

SUBJECT:

Required maintenance Installation of Skid Shoes (P/N C320I0190001)

APPLICABILITY:

Aircraft with the subject modification embodied in accordance with TCCA STC No. SH24-19 or any relevant foreign approvals.

The information and data contained in this document supersede or supplement that contained in the basic EC 120 Maintenance documentation in those areas listed herein. For procedures not contained in this document refer to the Approved Maintenance Manual or any other accepted supplemental Maintenance Manual Supplemental.

This MMS is to be used in conjunction with the Approved EC 120 Maintenance Manual for the aircraft with the subject design change incorporated.

The information and data contained in this document supersede or supplement that contained in the basic EC 120 Maintenance documentation in those areas listed herein. For procedures not contained in this document refer to the Approved Maintenance Manual or any other Supplemental Instructions for Continued Airworthiness.

This Supplemental ICA is to be used in conjunction with the Approved EC 120 Maintenance Manual for the aircraft with the subject design change incorporated.

The Airworthiness Limitations section is FAA approved and specifies maintenance required under 14 CFR Secs. 43.16 and 91.403 unless an alternative program has been FAA approved.

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RECORD OF REVISION

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 16	Original issue.	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 Installation of Skid Shoes facilitates run-on landings in soft ground by limiting the sinking behaviour of the skids. The skid shoe assembly consists of a plastic shoe machined from Tivar plastic and a titanium sheet metal wear plate protecting the bottom of the shoe. The skid shoe is installed onto the skid tube overlapping the existing forward wear plate picking up on existing hardware. A clamp with a rubber pad secures the forward end of the skid shoe. With this installation there is no modification required to the existing landing gear. Refer to Figure 1.

The Installation of Skid Shoes is compatible with standard and reinforced forward wear plates. It is also compatible with skis.

NOTE: The Installation of Skid Shoes is not compatible with Floats.

The Installation of Skid Shoes is installed in accordance with drawings specified in the Master Drawing List C320I0190505.

