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Gravity™ Rigger/Rescue Full Body Harness P/N SSH60930001

Application, Fitting, Maintenance & Inspection Instructions Manual
Please read this manual. This information is vital to your safety.

! WARNING: IT IS VITALLY IMPORTANT THAT YOU READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE THE HARNESS IS USED. IF THE HARNESS IS POORLY FITTED, USED INCORRECTLY OR POORLY MAINTAINED, A FALL MIGHT RESULT IN UNNECESSARY INJURY OR DEATH. DO NOT ADAPT OR ALTER YOUR HARNESS IN ANY WAY.

! WARNING:

- USE YOUR SAFETY HARNESS FOR APPROVED APPLICATIONS ONLY.
- ALL FALL ARREST SYSTEMS MUST BE CONNECTED TO ATTACHMENT POINT "A".
- ATTACHMENT POINTS FOR OTHER APPLICATIONS ARE INDICATED BY LABELLING.



Group R-Rescue

Our harnesses are manufactured from the highest quality materials and undergo thorough testing and inspection in accordance with a strict quality control program. All MSA full body harnesses are designed to meet and exceed ANSI and CSA Standards. When used in the approved manner, your harness will ensure your safety and comfort.

! WARNING

THESE INSTRUCTIONS MUST BE PROVIDED TO THE USER. MANAGEMENT AND USER MUST READ AND UNDERSTAND THESE INSTRUCTIONS; FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH.

Application

The Gravity™ Rigger/Rescue Harness is designed to be used for most work applications that require a full body harness. The harness incorporates a sit harness design which allows the user a much higher degree of comfort while in the sit position mode. The Gravity™ Rigger/Rescue Harness is suitable for rappelling/ control descent, positioning, ladder climbing, rescue and fall arrest.

Although the harness was originally designed for professional Riggers in the entertainment industry, the harness is also approved for Rescue personnel, Police or Tactical work, and as a Industrial Harness.



Group A-Fall Arrest



Group L-Ladder Climbing



Group P-Work Positioning



Group D-Control Descent

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Specifications

- Standard 1-3/4" (45 mm) all black Polyester webbing. This all black construction will not make the wearer stand out and creates an ideal harness for the stage rigging application.
 - Drop forged steel Dee rings, approved rust resistant finish, individually proof loaded to 3600 lbs. (16 KN)
 - Two frontal Dee Rings (one high for group L-ladder climbing and a lower frontal dee ring for D-descent control)
 - Drop Forged quick connect buckles
 - Load bearing box stitch pattern
 - Bonded thread, 7 stitches per inch
 - Padded waist belt and leg loops
 - U.S. patent 5,433,289
 - Canadian patent 2,153,829
- Plastic components resist brittleness to -58° F (-50° C)
 - minimum webbing breaking strength 7000 lbs. (31.1 kN)
 - minimum Dee Ring breaking strength 6000 lbs. (26.7 kN)
 - Maximum capacity One Person 310 lbs. (140 kg)
 - Compliance ANSI Z359.1-1992, CSA Z259.10-M90
 - Total Weight 5 lbs (2.27 kg)
 - ANSI /CSA compliance labels and instruction booklet
 - Inspection tags

COMPLIANCE STANDARD:

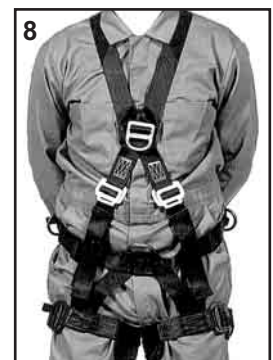
ANSI Z359.1-1992

 Z259.10-M90

Fitting

A POORLY FITTING HARNESS MAY CAUSE UNNECESSARY INJURY, EVEN WHEN USED IN THE CORRECT MANNER. FOLLOW FITTING INSTRUCTIONS INCLUDED WITH THIS MANUAL.

