (1) (2 places). Refer to Figure 5.

**NOTE** Apply thread locking compound (P/N Loctite 242) to latch assembly mounting screws (1) upon installation.

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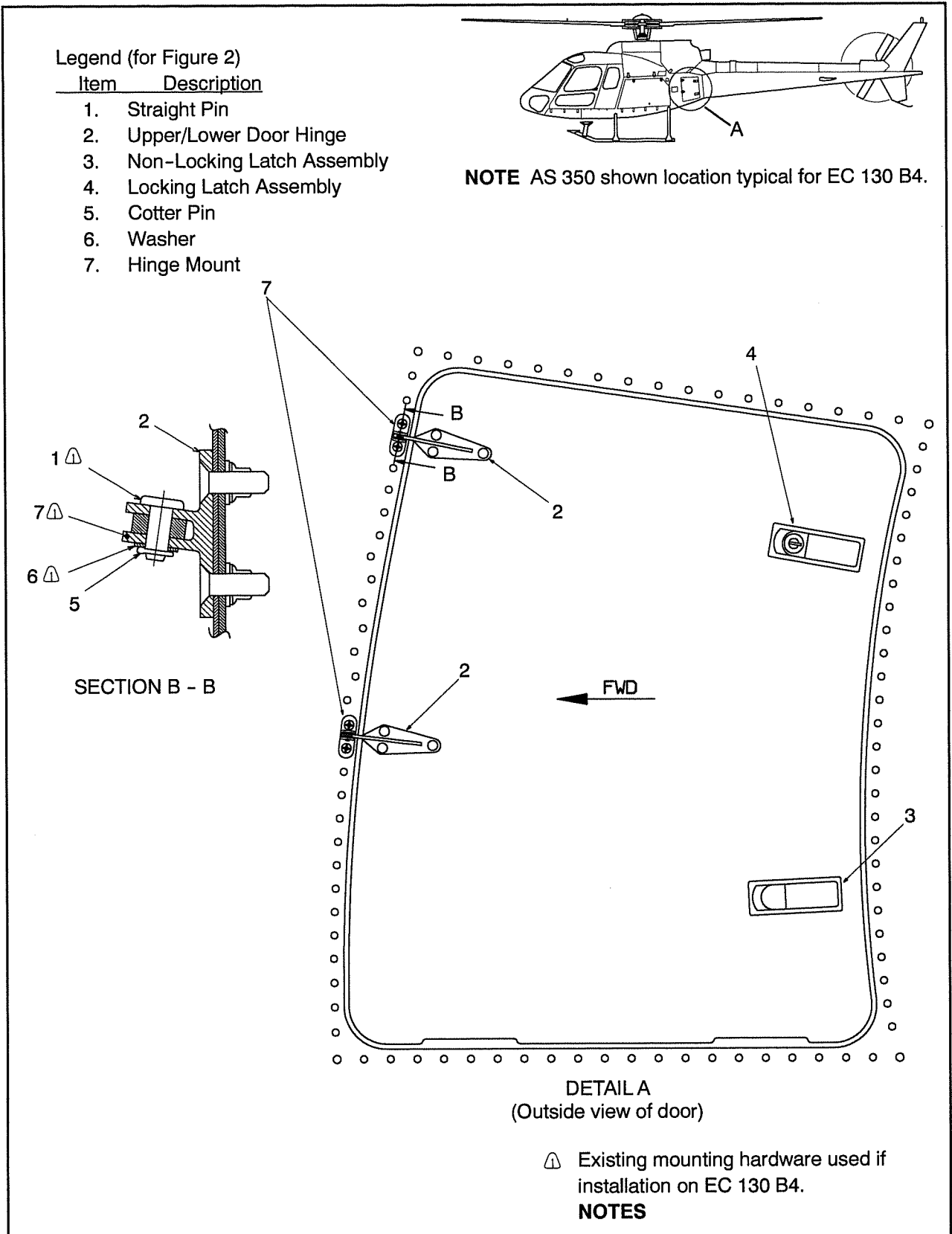


