


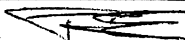
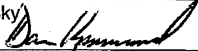


**AIRBUS HELICOPTERS CANADA LIMITED**
**SUBJECT:**

Required maintenance for the Left- Hand Litter Kit (P/N's 350- 200034 and 350- 200194).

**APPLICABILITY :**

Aircraft with the subject modification embodied in accordance with TCCA STC No. SH94- 29 or any relevant foreign approvals.

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REV. 5 ACCEPTED (Civil A/W Authority)	(As per ICA Compliance Check Sheet) 	27 FEB 2017	TCCA
REV. 5 RELEASED BY:	P. Sharpe 	10 MAR 2017 10 MAR 2017	AHCA ENGINEERING

**RECORD OF REVISIONS**

Rev.	Pages at this Revision	Description, Reason Changed Pages	Prepared (name and date)	Checked (name and date)	App'd/Acc'd (Civil A/W Authority) (name and date)	Released (name and date)
0	1 through 9	Original Issue	D. Kerr 9 June 2004	C. Timmins 9 June 2004	TCCA E. Cheung 24 June 2004	R. Manson 24 June 2004
1	1 through 15	Format revised. More detail added to Sections 1, 3, 4, 6, 7, 8 and Weight and Balance Data incorporated as per FAA comments. (Pages 4, 5, 7 to 15)	D. Kerr 17 May 2005	C. Timmins 18 May 2005	TCCA E. Cheung 18 May 2005	R. Manson 18 May 2005
2	1 through 15	Text deleted from Sections 3 and 4. Corrections to Weight and Balance Data. (Pages 5, 7 and 13)	D. Kerr 8 June 2005	C. Timmins 8 June 2005	TCCA E. Cheung 8 June 2005	R. Manson 8 June 2005
3	1 through 13	Reduced envelope, FWD bracket incorporated for equipment clearance. Format updated, Weight and Balance chart corrected. (Pages 3 to 5, 7 to 13)	D. Kerr 10 April 2006	C. Timmins 10 April 2006	TCCA J. Palmer 14 July 2006	R. Manson 20 July 2006
4	1 through 16	Revised to incorporate both original and new FWD bracket assembly (short) design, Section 4 and format revised (Pages 3 to 6, 8 to 15)	D. Kerr 20 October 2006	C. Timmins 20 October 2006	DAO R. Manson 22 October 2012	R. Manson 1 November 2006
5	1 through 20 A1 - A4 B1 - B4	Standard and Alternative Installation replace Configuration 1 and 2. Figures revised to show relocation of bead chain tether attachment. Revised Airworthiness Limitations Section. New NOTE in Section 4, Maintenance Inspection intervals increased. Addition of two new "Before the first flight of each day" checks. Changed all EC abbreviations to AHCA. Template revised to incorporate company name change. Removed all references to AC43.13-1B. Weight and Balance chart revised. Addition of Appendix A and B. (Pages 4- 20)	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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INSTRUCTIONS FOR CONTINUED  
AIRWORTHINESS  
LEFT-HAND LITTER KIT  
AS 350 / AS 355

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Appendix A	Users' Manual; Model 417- 1 Restraint, Documentation Number 234- 0231- 01 (4 pages)	
Appendix B	Users' Manual, Model 430 Restraints, Document Number 234- 0109- 04 (4 pages)	

**FIGURES**

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**1. GENERAL**

- A. The Left-Hand Litter Kit is located on the LH side of the cabin floor and is designed to carry one person on a portable stretcher loaded in the "feet forward" orientation with feet in the foot bag. The LH AFT seat is folded and secured against the bulkhead and the LH FWD seat is removed. The litter is then secured into the LH side of the cabin to the two mounting brackets. The RH AFT seat is available to carry medical personnel.

The Left-Hand Litter Kit installation (P/N 350-200034) utilizes a FWD Bracket Assembly, with Toe Base, and a Toe Base Cover. Refer to Figure 1.

An alternate Left-Hand Litter Kit installation (P/N 350-200194) utilizes a shorter FWD Bracket Assembly, and a corresponding Toe Base and Toe Base Cover. Refer to Figure 2. The alternate installation increases clearance for any equipment that may be located in the nose bay, for example: heating / air conditioning.

The Left-Hand Litter Installation consists of the following main components:

**Fixed Provisions**

- Heel Base Inboard
- Heel Base Outboard
- Heel Base Cover Inboard
- Heel Base Cover Outboard
- Stringer
- Toe Base (Standard Installation)
- Toe Base Cover (Standard Installation)
- Toe Base (Alternate Installation)
- Toe Base Cover (Alternate Installation)

**Detachable Provisions**

- Rear Bracket Assembly
- FWD Bracket Assembly (Standard Installation)
- FWD Bracket Assembly, Short (Alternate Installation)
- Locking Bar
- Litter

The Left-Hand Litter Kit is installed in accordance with drawings specified in Master Drawing List MDL-99-001.

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

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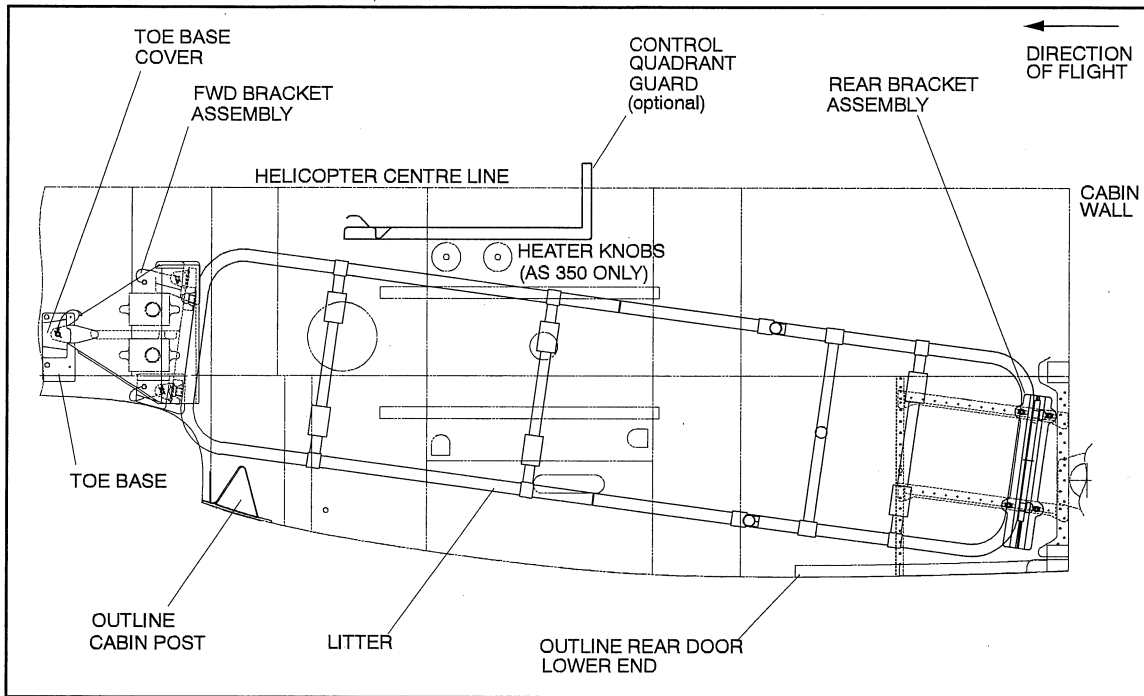


Figure 1 General Layout (Standard Installation)