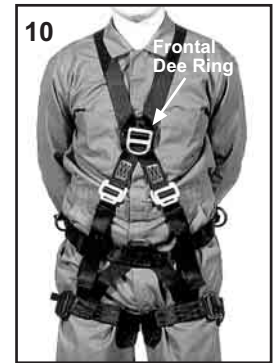
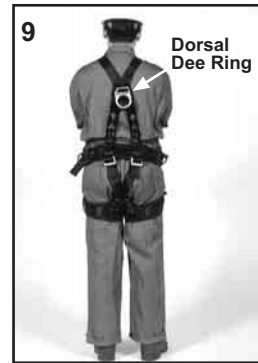
1. Hold harness by shoulder straps, undo quick fit buckles that secures the shoulder straps (**figure 1**, these are the only buckles that are to be undone all others are fixed and are not to be undone) let the shoulder straps drape behind the harness (**figure 2**).
2. Step through waist belt and into each leg loop. Tighten the waist belt with the buckles on each side (**figure 3 & 3a**). Ensure each side buckle is tightened equally to ensure front Dee ring is positioned in the middle of the user's body.
3. Reach behind and grasp the shoulder straps. Lift these shoulder straps over your head (**figure 4**). Pass head through straps positioning the small bent Dee ring on the chest (**figure 5**). Secure the chest straps by securing the two quick fit buckles. Holding buckle, feed webbing for required length adjustment (**figure 6**).
4. Tighten each leg loop (**figure 7**). Ensure each Leg loop is tightly secure around each of the user's thighs. The position of the leg loops can be adjusted using the adjustable buckles that attach the rear of the leg loops to the waistbelt (this is an important adjustment). This fine tuning of the leg loop position will generally only need to be made the first time the harness is adjusted (**figure 8**).



Dee Ring Adjustment Procedure

1. Rear dorsal Dee Ring should be located between the shoulder blades (**figure 9**). Frontal Dee ring should be located below the sternum (**figure 10**). For most fittings the Dee rings should not require adjustment. For adjustment of either Dee ring, remove the harness and follow the procedure below.
2. Holding plastic Dee ring plate with one hand pull Dee ring (**figure 11**). Push three bar slider against plastic Dee ring plate (**figure 12**). Holding Dee ring against plate, pull looped webbing on both sides through slots (**figure 13**). Repeat procedure if more adjustment is required.

Once your harness has been adjusted according to the fitting instructions, have someone familiar with fitting procedure check adjustment of harness as outlined below.



Harness Adjustment Check

1. Harness must be properly adjusted as described in the Fitting instructions. A loose or poorly fitting harness is unsafe. Check harness adjustment by looking at and touching all harness components.
2. Check correct location of frontal and dorsal Dee rings.
3. Ensure leg loops and waist strap are secured and tightened. **LOOSE ENDS ARE DANGEROUS.** If necessary tuck loose ends behind webbing.

Removing and Refitting

1. To remove fitted harness, loosen leg loops and waist belt.
2. Disconnect the Quick Fit buckles that secure the chest straps. Lift chest straps over head and allow the harness to slip to floor. Step out of leg loops.
3. Secure the chest straps and hang harness from rear Dee ring for storage.
4. When refitting the harness, follow the fitting instructions.

Warning: **DO NOT UNBUCKLE THE CHEST STRAPS OR LOOSEN ANY OTHER PORTION OF THE HARNESS UNTIL THE HARNESS IS REMOVED. IT IS EASY TO FORGET THAT ONE OF THE STRAPS IS LOOSE OR UNDONE, THIS WILL CREATE A DANGEROUS SITUATION.**



