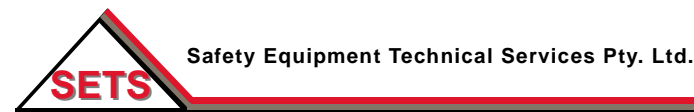


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Restraint Harness  
&  
Y Piece Assembly

Operating Instructions  
And  
Limitations

Applicable Part Numbers

HW-CRW [ ]  
HW-YP [ ]

Australian Technical Standard Order  
(ATSO)

Number: ...C1003...

This manual is provided for use with the Restraint Harness and Y Piece Assembly and provides operating and maintenance procedures to be used by the operator/user in using and caring for these type equipment. Limitations and operational information is contained in the Installation Instructions and Limitations Manual provided to the aircraft.

If SETS Restraint Harness is used in conjunction with other equipment, such as restraint strap, reference should be made to the Operator and Instructions manuals for that equipment for information concerning technical data, instructions for use and operational limitations.

The ATSO prescribes the minimum performance standards which must be met by a Helicopter External Lifting Device in order to be identified with the ATSO-C1003 marking. It is the responsibility of those wishing to install the SETS Restraint Harness on or within an aircraft to determine that the aircraft's installation conditions are within the ATSO-C1003 standards. The SETS Restraint Harness and/or Restraint Harness and Y Piece may only be installed if further evaluation, by the user/installer, substantiates an acceptable installation and is approved by the Civil Aviation Safety Authority.

Diagram 18: HW-YP [b] harness lift point connecting snap (self locking)

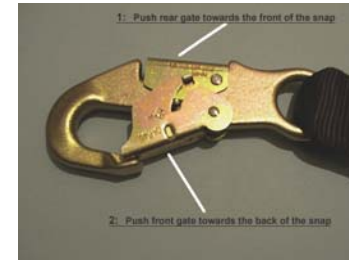


Diagram 16: HW-YP [ ] winch hook attachment D Ring (22046)

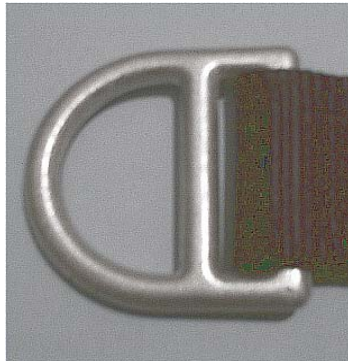


Diagram 17: HW-YP [ ] winch hook attachment D Ring (2087)



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Produced by Safety Equipment Technical Services Pty Ltd

## 1 Limitations of Use

SETS Restraint Harness, part number HW-CRW [ ] and Y Piece, part number HW-YP [a], HW-YP [b] and HW-YP [c] are only to be used in accordance with the instructions in this manual and the Approved Flight Manual Supplement issued to the aircraft.

The SETS Restraint Harness is not a 'seat belt', it is provided for use in conjunction with an approved restraint strap to limit the user's movement within the cabin and in conjunction with SETS approved Y Piece assembly for use outside the aircraft cabin when attached to the winch hook.

The SETS Restraint Harness is only to be used by personnel trained in the correct fitting, assembly, disassembly and emergency release of the harness and Y Piece, and who are familiar with the assembly's limitations and guidelines for installation and use as set out in this manual and Approved Flight Manual Supplement.

### CAUTION

Any modifications, repairs or additions to the Restraint Harness and Y Piece assembly must be approved prior to use.

### CAUTION

If any part of the webbing becomes exposed to corrosive or hazardous chemicals, the Restraint Harness should be retired from service.

Diagram 14: HW-YP [a]

NB: HW-YP [c] has an extended length Part A

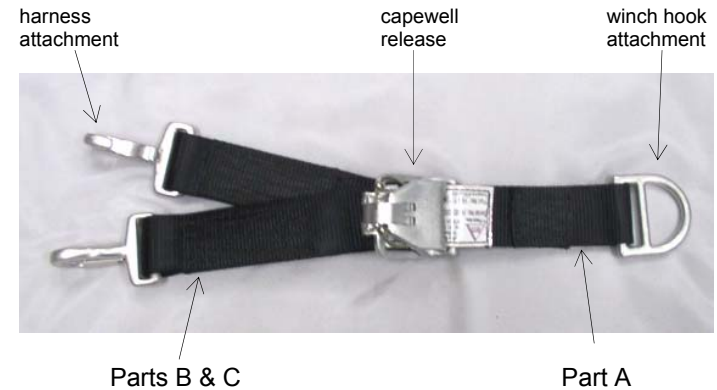


Diagram 15: HW-YP [b]