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

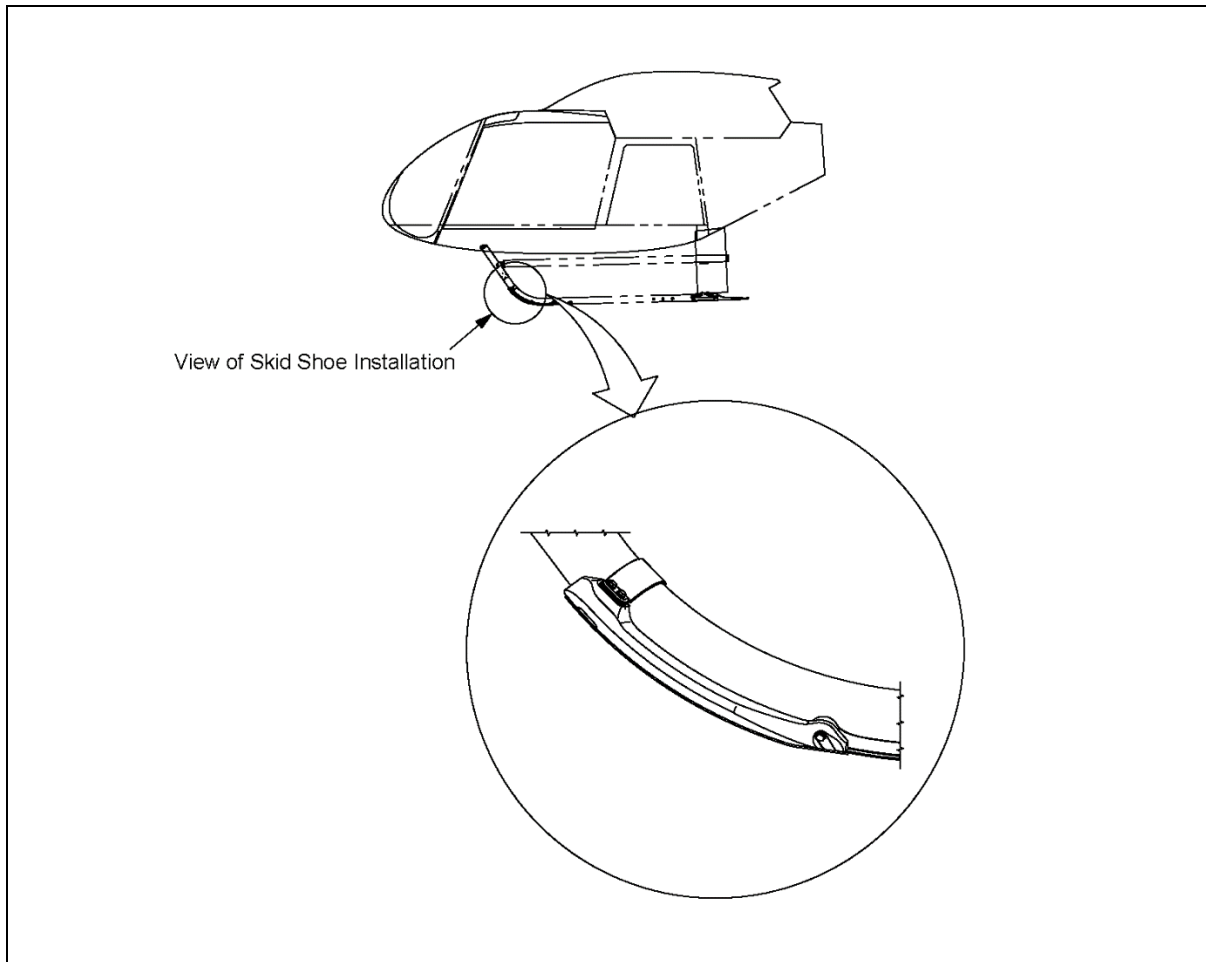


Figure 1 General Layout, Installation of Skid Shoes

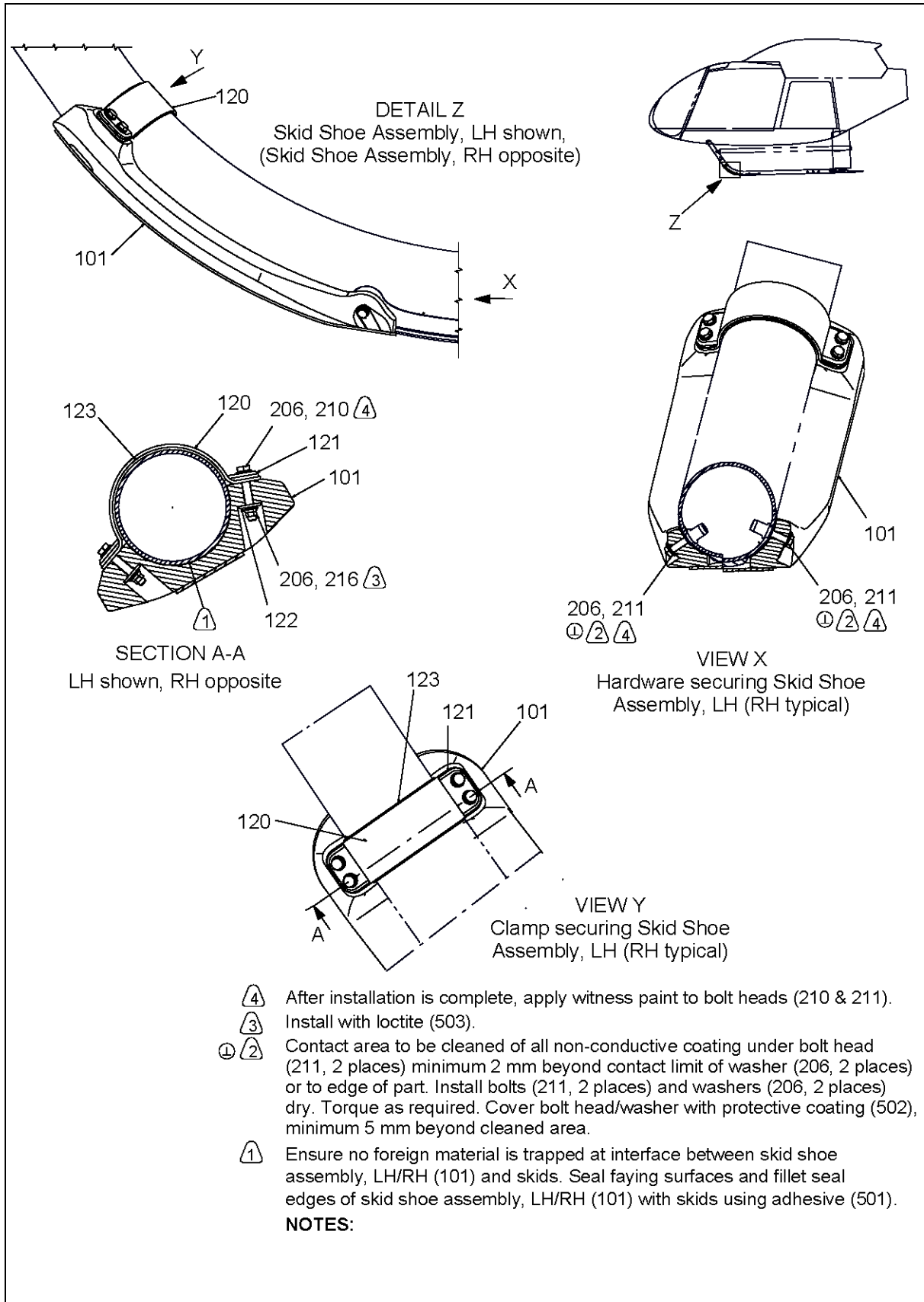


Figure 2 Skid Shoe details

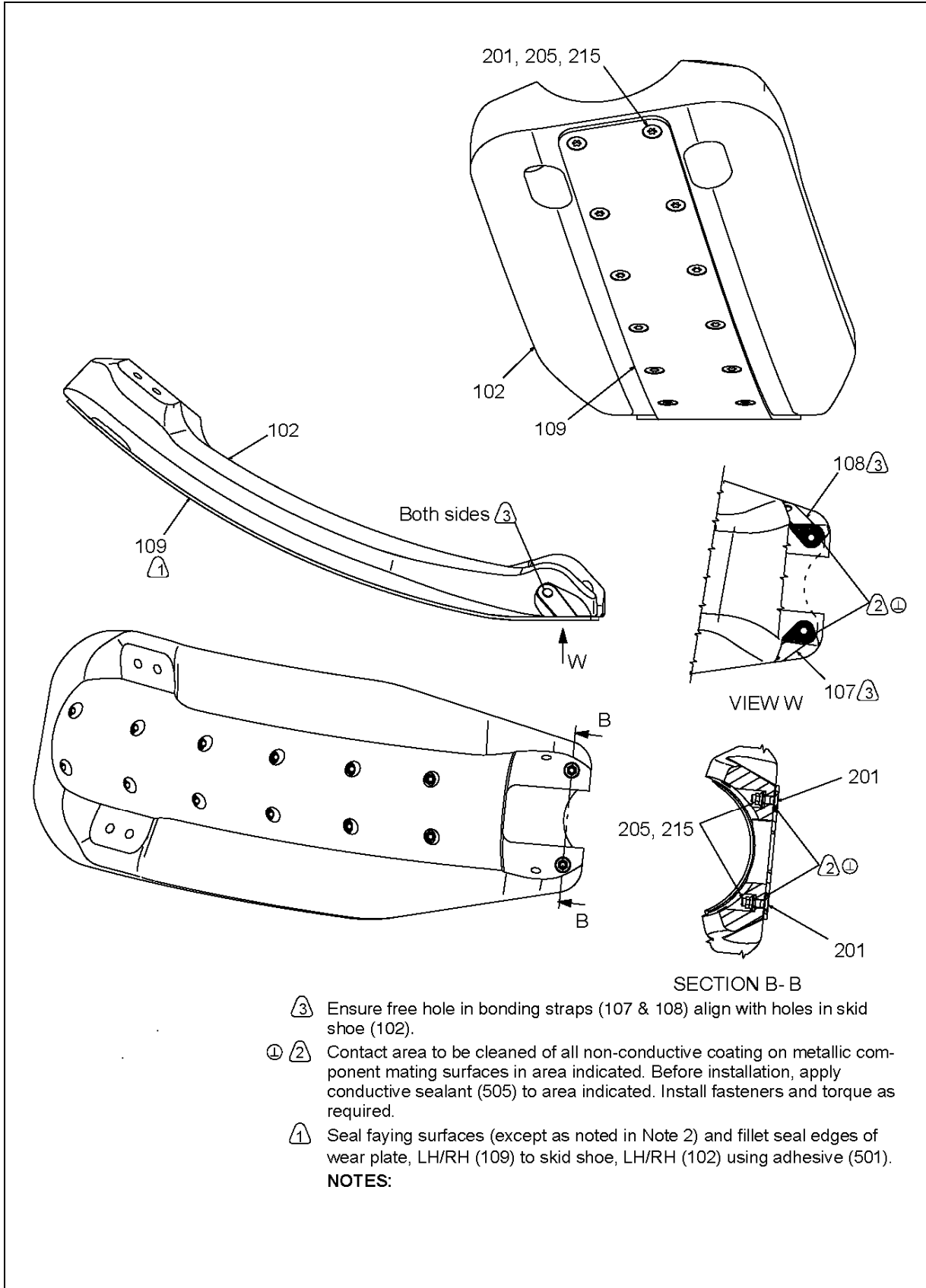


Figure 3 Skid Shoe Assembly details

Legend for Figures 2 & 3

ITEM	PART NUMBER	DESCRIPTION
101	C320I0190201	Skid Shoe Assembly, LH
101	C320I0190202	Skid Shoe Assembly, RH
102	C320I0190301	Skid Shoe, LH
102	C320I0190302	Skid Shoe, RH
107	C320I0190305	Bonding Strap, Inboard, LH
107	C320I0190306	Bonding Strap, Inboard, RH
108	C320I0190307	Bonding Strap, Outboard, LH
108	C320I0190308	Bonding Strap, Outboard, RH
109	C320I0190303	Wear Plate, LH
109	C320I0190304	Wear Plate, RH
120	C320I0190310	Clamp
121	C320I0190311	Radius Block
