



Safety Equipment Technical Services Pty Ltd
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MANUFACTURER INSTRUCTION & MAINTENANCE MANUAL (MIMM 200003)

Restraint Harness & Rescue Harness



Issue 2

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GENERAL

This MIM replaces all previous SETS Restraint/Rescue Harness Operating Instructions & Limitations and SETS Restraint/Rescue Harness Installation Instructions and Limitations documents.

This manual is provided for use with the Restraint and Rescue Harness (HW-CRW) assemblies and provides manufacturer and maintenance instructions to the user/operator when utilising and caring for this equipment.

SETS Restraint/Rescue Harnesses are approved to the Australian Technical Standard Order ATSO-C1003 which prescribe the minimum performance standards which must be met by this equipment. This equipment is utilised for aircraft internal cabin restraint as well as external use whilst attached to the winch hook. It is the responsibility of the user/operator to ensure that the installation of the SETS Restraint/Rescue Harness on or within an aircraft to determine that the aircraft's installation conditions are within the approval requirements. The SETS Restraint/Rescue Harness may only be installed if further evaluation, by the user/operator, substantiates an acceptable installation and is approved by the local Civil Aviation Safety Authority or other approved local representative.

If the SETS Restraint/Rescue Harness is used in conjunction with other non-SETS equipment, then it is the responsibility of the user/operator to ensure reference is made to the other manufacturer user/instructions. It should describe the equipment for information concerning technical data, instructions for use and operating limitations.

APPLICABLE MODELS

All SETS HW-CRW [-]

| | |
|-----------------------------|-----------------|
| Restraint Harness (Classic) | HW-CRW [- 1]; |
| | HW-CRW [- 2]; |
| | HW-CRW [- 3]. |
| Scorpion Rescue Harness | HW-CRW [- SR]; |
| | HW-CRW [-SRB]. |

AMENDMENT RECORD

1. All amendments to content are to be recorded below;
2. All new content inserted during an amendment will be shown with a vertical line in the margin indicating the extent of the amended portion.

| Amendment | | Summary | Incorporated | |
|-----------|---------|------------------------------|--------------|-----------|
| No. | Date | Sections/Pages Affected | Date | Name |
| 1 | 04-2019 | Document Release | 04-2019 | J. Berman |
| 2 | 01-2025 | Document Rewrite and Release | 01-2025 | J. Berman |
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1. Limitations of Use

The SETS Restraint/Rescue Harness Assembly is not designed for use on its own, it is designed for use in conjunction with a SETS Dispatcher Restraint Strap assembly approved to ATSO-C1001, to enable the user to attach to an approved hard point and allow movement within the aircraft during flight. It is also designed for use in conjunction with a SETS Y Piece assembly (winch hook attachment) which is approved to ATSO-C1003, to enable the user to attach to the aircraft's winch hook for use during 'down the wire' operations.

SETS Dispatcher Restraint Strap and Y Piece manuals are separate to this manual.

The SETS Restraint/Rescue Harness should only be used by personnel who have been trained in the correct fitting, assembly, disassembly and emergency release of the harness and associated restraint strap and/or winch hook attachment assembly. The user/operator must be familiar with the equipment limitations and guidelines as set out in this manual and in any additional Approved Installation which the operator may gain.

CAUTION

Any modifications, additions or alterations to any part of the SETS Restraint/Rescue Harness assembly must be approved prior to use.

If any part of the webbing, hardware or stitching becomes exposed to corrosive or hazardous chemicals, the SETS Restraint/Rescue Harness should be removed from service.

Any repairs must be completed & certified by SETS prior to placing the Restraint/Rescue Harness back into service.

If any part of the assembly is worn or damaged, consult this manual or SETS directly to establish the serviceability of the assembly prior to next use.

NOTE

SETS Restraint/Rescue Harness requires additional approval prior to installation onto the aircraft. Refer to that approval for any additional requirements.