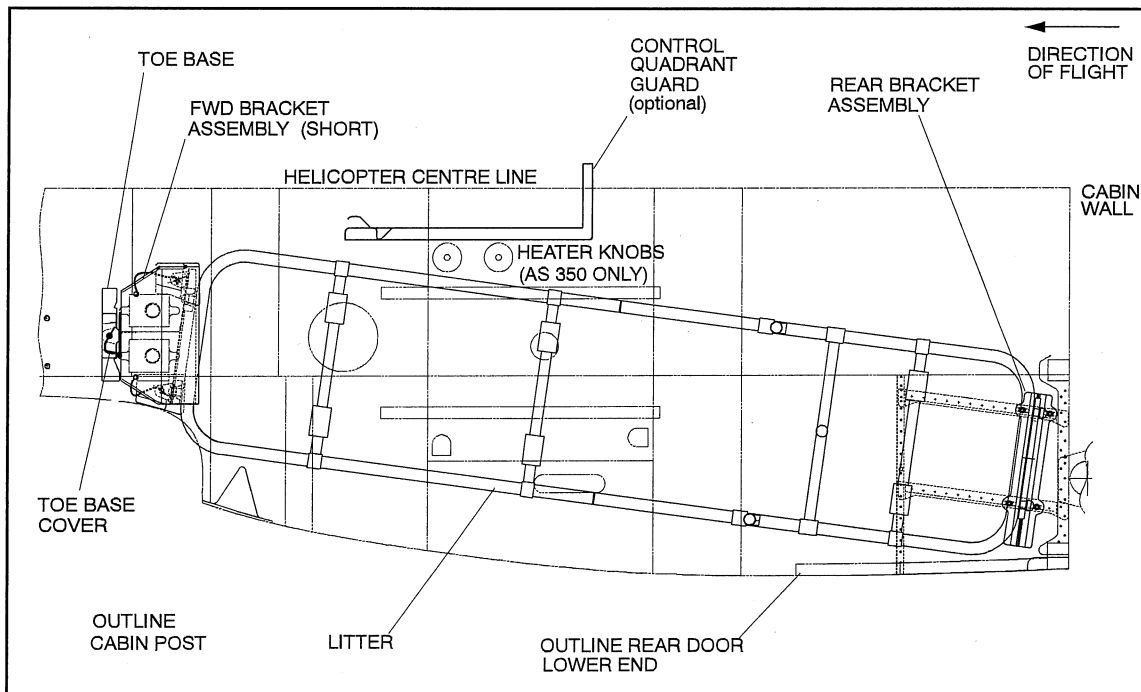


Figure 2 General Layout (Alternate Installation, Short FWD Bracket)

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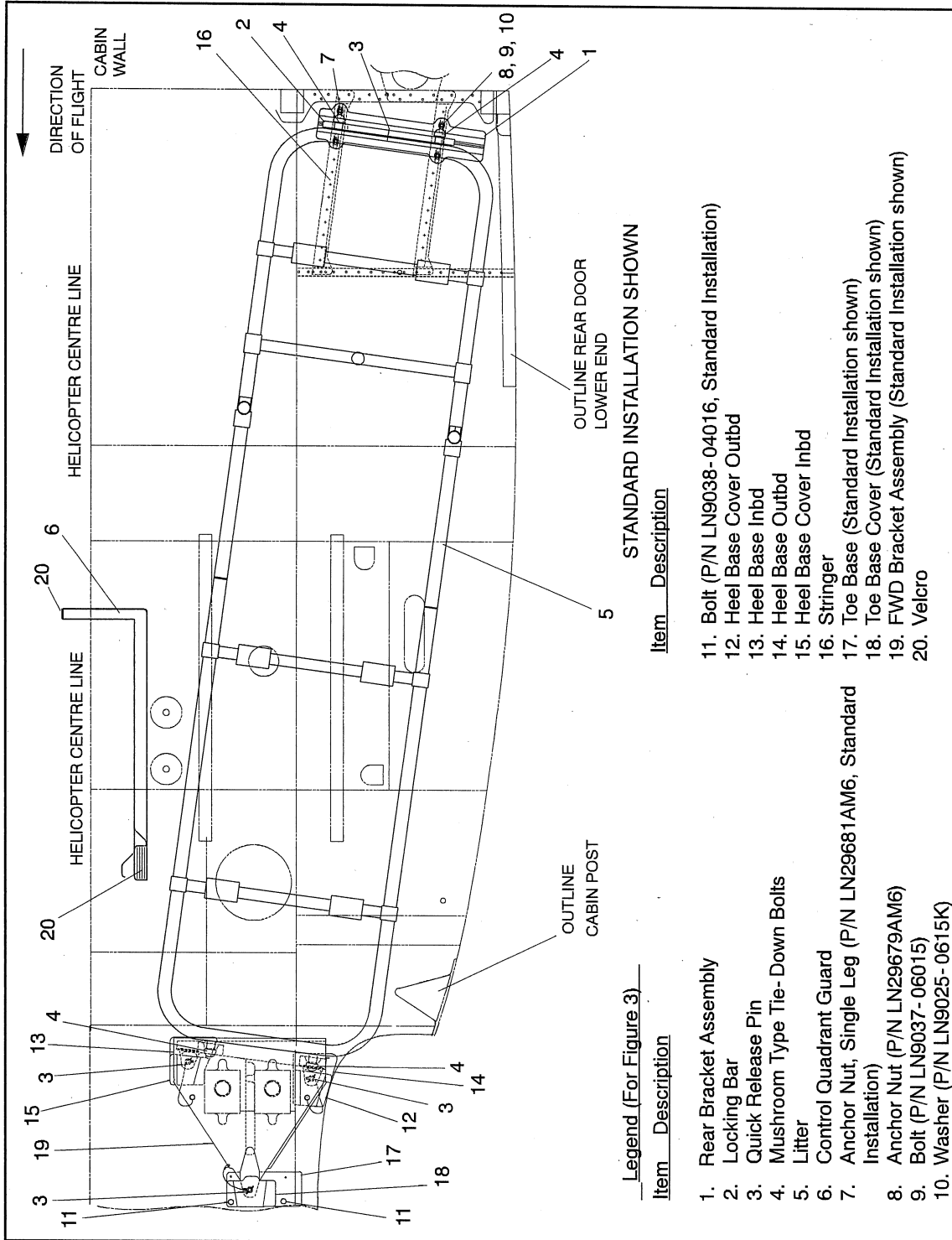


