

**SUBJECT:**

Required maintenance for the Cable Cutter Installation (P/N 350-252004).

**APPLICABILITY :**

 Aircraft with the subject modification embodied in accordance with TCCA STC  
 No. SH12-52 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 27	Original Issue	D. Kerr 18 January, 2012	C. Timmins 18 January, 2012	N/A	R. Manson 10 April, 2012
1	1 through 27	Increased 100 flight hour inspection to 150 flight hour inspection.. (Pages 3, 15 to 17)	D. Kerr 10 April 2012	C. Timmins 10 April 2012	N/A	R. Manson 29 May 2012
2	1 through 31	Addition of Weakened Pitot Support and Static System Mod. Increased all 100 flight hour inspection to 150 flight hour inspection. Section 5 text revised. (Pages 3 to 5, 7 to 9, 11 to 15, 18 to 20 & 22)	D. Kerr 24 September 2012	C. Timmins 24 September 2012	TCCA G. David 27 September 2012	R. Manson 1 October 2012
3	1 through 36	Addition of AS 355 a/c type. Revised the Airworthiness Limitations statement in Sec. 2. Add AHCA to Sec. 4. revised Fig 2 to show AS 355 hardware for upper cutter. (Pages 3 to 6, 8, 9, 12 to 26, 29, 33 to 36)	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.  
 NOTE: Minor changes are released in accordance with TCCA - ACCEPTED CAR 521.154 procedures (ref. DAPM-E-0001).

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**1. GENERAL**

- A. The subject Cable Cutter Installation consists of two cable-cutting devices mounted on the upper and lower canopy. A Deflector, integral to the cutting devices and installed on the windshield center post, guide cables to the cutting blades. Optional wiper post deflectors can be installed on aircraft with windshield wipers. Refer to Figure 1 for General Layout.

Prior to installation of the Cable Cutter the following structural modifications must be installed:

- For AS 350 and AS 355 MOD OP 1946: Canopy Reinforcement for the Upper Cable Cutter
- For AS 350 MOD OP 1947: Cabin Floor Reinforcement for Lower Cable Cutter
- For AS 355 Drawing number 355-250034: Cabin Floor Reinforcement for Lower Cable Cutter

The Cable Cutter Installation is available in two variants:

- 01 Cable Cutter Installation with Wipers
- 02 Cable Cutter Installation without Wipers

The Cable Cutter Installation consists of the following main components:

Detachable Provisions

- Upper Cutter Assembly
- Lower Cutter Assembly
- Struts (upper and lower)
- Left Hand and Right Hand Strut Pads (upper and lower)
- Windshield Deflector
- Weakened Pitot Support (exclusive of the AS 355 NP)
- Static System Mod
- Optional Windshield Wiper Deflectors

For instructions of initial installation, see IP-ECL-129.

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

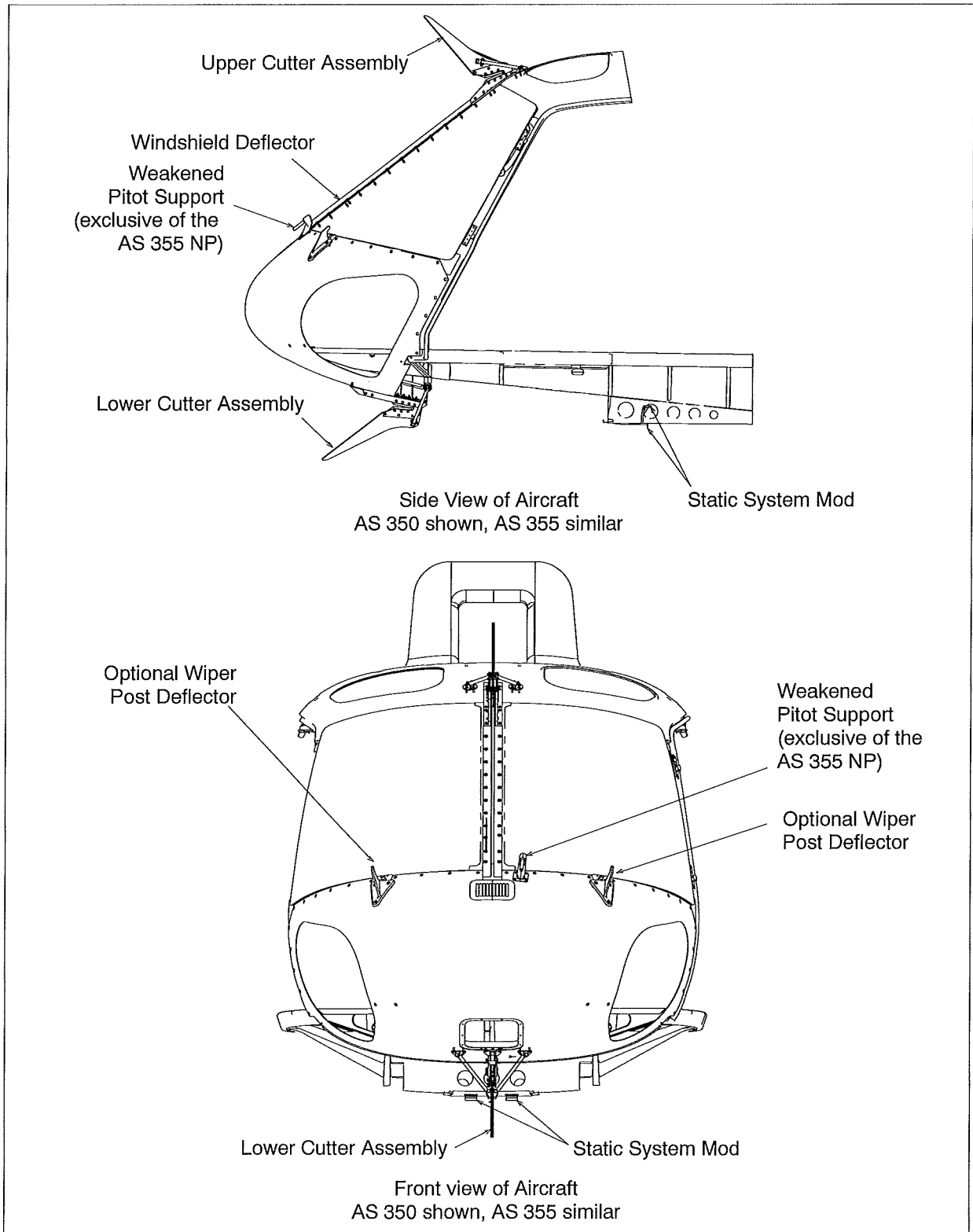


Figure 1 General Layout

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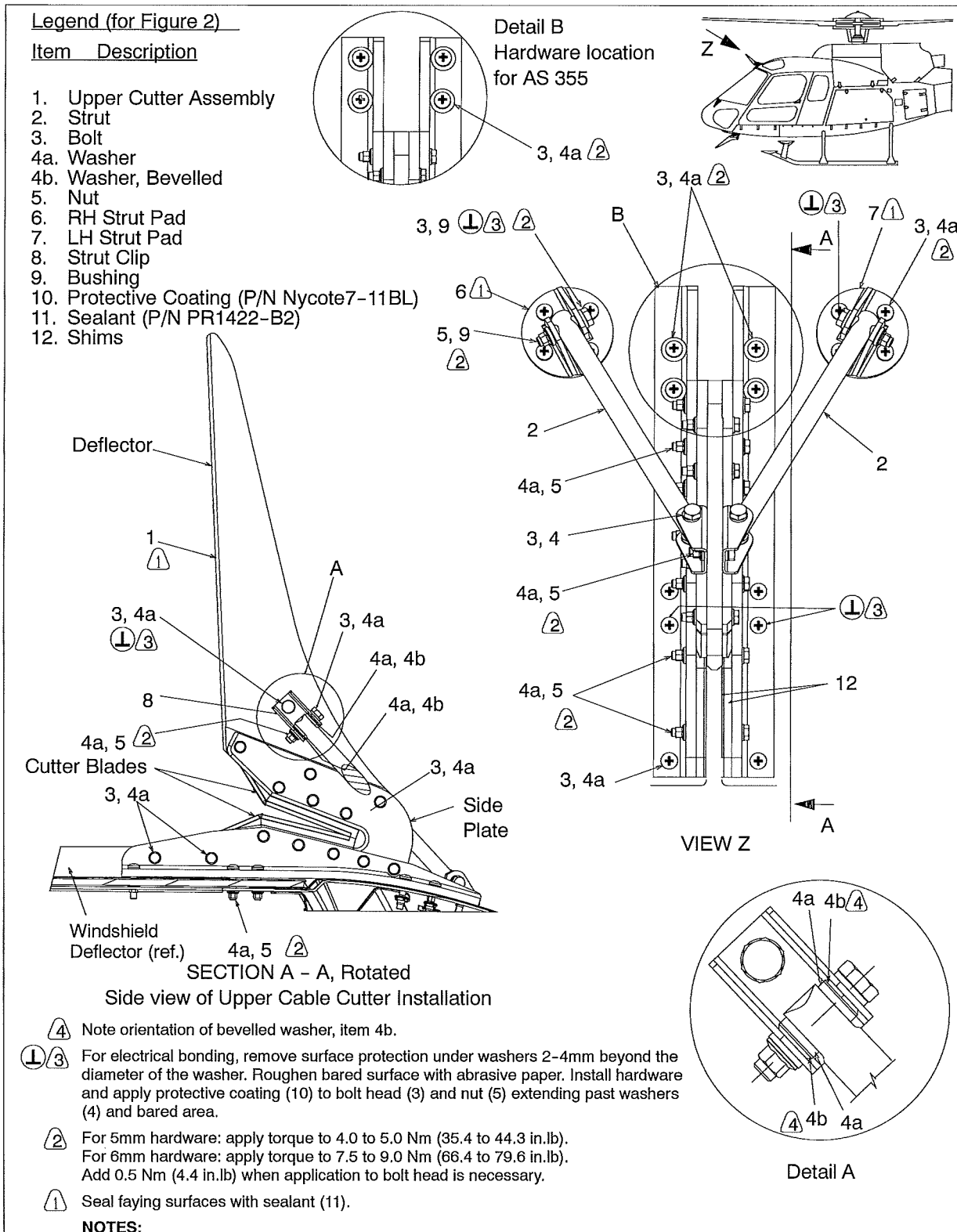