Figure 2 Door Installation (AS 350 / AS 355 and EC 130 B4)

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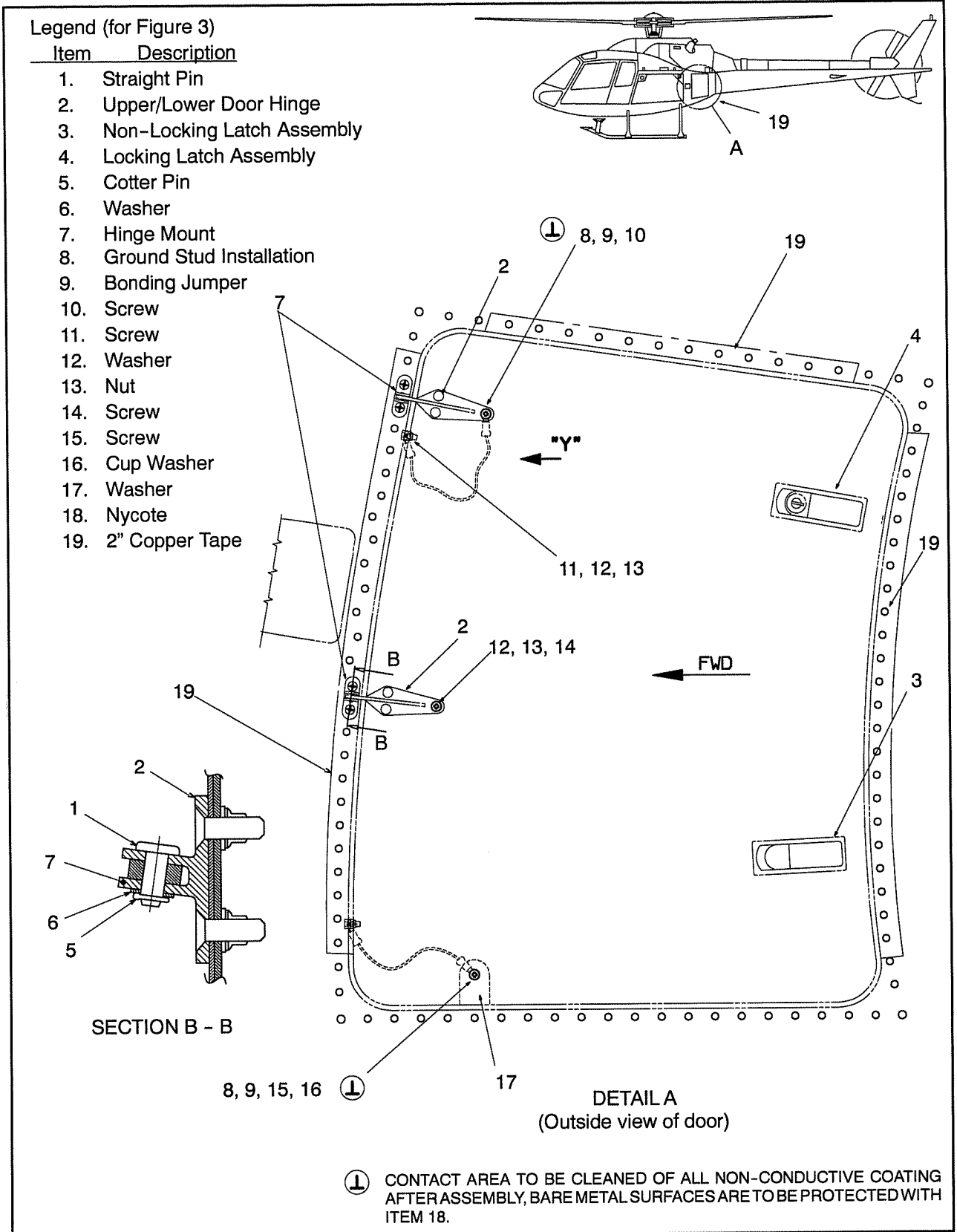
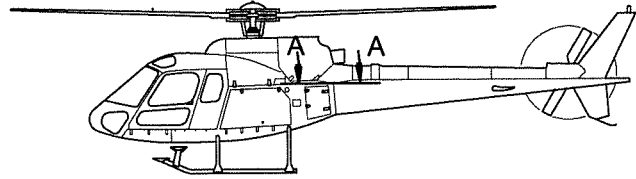