Figure 3 Mounting Hardware

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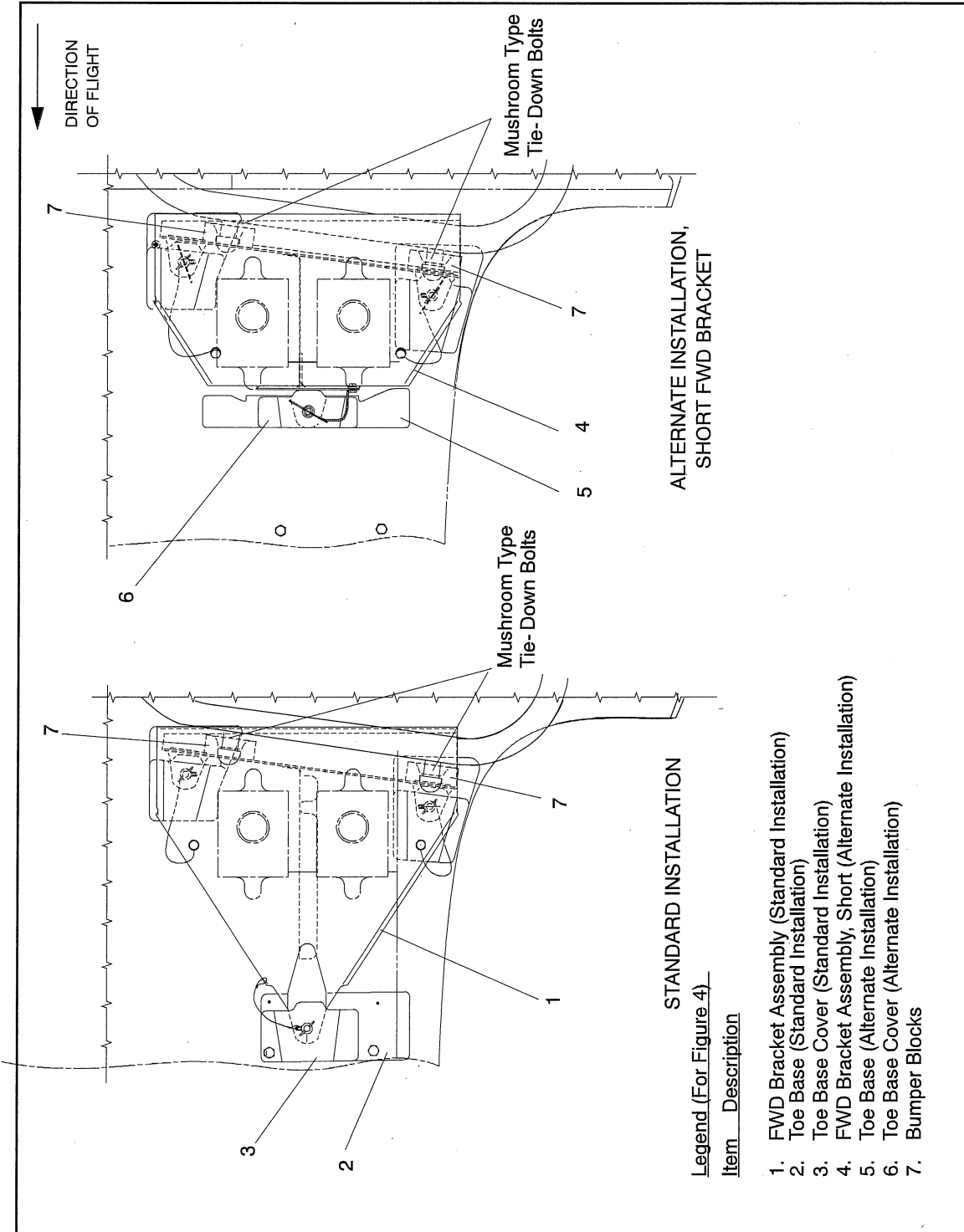


Figure 4 FWD Bracket Assembly Configurations

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Legend (For Figure 5)

Item Description

1. Combination Chest/Waist Strap
2. Leg Restraints
3. Foot Bag
4. Buckle

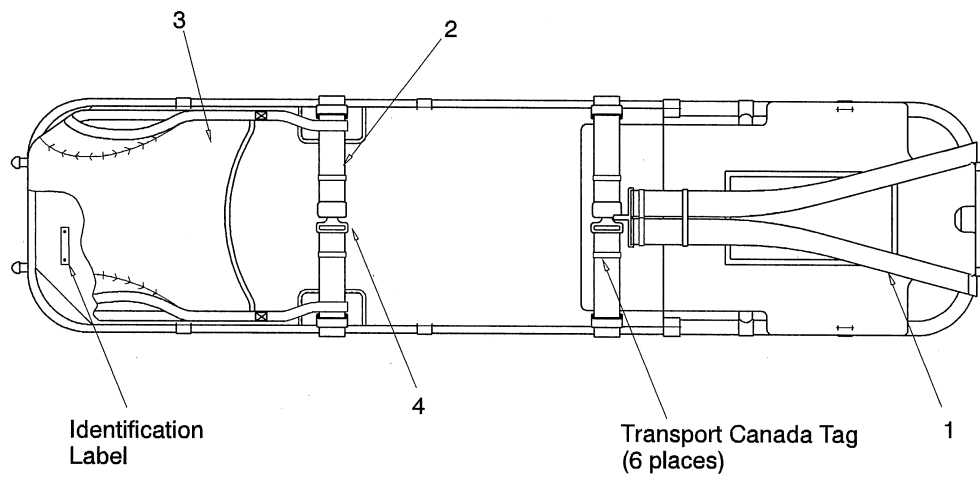


Figure 5 Straps and Foot Bag for Litter

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**C. REFERENCES**

DOCUMENT	DOCUMENT TITLE
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
FWD	Forward
ICA	Instructions for Continued Airworthiness
Inbd.	Inboard
LH	Left- Hand
MDL	Master Drawing List
Outbd.	Outboard
P/N's	Part Numbers
ref.	reference
Rev.	Revision
STC	Supplemental Type Certificate
TCCA	Transport Canada Civil Aviation

**E. UNITS OF MEASUREMENT**

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

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**AIRBUS HELICOPTERS CANADA LIMITED**

**INSTRUCTIONS FOR CONTINUED  
AIRWORTHINESS  
LEFT-HAND LITTER KIT  
AS 350 / AS 355**

**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 91.403 of the 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.

Transport Canada Approved

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**3. CONTROL AND OPERATION**

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

Prepare cabin: fold LH AFT seat and remove LH FWD seat. Secure the front mounting bracket with three quick release pins, and secure the rear bracket assembly with bolts. The litter is then positioned onto the brackets and secured with a locking bar. Refer to Figures 3 and 4.

**4. INSPECTION SCHEDULE AND MAINTENANCE ACTION**

Refer to Section 8 if removing or replacing any parts.

Refer to the "Ferno" Users' Manual, Model 417- 1 Restraint (combination chest/waist strap) Document Number 234- 0231- 01 (Appendix A) of this document.

Refer to the "Ferno" Users' Manual, Model 430 Restraints (leg restraints) Document Number 234- 0109- 04 (Appendix B) of this document.

**NOTES** 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 LH Litter Kit installation, in Figure 3, for: a. general condition	a. Ensure there is no cracking, deformation or corrosion on any of the mounting brackets.
B	- Visually inspect litter combination chest/waist strap, item 1 and leg restraints, items 2 in Figure 5 for: a. damage or excessive wear (chafing, cuts, fraying and fading) b. operation of buckles (item 4) (proper releasing and engagement)	a. Damage or excessive wear are not permitted. If damage or excessive wear are evident, contact AHCA for replacement parts. b. If buckles do not operate correctly, contact AHCA for replacement parts.
C	- Visually inspect foot bag, item 3 in Figure 5 for: a. damage or excessive wear (chafing, cuts, fraying and fading)	a. Damage or excessive wear are not permitted. If damage or excessive wear are evident, contact AHCA for replacement parts.

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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**4. INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)**
**4.1. INSPECTION SCHEDULE**
**4.1.2. Pre-Flight Check:**

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect the LH Litter Kit installation, in Figure 3, for: a. secure installation	a. Secure as required.

Table 2 Inspection Schedule and Maintenance Action  
Pre-Flight Check

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

**4.1.3. 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 mounting hardware, items 7, 8, 9, 10 and 11 (item 11 on Standard installation only), in Figure 3, for: a. security b. corrosion	a. Secure as required. b. No corrosion is allowed. If corrosion is found, replace item.
B	- Check locking bar, item 2 in Figure 3 for: a. security b. wear c. corrosion d. cracks or deformation	a. Secure as required. b. Wear is not permitted, if wear is evident, contact AHCA for replacement part. c. No corrosion is allowed. If corrosion is found, contact AHCA for replacement part. d. No cracks or deformation are allowed. If cracks or deformation are found, contact AHCA for replacement part.
C	- Check quick release pins, item 3 in Figure 3 for: a. security b. function - proper releasing and engagement/locking c. corrosion	a. Re-seat pin in mounting hole. b. If not properly functioning, contact AHCA for replacement parts. c. No corrosion is allowed. If corrosion is found, contact AHCA for replacement parts.