Figure 2 Upper Cutter Assembly Detachable Provisions

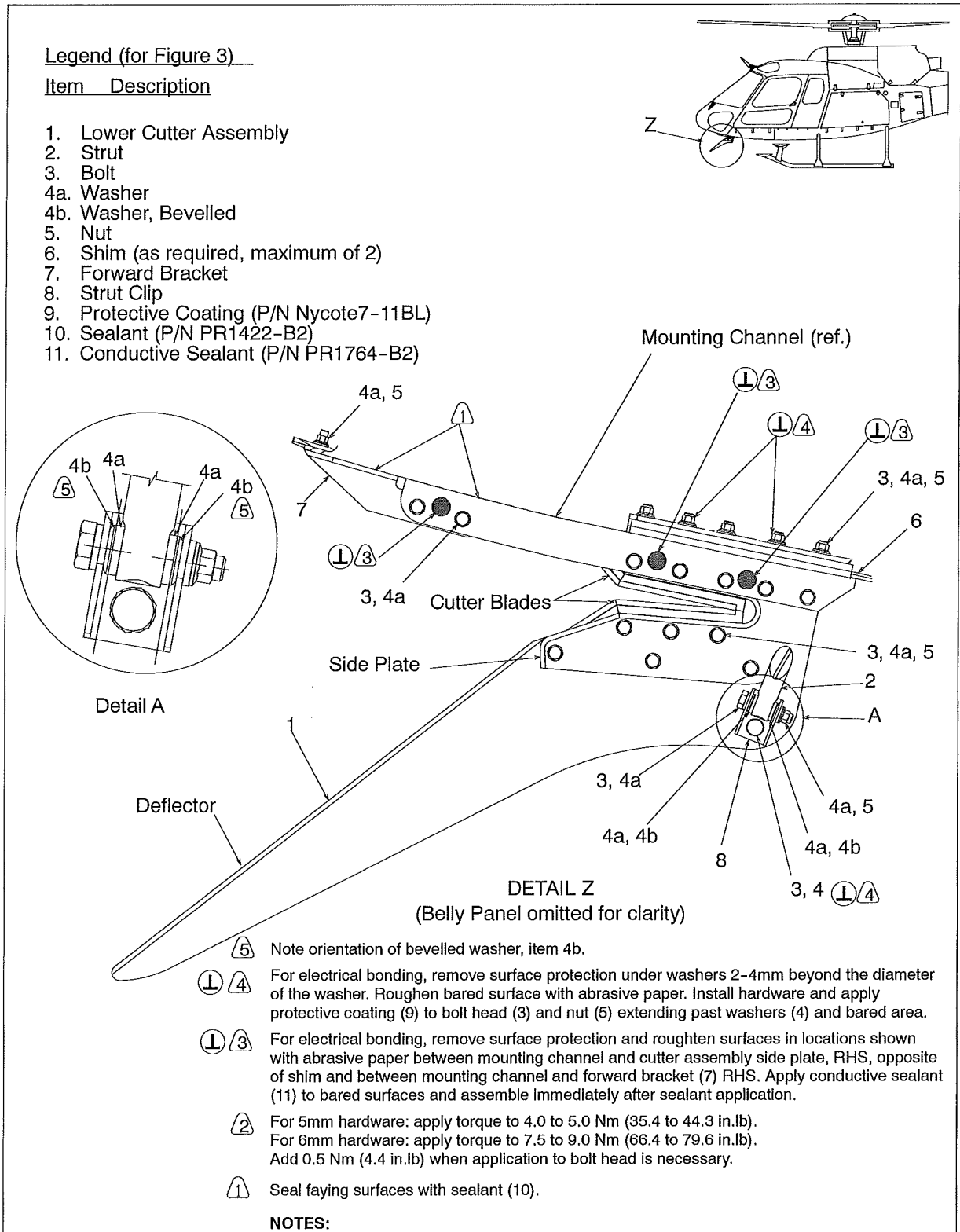


Figure 3 Lower Cutter Assembly Detachable Provisions

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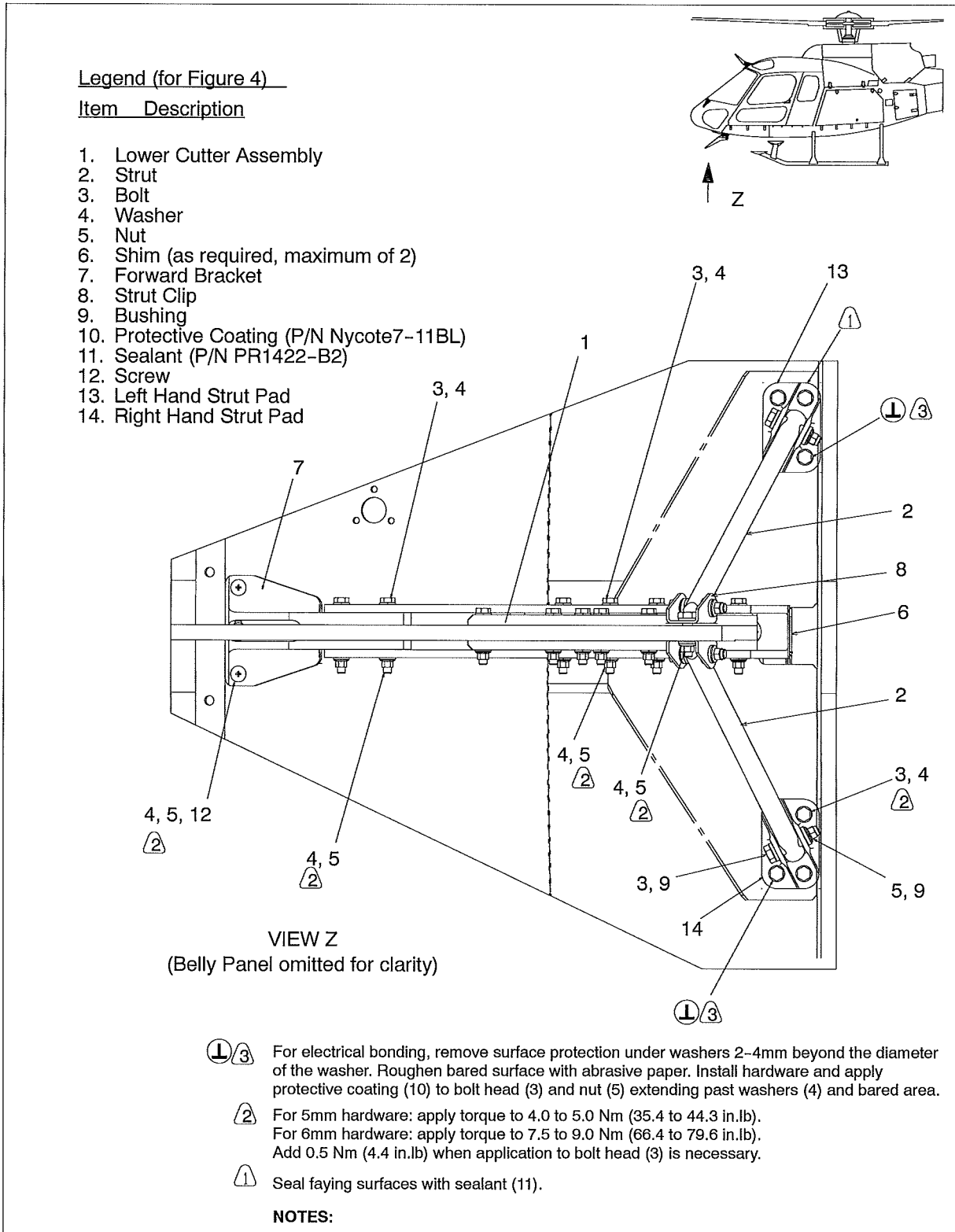