Figure 3 Cargo Door Bonding Mod for AS 355 N or AS 355 NP version

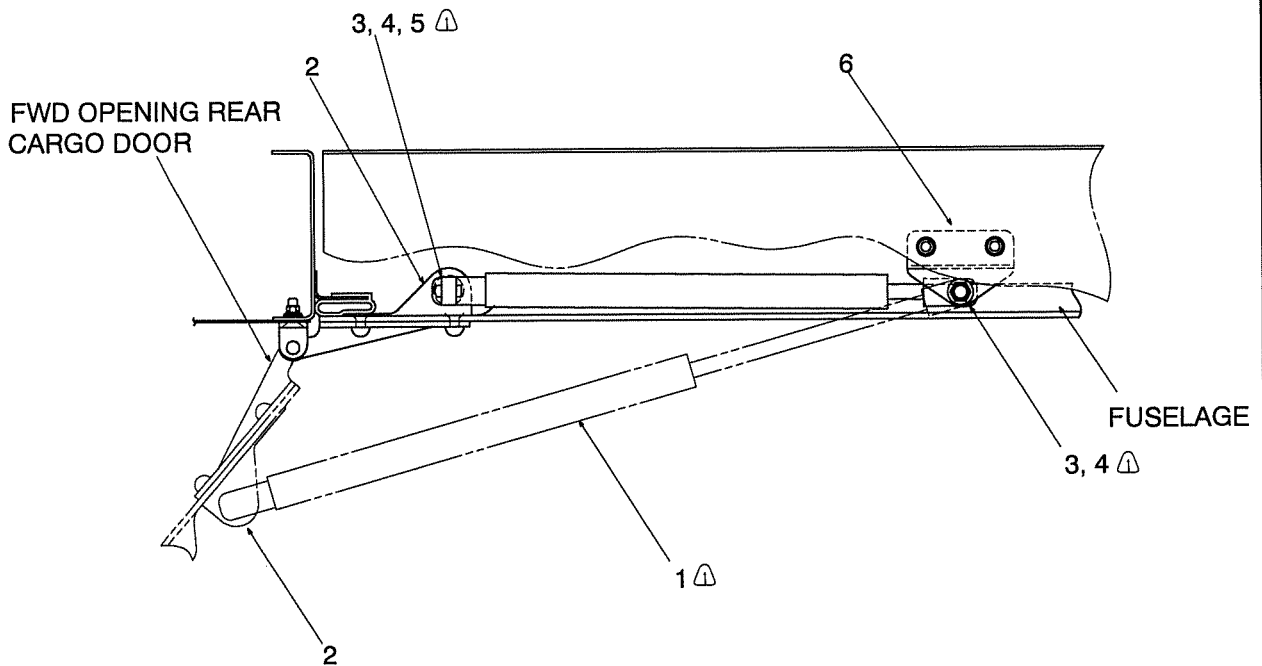
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Legend (for Figure 4)

Item	Description
1.	Door Strut
2.	Strut Mount Backing Plate
3.	Self-Locking Nut
4.	Washer
5.	Ball Stud
6.	Strut Bracket



**NOTE** AS 350 shown location typical for EC 130 B4.



SECTION A - A

⚠ Existing mounting hardware used if installation on EC 130 B4.