Table 3 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. INSPECTION SCHEDULE (continued)**

4.1.3. 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	- Check Control Quadrant Guard, item 6, in Figure 3, for: a. security	a. Secure mounting hardware and velcro.
E	- Inspect velcro, item 20, on the Control Quadrant Guard, item 6, in Figure 3 for: a. wear (tears, areas that have become worn)	a. Wear is not permitted, if wear is evident, replace Velcro in accordance with MTC, Chapter 20-03-04-406.
F	- Visually inspect LH Litter, item 5, and mushroom type tie-down bolts, item 4, in Figure 3, for: a. cracks or deformation b. corrosion c. scoring d. security (mushroom type tie-down bolts, item 4 only)	a. No cracks or deformation are allowed. If cracks or deformation are found, contact AHCA for replacement parts. b. No corrosion is allowed. If corrosion is found, contact AHCA for replacement parts. c. No scoring is allowed. If scoring is found, contact AHCA for replacement parts. d. Secure as required.
G	- Visually inspect items 1, 12, 13, 14, 15, 16, 17, and 18, in Figure 3 for: a. cracks or deformation b. corrosion c. scoring	a. No cracks or deformation are allowed. If cracks or deformation are found, contact AHCA for replacement parts. b. No corrosion is allowed. If corrosion is found, contact AHCA for replacement parts. c. No scoring is allowed. If scoring is found, contact AHCA for replacement parts.

Table 3 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. INSPECTION SCHEDULE (continued)**

4.1.3. 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
H	- Visually inspect items 5 and 6 in Figure 4, for: a. cracks or deformation  b. corrosion  c. scoring	a. No cracks or deformation are allowed. If cracks or deformation are found, contact AHCA for replacement parts.  b. No corrosion is allowed. If corrosion is found, contact AHCA for replacement parts.  c. No scoring is allowed. If scoring is found, contact AHCA for replacement parts.
I	- Visually inspect FWD Bracket Assembly, item 1, or FWD Bracket Assembly, Short, item 4, in Figure 4, for: a. cracks or deformation  b. corrosion  c. scoring	a. No cracks or deformation are allowed. If cracks or deformation are found, contact AHCA for replacement parts.  b. No corrosion is allowed. If corrosion is found, contact AHCA for replacement parts.  c. No scoring is allowed. If scoring is found, contact AHCA for replacement parts.
J	- Visually inspect bumper blocks, item 7, in Figure 4, for: a. wear  b. security	a. Wear is not permitted. If wear is evident, contact AHCA for replacement parts.  b. Secure as required.
K	- Visually inspect litter combination chest/waist strap, item 1, and leg restraints, item 2, in Figure 5 for: a. damage or excessive wear (chafing, cuts, fraying and fading)  b. operation of buckles (item 4) (proper releasing and engagement)	a. Damage or excessive wear are not permitted. If damage or excessive wear are evident, contact AHCA for replacement parts.  b. If buckles do not operate correctly, contact AHCA for replacement parts.

Table 3 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. INSPECTION SCHEDULE (continued)**

4.1.3. 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
L	- Visually inspect foot bag, item 3 in Figure 5 for: a. damage or excessive wear (chafing, cuts, fraying and fading)	a. Damage or excessive wear are not permitted. If damage or excessive wear are evident, contact AHCA for replacement parts.
M	- Check placards and markings in Figures 6, 7 & 8 (Section 10) for: a. legibility b. secure mounting	a. If placard has become illegible, contact AHCA for replacement parts. b. Secure, reattach placards as required.

Table 3 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

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

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

For replacement components:

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

**6. TROUBLESHOOTING**

There are no unique characteristics which require special troubleshooting techniques.

**7. SPECIAL TOOLING**

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

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**8. REMOVAL AND REPLACEMENT****A. REMOVAL**

- 1) Left- Hand Litter Installation (Refer to Figures 3 and 4)
  - a) Open left side door (s).
  - b) Release the AFT litter mushroom type tie- down bolts (4) from the rear bracket assembly (1) by removing the quick release pin (3) and removing the locking bar (2). Refer to Figure 3.
  - c) Move Litter AFT to disengage the mushroom type- tie- down bolts (4, refer to Figure 3) from the FWD bracket assembly (1, Standard Installation) or the FWD bracket assembly, short (4, Alternate Installation) mounting holes. Refer to Figure 4.
  - d) Remove the litter (5) from the aircraft. Refer to Figure 3.
  - e) Secure the locking bar (2) onto the rear bracket assembly (1) using the quick release pin (3) for storage. Refer to Figure 3.
  - f) To remove the FWD bracket assembly (1, Standard Installation) or the FWD bracket assembly, short (4, Alternate Installation), remove the three quick release pins (3). Refer to Figures 3 and 4.
  - g) Slide FWD bracket assembly AFT to remove from toe base cover (18) and heel base covers (12 & 15). Refer to Figure 3.

**B. REPLACEMENT**

**NOTES** Use torque per MTC, Chapter 20-02-05-404, unless otherwise specified.

- 1) Left- Hand Litter Installation (Refer to Figures 3 and 4)
  - a) Open left side door (s). Remove quick release pin (3) securing locking bar (2) onto rear bracket assembly (1).
  - b) If removed, reinstall the FWD bracket assembly (1, Standard Installation) or the FWD bracket assembly, short (4, Alternate Installation), with the three quick release pins (3). Refer to Figures 3 and 4.
  - c) Load the litter (5) into the aircraft. Refer to Figure 3.
  - d) Engage the FWD mushroom type tie- down bolts (4, refer to Figure 3) into the FWD bracket assembly (1, Standard Installation) or the FWD bracket assembly, short (4, Alternate Installation). Refer to Figure 4.

**NOTE** The foot bag must be loaded forward.

- e) Slide AFT litter mushroom type tie- down bolts (4) into rear bracket assembly (1) and secure with locking bar (2) and quick release pin (3). Refer to Figure 3.



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**9. WEIGHT AND BALANCE DATA**

**NOTE:** This Weight and Balance Chart is applicable to Standard Installation.

**A. Removed Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
LH FWD Seat	- 10.6	- 23.4	1.61	63.4	- 17.1	- 1484.0
<b>Total</b>	<b>- 10.6</b>	<b>- 23.4</b>	<b>1.61</b>	<b>63.4</b>	<b>- 17.1</b>	<b>- 1484.0</b>

**B. Added Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
RH Litter	11.00	24.3	1.50	59.1	16.50	1436.1
FWD Bracket Assembly	0.75	1.6	0.72	28.3	0.54	45.3
Rear Bracket Assembly	0.95	2.1	2.60	102.4	2.48	215.0
Fixed Provisions	0.51	1.1	0.98	38.4	0.50	42.2
Control Quadrant	0.30	0.7	1.66	65.4	0.50	45.8
<b>Total</b>	<b>13.51</b>	<b>29.8</b>	<b>1.52</b>	<b>59.9</b>	<b>20.51</b>	<b>1784.5</b>

**NOTE:** This Weight and Balance Chart is applicable to Alternate Installation, Short FWD Bracket.

**A. Removed Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
LH FWD Seat	- 10.6	- 23.4	1.61	63.4	- 17.1	- 1484.0
<b>Total</b>	<b>- 10.6</b>	<b>- 23.4</b>	<b>1.61</b>	<b>63.4</b>	<b>- 17.1</b>	<b>- 1484.0</b>

**B. Added Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lb	m	in	m kg	in lb
RH Litter	11.00	24.3	1.50	59.1	16.50	1436.1
FWD Bracket Assembly, Short	0.51	1.1	0.75	29.5	0.38	32.5
Rear Bracket Assembly	0.95	2.1	2.60	102.4	2.48	215.0
Fixed Provisions	0.51	1.1	1.00	39.4	0.51	43.3
Control Quadrant	0.30	0.7	1.66	65.4	0.50	45.8
<b>Total</b>	<b>13.28</b>	<b>29.3</b>	<b>1.53</b>	<b>60.5</b>	<b>20.37</b>	<b>1772.7</b>

**NOTE** The LH FWD seat must be removed to enable installation of the LH Litter Installation. If litter is removed the seat does not need to be re-installed.