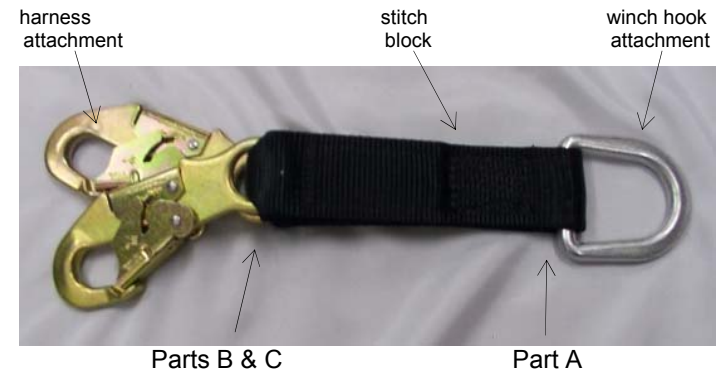


Diagram 12: HW-CRW [-3] leg strap hardware – coupling.



Diagram 13: HW-CRW [-3] leg strap hardware coupled correctly.



## 2 Description

- Restraint Harness Part Number: HW-CRW [ ]

The Restraint Harness is a full body harness.

The harness is able to be adjusted at the leg straps, belly band, chest strap and front lift web webbing (down the front of the body).

The Restraint Harness is padded on the back straps, lumbar block/hip and seat.

- Y Piece Part Number: HW-YP [a] and HW-YP [c]

The Y Piece is a three legged assembly.

The Y Piece is non-adjustable.

The Y Piece has a quick release mechanism incorporated into its design.

- Y Piece Part Number: HW-YP [b]

The Y Piece is a three legged assembly.

The Y Piece is non-adjustable.

### 3 Fitting of Restraint Harness

- a) Place the harness shoulder straps over each shoulder.
- b) Place the harness 'seat' under buttocks.
- c) Pass one leg strap around each leg, ensuring the left strap goes around the left leg and the right strap around the right leg and that there are no twists in the strap.

HW-CRW [ -1]: Attach the 'V' ring adjuster on the leg strap to the hip mounted snap hooks. Adjust the leg straps so they are a firm fit without any discomfort and position the elastic keepers at the loose end of the strap at the turn-back.

HW-CRW [ -2]: Insert the leg straps through the hip mounted adjuster hardware, or if already inserted, step into the leg straps. Adjust the leg straps by pulling the loose leg strap through the hip mounted adjusters. Adjust the leg straps so they are a firm fit without any discomfort and position the elastic keepers at the loose end of the strap at the turn-back.

HW-CRW [ -3]: Insert the male adapter on the leg strap through the hip mounted female adapter. Adjust the leg straps so they are a firm fit without any discomfort and position the elastic keepers at the loose end of the strap at the turn-back.

Diagram 10: HW-CRW [ -3] leg strap hardware.



Diagram 11: HW-CRW [ -3] leg strap hardware.



Diagram 9: Lumbar Block: HW-CRW [ -3]



- d) Position the rear lumbar strap to a comfortable position across the lumbar region of the back.
- e) Adjust the shoulder straps to a comfortable fit and position the elastic keepers at the loose end of the strap at the turn-back.
- f) Attach the chest strap:  
  
HW-CRW [ -1]: Attach the 'V' ring adjuster to the snap and adjust to a comfortable fit and position the elastic keeper at the loose end of the strap at the turn-back.  
  
HW-CRW [ -2]: Insert the chest strap through the adjuster and adjust to a comfortable fit and position the elastic keeper at the loose end of the strap at the turn-back.  
  
HW-CRW [ -3]: Insert the male adapter through the female adapter and adjust to a comfortable fit and position the elastic keeper at the loose end of the strap at the turn-back.
- g) Pass the right side belly band hardware through the left side hardware and adjust to a comfortable fit. Secure the loose end of the strap to the Velcro and position the elastic keeper at the turn-back.



4. Fitting of Y Piece

- a) Attach the lower snaps to each of the winch harness lift point D rings.
- b) Attach the upper D ring over the winch hook.
- c) Close the winch hook gate and install the safety pin.