**NOTE**

Figure 4 Strut Mount Backing Plate and Strut Assembly (AS 350 / AS 355 and EC 130 B4)

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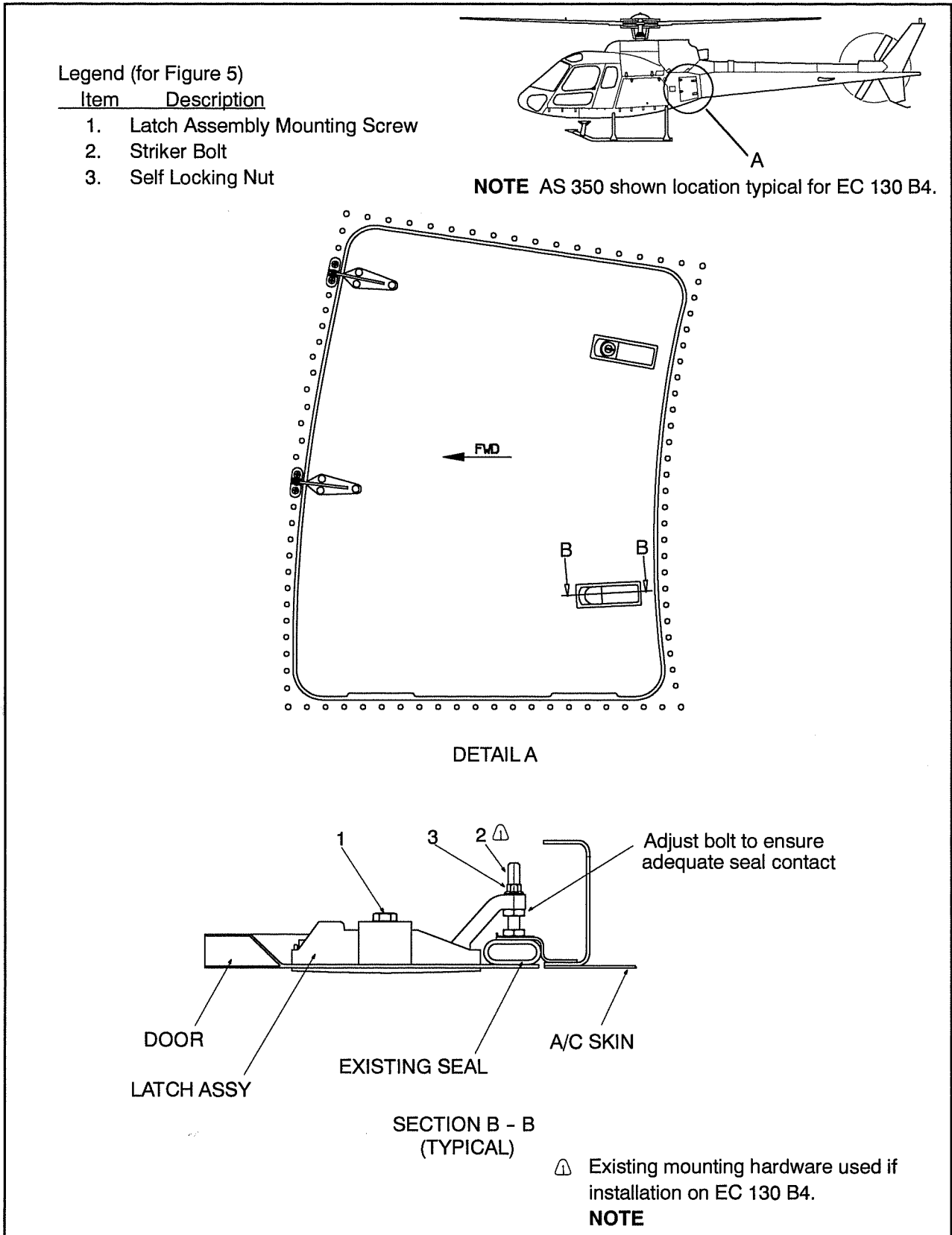


Figure 5 Door Latch Assembly (AS 350 / AS 355 and EC 130 B4)