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10. PLACARDS AND MARKINGS

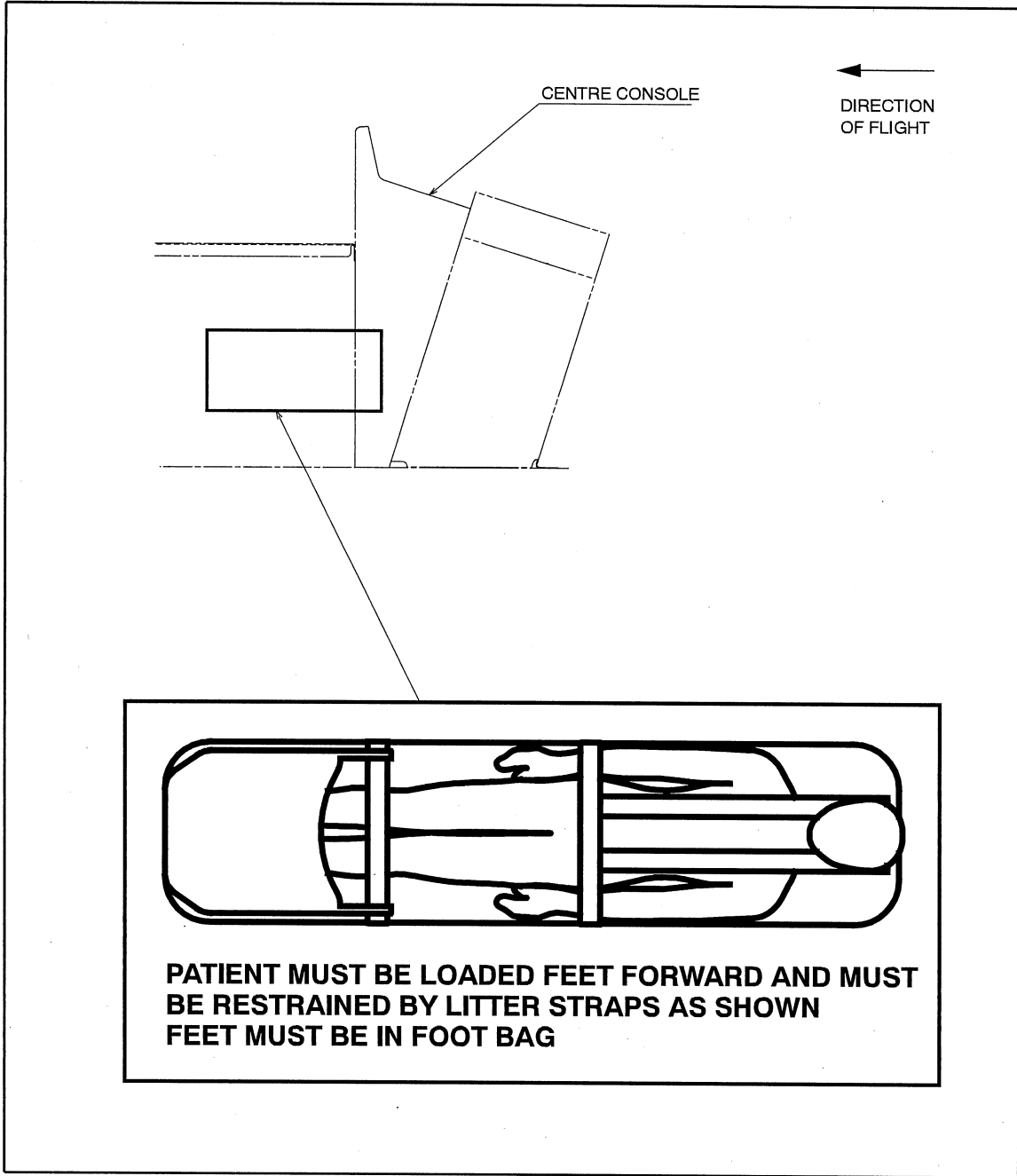


Figure 6 Placard location on LH Side FWD of the center console in the nosebay

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## 10. PLACARDS AND MARKINGS