2. Design & Construction

2.1 Restraint/Rescue Harness Part Number:

HW-CRW [-]

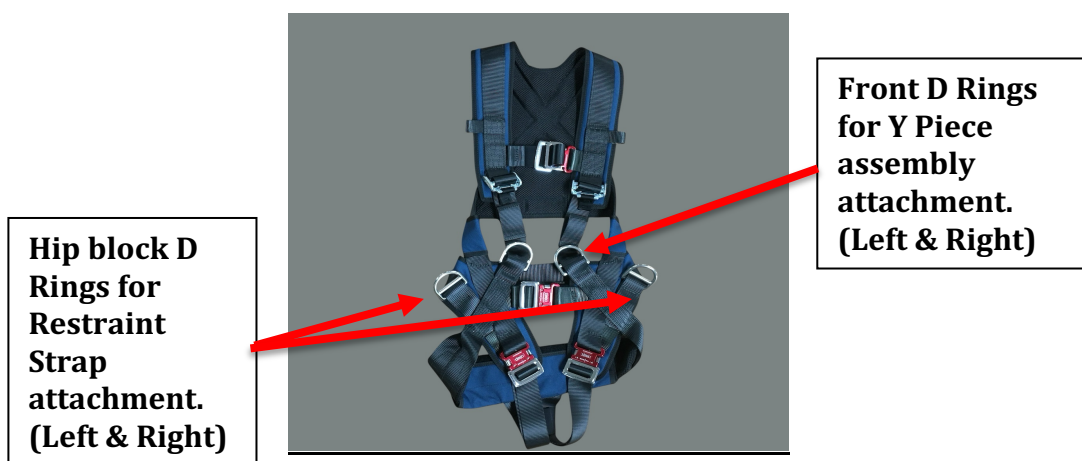
The Restraint/Rescue Harness is a full body harness.

The harness can be adjusted via the leg straps, belly band, chest strap and front shoulder webbing (vertically down front of body).

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

2.2 The harnesses are constructed with:

- Heavy duty polyester safety webbing;
- A chest strap using M/F steel connector hardware;
- A belly band using M/F steel connecting hardware;
- Front adjuster straps with steel adjustment hardware;
- Leg straps with steel M/F connecting hardware;
- Left & Right lift D Rings at the front for attaching a SETS Y Piece assembly (winch hook attachment) for external winch operations;
- Left & Right Restraint D Rings at the hip block for attaching a SETS Dispatcher Restraint Strap from the internal aircraft restraint points to allow movement within the aircraft during flight.



Picture 1

2.3 Restraint/Rescue Harness Part Number Variations

| | |
|---------------|----------------------|
| HW-CRW [XS-] | Extra Small Harness; |
| HW-CRW [S-] | Small Size Harness; |
| HW-CRW [M-] | Medium Size Harness; |
| HW-CRW [L -] | Large Size Harness; |
| HW-CRW [XL-] | Extra Large Harness. |

HW-CRW [-1] Standard hardware, webbing & padding.

- All sizes;
- Black or orange webbing;
- Navy Blue padding;
- Silver cadmium plated forged or stamped hardware;
- SETS Standard snap & V Ring combination on leg straps;
- SETS Standard Male/Female Adapter on Chest Strap & Belly Band;
- SETS standard D ring for frontal lift points & rear lumbar restraint points.

HW-CRW [-2] Standard hardware, webbing & padding.

- All sizes;
- Black or orange webbing;
- Navy Blue padding;
- Silver cadmium plated forged or stamped hardware;
- SETS standard friction adjuster on leg straps, chest strap & belly band;
- SETS standard D ring for frontal lift points & rear lumbar restraint points.

HW-CRW [-3] Standard hardware, webbing & padding.

- All sizes;
- Black or orange webbing;
- Navy Blue padding;
- Silver cadmium plated forged or stamped hardware;
- SETS standard male/female adapters on leg straps, chest strap & belly band;
- SETS standard D ring for frontal lift points & rear lumbar restraint points.

HW-CRW [-SR] SETS standard Scorpion hardware, webbing, padding & fittings.

- All sizes;
- Black or orange webbing;
- Navy Blue Cordura©/Black foam backed mesh;
- Spring loaded frontal adjusters;
- SETS Standard side release buckles on leg straps, chest strap & belly band;
- SETS stainless steel D ring for frontal lift points & rear lumbar restraint points.
- SETS seat pad protector (for abrasive aircraft floors);
- SETS rear lumbar strap protectors (to stop any wear of the webbing from life jackets which have the body adjust hook & pile fastener)

HW-CRW [-SRB] SETS standard Scorpion hardware, webbing, padding & fittings.