Figure 4 Lower Cutter Assembly Detachable Provisions Continued



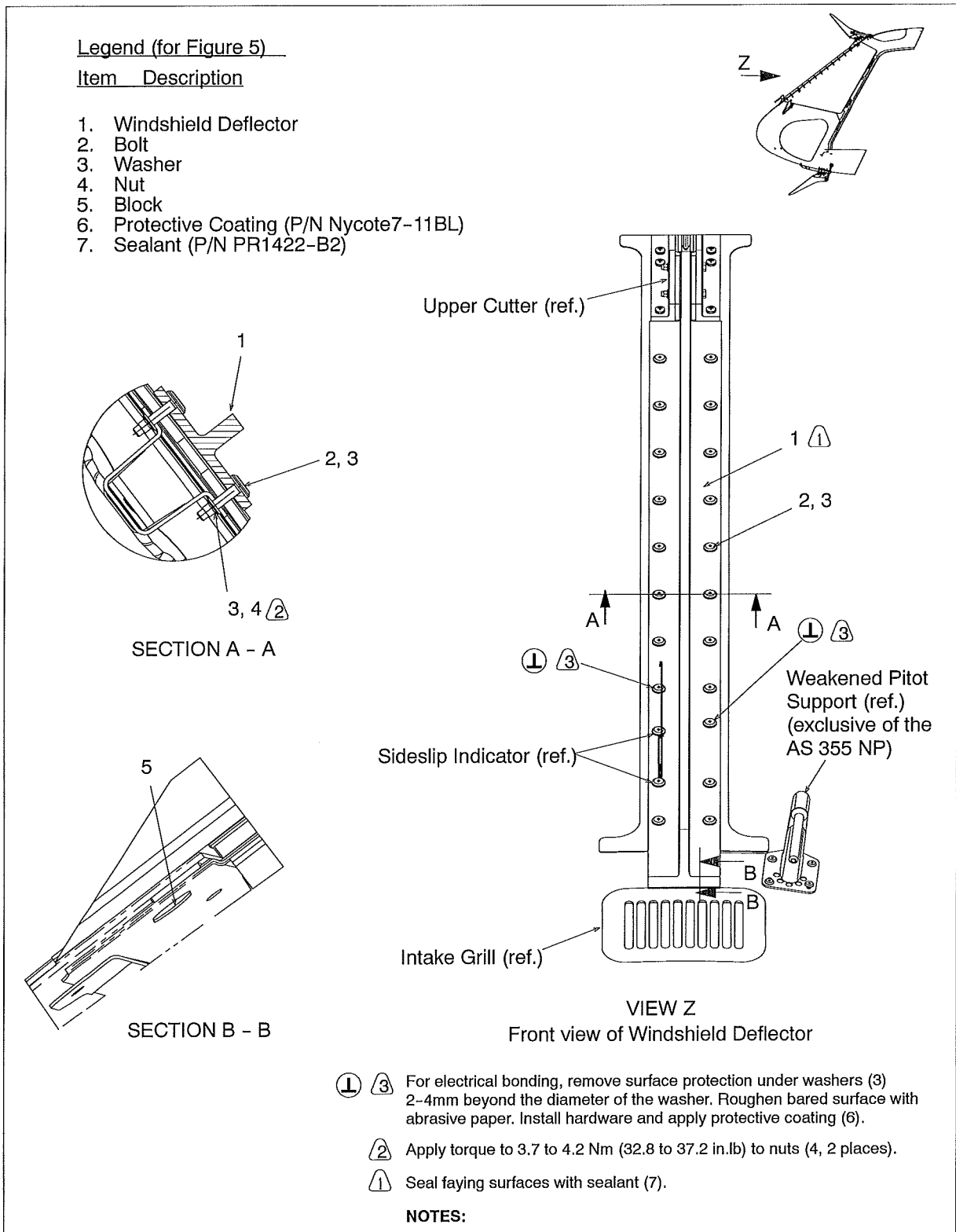
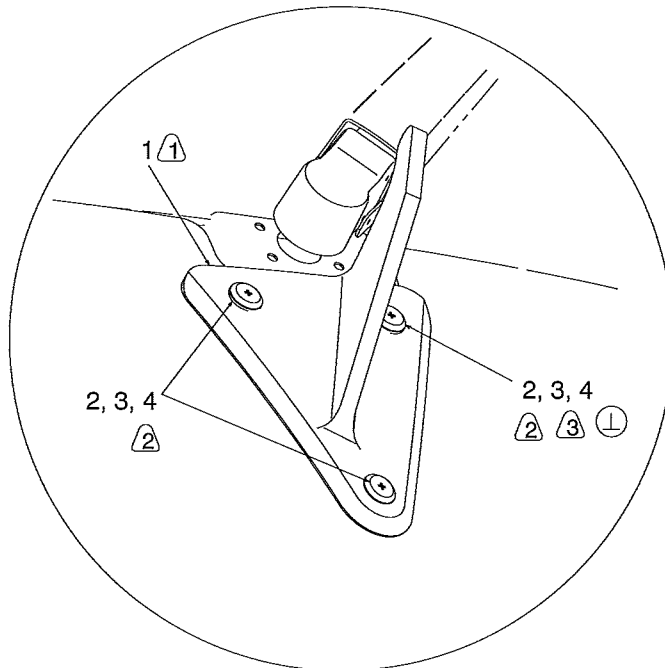
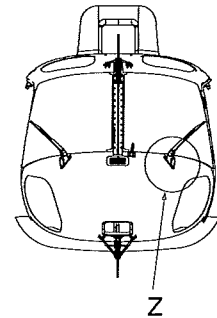


Figure 5 Windshield Deflector

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Legend (for Figure 6)
Item Description

1. Left Hand Wiper Post Deflector
2. Bolt
3. Washer
4. Nut
5. Protective Coating (P/N Nycote7-11BL)
6. Sealant (P/N PR1422-B2)


**DETAIL Z**

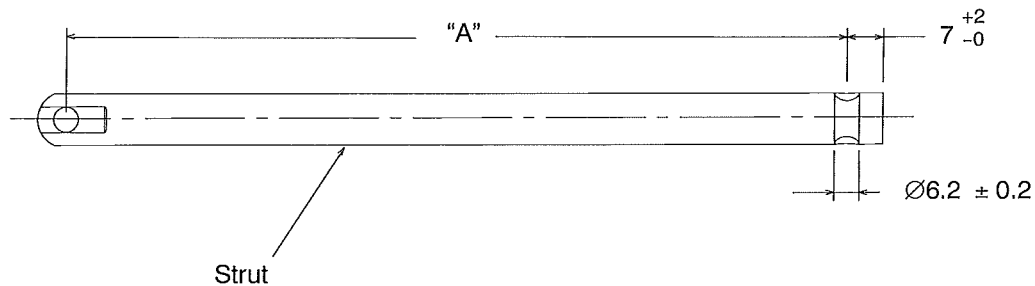
Left Hand Shown, Right Hand opposite

- Ⓛ Ⓟ For electrical bonding, remove surface protection under washers (3) 2-4mm beyond the diameter of the washer. Roughen bared surface with abrasive paper. Install hardware and apply protective coating (5).
- Ⓜ Apply torque to 3.7 to 4.2 Nm (32.8 to 37.2 in.lb) to nuts (4, 6 places).
- Ⓛ Seal faying surfaces with sealant (6).

**NOTES:**

Figure 6 Wiper Post Deflector (Optional)

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Typical Drilled Strut

**Procedure for strut trimming and drilling strut**

Applicable for both Upper and Lower Cutter Installation

1. With strut pads (2 places) and strut clips (2 places) secured on aircraft, measure the minimum cross hole to cross hole distance between the strut pads and strut clips.
2. Trim strut ensuring 7 to 9 mm to dimension "A" as shown above.
3. Reposition strut on strut clips and secure, determine cross hole location on strut and mark.
4. Remove strut and drill cross hole to  $6.2 \pm 0.2$  mm.
5. Deburr hole. Touch up alodine and prime hole and trimmed end of strut.

**Installation Procedure (Refer to Figures 2, 3 and 4)**

1. Reposition struts (2, 2 places) on LH and RH strut mounting pads (13 and 14) and secure using bolts (3, 2 places), bushings (9, 4 places) and nuts (5, 2 places).
2. Bring strut up into strut slips (8, 2 places) located on the cutter assembly and secure using bolts (3, 2 places), washers (4, 8 places) and nuts (5, 2 places).
3. Tighten all hardware to correct torque values, refer to Figures 2, 3 and 4.