122	C320I0190312	Washer Plate
123	C320I0190313	Rubber Pad
201	A0086TK040014X	Screw, Hexalobe
205	LN9025-0405L	Washer
206	23111AG050LE	Washer
210	22201BC050024L	Bolt
211	22125BC050030L	Bolt
215	ASN52320BH040N	Nut
216	ASN52320BH050N	Nut
501	HS9014-129	Adhesive
or		
501	ECS2339.50	Adhesive
502	Nycote 7-11 CL	Protective Coating
503	Loctite242	Loctite
505	ECS2129.10 (CHO-BOND-1038)	Conductive Sealant

Table 1 Item, Part Number and Description List

C. REFERENCES

DOCUMENT	DOCUMENT TITLE
AMM	Aircraft Maintenance Manual
ICA	Instructions for Continued Airworthiness
MTC	Standard Practices Manual

D. ABBREVIATION & DEFINITIONS

ABBREVIATION	DEFINITIONS
Acc'd	Accepted
AHCA	Airbus Helicopters Canada Limited
App'd	Approved
A/W	Airworthiness
CAR	Canadian Aviation Regulations
DAPM	Design Approval Procedure Manual
EASA	European Aviation Safety Agency
FAA	Federal Aviation Administration
OEM	Original Equipment Manufacturer
P/N	Part Number
ref.	reference
STC	Supplemental Type Certificate
TCCA	Transport Canada Civil Aviation

E. UNITS OF MEASURE

ABBREVIATION/SYMBOL	UNIT OF MEASUREMENT
D	Days
FH	Flight Hours
hrs	hours
in	inches
kg	kilograms
lb	pounds
m	meters
M	Months
MΩ	Megaohms
≥	greater than

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 and specifies inspections and other maintenance required under Secs. 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.

3 CONTROL AND OPERATION

Control and operation of the aircraft remains unchanged.

4 INSPECTION SCHEDULE AND MAINTENANCE ACTION

Refer to Section 8 if removing or replacing any parts.