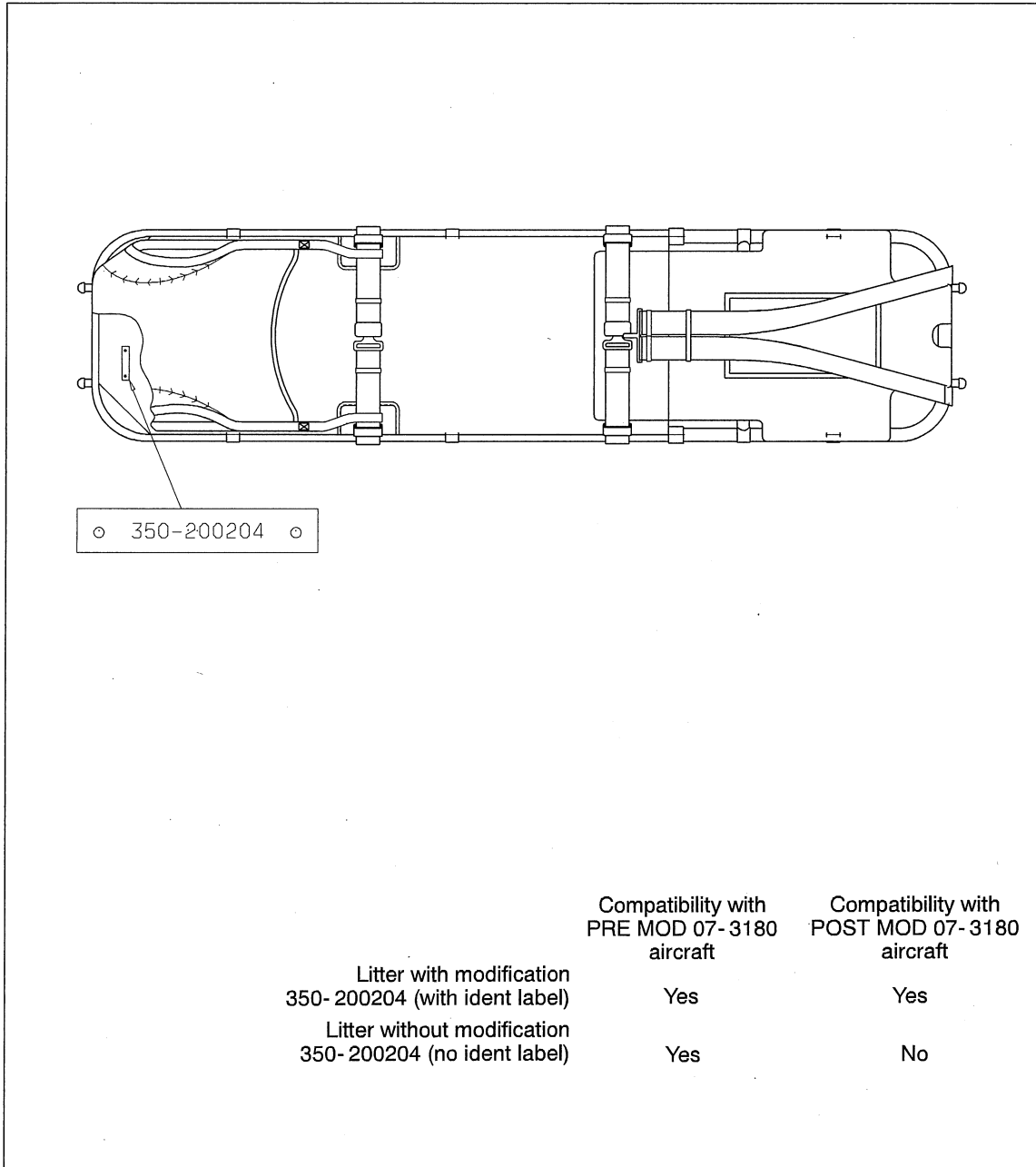


Figure 7 Identification label location on Litter

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10. PLACARDS AND MARKINGS

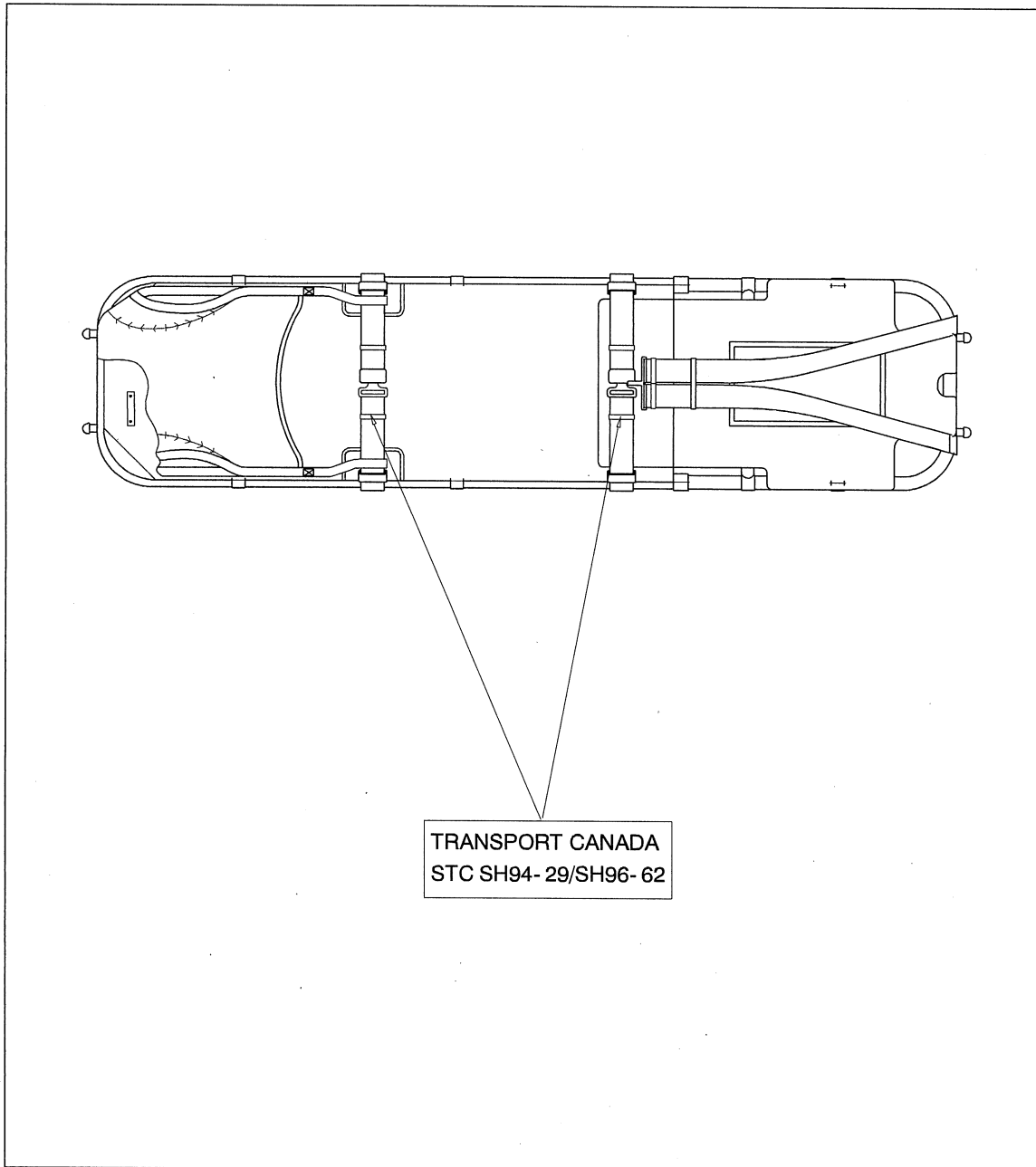


Figure 8 Identification tag located on each belt strap on Litter

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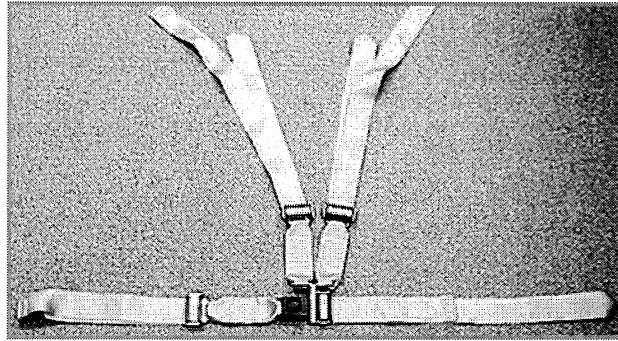


# Users' Manual

August, 2000

Pub. No. 234-0231-01

## Model 417-1 Restraint



Model 417-1 Chest and Waist Restraint

### Description

Model 417-1 Restraint (restraint) is a combination chest/waist restraint. It is designed to secure a patient on a patient-handling device when used with local protocols and the instructions in this manual. The restraint is constructed with nylon webbing and a metal buckle.

Use additional restraints, such as Ferno's Model 430, to secure the patient's legs.

### General Specifications

Load Limit ..... 600 lbs (272 kg)

#### Important

The load limit of the restraint may be higher than the load limit of the equipment it is used on. Do not exceed the load limit of the equipment.

#### ⚠ WARNING

Improper use of the restraint can cause injury. Use the restraint only for the purpose described in this manual.

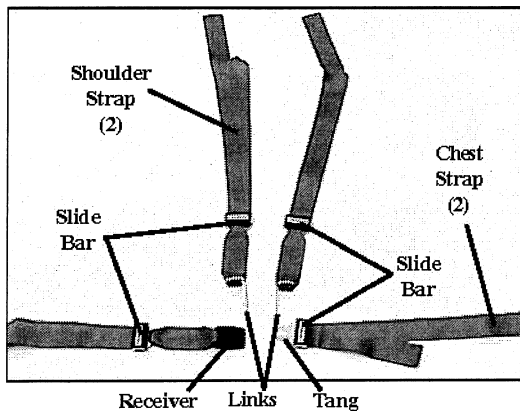
Ferno reserves the right to change specifications without notice.



#### Maximum Load Limit

Inspect the restraint if load limit has been exceeded.

### Components



### Before Placing Restraint in Service

1. Personnel who will work with the restraint need to read this manual.
2. Confirm that restraint operates properly. Follow instructions in *Inspecting the Restraint*, page 3.

#### ⚠ WARNING

Improper operation can cause injury. Operate the restraint only as described in this manual.

## SAFETY INFORMATION

### Warnings

The following warnings appear in this manual.

#### **⚠ WARNING**

Improper use of the restraint can cause injury. Use the restraint only for the purpose described in this manual.

Improper operation can cause injury. Operate the restraint only as described in this manual.

#### **⚠ WARNING**

Improper maintenance can cause injury. Maintain the restraint only as described in this manual.

### Important

Boxes like the one below emphasize important information.

#### Important

## USING THE RESTRAINT

### Fastening/Unfastening Restraint

To fasten restraint:

1. Pull shoulder straps over the patient's shoulders and adjust straps until they are against patient's shoulders. Shoulder links and tang should be centered on patient's breastbone.
2. Fasten restraint by sliding tang through both shoulder links and into buckle receiver slot until it locks into place (Figure 1).
3. Always confirm buckle is securely fastened.