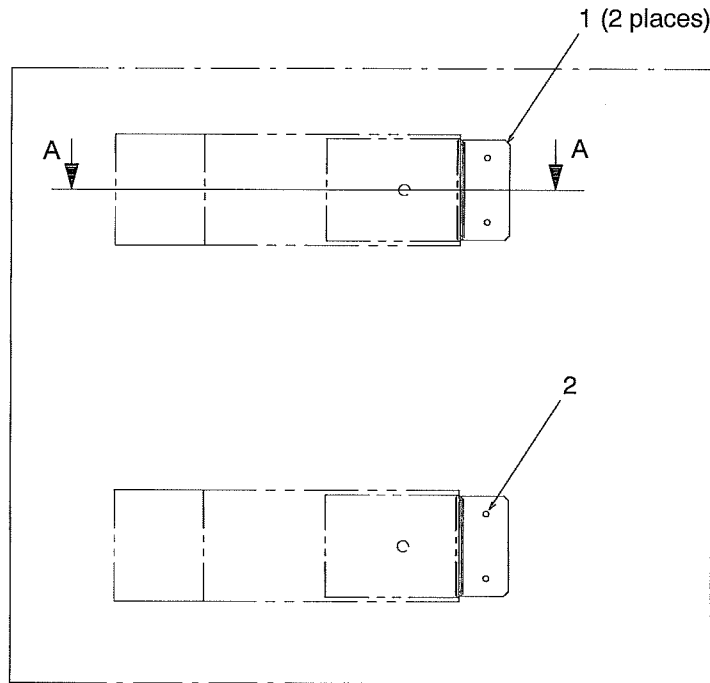
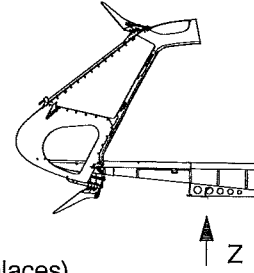
Figure 7 Strut Modification and Installation

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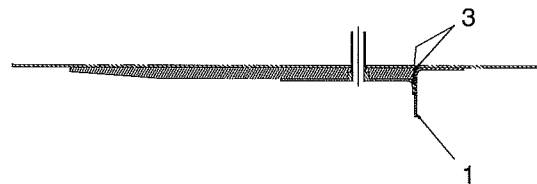
Legend (for Figure 8)

Item Description

1. Corner Plate
2. Rivets
3. Sealant (P/N ECS6046-1091)



DETAIL Z  
Looking up corner angles



SECTION A - A  
Showing installation of corner angle

Figure 8 Static System Mods for Cable Cutter Installation (exclusive of the AS 355 NP)

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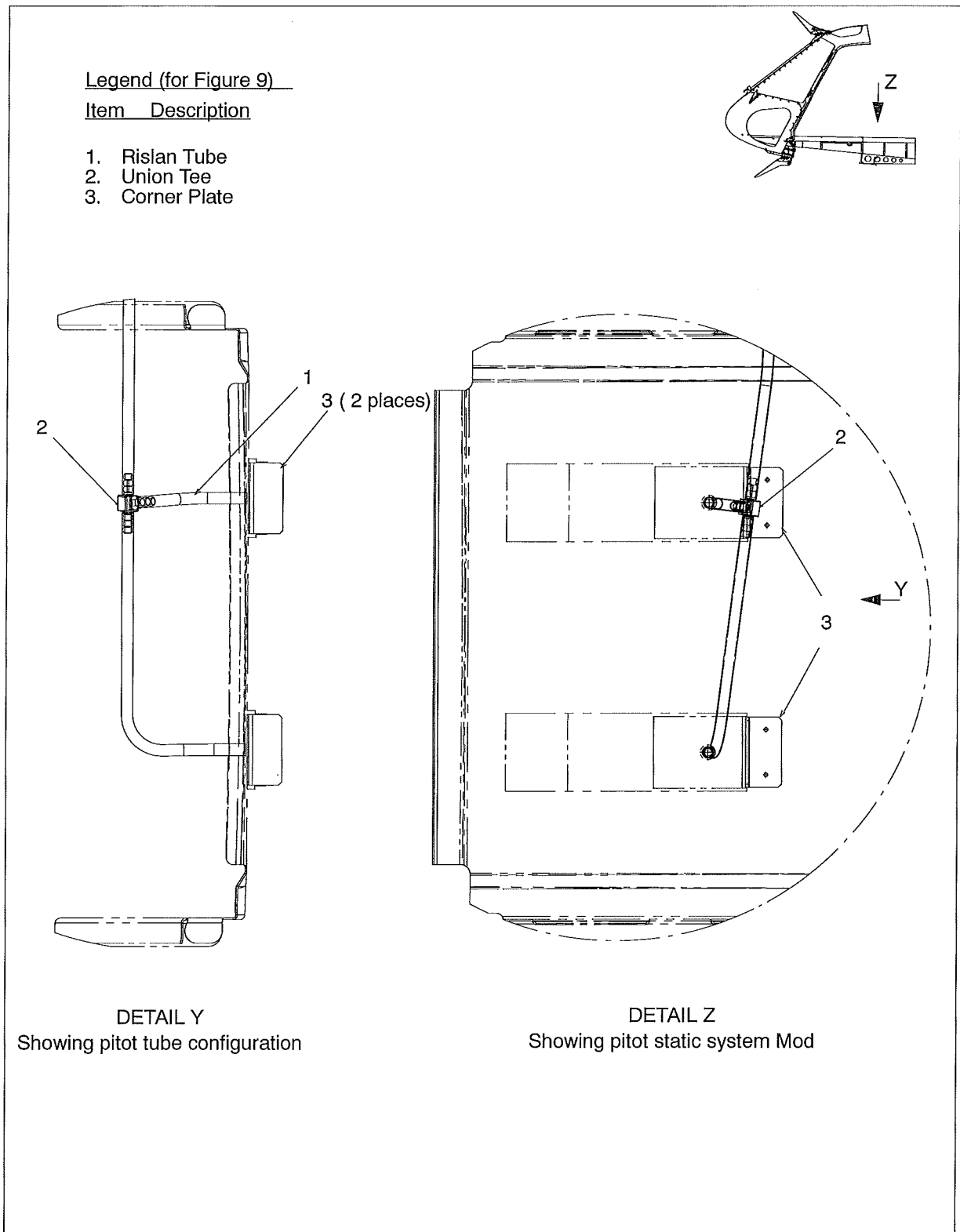


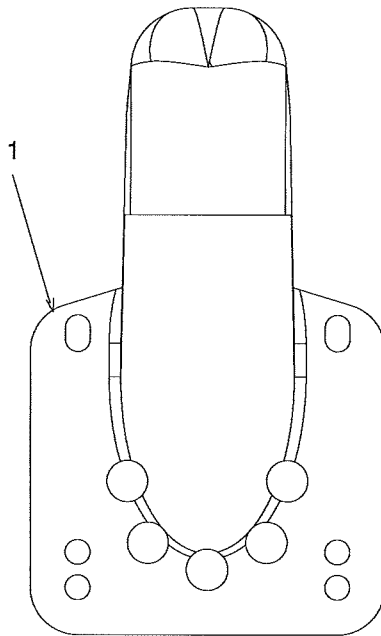
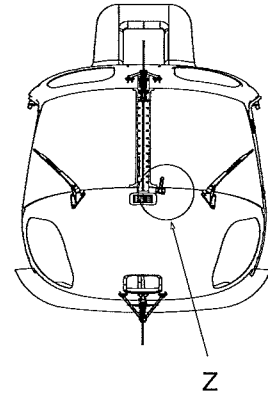
Figure 9 Static System Mods for Cable Cutter Installation (continued) (exclusive of the AS 355 NP)

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Legend (for Figure 10)

Item Description

- 1. Pitot Support



VIEW Z  
Weakened Pitot Support  
(Not on the AS 355 NP)

Figure 10 Weakened Pitot Support (exclusive of the AS 355 NP)