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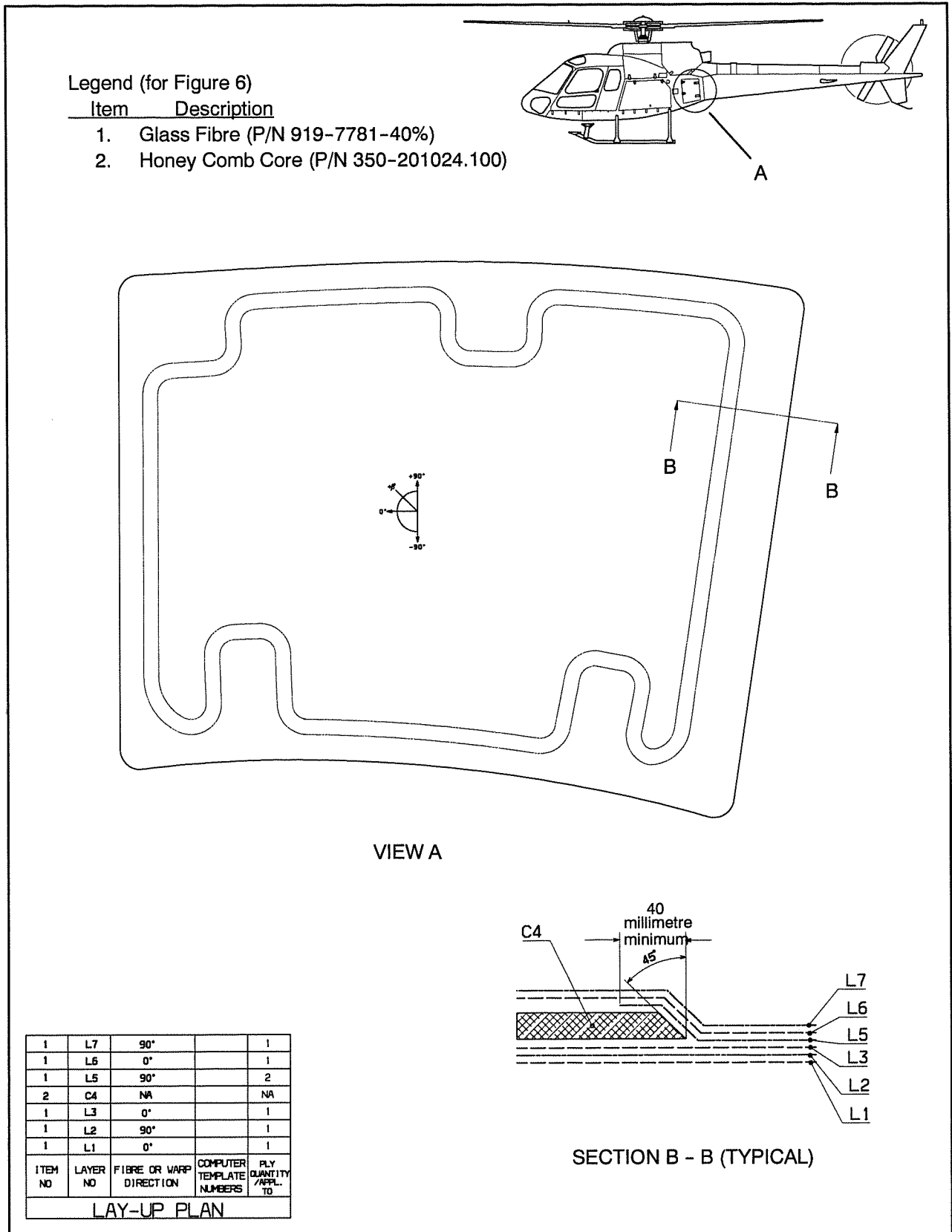


Figure 6 Composite Lay-up for Forward Opening Rear Cargo Door, Latches removed (AS 350)