Inspection

1. The Gravity™ Rigger/Rescue Full Body Harness shall be inspected by the user before each use, and additionally by a competent person other than the user at intervals of no more than one year. Inspection tag (see page 6) supplied with the product at time of purchase should be attached to a harness removed from service to assist with inspections. When the harness passes an inspection by a suitably qualified person the “remove from service” area is removed and the harness is returned to service.
2. Proper inspection is done with the hands as well as the eyes. Look and feel for damage over the full length of all webbing by bending 15 cm (6 inch) sections into a “U” shape between the hands (**figure 14**). This will reveal worn, cut, frayed, burnt, or damaged fibers. Check both sides and along the edges of all webbing. Inspect both sides of plastic keepers and Dee-ring plates.
3. Remove the harness from service if:
 - it has been subjected to the force of arresting a fall
 - markings (labels) are illegible or absent
 - there is evidence of defects or damage to buckles or Dee-rings including cracks, burrs, dents, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration, misuse, excessive aging or excessive wear.
 - there is evidence of improper function, improper fit or alteration of any component
 - there is evidence of splitting, burns or melting to plastic components. Strap keepers should be counted periodically to ensure there are none missing.
 - there is evidence of any damage, discoloration, stiffness or excessive wear to any synthetic component including stitching. Damage is indicated in the presence of cuts, tears and abrasions. Inspect webbing at cross-overs or webbing joints for stitching that is broken, frayed or absent (**figure 15**).
4. When inspection reveals defects, damage, or inadequate maintenance the harness must be removed from service to



undergo adequate corrective maintenance before return to service. Removal from service may imply that defects or damage will result in retiring the harness or replacing components.

5. Should the harness fail in any of the previous inspections or checks, show any other visible damage, or fail to fit correctly, it must be returned to a suitably qualified person for detailed inspection.
6. MSA Surety or persons or entities authorized in writing by the manufacturer, shall make repairs to equipment. No unauthorized repairs and/or modifications are allowed. Harnesses for repair should be returned to the manufacturer or Approved Servicing Agent with a written report of your inspection.

DO NOT ALTER OR ADAPT ANY PORTION OF THE HARNESS IN ANY WAY. SHOULD ALTERATION TAKE PLACE, MSA SURETY WILL NOT HONOUR ANY WARRANTY OR GUARANTEE OF FALL ARREST PRODUCT. TAMPERING WITH A HARNESS COULD RESULT IN UNNECESSARY INJURY OR DEATH.

Maintenance and Storage

A HARNESS MUST BE STORED, MAINTAINED AND INSPECTED PROPERLY. FAILURE TO FOLLOW INSTRUCTIONS IN THIS MANUAL MAY RESULT IN HARNESS FAILURE.

1. Maintenance and storage of the harness shall be conducted by the user's organization in accordance with MSA instructions. Unique issues, which may arise due to conditions of use, shall be addressed with MSA.
2. Equipment which is in need of or scheduled for maintenance shall be tagged “do not use” and removed from service.
3. To clean, wipe with a wet sponge. For more difficult stains, use mild soap. **DO NOT USE CHEMICALS OR DETERGENTS.** Rinse off soap with clear water and hang to dry. **DO NOT DRY WITH HEAT.**
4. Harnesses should be hung up by the rear Dorsal Dee Ring, or placed loosely in a container. Store in a clean, dry area free from excessive heat, sunlight, harmful fumes, corrosive

agents or rodents. Harnesses can be marked for identification with marker pens only on extreme end of webbing straps.

5. Any repairs to your harness must be carried out by an approved servicing agent.
6. Following any fall incident (even a light one), your harness must be inspected by a qualified safety officer/engineer, who will decide if the harness is safe for further use or if it should be repaired or destroyed.

DO NOT PUT YOUR SAFETY AT RISK BY ATTEMPTING TO MAKE THIS DECISION ON YOUR OWN.