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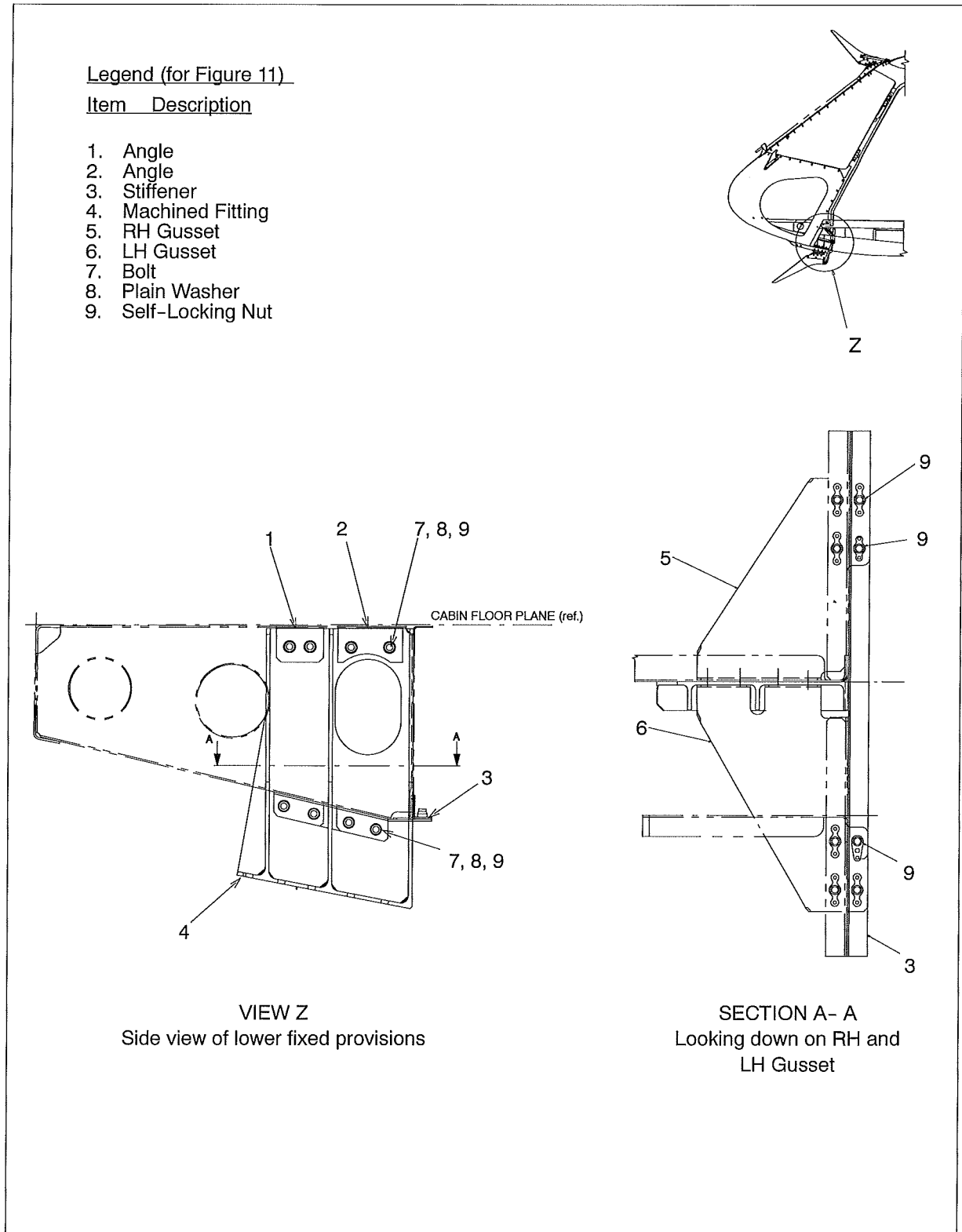


Figure 11 AS 355 Lower Fixed provisions

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**C. REFERENCES**

DOCUMENT	DOCUMENT TITLE
AMM (B2 & B3 only)	Aircraft Maintenance Manual
IP-ECL-129	Installation Procedure
MET	Maintenance Manual
MTC	Standard Practices Manual

**D. ABBREVIATIONS & DEFINITIONS**

ABBREVIATION	DEFINITION
Acc'd	Accepted
AHCA	Airbus Helicopters Canada Limited
AH	Airbus Helicopters (France)
App'd	Approved
A/W	Airworthiness
CAR	Canadian Aviation Regulations
D	Days
DAPM	Design Approval Procedures Manual
FAA	Federal Aviation Administration
FH	Flight Hours
hrs.	hours
LH	Left Hand
MOD	Modification
MOD OP	Modification Option Pre Aircraft
M	Months
N/A	Not applicable
OEM	Original Equipment Manufacturer
P/N	Part Number
ref.	reference
Rev.	Revision
RHS	right hand side

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**E. UNITS OF MEASUREMENT**

ABBREVIATION / SYMBOL	UNIT OF MEASUREMENT
kg	kilogram
lb	pound
m	meter
mm	millimeters
in	inch
Nm	Newton meter
∅	diameter
Ω	ohm
<	Less than
§§	Sections
⬇	Ground

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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.

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under §§43.16 and 91.03 of Federal Aviation Regulations unless an alternative program has been FAA approved.

The airworthiness limitations section is approved and variations must also be approved.

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**
**WARNING: TO AVOID INJURIES, THE LOWER CUTTER ASSEMBLY MUST NOT BE USED FOR GROUND HANDLING OF THE HELICOPTER**

There are no scheduled special inspections for the cable cutter. Inspections can be incorporated into the regular aircraft inspections.

**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:**

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect the cable cutter components for: a. security (verify integrity of components and mounting hardware by applying hand pressure and checking for looseness) b. missing hardware c. condition	a. Secure as required .  b. Replace missing hardware. c. If sealant is damaged or missing clean area and reapply sealant (P/N PR1422-B2) in accordance with MTC, Chapters 20.05 .01.101 and 20.05.01.206. If blade is damaged, refer to Supplemental Maintenance Instructions, Section 4.1.3, Item A.

 Table 1 Inspection Schedule and Maintenance Action  
 Before the first flight of each day

**NOTE:** The "Before the first flight of each day" task can be carried out by a suitably trained pilot or maintenance personnel.

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**AIRBUS HELICOPTERS CANADA LIMITED**
**4. INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)**

Maintenance on the Cable Cutter is condition monitoring.

4.1.2. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect Upper and Lower Cable Cutter Installation, shown in Figure 2 and 3 for: a. condition (nicks, scratches and minor corrosion) b. cracked or damaged components c. loose or damaged fasteners	a. Repair light and medium corrosion and minor nick and scratches to a depth of 0.25mm in accordance with MTC, Chapter 20.04.03.401. Restore reworked surface finish. If heavy corrosion or severe marking is found, contact AHCA for replacement parts. b. No cracked or damaged components are allowed. If cracking or damage is found, contact AHCA for replacement parts. c. Re-torque or replace any loose or damaged fasteners.
B	- Visually inspect cutting edge of cutter blades, shown in Figure 2 and 3 for: a. surface damage or corrosion b. damage to rubber coating	a. No surface damage or corrosion is allowed on cutter blades. If surface damage or corrosion is found, cutter blade must be replaced. b. Remove damaged cutter blade following instructions given in Section 8. Mask area on each side of cutter blade. Apply a minimal coating of sealant to the damaged area on cutter blade. Remove masking once dry.
C	- Visually inspect upper and lower deflector shown in Figures 2 and 3 for: a. deformation or cracking	a. No deformation or cracking is allowed. If deformation or cracking is found, contact AHCA for replacement parts.

Table 2 Inspection Schedule and Maintenance Action  
 Every 150 FH or 12 M to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first  
 (continued on following page)

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**4. INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)**

4.1.2. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
D	- Visually inspect Windshield Deflector, shown in Figure 5 for: <ul style="list-style-type: none"> <li>a. condition (nicks, scratches and minor corrosion)</li> <li>b. cracked or damaged components</li> <li>c. loose or damaged fasteners</li> </ul>	<ul style="list-style-type: none"> <li>a. Repair light and medium corrosion and minor nick and scratches to a depth of 0.25mm in accordance with MTC, Chapter 20.04.03.401. Restore reworked surface finish. If heavy corrosion or severe marking is found, contact AHCA for replacement parts.</li> <li>b. No cracked or damaged components are allowed. If cracking or damage is found, contact AHCA for replacement parts.</li> <li>c. Re-torque or replace any loose or damaged fasteners.</li> </ul>
E	- Visually inspect LH and RH Wiper Post Deflectors, if installed, shown in Figure 6 for: <ul style="list-style-type: none"> <li>a. condition (nicks, scratches and minor corrosion)</li> <li>b. cracked or damaged components</li> <li>c. loose or damaged fasteners</li> </ul>	<ul style="list-style-type: none"> <li>a. Repair light and medium corrosion and minor nick and scratches to a depth of 0.25mm in accordance with MTC, Chapter 20.04.03.401. Restore reworked surface finish. If heavy corrosion or severe marking is found, contact AHCA for replacement parts.</li> <li>b. No cracked or damaged components are allowed. If cracking or damage is found, contact AHCA for replacement parts.</li> <li>c. Re-torque or replace any loose or damaged fasteners.</li> </ul>

Table 2 Inspection Schedule and Maintenance Action)  
 Every 150 FH or 12 M to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first  
 (continued on following page)

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**AIRBUS HELICOPTERS CANADA LIMITED**
**4. INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)**

4.1.2. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
F	- Visually inspect struts, item 2, on upper and lower cutters, shown in Figures 2 and 4 for: a. bowing	a. Maximum allowable bow in struts is 1 mm. If bowing of more than 1 mm is found, strut must be replaced. Contact AHCA for replacement parts. For installation refer to Figure 7.
G	- Visually inspect struts, item 2, strut clips, item 8 and strut mounting pads, items 6 and 7 or 13 and 14, shown in Figures 2 and 4 respectively for: a. condition (nicks, scratches and minor corrosion) b. deformation or cracking c. loose or damaged fasteners	a. Repair light and medium corrosion and minor nick and scratches to a depth of 0.25mm in accordance with MTC, Chapter 20.04.03.401. Restore reworked surface finish. If heavy corrosion or severe marking is found, contact AHCA for replacement parts. b. No deformation or cracking allowed. If deformation or cracking is found, contact AHCA for replacement parts. c. Re-torque or replace any loose or damaged fasteners.
H	- Visually inspect aircraft structure around Cable Cutter Assemblies, Windshield Deflector and LH and RH Wiper Post Deflectors shown in Figure 1 for: a. damage or deformation	a. If damage or deformation exists, repair in accordance with the AMM/MET.
I	- If operating AS 355, inspect the lower fixed provisions shown in Figure 11 for: a. loose or damaged fasteners	a. Tighten or replace any loose or damaged fasteners.