5) Storage

SETS equipment should be stored in a secure area. The storage area should be free from dirt, oil, grease, moisture, direct sunlight, extreme changes in temperature and rodents.

SETS equipment should be stored away from non-aircraft/industrial products.

**CAUTION**

Inappropriate storage of SETS Restraint Harness may lead to a deterioration of the strength of the webbing.

6 Pre-Use Check

SETS equipment should be checked prior to and after each use. This check should include checking the safe operation and integrity of the following components and parts:

- Inspect the snaps to ensure that the gates and springs are not worn, bent, broken, corroded or choked with dirt, mud, oil or grease.

Diagram 7: Main lift web adjuster: (also leg strap & chest strap on HW-CRW [ -2])

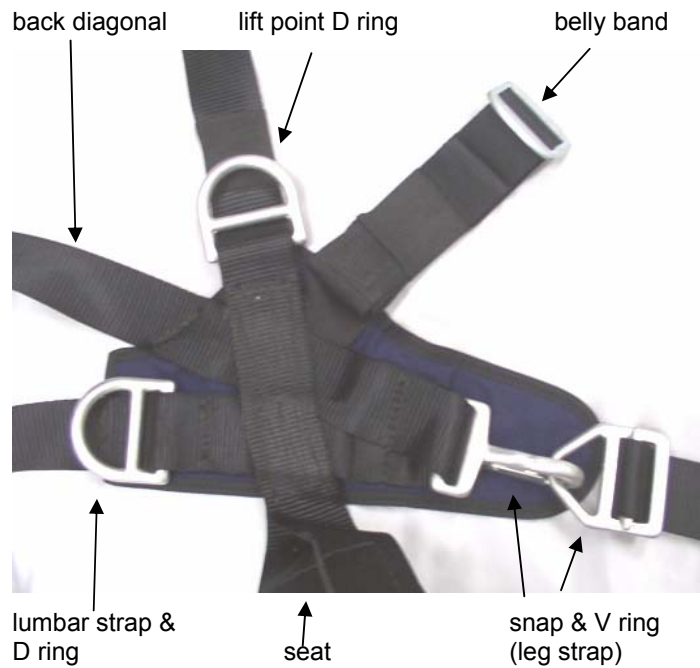


Diagram 8: Belly Band & Chest Strap Adjuster





Diagram 6: Lumbar Block: HW-CRW [ -1]



- Inspect the adjusters to ensure that the friction bars are fitted correctly and that the knurled bars are not worn and that the hardware is free from dirt, mud, oil, grease and corrosion.
- Inspect all webbing to ensure there are no abrasions, cuts, burns or contamination by harmful substances. Ensure that the webbing is routed through the hardware adjusters correctly without twists.
- Inspect all stitching to ensure the stitching is intact and that there are no broken, pulled, burnt or missing stitches in any part of the assembly.
- Activate the capewell release (if installed) and inspect the components to ensure that they are free from dirt, mud, oil, grease and corrosion. Inspect the wire release handle to ensure that there are no broken strands in the wire and the top cover to ensure that there are no cracks or dents. Ensure that the release operates smoothly and without excessive force.

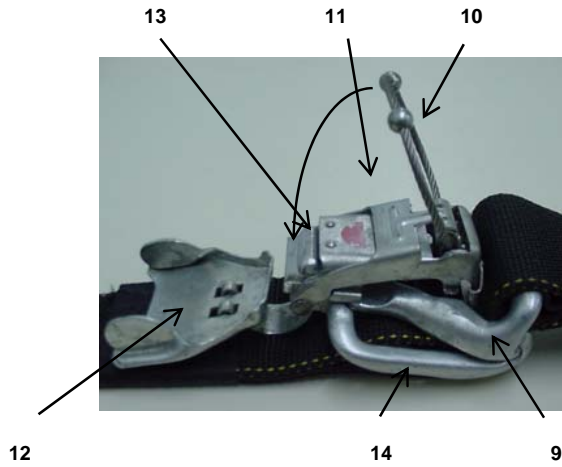


Diagram 1: Capewell Release

**CAUTION**

If there are any corroded, damaged, worn, frayed or contaminated components, webbing or hardware, then the entire assembly should be returned to SETS for evaluation prior to further use.