To unfasten restraint:

1. Press square release button on front center of receiver.
2. Pull tang out of receiver slot and shoulder strap links.

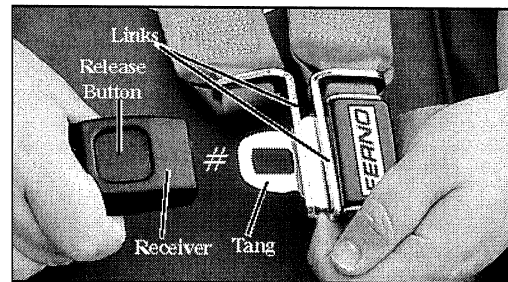


Figure 1 - Fastening Restraint

### Adjusting Restraint Length

To lengthen restraint, first unfasten it. Then, grasp tang and turn it perpendicular to webbing. Pull tang outward, away from restraint anchorage, until restraint is desired length (Figure 2).

To shorten restraint, grasp hemmed tab and pull webbing through tang slide bar assembly until restraint is desired length (Figure 3).

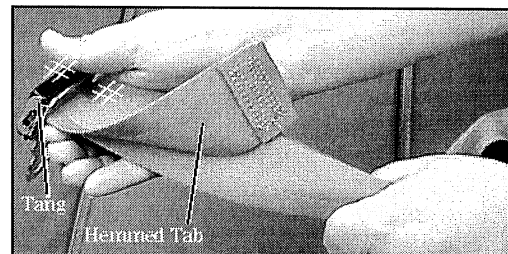


Figure 2 - Lengthening Restraint

### Attaching Restraint

Attach restraint straps to equipment at points that ensure strong anchorage and proper restraint. Make sure restraint will not interfere with use of equipment or accessories.

To attach the two-piece waist restraint:

1. Unbuckle restraint, separating the pieces.
2. Wrap looped end of one waist strap around selected attachment point on equipment.

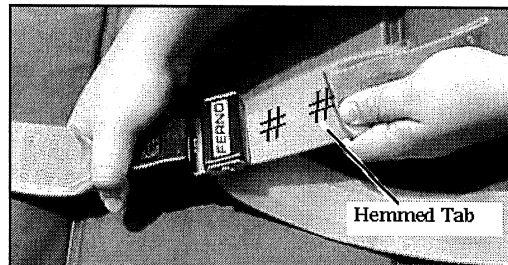


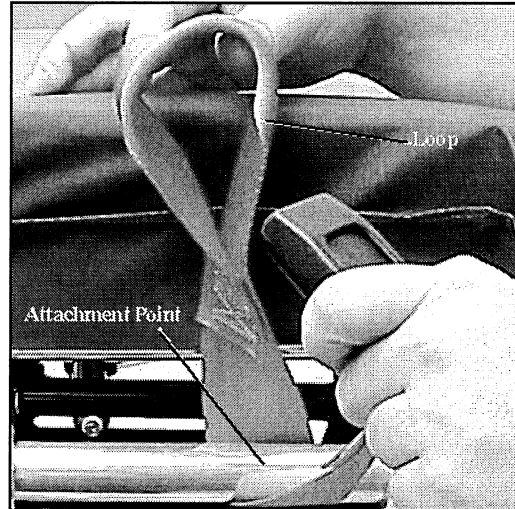
Figure 3 - Shortening Restraint

**Users' Manual****Model 417-1 Restraint**

3. Hold loop open and thread buckle end of restraint through opening (Figure 4).
4. Pull webbing through loop until loop is snug around attachment point.
5. Repeat steps 2-4 to attach other waist strap to opposite side of equipment.
6. Confirm that restraint is securely attached.

**To attach the shoulder straps:**

1. Unbuckle restraint, separating the pieces.
2. Wrap looped end of restraint around selected attachment point on equipment.
3. Hold loop open and thread buckle end of restraint through opening (Figure 4).
4. Pull webbing through loop until loop is snug around attachment point.
5. Repeat steps 2-4 to attach other shoulder strap to opposite side of equipment.
6. Confirm that restraint is securely attached.

**Figure 4 - Attaching Two-Piece Restraint****MAINTAINING THE RESTRAINT****Maintenance Schedule**

The restraint requires regular maintenance. Set up and follow a maintenance schedule. Maintenance should be conducted as follows:

**Inspecting:** Inspect restraint as needed. At minimum, inspect each month.

**Disinfecting:** Disinfect restraint after each use.

**Cleaning:** Clean restraint as needed.

**⚠ WARNING**

**Improper maintenance can cause injury. Maintain the restraint only as described in this manual.**

**Inspecting the Restraint**

Inspect restraint regularly and check the following:

- Are all components present?
- Is restraint webbing in good condition with no cuts or frayed edges?
- Are restraint buckles free of visible damage?
- Do buckles open and close smoothly and properly?
- Can length be adjusted smoothly and properly?

If inspection indicates damage or excessive wear, take restraint out of service and destroy to prevent accidental use.

**Disinfecting and Cleaning Restraint****Important**

Metal buckles on the Model 417-1 restraint can be damaged by immersion in liquids or by washing machine action. Disinfect and clean the restraint only as described in this manual.

To disinfect and clean:

1. Remove restraint from equipment.
2. Spray metal buckles with a disinfectant cleaner and wipe with clean cloth, following disinfectant manufacturer's instructions. Do **not** immerse buckles.
3. Add a disinfectant cleaner to warm water, following instructions on container.
4. Immerse restraint webbing in disinfectant solution for the time directed in instructions on container. Do **not** immerse buckles.
5. Repeatedly dip webbing in clear water to rinse. Do **not** immerse buckles.
6. Hang restraints to air dry.

## LIMITED WARRANTY

### Limited Warranty Summary

Ferno-Washington, Inc. (Ferno), warrants the products we manufacture to be free from defects in material and workmanship for one year except as follows:

Soft goods (webbing, vinyl, fabric, foam, etc.) are warranted for 90 days.

This limited warranty applies when you use and care for the product properly. If the product is not used and cared for properly, the warranty is void. The warranty period begins the day the product is shipped from Ferno or the day you receive it if you have proof of the delivery date. Shipping charges are not covered by the limited warranty. We are not liable for shipping damages or damages sustained through using the product.

### Limited Warranty Obligation

If a product or part is proven to be defective, Ferno will repair or replace it. At our option, we will refund the product's purchase price. The purchaser accepts these terms in lieu of all damages.

*This is a summary of the limited warranty. The actual terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are available upon request by calling 800.733.3766 or 937.382.1451.*

## DISCLAIMER

This manual contains general instructions for the use, operation and care of this product. The instructions are not all-inclusive. Safe and proper use of this product is solely at the discretion of the user. Safety information is included as a service to the user. All other safety measures taken by the user should be within and under consideration of applicable regulations. It is recommended that training on the proper use of this product be provided before using this product in an actual situation.

Retain this manual for future reference. Include it with the product in the event of transfer to new users. Additional free copies are available upon request from Customer Service.