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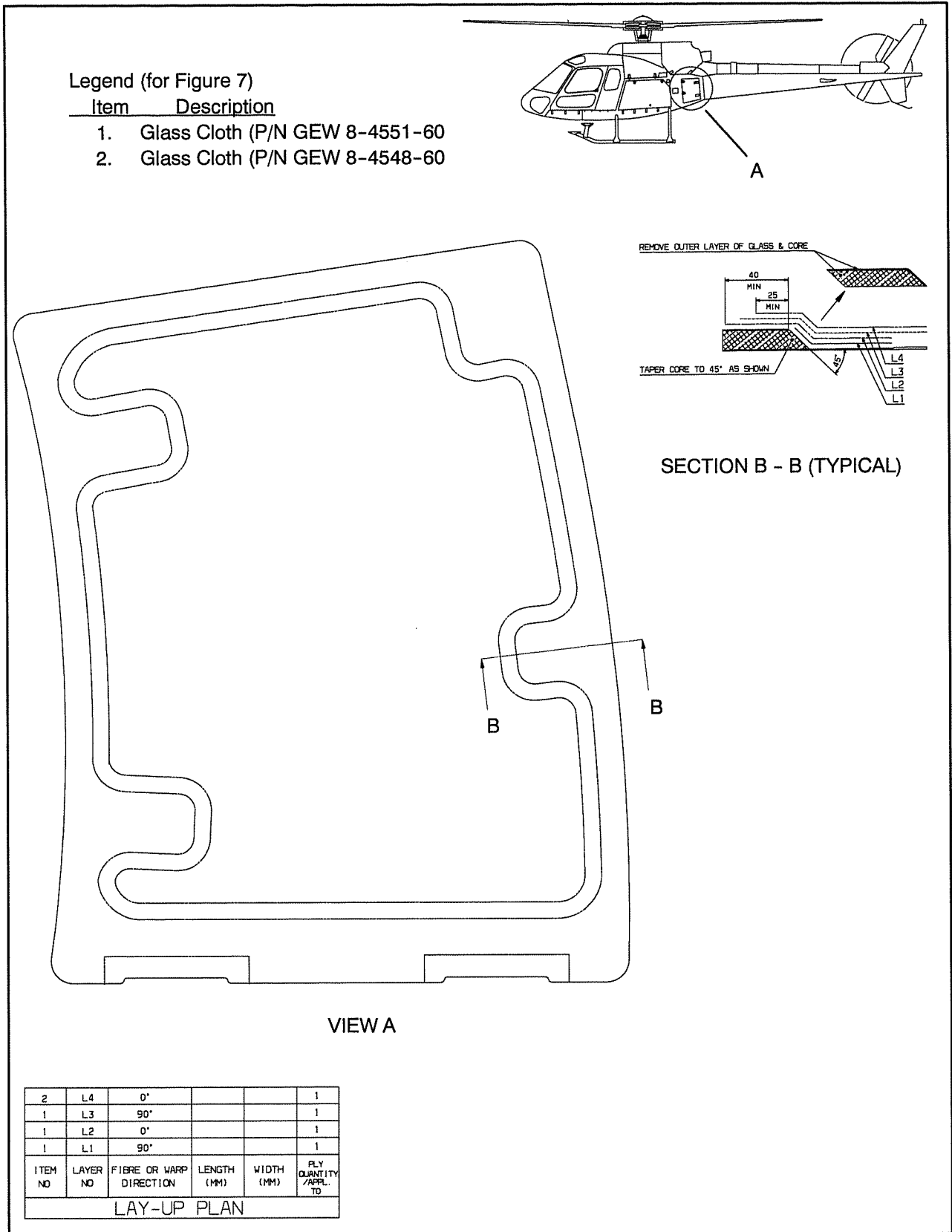


Figure 7 Composite Lay-up for the Alternative Door, Hinges removed (AS 350)

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9. **WEIGHT AND BALANCE DATA**

A. <u>Removed Items</u>						
DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Basic aircraft Rear Door and hardware	- 1.15	- 2.5	4.61	181.5	- 5.30	- 453.8

B. <u>Added Items</u>						
DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Forward Opening Rear Cargo Door	1.78	3.9	4.61	181.5	8.21	707.9