Table 2 Inspection Schedule and Maintenance Action)  
 Every 150 FH or 12 M to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first

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 4. **INSPECTION SCHEDULE AND MAINTENANCE ACTION** (continued)

## 4.1.3. Supplemental Maintenance Instructions

*Only if wire strike is apparent* after Section 4.1.2 has been completed:

**NOTE:** Any blades involved in a cable cutting incident must be replaced regardless of condition or appearance.

**WARNING:** Carry out detailed inspection of complete aircraft in accordance with AMM/MET in addition to the following:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect Upper and Lower Cable Cutter Installation, shown in Figure 2 and 3 for: a. condition (nicks, scratches and minor corrosion) b. cracked or damaged components c. loose or damaged fasteners	a. Repair light and medium corrosion and minor nick and scratches to a depth of 0.25mm in accordance with MTC, Chapter 20.04.03.401. Restore reworked surface finish. If heavy corrosion or severe marking is found, contact AHCA for replacement parts. b. No deformation or cracking allowed. If deformation or cracking is found, contact AHCA for replacement parts. c. Re-torque or replace any loose or damaged fasteners.
B	- Visually inspect aircraft structure around Cable Cutter Assemblies, Windshield Deflector and LH and RH Wiper Post Deflectors shown in Figure 1 for: a. damage or deformation	a. If damage or deformation exists, repair in accordance with the AMM/MET.
C	- Visually inspect struts, item 2, on upper and lower cutters, shown in Figures 2 and 4 for: a. bowing	a. Maximum allowable bow in struts is 1 mm. If bowing of more than 1 mm is found, strut must be replaced. Contact AHCA for replacement parts. For installation refer to Figure 7.

 Table 3 Inspection Schedule and Maintenance Action  
 Supplemental Maintenance Instructions  
 (continued on following page)

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4. **INSPECTION SCHEDULE AND MAINTENANCE ACTION** (continued)

4.1.3. Supplemental Maintenance Instructions (only if wire strike is apparent after Section 4.1.2 has been completed):

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
D	- Visually inspect other areas of the aircraft structure that may have come in contact during wire strike for: a. damaged components	a. Repair or replace components in accordance with the AMM/MET.
E	- Visually inspect cabin roof for: a. cracking, depressions or holes	a. If cracking, a depression or a hole is found, repairs must be performed by competent composite personnel. Repairs may be accomplished with MTC, Chapter 20.03.06.401 and 20.03.06.402.
F	- Visually inspect the lower part of the forward fuselage for: a. cracking, depressions or holes	a. If cracking, a depression or a hole is found, repairs must be performed by competent composite personnel. Repairs may be accomplished with MTC, Chapter 20.03.06.401 and 20.03.06.402.

 Table 3 Inspection Schedule and Maintenance Action  
 Supplemental Maintenance Instructions



**5. REPLACEMENT COMPONENTS AND REPAIR / OVERHAUL INFORMATION**

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

For replacement components contact:

Airbus Helicopters Canada Limited  
1100 Gilmore Road, P.O. Box 250  
Fort Erie, Ontario L2A 5M9 Canada  
Telephone: (905) 871-7772  
Telefax: (905) 871-3599  
[www.airbushelicopters.ca](http://www.airbushelicopters.ca)

**6. TROUBLESHOOTING**

There are no unique characteristics which require troubleshooting techniques.

**7. SPECIAL TOOLING**

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

**8. REMOVAL AND REPLACEMENT**

## PRELIMINARIES

## A. For aircraft AS 350 B2 or B3:

- Read and comply with General Safety Instructions – Electrical Power Supply System, AS 350 B2/B3, AMM, Chapter 24-00-00, 3-1).
- Read and comply with Electrical Power Supply on the Ground, PRE MOD 07 4280, AS 350 B2/B3, AMM, Chapter 24-00-00, 2-1A.
- Read and comply with Electrical Power Supply on the Ground, PRE MOD 07 4280, AS 350 B2/B3, AMM, Chapter 24-00-00, 2-1B.
- Disconnect the external power unit and battery, AS 350 B2, B3, AMM, Chapter 24-00-00, 2-1A or B depending on MOD.
- Remove overhead Fuel Shut-off Ball Type Control. Refer to Removal, AS 350 B2/B3 AMM, Chapter 76-21-00, 4-1.
- Remove overhead Fuel Shut-off Ball Type Control AS 350 B3 only (PRE MOD 07 3080). Refer to Removal, AS 350 B2/B3 AMM, Chapter 76-21-00, 4-1a.  
or  
Remove overhead Fuel Shut-off Ball Type Control AS 350 B3 only (POST MOD 07 3080). Refer to Removal, AS 350 B2, B3 AMM, Chapter 76-21-00, 4-1b.
- Remove overhead Rotor Brake Ball Type Control AS 350 B3 only (POST 07 2816) & (PRE MOD 07 3080). Refer to Removal, AS 350 B2/B3 AMM, Chapter 63-52-00, 4-1a.  
or  
Remove overhead Rotor Brake Ball Type Control AS 350 B3 only (POST MOD 07 2816) (POST MOD 07 3080). Refer to Removal, AS 350 B2/B3 AMM, Chapter 63-52-00, 4-1b.
- Remove front lower cowling. Refer to Removal, AS 350 B2/B3 AMM, Chapter 53-51-00, 4-2.

## B. For aircraft AS 350 (excluding AS 350 B2 &amp; B3):

- Read and comply with Electrical Power General Instructions, AS 350 MET, Chapter 24.00.00.301.
- Disconnect the external power unit and battery in accordance with AS 350 MET, Chapter 24.30.00.401.
- Remove front lower cowling. Refer to Removal, AS 350 MET, Chapter 53.00.00.405.

## C. For aircraft AS 355:

- Read and comply with Electrical Power Generating System, AS 355 MET, Chapter 24.00.00.301.
- Disconnect the external power unit and battery in accordance with AS 355 MET, Chapter 24.00.00.301.
- Remove overhead Fuel Shut-off Valve Ball Control. Refer to Removal, AS 355 MET, Chapter 76.20.00.401.
- Remove front lower cowling. Refer to Removal, AS 355 MET, Chapter 53.00.00.405.

**NOTE:** Prior to reinstalling the Cable Cutter Installation, the following must be removed:

- D. Remove the overhead panel.
- E. Remove upholstery from cabin ceiling.
- F. Protect pitot head. (exclusive of the AS 355 NP)
- G. Protect Windshield from scratches.
- H. Loosen wire harness in area of lower cutter.

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**A. REMOVAL****1) UPPER CUTTER (Refer to Figure 2)**

- a) Remove bolts (3, 2 places), nuts (5, 2 places), washers (4a, 8 places) and bevelled washers (4b, 4 places) attaching both struts (2) to the strut clip (8) on the deflector. Pay special attention to the orientation of the bevelled washers (4b, 4 places).
- b) Loosen nuts (5, 4 places) securing both struts (2) to the fuselage. Position both struts (2) and bushings (9, 4 places) out of the way.
- c) Remove bolts (3, 2 places), nuts (5, 2 places) and washers (4a, 4 places) from the cross holes attaching the upper cutter to the windshield deflector.
- d) Remove bolts (3, 6 places), nuts (5, 6 places) and washers (4a, 12 places) attaching the upper cutter to the windshield.
- e) Remove bolts (3, 4 places) and washers (4a, 4 places) attaching the cutter to the cabin roof.
- f) Remove upper cutter from the cabin roof ensuring shims (14, 4 places) between the upper cutter assembly and the windshield deflector are maintained for reinstallation.
- g) Clean any sealant remaining on removed components and from the cabin roof.

**2) LOWER CUTTER (Refer to Figures 3 and 4)**

- a) Remove bolts (3, 2 places), nuts (5, 2 places) and washers (4a, 8 places) and bevelled washers (4b, 4 places) attaching both struts (2) to the strut clip (8) on the deflector. Pay special attention to the orientation of the bevelled washers (4b, 4 places). Refer to Figure 3.
- b) Loosen nuts (5, 4 places) securing both struts (2) to the fuselage. Position both struts (2) and bushings (9, 4 places) out of the way.
- c) Remove bolts (3, 5 places), nuts (5, 5 places) and washers (4, 5 places) attaching the cutter to the mounting channel.
- d) Remove the cutter from the mounting channel.

**CAUTION: WITH THE CUTTER REMOVED FROM THE CHANNEL, ONE CUTTER BLADE IS HELD TO THE CUTTER ASSEMBLY WITH ADHESIVE ONLY. BE CAREFUL TO NOT DISLODGE THE BLADE FROM THE CUTTER ASSEMBLY.**

- e) Remove bolts (3, 2 places), nuts (5, 2 places) and washers (4, 4 places) securing the forward bracket (7) to the mounting channel.
- f) Remove screws (12, 3 places), nuts (5, 3 places) and washers (4, 3 places) securing the forward bracket to the fuselage and remove the forward bracket (7). Refer to Figure 4.
- g) Remove bolts (3, 5 places), washers (4, 10 places) and nuts (5, 5 places) securing the mounting channel to the fuselage and remove the mounting channel.
- h) Clean any sealant remaining on removed components and from the mounting channel.