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

4.1 INSPECTION SCHEDULE

4.1.1 Pre-Flight Check (Before each flight if Skid Shoes installed)

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	<p>- Visually inspect witness paint on bolt heads of bolts securing skid shoe assembly, LH/RH (101) shown in Figure 2 for:</p> <p>a. security of bolts (211, 4 places)</p> <p>b. security of bolts (210, 8 places) securing clamps (120, 2 places)</p>	<p>a. Secure as required or replace hardware. Re-torque as required and restore witness paint.</p> <p>b. Secure as required or replace hardware. Re-torque as required and restore witness paint.</p>
B	<p>- Visually inspect skid shoe, LH/RH (102) shown in Figure 3 for:</p> <p>a. condition (cracking, excessive wear or damage)</p>	<p>a. No cracking, excessive wear or damage is allowed. Contact AHCA for replacement parts.</p>
C	<p>- Visually inspect wear plate, LH/RH (109) shown in Figure 3 for:</p> <p>a. condition (excessive wear, denting, cracking or damage)</p> <p>b. security</p>	<p>a. No excessive wear, denting, cracking or damage is allowed. If maximum wear of ≥ 0.3 mm (0.012 in.) is found, wear plate, LH/RH (109) must be replaced. Contact AHCA for replacement part.</p> <p>b. Secure as required. If any screws (201, 14 places) are missing they must be replaced</p>

Table 2 Pre-Flight Check (Before each flight if Skid Shoes installed)

NOTE: The "Pre-Flight Check" tasks can be carried out by a suitably trained pilot or maintenance personnel.

4 INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)

4.1 INSPECTION SCHEDULE (continued)

- 4.1.2 If operating in a tropical and damp atmosphere:
Every 24 M (Margin 73 D) to coincide with the 24 M helicopter inspection,
whichever occurs first:
or
If not operating in a tropical or damp atmosphere:
Every 48 M (Margin 146 D) to coincide with the 48 M helicopter inspection,
whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	<ul style="list-style-type: none"> - Visually inspect witness paint on bolt heads of bolts securing skid shoe assembly, LH/RH (101) shown in Figure 2 for: <ul style="list-style-type: none"> a. security of bolts (211, 4 places) b. security of bolts (210, 8 places) securing clamps (120, 2 places) 	<ul style="list-style-type: none"> a. Secure as required or replace hardware. Re-torque as required and restore witness paint. b. Secure as required or replace hardware. Re-torque as required and restore witness paint.
B	<ul style="list-style-type: none"> - Visually inspect clamps (120, 2 places) shown in Figure 2 for: <ul style="list-style-type: none"> a. cracking of rubber pad (123, 2 places) 	<ul style="list-style-type: none"> a. If cracking is found, replace rubber pad (123).
C	<ul style="list-style-type: none"> - Visually inspect wear plate, LH/RH (109) shown in Figure 3 for: <ul style="list-style-type: none"> a. condition (excessive wear, denting, cracking or damage) b. security 	<ul style="list-style-type: none"> a. No excessive wear, denting, cracking or damage is allowed. If maximum wear of ≥ 0.3 mm (0.012 in.) is found, wear plate, LH/RH (109) must be replaced. Contact AHCA for replacement part. b. Secure as required. If any screws (201, 14 places) are missing they must be replaced.
D	<ul style="list-style-type: none"> - Visually inspect skid shoe, LH/RH (102) shown in Figure 3 for: <ul style="list-style-type: none"> a. condition (cracking, excessive wear or damage) 	<ul style="list-style-type: none"> a. No cracking, excessive wear or damage is allowed. Contact AHCA for replacement parts.

Table 3 Inspection Schedule and Maintenance Action

If operating in a tropical and damp atmosphere:
Every 24 M (Margin 73 D) to coincide with the 24 M helicopter inspection, whichever occurs first:
or
If not operating in a tropical or damp atmosphere:
Every 48 M (Margin 146 D) to coincide with the 48 M helicopter inspection, whichever occurs first
(continued on following page)