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Customer service and product support are important aspects of each Ferno product.  
For assistance with the Model 417-1 restraint, contact:

Ferno-Washington, Inc.	Telephone (North America) .....	800.733.3766
70 Weil Way	Telephone (Worldwide) .....	937.382.1451
Wilmington, OH 45177-9371 U.S.A.	Fax (United States) .....	937.382.1191
	Fax (Outside U.S.A.) .....	937.382.6569
	Internet .....	www.ferno.com



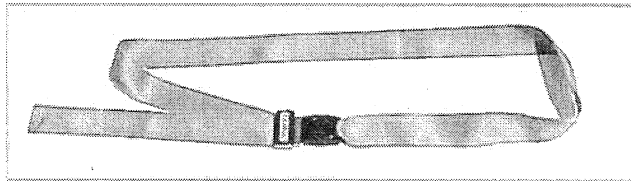


# Users' Manual

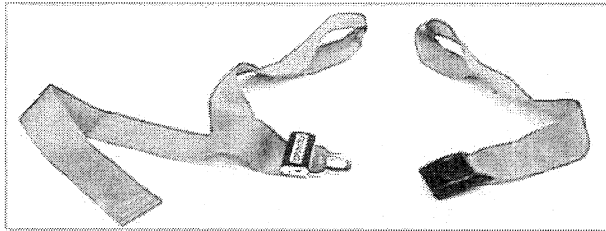
August, 2000

Pub. No. 234-0109-04

## Model 430 Restraints



Model 430 One-Piece Restraint



Model 430 Two-Piece Restraint

### Description

Model 430 Restraints (restraints) are one- or two-piece patient restraints. They are designed to secure a patient on a patient-handling device when used with local protocols and the instructions in this manual.

The restraints are constructed with nylon webbing and a metal buckle. They are available in three lengths.

### WARNING

Improper use of the restraints can cause injury. Use the restraints only for the purpose described in this manual.

### General Specifications

Length ..... 5, 7 or 9 feet (152, 213, or 274 cm)  
Load Limit ..... 600 lbs (272 kg)

### Important

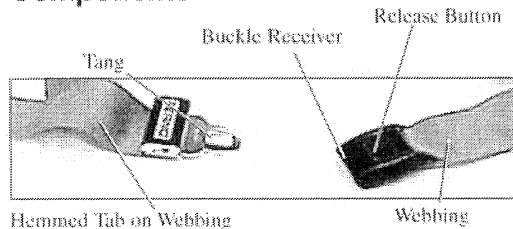
The load limit of the restraint may be higher than the load limit of the equipment it is used on. Do not exceed the load limit of the equipment.

Ferno reserves the right to change specifications without notice.



**Maximum Load Limit**  
Inspect the restraint if load limit has been exceeded.

### Components



### Before Placing Restraints in Service

1. Personnel who will work with the restraints need to read this manual.
2. Confirm that restraints operate properly. Follow instructions in *Inspecting Restraints*, page 3.

### WARNING

Improper operation can cause injury. Operate the restraints only as described in this manual.

### SAFETY INFORMATION

#### Warnings

The following warnings appear in this manual.

**▲ WARNING**

**Improper use of the restraints can cause injury. Use the restraints only for the purpose described in this manual.**

**Improper operation can cause injury. Operate the restraints only as described in this manual.**

**Improper maintenance can cause injury. Maintain the restraints only as described in this manual.**

#### Important

Boxes like the one below emphasize important information.

**Important**

Metal buckles on the Model 430 restraints can be damaged by immersion in liquids or by washing machine action. Disinfect and clean restraints only as described in this manual.

### USING THE RESTRAINTS

#### Fastening/Unfastening Restraints

To unfasten restraint, press square release button on front center of receiver and pull tang out of receiver slot.

To fasten restraint, push tang into receiver slot until it locks into place (Figure 1).

Always confirm buckle is securely fastened.

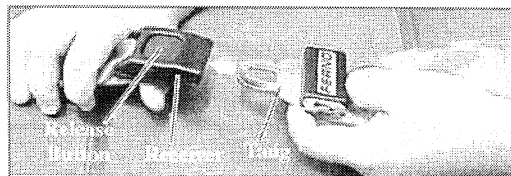


Figure 1 - Fastening Restraint

#### Adjusting Restraint Length

To lengthen restraint, first unfasten it. Then, grasp tang and turn it perpendicular to webbing. Pull tang outward, away from restraint anchorage, until restraint is desired length (Figure 2).

To shorten restraint, grasp hemmed tab and pull webbing through tang slide bar assembly until restraint is desired length (Figure 3).

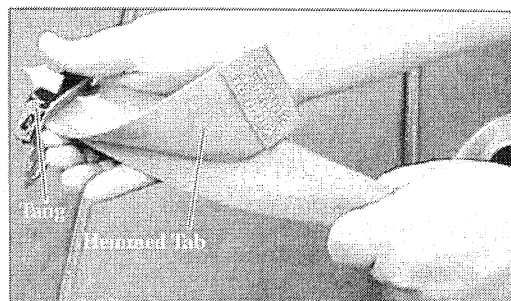


Figure 2 - Lengthening Restraint

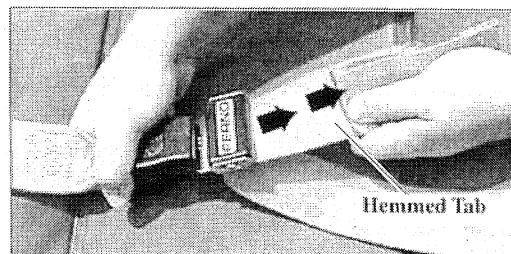


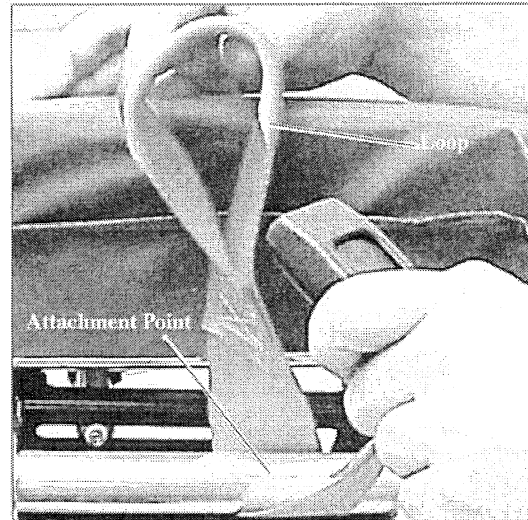
Figure 3 - Shortening Restraint

*Users' Manual**Model 430 Restraints***Attaching Restraints**

Select points where restraints will be attached to ensure strong anchorage and proper restraint. Make certain restraints will not interfere with use of equipment or accessories. Attach one-piece restraints according to local protocols.

To attach a two-piece restraint:

1. Unbuckle restraint, separating the pieces.
2. Wrap looped end of restraint around selected attachment point on equipment.
3. Hold loop open and thread buckle end of restraint through opening (Figure 4).
4. Pull webbing through loop until loop is snug around attachment point.
5. Repeat steps 2-4 to attach other strap to opposite side of equipment.
6. Attach additional restraints following steps 1-5.
7. Confirm that all restraints are securely attached.



**Figure 4 - Attaching Two-Piece Restraint**

**MAINTAINING THE RESTRAINTS****Maintenance Schedule**

Restraints require regular maintenance. Set up and follow a maintenance schedule. Maintenance should be conducted as follows:

**Inspecting:** Inspect restraints as needed. At minimum, inspect each month.

**Disinfecting:** Disinfect restraints after each use.

**Cleaning:** Clean restraints as needed.

**▲ WARNING**

**Improper maintenance can cause injury. Maintain the restraints only as described in this manual.**

**Inspecting Restraints**

Inspect restraints regularly and check the following:

- Are all components present?
- Is restraint webbing in good condition with no cuts or frayed edges?
- Are restraint buckles free of visible damage?
- Do buckles open and close smoothly and properly?
- Can length be adjusted smoothly and properly?

If inspection indicates damage or excessive wear, take restraints out of service and destroy to prevent accidental use.

**Disinfecting and Cleaning Restraints****Important**

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To disinfect and clean:

1. Remove restraints from equipment.
2. Spray metal buckles with a disinfectant cleaner and wipe with clean cloth, following disinfectant manufacturer's instructions. Do **not** immerse buckles.
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6. Hang restraints to air dry.

*Model 430 Restraints**Users' Manual*

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