- All sizes;
- Black or orange webbing;
- Navy Blue Cordura©/Black foam backed mesh;
- Spring loaded frontal adjusters;
- SETS Standard side release buckles on leg straps, chest strap & belly band male with sliding bar;
- SETS stainless steel D ring for frontal lift points & rear lumbar restraint points.
- SETS seat pad protector (for abrasive aircraft floors);
- SETS rear lumbar strap protectors (to stop any wear of the webbing from life jackets which have the body adjust hook & pile fastener)

2.4 Approved Options, Attachments & Accessories – ID Tag Identification

Stainless Steel Hardware [S] – stainless steel fittings

HW-CRW [-1S] D rings & adjusters
HW-CRW [-2S] D rings & adjusters
HW-CRW [-3S] All hardware
HW-CRW [-SR] D rings
HW-CRW [-SRB] D rings

Rear Grab Handle [G] - rear grab handle for assisting with emplaning wearer.

HW-CRW [-1 -G]
HW-CRW [-2 -G]
HW-CRW [-3 -G]
HW-CRW [-SR -G]
HW-CRW [-SRB-G]

Visibility Mod [V] – reflective tape, hook & loop fastener, logo or badges, molle loops etc.

HW-CRW [-1 -V]
HW-CRW [-2 -V]
HW-CRW [-3 -V]
HW-CRW [-SR -V]
HW-CRW [-SRB-V]

Example of the ID Tag for a Medium Restraint Harness with Stainless Steel Hardware, Grab Handle & Reflective Tape.

HW-CRW [M-1S-GV]



Picture 2

HW-CRW M-1S-GV harness with orange grab handle and reflective tape fitted

3. Use of Harness

- 3.1 Place the harness shoulder straps over each shoulder.
- 3.2 Place the harness 'seat' strap under buttocks.
- 3.3 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 there are no twists in the straps.

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 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 or if already inserted, step into the leg straps. 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 [-SR] and [SRB]

- Insert the male 'tang' adjuster on the leg strap through the hip mounted, female side release buckle receiver. 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.

- 3.4 Position the rear lumbar strap to a comfortable position across the back.
- 3.5 Adjust the vertical shoulder straps to a comfortable fit for body length and fit the elastic keepers at the loose end of the strap at the turnback.
- 3.6 Attach the chest strap.

HW-CRW [-1] & HW-CRW [-3]

- Insert the male adapter through the female adapter to a comfortable fit and position the elastic keeper at the loose end of the strap.

HW-CRW [-SR] and [-SRB]

- Insert the male 'tang' adjuster into the female side release buckle receiver.

3.7 Attach the belly band.

HW-CRW [-1] & HW-CRW [-3]

- Insert the male adapter through the female adapter to a comfortable fit and position the elastic keeper at the loose end of the strap.

HW-CRW [-SR] and [-SRB]

- Insert the male 'tang' adjuster into the female side release buckle receiver.



Picture 3

Picture 4

Two HW-CRW harness variations showing different male and female connectors, adaptors, snap hooks, buckles and rings

CAUTION

The user must ensure that webbing or padding material is not inadvertently caught in any of the hardware connectors, adaptors, snap hooks, buckles or rings when fitting the Harness or attaching the Y Piece or Dispatcher Restraint Strap. Doing so may lead to the hardware not engaging and/or locking correctly

4. Storage

- 4.1 SETS equipment should be stored in a secure area. The storage area should be free of foreign matter, moisture, direct sunlight, extreme changes in temperature, high humidity and rodents.
- 4.2 SETS equipment should be stored away from other non-aircraft/industrial products.

| |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p style="text-align: center;">CAUTION Inappropriate storage of SETS Restraint/Rescue Harness may lead to a deterioration of the strength of the webbing, stitching and hardware</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

5. Maintenance - General

5.1 The recommended maintenance schedules for the inspection of SETS equipment are as follows:

- Before & After Use Check.
- 12 monthly Inspection & Recertification by a CASA approved repairer/inspector.