Design Statements

1. The Gravity™ Rigger/Rescue Full Body Harness must be used in conjunction with an approved fall arrest system and anchorage. All components in the fall arrest system must be in compliance with applicable regulations and standards.
2. The Gravity™ Rigger/Rescue Full Body Harness is designed to be used for several applications as illustrated in on page 1 and on compliance labels. It is very important to use the attachment point designed for the stated application. When using a fall protection system supplied by another manufacturer, follow the recommendations supplied with the equipment at time of purchase regarding the appropriate harness attachment point. If in doubt, contact MSA.
3. Harnesses that have sustained the force of arresting a fall must be removed from service. A qualified person must inspect and recertify the harness prior to returning it to active service.
4. Each harness is approved for use by a single user.
5. A worker who has been incapacitated by an injury or medical condition and who is suspended by the full body harness, must be rescued immediately. It is the responsibility of the users employer to devise a rescue method that will effectively evacuate a worker. Rescue equipment and trained personnel must be on hand.
6. The total operating weight of the user, tools, equipment, special clothing and harness may not exceed 310 lbs (136kg).
7. All plastic components should be inspected as thoroughly as other components. Although the structural integrity of the harness is not at stake, plastic components ensure that hardware is positioned properly. It is normal for the Dee-ring plates to develop some bending after use.
8. All webbing should be inspected daily. Damaged synthetic components can fail at much lower forces than expected. Deterioration and weakening of webbing can be suspected if harness is exposed to chemicals, acids, oil-based

products, excessive sunlight, excessive heat or repeated dampness (see chart below). Webbing will gradually stiffen and fade with age; periodically compare older harnesses with unused ones. (Note: MSA's polyester webbing is much stiffer than nylon)

9. The life expectancy of synthetic safety equipment is a controversial topic. Harnesses that are used frequently in industrial conditions might fail an inspection after one year. A harness dedicated to a single user that is well maintained will have a longer life expectancy.

Effects of Selected Chemicals and Environments on Webbing Materials

	Nylon	Polyester
Acids	NO	*
Alcohols	OK	OK
Aldehydes	OK	NO
Strong alkalis	OK	**
Bleaching agents	NO	OK
Ethers	OK	NO
Halogenated hydrocarbons	OK	OK
Ketones	OK	OK
Crude oils	OK	OK
Lubricating oils	OK	OK
Soap	OK	OK
Water and seawater	OK	OK
Weak alkalis	OK	OK

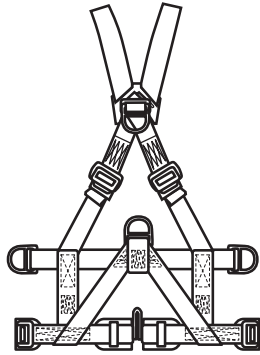
*disintegrated by concentrated sulfuric acid

**degraded by strong alkalis at elevated temperatures

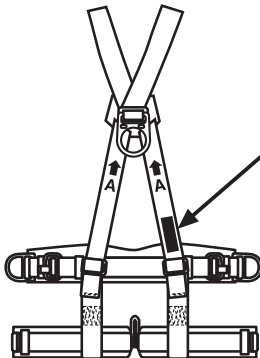
Inspection Checklist

Use Harness Inspection Tag at right as a guideline for inspections.

Your full body harness is identified by labelling as required by CSA and ANSI standards on the rear upper-straps as indicated below. If labels cannot be read in full, or are missing, tag harness "REMOVE FROM SERVICE" and return to the manufacturer for relabelling. ANSI and CSA compliance does not apply when labelling information is missing!



FRONT



BACK

In USA call: 1-800-672-2222
In Canada call: 1-888-396-1067

MODEL #/N° Du Model:
 MATERIAL/Matière:
 BATCH #/N° du Lot:
 MFG DATE/
 Date du Fabrication:
 WAIST SIZE/
 Grandeur de Taille:

GROUP/GROUPE:
 ARLDP

front back

A - FALL ARREST R - RESCUE
 L - LADDER CLIMBING P - WORK POSITIONING
 D - CONTROL DESCENT

US Pat. # 5,433,289 • CDN Pat. # 2,153,829

Z259.10-M90

ANSI Z359.1-1992

WARNING / AVERTISSEMENTS

All potential users of this equipment and users management must read and understand the instructions fully. Failure to do so could result in serious injury or death. CAPACITY: one person 310 lbs (140 kg) Tous les usagers éventuels de ce matériel, ainsi que les cadres dont ils relèvent. Devront lire et comprendre parfaitement les instructions. L'inobservation de cette règle pourrait entraîner une blessure grave ou la mort. CAPACITÉ: une personne 310 lbs (140 kg) Made in U.S.A. Fabriqué au U.S.A.