**8. REMOVAL AND REPLACEMENT (continued)****A. REMOVAL (continued)****3) WINDSHIELD DEFLECTOR (Refer to Figures 4 and 5)****NOTE:** If the upper cutter has been removed begin at 3) b).

- a) Remove bolts (3, 2 places), nuts (5, 2 places) and washers (4, 4 places) from the cross holes attaching the upper cutter to the windshield deflector (1).
  - b) Remove bolts (2, 22 places), nuts (4, 22 places) and washers (3, 44 places) attaching the deflector to the windshield center post. Retain sideslip indicator for reinstallation. Refer to Figure 5.
  - c) Remove the deflector from the windshield center post ensuring shims between the upper cutter assembly and the windshield deflector (1), and the shim forward of the deflector are maintained for reinstallation. Refer to Figure 4.
  - d) Clean any sealant remaining on the Windshield deflector and from the fuselage nose.
- 4) LEFT HAND AND RIGHT HAND WIPER POST DEFLECTOR (Optional) (Refer to Figure 6)**
- a) Remove bolts (2, 3 places), nuts (4, 3 places) and washers (3, 6 places) attaching each deflector to the fuselage.
  - b) Remove the wiper post deflectors from the fuselage nose.
  - c) Clean any sealant remaining on the wiper post deflector or on the fuselage nose.
- 5) CUTTER BLADES (Refer to Figures 2 and 4)**
- a) Remove bolts (3, 6 places), nuts (5, 6 places) and washers (4, 12 places) attaching the upper and lower blades to the side plates of the cutter assembly.
  - b) Remove the blades from the cutter assembly and remove any sealant remaining on blades.
- 6) STRUT MOUNTING PADS AND STRUTS (Upper / Lower Cutter Assembly)  
(Refer to Figures 2 and 4)**
- a) Remove bolts (3, 2 places), washers (4, 8 places) and nuts (5, 2 places) securing the struts (2, 2 places) to the strut clips (8, 2 places) on the cutter assembly. Pay special attention to the order of washers (4a and 4b). Refer to Figure 2.
  - b) Remove bolts (3, 2 places), bushings (9, 4 places) and nuts (5, 2 places) securing the struts (2, 2 places) to the LH and RH strut mounting pads (13 and 14).
  - c) Remove both struts (2, 2 places).
  - d) Remove bolts (3, 8 places) and washers (4, 8 places) securing the LH and RH strut mounting pads (13 and 14) to the airframe and remove the LH and RH strut mounting pads (13 and 14). Refer to Figure 4.
  - e) Clean any sealant remaining on the strut components, cutter assembly and aircraft.

**8. REMOVAL AND REPLACEMENT (continued)**

**NOTE:** Use torque per MTC, Chapter 20.02.05.404, unless otherwise specified.

Refer to Electrical bonding – General, Standard Practices Manual, Chapter 20.02.07.101.

For paint and primer information refer to Paint Application Procedure – General information concerning painting means and paint touch-up, Standard Practices Manual, Chapter 20.04.05.101.

**B. REPLACEMENT****1) UPPER CUTTER (Refer to Figure 2)**

**NOTE:** The Upper Cutter Assembly must be installed with Windshield Deflector to ensure proper alignment of mating parts.

- a) Reposition the upper cutter on the cabin roof, re-using shims (14, 4 places) in the same positions they were before disassembly. If new peelable shims are being used, adjust them to obtain the proper fit between the cutter assembly and the windshield deflector (1).
- b) Remove cutter assembly and apply sealant (11) to mounting surfaces.
- c) Apply sealant (11) to mounting surfaces of the upper cutter where shown in Figure 2.

**NOTE:** For electrical bonding: remove surface protection under washers 2 – 4 mm beyond the diameter of the washer. Roughen bared surface with abrasive paper (grit 320 or finer). Install hardware and apply protective coating (10) to bolt head and nut extending past washers and bared area. Refer to Electrical bonding – General, Standard Practices Manual, Chapter 20.02.07.101.

- d) Reposition cutter on roof with shims (14), secure using bolts (3, 4 places), washers (4a, 4 places).
- e) Secure upper cutter to the windshield using bolts (3, 6 places), nuts (5, 6 places) and washers (4a, 12 places).
- f) Secure the upper cutter to the windshield deflector through the cross holes attaching the upper cutter to the windshield deflector using bolts (3, 2 places), nuts (5, 2 places) and washers (4a, 4 places)
- g) If struts (2, 2 places) are still attached to the fuselage, bring unattached end up to the strut clips (8) located on either side of the deflector. Secure the struts (2) to the strut clips using bolts (3, 2 places), washers (4a, 8 places), bevelled washers (4b, 4 places) and nuts (5, 2 places). Ensure orientation of bevelled washers (4b) is correct.
- h) Retighten nuts (5, 2 places) securing both struts to the left and right strut pads (6 and 7) on the fuselage.
- i) Remove any excess conductive sealant (10).
- j) Tighten nuts (5) hardware to correct torque values.
- k) Paint to match surrounding area as required.

**8. REMOVAL AND REPLACEMENT (continued)****B. REPLACEMENT (continued)****2) WINDSHIELD DEFLECTOR (Refer to Figure 5)**

**NOTE:** Windshield Deflector must be installed with the upper cutter assembly to ensure proper alignment of mating parts.

- a) Mask windshield as required to prevent damage.
- b) Position the windshield deflector (1) on the windshield post inserted into the upper cutter, re-using shims (14, 4 places) in the same positions they were before disassembly. If new peelable shims are being used, adjust them to obtain the proper fit between the cutter assembly and the windshield deflector (1).
- c) Remove windshield deflector and apply sealant (7) to mounting surfaces.
- d) Apply protective coating (6) as shown in Figure 5.
- e) Reposition windshield deflector (1) on windshield with shims, and secure using bolts (2, 22 places), washers (3, 44 places) and nuts (4, 22 places).

**NOTE:** Reinstall sideslip Indicator as shown in Figure 5.

- f) Remove any excess conductive sealant (6).
  - g) Tighten nuts (4, 22 places) to correct torque values.
  - h) Paint to match surrounding area as required.
- 3) LEFT HAND AND RIGHT HAND WIPER POST DEFLECTOR (Optional) Refer to Figure 6)**
- a) Apply sealant (6) to mounting surface.
  - b) Apply protective coating (5) as shown in Figure 6.
  - c) Position deflector on fuselage nose and secure using bolts (2, 6 places), washers (3, 12 places) and nuts (4, 6 places).
- 4) CUTTER BLADES (Refer to Figures 3 and 4)**
- a) Reposition upper and lower blades between right and left side plates of the cutter assembly and secure using bolts (3, 6 places), nuts (5, 6 places) and washers (4, 12 places).
  - b) Apply sealant (11) to faying surface and fill any gaps between blades and side plates.

**8. REMOVAL AND REPLACEMENT (continued)****B. REPLACEMENT (continued)****5) LOWER CUTTER (Refer to Figures 3 and 4)**

- a) Apply sealant (10) to mounting surfaces of the mounting channel and conductive sealant (11) where shown for proper electrical bonding between the mounting channel and the cutter side plate. Refer to Figure 3.

**NOTE:** For electrical bonding: remove surface protection under washers (4) 2 - 4 mm beyond the diameter of the washer (under bolt head and nut). Roughen bared surfaces with abrasive paper (320 grit or finer) Install hardware and apply protective coating (9) to bolt head and nut, extending past washers and bared area.

- b) Reposition the mounting channel to the lower fuselage nose and secure using bolts (3, 5 places), washers (4a, 5 places) and nuts (5, 5 places).
- c) Apply conductive sealant (11) to the mating faces of the forward bracket (7) and the mounting channel. Refer to Figure 3.

**NOTE:** For electrical bonding: remove surface protection and roughen surfaces in locations shown in Figure 3, with abrasive paper (320 grit or finer) between the mounting channel and cutter assembly side plate, right hand side, opposite to the shim and between the mounting channel and the forward bracket, right hand side. Apply conductive sealant (11) to bared surfaces and assemble immediately after sealant application.

- d) Position the forward bracket (7) into the mounting channel and secure using screws (12, 3 places), washers (4a, 3 places) and nuts (5, 3 places). Refer to Figure 4.
- e) Remove the cutter and apply sealant (10) to mounting surfaces. Apply conductive sealant (11) where noted for proper electrical bonding between the cutter and the mounting channel. Refer to Figure 3.
- f) Reposition cutter into the mounting channel with shims, secure using bolts (3, 5 places), washers (4, 5 places) and nuts (5, 5 places).
- g) Remove any excess conductive sealant (11).
- h) If struts (2, 2 places) are still attached to the fuselage, bring unattached end up to the strut clips (8) located on either side of the deflector. Secure the strut (2) to the strut clips using bolts (3, 2 places), washers (4a, 8 places), bevelled washers (4b, 4 places) and nuts (5, 2 places). Ensure orientation of washers (4b) is correct.
- i) Retighten hardware (bolts (3, 2 places), bushings (9, 2 places) and nuts (5, 2 places) securing both struts to the left and right strut pads (6 and 7) on the fuselage.
- j) Tighten all hardware to correct torque values.
- k) Paint to match surrounding area as required.