NOTE

Any repairs of SETS Equipment is conducted 'on condition' due to damage or wear. This work may only be carried out by SETS.

Any repairs to SETS equipment will require a full inspection of the equipment prior to releasing.

6. Inspection

6.1 Before & After Use Check

SETS equipment should be checked by the user/operator as follows:

- Check the webbing for any signs of major damage.
- Check the hardware for any signs of damage, ease of use and free of foreign matter.
- Check for any major corrosion on metal hardware, D rings and adjusters. If in doubt, contact SETS for advice.
- Check the stitching for any damaged or loose stitching or separating of webbing.
- Ensure the harness is identifiable by SETS ID tag/s or internal asset number.

NOTE

If the Restraint/Rescue harness has been exposed to a shock loading event it must be removed from service

6.2 12-Monthly Inspection & Recertification:

The yearly inspection & recertification is more detailed than the Before & After Use Check completed by the user/operator. It ensures the serviceability of all parts & components and is conducted by a suitably experienced & qualified inspector. This inspector should be authorised to issue CASA Approved Authorised Release Certificates (ARC).

SETS will issue an ARC on completion of any service/repair and/or annual inspection and recertification. The equipment will remain 'Approved' for use by SETS from the date on the ARC for a period of 12 months to the end of the month in which the ARC was issued.

SETS may in exceptional circumstances (as deemed by SETS) allow an additional +1 month tolerance to the yearly inspection and recertification if certain conditions are met. The user/operator should contact SETS for approval in relation to this request if it is required.

7. Service Life

- 7.1 SETS equipment has an identification label affixed to it. This label details:
- Equipment description.
 - Model designation.
 - Date of manufacture.
 - Serial number.
 - Time expire date (TX Date).
 - Approvals applicable to the equipment.
- 7.2 ATSO Approved equipment has a life expectancy of 10 years from the date of manufacture regardless of any service, repairs or overhauls carried out on it during its in-service life.
- 7.3 SETS equipment should be withdrawn from service after the stated TX Date on the label. If there is no TX Date or this date is un-readable, then 10 years after the date of manufacture.
- 7.4 If the user/installer is unsure as to the TX Date of any of SETS equipment, they should contact SETS for confirmation and advice.

8. Cleaning

8.1 Post Saltwater Immersion/Exposure

To clean the Restraint/Rescue harness:

- Thoroughly wash the assembly in clean fresh water.
- Thoroughly rinse the entire assembly in clean water, it is recommended a separate container/bucket is used – it may require several rinses.
- Air-dry the assembly naturally away from direct sunlight & away from any heating elements.
- When dry, lightly lubricate all hardware with LPS1/WD40 or similar anti corrosion lubricant. Spray the lubricant onto a rag & wipe over the hardware or carefully spray the hardware. Wipe or blow any excess off the assembly with an air compressor & complete the 'Before & After Use' Check.
- Ensure the entire assembly is dry prior to storage. If the webbing is stored wet, it may reduce the load capacity over time & it will wear the hardware plating prematurely around the hardware webbing bars & corrosion will occur.

8.2 Fresh Water Immersion/Exposure

To clean the Restraint/Rescue harness:

- Thoroughly rinse the entire assembly in clean water – it may require several rinses.
- Air-dry the assembly naturally away from direct sunlight & away from any heating elements.
- When dry, lightly lubricate all hardware with LPS1/WD40 or similar anti corrosion lubricant. Spray the lubricant onto a rag & wipe over the hardware or carefully spray the hardware. Wipe or blow any excess off the assembly with an air compressor & complete the 'Before & After Use' Check.
- Ensure the entire assembly is dry prior to storage. If the webbing is stored wet, it may reduce the load capacity over time & it will wear the hardware plating prematurely around the hardware webbing bars & corrosion will occur.

CAUTION

If using soaps & detergents in the cleaning of SETS equipment, the product should be checked to ensure there would be no detrimental effect on the webbing, stitching & hardware. If in doubt, complete the washing in clean fresh water only

If using lubricants in the care of SETS equipment, the product should be checked to ensure there will be no detrimental effect on the webbing, stitching & hardware

9. Overhaul and Repair

9.1 Overhaul and Repair of the Restraint/Rescue Harness may only be undertaken by SETS.