PRODUCT INSPECTION TAG

MODEL or P/N _____
 CUSTOMER NAME _____

 W.O. NUMBER _____
 INSPECT ONLY INSPECT AND CLEAN

SYNTHETIC FIBRE PASS FAIL N/A
 CUTS EXCESSIVE HEAT ABRADED
 REQUIRES CLEANING BURNED CHEMICAL DAMAGE
 OTHER _____

STITCHING/SPLICING PASS FAIL N/A
 BROKEN BURNED MISSING
 CUT PULLED OTHER _____

RIVETS/FASTENERS PASS FAIL N/A
 CHEMICAL CORROSION LOOSE
 MISSING OTHER _____

GROMMETS PASS FAIL N/A
 BENT CHEMICAL CORROSION
 LOOSE MISSING
 OTHER _____

**DANGER
 REMOVE
 FROM SERVICE**

HARDWARE PASS FAIL N/A
 CRACKED WELDED BENT
 CHEMICAL CORROSION SHARP EDGES ENGRAVING OR STAMPING
 POOR FUNCTION OTHER _____

PLASTIC COMPONENTS

THIMBLES PASS FAIL N/A
 DEE SHIM PASS FAIL N/A
 KEEPERS PASS FAIL N/A

LABELS PASS FAIL N/A

PRODUCT ALTERED YES NO

FAILURE OF ANY PART OF THE INSPECTION PROCESS OR ALTERATION OF ANY COMPONENT INDICATES THE ENTIRE UNIT MUST BE REMOVED FROM SERVICE.
 REMOVE FROM SERVICE DESTROY
 REINSPECT BY ANOTHER MANUFACTURER
 SUBMIT TO MANUFACTURER FOR REWORK

INSPECTED BY: _____
 DATE: _____
 COMMENTS: _____

WARRANTY

Express Warranty – MSA warrants that the product furnished is free from mechanical defects or faulty workmanship for a period of one (1) year from first use or eighteen (18) months from date of shipment, whichever occurs first, provided it is maintained and used in accordance with MSA's instructions and/or recommendations. Replacement parts and repairs are warranted for ninety (90) days from the date of repair of the product or sale of the replacement part, whichever occurs first. MSA shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own authorized service personnel or if the warranty claim results from misuse of the product. No agent, employee or representative of MSA may bind MSA to any affirmation, representation or modification of the warranty concerning the goods sold under this contract. MSA makes no warranty concerning components or accessories not manufactured by MSA, but will pass on to the Purchaser all warranties of manufacturers of such components. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO THE TERMS HEREOF. MSA SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Exclusive Remedy - It is expressly agreed that the Purchaser's sole and exclusive remedy for breach of the above warranty, for any tortious conduct of MSA, or for any other cause of action, shall be the repair and/or replacement, at MSA's option, of any equipment or parts thereof, that after examination by MSA are proven to be defective. Replacement equipment and/or parts will be provided at no cost to the Purchaser, F.O.B. Purchaser's named place of destination. Failure of MSA to successfully repair any nonconforming product shall not cause the remedy established hereby to fail of its essential purpose.

Exclusion of Consequential Damages - Purchaser specifically understands and agrees that under no circumstances will MSA be liable to Purchaser for economic, special, incidental, or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of the non-operation of the goods. This exclusion is applicable to claims for breach of warranty, tortious conduct or any other cause of action against MSA.

For additional information, please contact the Customer Service Department at 1-800-MSA-2222 (1-800-672-2222).