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10. PLACARDS AND MARKINGS

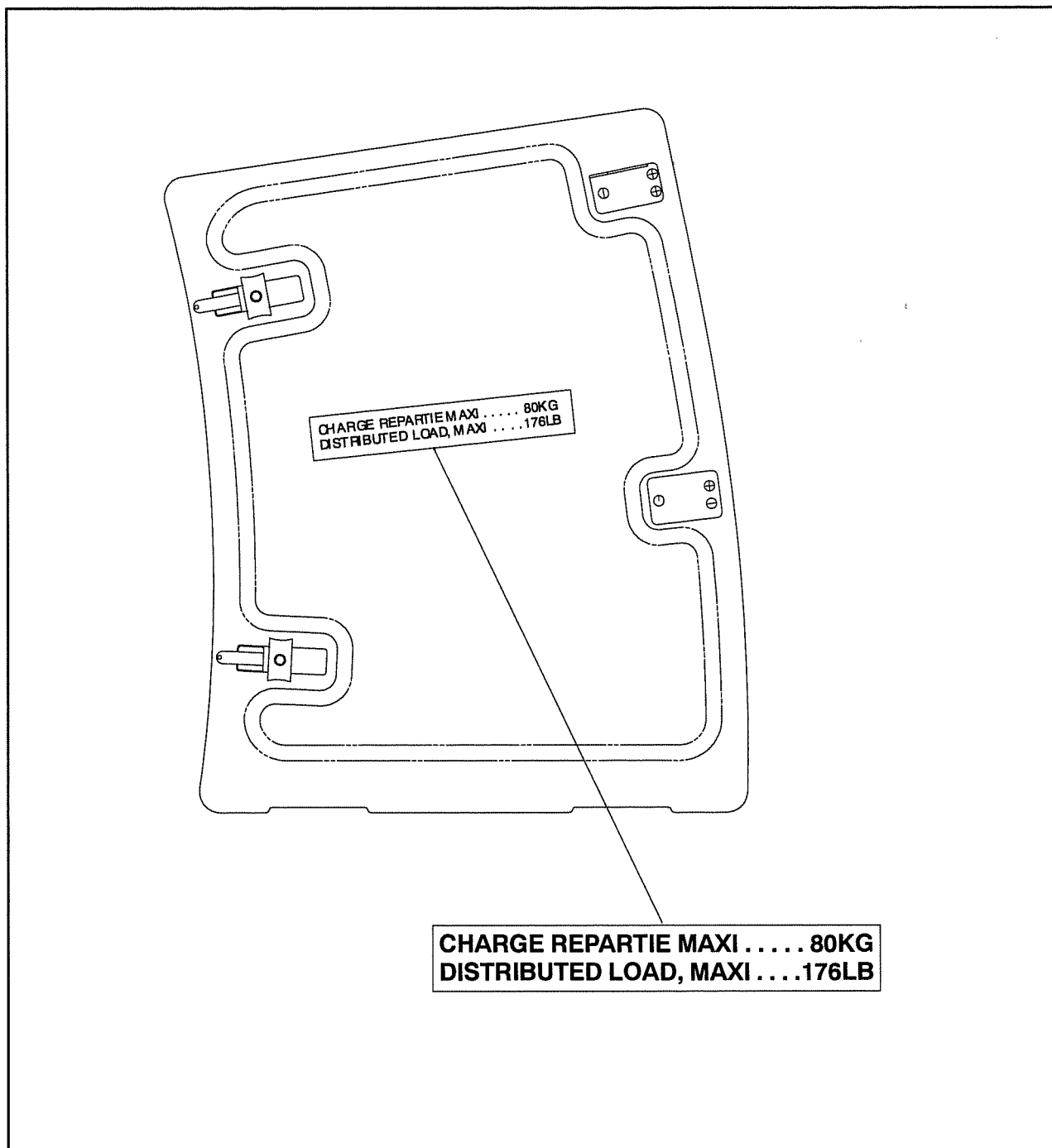


Figure 8 Identification label on inside of door (AS 350 / AS 355)

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10. **PLACARDS AND MARKINGS** (continued)