Diagram 4: Y Piece Assembly - Attachment to Winch Hook

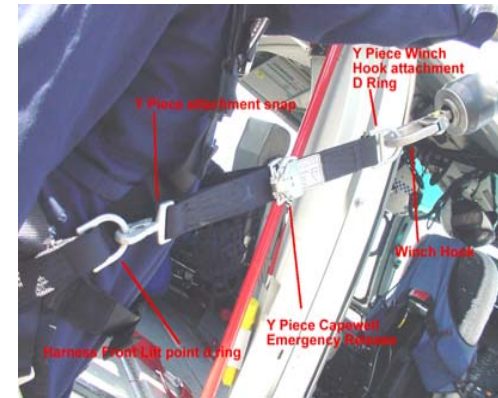


Diagram 5: Fitting the Harness (HW-CRW [ -1])



Diagram 2: Restraint Harness - Attachment to Restraint Strap

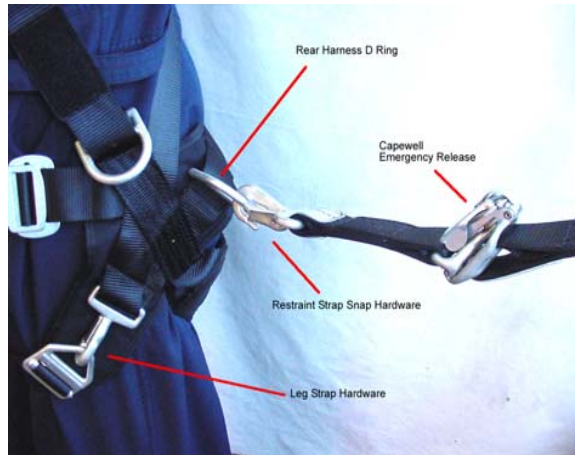


Diagram 3: Restraint Harness - Attachment to Y Piece Assembly



Assembly of Quick Release Mechanism

To Disassemble: (refer Diagram 1)

- a) Activate the capewell release by pulling back the top cover (12) and then pulling on the wire release handle (10).

To Assemble: (refer to Diagram 1)

- a) Lay the main body (female) of the capewell release (14) flat and fold the latching mechanism (11) back away from the main body.
- b) Lay the rear bar of the triangular shaped (male) piece (9) into the slot at the front of the main body (14) and push the triangular piece (9) downward until flat.
- c) Push the lower latching mechanism (11) downward into place and position the wire release handle (10) under the cover lock groove at the rear of the main body (13).
- d) Push the leading edge of the cover (12) into the groove (13) on the main body and snap the cover (12) into position.

### 7. Service Inspection

- Each restraint harness and Y Piece should be checked prior to and after each use as described in 'Pre-Use Check'.
- Each Restraint Harness and Y Piece shall be removed from service for the purpose of a service inspection in the six (6) month period prior to use.
- Each Restraint Harness and Y Piece shall be removed from service for the purpose of a service inspection and re-certification every 12 months from the date of the previous recertification.
- The initial Certificate of Conformance (Authorised Release Certificate) supplied with the equipment from Safety Equipment Technical Services Pty Ltd shall remain current:
  - for 12 months from the date the equipment is first introduced to 'in-service' life; or
  - for two (2) years from the manufacture date.
- The first six (6) month and twelve (12) monthly service, inspection & recertification, shall fall due six months and twelve months respectively, from the date the equipment was first introduced to 'in-service' life.

#### CAUTION

If the restraint harness and/or Y Piece is subjected to a shock load, the entire assembly should be returned to SETS with a full report, for evaluation prior to further use.

### 8. Overhaul

Overhaul and Repair of the Restraint Harness and/or Y Piece may only be undertaken by SETS.

#### CAUTION

If any component is removed or disassembled for check or inspection, it must be re-assembled correctly to ensure it operates correctly.

### 9 Service Life

SETS equipment has an identification label affixed to it. This label details the date of manufacture, model designation, approvals applicable to the equipment and TX date.

The TX date shows the Time Expire date.

SETS equipment has a life expectancy of ten (10) years from the Date of Manufacture regardless of any service and repairs which have been carried out during the service life.

SETS equipment should be withdrawn from service after the stated TX date on the label or, if there is no TX date showing, ten years after the date of manufacture.

If the user/installer is unsure as to the TX date of any SETS equipment they should contact SETS for confirmation.