4 INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)

4.1 INSPECTION SCHEDULE (continued)

- 4.1.2 If operating in a tropical and damp atmosphere:
Every 24 M (Margin 73 D) to coincide with the 24 M helicopter inspection,
whichever occurs first:
or
If not operating in a tropical or damp atmosphere:
Every 48 M (Margin 146 D) to coincide with the 48 M helicopter inspection,
whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
E	<ul style="list-style-type: none"> - Visually inspect adhesive (501) around outer edges of skid shoe assembly, LH/RH (101) shown in Figure 2 for: <ul style="list-style-type: none"> a. condition of adhesive 	<ul style="list-style-type: none"> a. If damage is found, remove loose adhesive and clean area. Fillet seal edges of skid shoe assembly, LH/RH (101) with skid using adhesive (501). Refer to NOTE 1.
F	<ul style="list-style-type: none"> - Visually inspect adhesive (501) around outer edge of wear plate, LH/RH (109) shown in Figure 3 for: <ul style="list-style-type: none"> a. condition of adhesive 	<ul style="list-style-type: none"> a. If damage is found, remove loose adhesive and clean area. Fillet seal edges of wear plate, LH/RH (109) to skid shoe, LH/RH (102) using adhesive (501). Refer to NOTE 1.
G	<ul style="list-style-type: none"> - Inspect screws (201, 2 places) on bottom of each shoe assembly, LH/RH (101) shown in Figure 3 for: <ul style="list-style-type: none"> a. correct attachment bonding of bonding straps, inboard, LH/RH (107) and bonding straps, outboard, LH/RH (108). 	<ul style="list-style-type: none"> a. Check screws (201, 2 places) for correct bonding of 1 MΩ. If bonding is incorrect, remove screws (201, 2 places) and clean contact area. Apply conductive sealant (505) to area and reinstall screws. Refer to NOTE 2.

Table 3 Inspection Schedule and Maintenance Action

If operating in a tropical and damp atmosphere:
Every 24 M (Margin 73 D) to coincide with the 24 M helicopter inspection, whichever occurs first:
or
If not operating in a tropical or damp atmosphere:
Every 48 M (Margin 146 D) to coincide with the 48 M helicopter inspection, whichever occurs first

5 REPLACEMENT COMPONENTS AND REPAIR / OVERHAUL INFORMATION

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

For information contact Airbus Helicopter Customer Support Representatives:

Email: hcaresupport.canada@airbus.com

After Hours AOG Support: 1-800-267-4999

Visit our website at www.airbushelicopters.ca

6 TROUBLESHOOTING

There are no unique characteristics which require troubleshooting techniques.

7 SPECIAL TOOLING

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

8 REMOVAL AND REPLACEMENT

PRELIMINARIES

- Comply with Instructions Applicable during Maintenance, refer to MTC, Chapter 20-07-03-401.

A. REMOVAL

NOTE: Removal is described for one installation only.

NOTE: Retain all hardware for reinstallation.

- 1) CLAMP AND/OR RUBBER PAD (Refer to Figure 2)
 - a) To remove clamp (120) and/or rubber pad (123), remove nuts (216, 4 places), washers (206, 4 places), washer plates (122, 2 places), bolts (210, 4 places), washers (206, 4 places) and radius blocks (121, 2 places). Refer to SECTION A-A and Figure 2.
 - b) To remove skid shoe assembly, refer to 8.A.2) of this document.
- 2) SKID SHOE ASSEMBLY, LH/RH (Refer to Figures 2 and 3)
 - a) Park the helicopter on level ground and install ground handling wheels.

NOTE: Raise helicopter one side at a time, using ground handling wheels, for removal of each skid shoe assembly, LH/RH (101).

 - b) Remove bolts (211, 2 places) and washers (206, 2 places) and slide skid shoe assembly, LH/RH (101) detaching from existing forward wear plate. Refer to VIEW X.
 - c) Bonding strap, inboard, LH/RH (107) and bonding strap, outboard, LH/RH (108) will remain attached to the skid shoe. Refer to VIEW W and Figure 3.
 - d) Lower the helicopter to the ground and remove the ground handling wheels.
- 3) WEAR PLATE (Refer to Figure 3)
 - a) Remove skid shoe assembly, LH/RH (101) as per Section 8.A.2) of this document and place on work bench.
 - b) Remove nuts (215, 14 places), washers (205, 14 places) and screw, hexalobe (201, 14 places) securing wear plate (109) to skid shoe, LH/RH (102).
 - c) Bonding straps (107/108, 2 places) will now be unfastened from the skid shoe, LH/RH (102).

8 REMOVAL AND REPLACEMENT (continued)

B. REPLACEMENT

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

NOTE: Replacement is described for one installation only.

NOTE: Before reinstallation of hardware, remove all witness paint.

General Sealing procedures - MTC, Chapter 20-05-01-101

General methods of applying sealing compounds - MTC, Chapter 20-05-01-102

Application of witness marking – MTC, Chapter 20-02-05-104

Assembly by screws and nuts – MTC, Chapter 20-02-05-404

Safetying with loctite compound – MTC, Chapter 20-02-06-409

General rule for bonding with adhesives – refer to MTC, Chapter 20-06-01-101

Bonding with adhesives – refer to MTC, Chapter 20-06-01-102

Electrical Bonding – Use of conductive paste CHO-BOND-1038 refer to MTC Chapter 20-02-07-405.