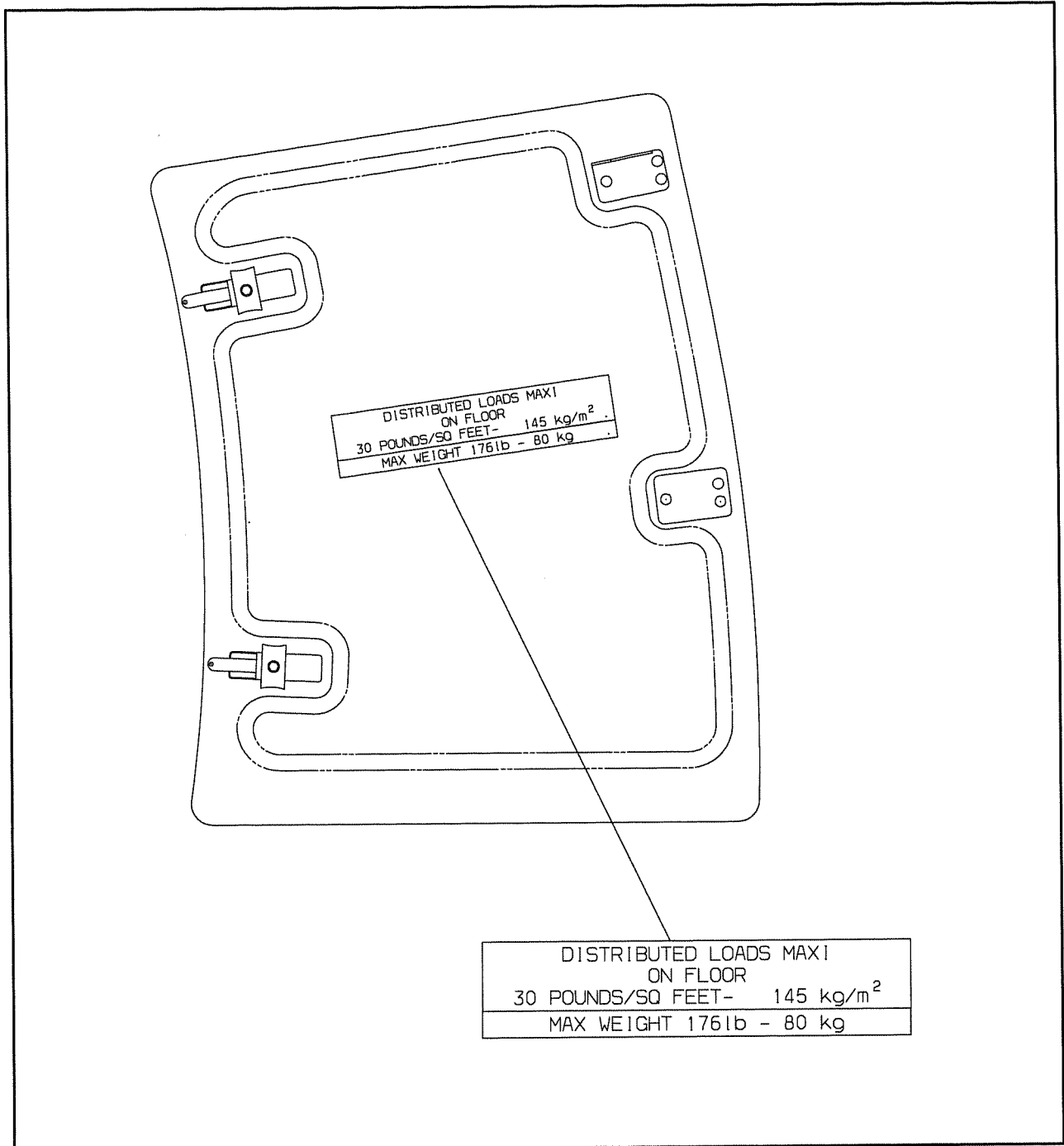


Figure 9 Identification label on inside of door (EC 130 B4)

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