**8. REMOVAL AND REPLACEMENT** (continued)**B. REPLACEMENT** (continued)**7) STRUT MOUNTING PADS AND STRUTS** (Refer to Figures 2 and 4)

**NOTE:** If a new strut is being installed refer to Figure 7 for trimming and drilling details.

- a) Apply sealant (11) to base of each strut mounting pad items (6 and 7 as shown in Figure 2) and items (13 and 14 as shown in Figure 4).
  - b) Reposition strut mounting pads on aircraft ensuring strut mounting pads are located correctly to allow the struts (2, 2 places) to be installed. Once determined, secure using bolts (3, 8 places) and washers (4 (4a), 8 places).
  - c) Apply conductive sealant (5) as shown in Figure 6, for proper electrical bonding.
  - d) Reposition struts (2, 2 places) on LH and RH strut mounting pads (13 and 14) and secure using bolts (3, 2 places), bushings (9, 4 places) and nuts (5, 2 places).
  - e) Bring strut up into strut slips (8, 2 places) located on the cutter assembly and secure using bolts (3, 2 places), washers (4 (4a), 8 places) and nuts (5, 2 places).
  - f) Tighten all hardware to correct torque values.
- 8) Close all areas opened for service in the PRELIMINARIES paragraph of this section.



**8. REMOVAL AND REPLACEMENT (continued)****B. REPLACEMENT (continued)**

For aircraft AS 350 (excluding AS 350 B2 and B3):

- 1) Reinstall front lower cowling. Refer to Installation, AS 350 MET, Chapter 53.00.00.405.
- 2) Read and comply with Electrical power General Instructions, AS 350 MET, Chapter 24.00.00.301.
- 3) Apply external power unit and battery. Refer to AS 350 MET, Chapter 24.00.00.301.
- 4) Perform functional test in accordance with AS 350 MET, Chapter 24.30.00.501.
- 5) Perform operational check of all systems that were serviced in accordance with the AS 350 MET procedures and the system's installation/operation manual.
- 6) Check for conductivity/resistance to the aircraft ground  $<5m\Omega$ .

For aircraft AS 350 B2 and B3:

- 1) Reinstall front lower cowling. Refer to Installation, AS 350 B2/B3 AMM, Chapter 53-51-00, 4-2.
- 2) Read and comply with safety instructions, refer to General Safety Instructions - Electrical Power Supply System, AS 350 B2/B3, AMM, Chapter 24-00-00, 3-1).
- 3) Install the overhead Fuel Shut-off Ball Type Control. Refer to Installation, AS 350 B2/B3 AMM, Chapter 76-21-00, 4-1.
  - Install the overhead Fuel Shut-off Ball Type Control AS 350 B3 only (PRE MOD 07 3080). Refer to Installation, AS 350 B2/B3 AMM, Chapter 76-21-00, 4-1a.  
or  
Install the overhead Fuel Shut-off Ball Type Control AS 350 B3 only (POST MOD 07 3080). Refer to Installation, AS 350 B2/B3 AMM, Chapter 76-21-00, 4-1b.
- 4) Install the overhead Rotor Brake Ball Type Control AS 350 B3 only (POST 07 2816) & (PRE MOD 07 3080). Refer to Installation, AS 350 B2/B3 AMM, Chapter 63-52-00, 4-1a.
  - or  
Install the overhead Rotor Brake Ball Type Control AS 350 B3 only (POST MOD 07 2816) (POST MOD 07 3080). Refer to Installation, AS 350 B2/B3 AMM, Chapter 63-52-00, 4-1b.
- 5) Reconnect the external power unit and battery. Refer to AS 350 B2/B3 AMM, Chapter 24-00-00, 2-1A or B depending on MOD.
- 6) Perform functional test - DC Power Supply System in accordance with AS 350 B2/B3 AMM, Chapter 24-30-00-5-1.
- 7) Perform functional test - Adjusting/Testing - Fuel Shut-off Ball Type Control, AS 350 B3 AMM, Chapter 76-21-00, 5-1.
- 8) Perform functional test - Fuel Shut-off Ball Type Control, AS 350 B2/B3 AMM, Chapter 76-21-00, 5-1.
- 9) Perform functional test - Ball type control of the rotor brake in accordance with AS 350 B3 AMM, Chapter 63-52-00, 5-1.
- 10) Perform operational check of all systems that were serviced in accordance with the AS 350 B2/B3 AMM procedures and the system's installation/operation manual.
- 11) Check for conductivity/resistance to the aircraft ground  $<5m\Omega$ .

**8. REMOVAL AND REPLACEMENT (continued)****B. REPLACEMENT (continued)**

For aircraft AS 355:

- 1) Reinstall front lower cowling. Refer to Removal/Installation, AS 350 MET, Chapter 53.00.00.405.
  - 2) Read and comply with Electrical Power Generating System, AS 355 MET, Chapter 24.00.00.301.
  - 3) Install the overhead Fuel Shut-off Valve Ball Control. Refer to Removal, AS 355 MET, Chapter 76.20.00.401.
  - 4) Perform functional test - Adjusting and Testing of Engine Fuel Shut-off Valve Ball Control, AS 355 MET, Chapter 76.00.00.501.
  - 5) Apply external power unit and battery in accordance with AAS 355 MET Chapter 24.00.00.301.
  - 6) Perform functional test in accordance with AS 355 MET, Chapter 24.30.00.501.
  - 7) Perform operational check of all systems that were serviced in accordance with the AS 355 MET procedures and the system's installation/operation manual.
  - 8) Check for conductivity/resistance to the aircraft ground <math><5\text{m}\Omega</math>.
- Install upholstery from cabin ceiling
  - Install the overhead panel.
  - Remove pitot head protection. (exclusive of the AS 355 NP)
  - Remove windshield protection.
  - Secure all wire harnesses in area of lower cutter.

**9. WEIGHT AND BALANCE DATA**

For AS 350: Follow the chart below if the optional Wiper Post Deflector is installed:

**A. Removed Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
(not applicable)	0.00	0.0	0.00	0.0	0.00	0.0
<b>Total</b>	<b>0.00</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>

**B. Added Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Upper Cutter	2.27	5.0	1.24	48.8	2.81	244.0
Lower Cutter	2.26	5.0	0.82	32.3	1.85	161.5
Windshield Deflector	1.73	3.8	0.78	30.7	1.35	116.7
Wiper Post Deflector (Optional)	0.38	0.8	0.48	18.9	0.18	15.1
<b>Total</b>	<b>6.64</b>	<b>14.6</b>	<b>0.93</b>	<b>36.8</b>	<b>6.20</b>	<b>537.3</b>

For AS 350: Follow the chart below if the optional Wiper Post Deflector is not installed:

**A. Removed Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
(not applicable)	0.00	0.0	0.00	0.0	0.00	0.0
<b>Total</b>	<b>0.00</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>

**B. Added Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Upper Cutter	2.27	5.0	1.24	48.6	2.81	244.0
Lower Cutter	2.26	5.0	0.82	32.3	1.85	161.5
Windshield Deflector	1.73	3.8	0.78	30.7	1.35	116.7
<b>Total</b>	<b>6.26</b>	<b>13.8</b>	<b>0.96</b>	<b>37.8</b>	<b>6.02</b>	<b>522.2</b>

**9. WEIGHT AND BALANCE DATA (continued)**

For AS 355: Follow the chart below if the optional Wiper Post Deflector is installed:

A. <u>Removed Items</u>						
DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
(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. <u>Added Items</u>						
DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Upper Cutter	2.27	5.0	1.24	48.8	2.81	244.0
Lower Cutter	2.26	5.0	0.82	32.3	1.85	161.5
Windshield Deflector	1.73	3.8	0.78	30.7	1.35	116.7
Wiper Post Deflector (Optional)	0.38	0.8	0.48	18.9	0.18	15.1
Lower Fixed Provisions	0.55	1.2	0.97	38.2	0.53	45.8
Total	7.19	15.8	0.94	36.9	6.73	583.1

For AS 355: Follow the chart below if the optional Wiper Post Deflector is not installed:

A. <u>Removed Items</u>						
DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
(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. <u>Added Items</u>						
DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Upper Cutter	2.27	5.0	1.24	48.6	2.81	244.0
Lower Cutter	2.26	5.0	0.82	32.3	1.85	161.5
Windshield Deflector	1.73	3.8	0.78	30.7	1.35	116.7
Lower Fixed Provisions	0.55	1.2	0.97	38.2	0.53	45.8
Total	6.81	15.0	0.96	37.9	6.55	568.0

**10. PLACARDS AND MARKINGS**

There are no placards and markings with this modification.