1) WEAR PLATE (Refer to Figure 3)

- a) With skid shoe, LH/RH (102) on work bench, reposition bonding strap, outboard (108) and bonding strap, inboard (107) onto skid shoe, LH/RH (102). Refer to VIEW W.

NOTE: Ensure free hole in bonding straps align with holes in skid shoe, LH/RH (102). Refer to NOTE 3.

- b) Apply conductive sealant (505) to both bonding straps (107/108). Refer to NOTE 2 and VIEW W.

NOTE: Electrical bonding of bonding straps, remove non-conductive coating on metallic component mating surfaces in area indicated. Before installation apply conductive sealant (505) to bared area as indicated. Refer to NOTE 2 and VIEW W.

- c) Place wear plate (109) on outside of skid shoe, LH/RH (102) and over bonding straps. Secure wear plate (109) and bonding straps (107/108) to skid shoe, LH/RH (102) using screws, hexalobe (201, 14 places), washers (205, 14 places) and nuts (215, 14 places).

2) SKID SHOE ASSEMBLY, LH/RH (Refer to Figure 2)

NOTE: Raise helicopter one side at a time, using ground handling wheels, for replacement of each skid shoe assembly, LH/RH (101).

- a) Park the helicopter on level ground and install ground handling wheels.
- b) Ensure there is no foreign material between skid shoe assembly, LH/RH (101) and skid. Refer to NOTE 1 and SECTION A-A.
- c) Apply sealant (501) to faying surface and reposition skid shoe assembly, LH/RH (101) onto skid tube overlapping existing forward wear plate. Refer to NOTE 1.
- d) Align skid shoe assembly, LH/RH (101) to mating holes of forward wear plate. Secure using washers (206, 2 places) and bolts (211, 2 places). Do not tighten bolts at this time. Refer to VIEW X.

NOTE: Electrical bonding of bolts (211, 2 places). Contact area to be cleaned of all non-conductive coating 2 mm beyond contact limit of washers (206, 2 places) or edge of part. Refer to NOTE 2 and VIEW X.

- e) To install clamp (120) and rubber pad (123) refer to 8.B.3 of this document.

8 REMOVAL AND REPLACEMENT (continued)

B. REPLACEMENT (continued)

3) CLAMP AND/OR RUBBER PAD (Refer to Figure 2)

NOTE: If replacing clamp (120) and/or rubber pad (123), follow a, b and e only.

- a) Align new rubber pad (123) under clamp (120) and reposition onto skid tube. Refer to VIEW Y.
 - b) Secure clamp (120) into forward end of skid shoe assembly, LH/RH (101) using radius blocks (121, 2 places), washers (206, 4 places), bolts (210, 4 places). Install washer plates (122, 2 places), washers (206, 4 places) and nuts (216, 4 places). Apply Loctite (503) to nuts (216, 4 places) during installation. Refer to NOTE 3 and SECTION A-A.
 - c) Tighten bolts (211, 2 places) and washers (206, 2 places) and apply protective coating (502), minimum 5 mm beyond cleaned area. Refer to NOTE 2 and VIEW X.
 - d) Fillet seal edges of skid shoe assembly, LH/RH (101) with skid using adhesive (501). Refer to SECTION A-A and NOTE 1.
 - e) Reapply witness paint to bolts (210, 4 places). Refer to SECTION A-A.
 - f) Reapply witness paint to bolts (211, 2 places). Refer to VIEW X.
- 4) Lower the helicopter to the ground and remove the ground handling wheels.
 - 5) Perform operational check of all systems that were serviced in accordance with the EC 120 Maintenance Manual procedures and the system's installation/operation manual.

9 WEIGHT AND BALANCE DATA

A. Removed Items

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

B. Added Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Skid Shoe Assembly, RH	1.10	2.43	2.60	102.36	2.86	248.73
Skid Shoe Assembly, LH	1.10	2.43	2.60	102.36	2.86	248.73
Total	2.20	4.86	2.60	102.36	5.72	497.46

10 PLACARDS AND MARKINGS

There are no placards and markings with this modification.