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Gravity™ 709/809/909 Multi Purpose Full Body Harness

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.

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.

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Application

The Gravity™ Multi Purpose Harness is designed to be used for most work applications that require a full body harness. The harness is always fitted the same regardless of the application. Choice of attachment point will dictate the appropriate application for the harness.

! 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 A-Fall Arrest



Group L-Ladder Climbing



Group R-Rescue



Group P-Work Positioning



Group D-Control Descent

Specifications

- U.S. Patent 5,433,289
- standard 1 3/4" (45mm) nylon
- drop forged steel Dee rings, zinc chromate finish, individually proof loaded to 3600 lbs (16kN)
- cranked frontal Dee ring, 40° bend
- stamped steel quick connect buckles, zinc chromate finish
- load bearing box stitch pattern
- bonded thread, 7 stitches per inch
- plastic components resist brittleness to -58°F (-50°C)
- two colors of webbing for easy identification
- minimum webbing breaking strength 8500 lbs. (38kN)
- minimum Dee ring breaking strength 6000 lbs. (26.7kN)
- safe working load 310 lbs (140kg)
- compliance CSA Z259.10 ANSI 359.1-1992
- one size fits most
- 809 total weight 3.3 lbs. (1500g)
- 909 total weight 2.7 lbs. (1230g)
- ANSI/CSA compliance labels and instruction booklet
- inspection tags

COMPLIANCE STANDARD:

ANSI Z359.1-1992

CSA Z259.10-M90

	Nylon	Polyester	Quick Fit	Grommets Leg straps	Positioning Dee rings	Rear Dee rings	Frontal Attachment Dee rings
STANDARD MODELS							
SSH70920	☐		☐			☐	
SSH80920	☐		☐		☐	☐	☐
SSH90920	☐		☐			☐	
OPTIONAL							
SSH70925	☐		☐	☐		☐	
SSH70930		☐	☐			☐	
SSH70935		☐	☐	☐		☐	
SSH80925	☐		☐	☐	☐	☐	☐
SSH80930		☐	☐		☐	☐	☐
SSH80935		☐	☐	☐	☐	☐	☐
SSH90925	☐		☐	☐		☐	☐
SSH90930		☐	☐			☐	☐
SSH90935		☐	☐	☐		☐	☐

Fitting

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

1. Undo buckles, hold harness by front and rear Dee rings to ensure straps are untwisted (1).
2. Pass head through straps between Dee rings positioning smaller frontal Dee ring on the chest and allowing straps to drape behind the body (2). Ask fellow worker to check length of upper straps for correct Dee ring positions (see Dee ring adjustment procedure). If required, follow adjustment procedure to move Dorsal Dee ring.
3. Standing erect, reach to back of thighs to locate ends of sub pelvic straps. Subpelvic strap will not be the same color as chest strap. Pull straps from both sides so webbing is snug under the buttocks (3). Subpelvic strap buckles should just reach chest strap buckles (4).
4. To adjust, move orange plastic strap keepers away from quick connect buckles (5). Connect chest strap to subpelvic strap by threading quick connect bar through chest strap buckle (6). Repeat on other side.
5. Holding buckle, feed webbing for required length adjustment (7). Pull excess webbing snugly through keepers (8).
6. Reach between legs and locate one leg strap. Pass leg strap around front of thigh (9) and through adjuster buckle on front of hip as before.



NOTE: Leg straps on grommet style harness adjusts with tongue buckle (10).

- Adjust buckles to a snug fit; do not overtighten. Slide plastic keepers against quick connect buckles (11) or feed grommeted webbing through keeper loops.

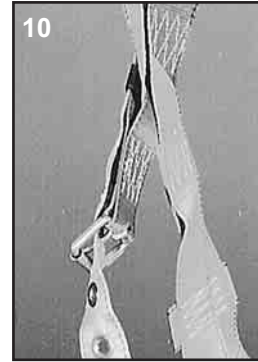
Dee Ring Adjustment Procedure

- Rear dorsal Dee Ring should be located between the shoulder blades (12). Frontal Dee ring should be located below the sternum (13). For most fittings the Dee rings should not require adjustment. For adjustment of either Dee ring, remove the harness and follow the procedure below.
- Holding plastic Dee ring plate with one hand pull Dee ring (14). Push three bar slider against plastic Dee ring plate (15). Holding Dee ring against plate, pull looped webbing on both sides through slots (16). 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

- Harness must be properly adjusted as described in Fitting Instructions. A loose or poorly fitting harness is unsafe. Check harness adjustment by looking at and touching all harness components.
- Check correct location of frontal and dorsal Dee rings (12, 13).
- Leg strap ends must be secured. Slide secondary plastic keepers towards end of strap and secure leg strap webbing on grommeted harness. **LOOSE ENDS ARE DANGEROUS.** If necessary tuck loose ends behind webbing (17).
- Plastic strap keepers must be placed firmly against quick connect buckles (18).
- Check webbing is flat against the body, particularly in the leg loops. Hanging in harness with twisted leg loops can compromise circulation (19).
- Check correct location of sub pelvic strap (12).



Refitting

Once the harness is properly adjusted to an individual, only minor adjustment is necessary. It is advantageous and recommended to assign a dedicated harness to frequent users.

1. To remove fitted harness for reuse, slide plastic strap keepers away from buckles. Unbuckle leg loop hardware.
2. Unbuckle one chest strap buckle and remove harness over opposite shoulder.
3. Hang harness by Dee ring to simplify fitting. To don harness, reverse removal procedure.

4. Complete Harness Adjustment Check.



WARNING: DO NOT UNBUCKLE ANY PART OF THE HARNESS UNTIL THE HARNESS IS REMOVED. IT IS EASY TO FORGET THAT LEG LOOPS ARE UNBUCKLED PARTICULARLY IF A WORKER IS UNACCUSTOMED TO WEARING A HARNESS.

Inspection

1. The Gravity™ Multi Purpose 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 (21). 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 (20).
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 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 should 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™ Multi Purpose 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™ Multi Purpose 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 polyester webbing is much stiffer than nylon)
9. The life expectancy of synthetic safety equipment is a controversial topic. Proper inspections of all harnesses shall be conducted according to the inspection procedure in the harness instruction manual. These instruction manuals are provided with every new MSA Surety harness.

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	OK	OK
hydrocarbons	OK	OK
Ketones	OK	OK
Crude oils	OK	OK
Lubricating oils	OK	OK
Soap	OK	OK
Water and seawater	OK	OK

Weak alkalis

*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!

MSA (FP)
 In USA Call: 1-800-672-2222
 In Canada Call: 1-800-267-0672
 MODEL #/N° Du Model:

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

GROUP / GROUPE:
 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'observation de cette règle pourrait entraîner une blessure grave ou la mort. CAPACITÉ: une personne 310 lbs (140 kg).
 Made in Canada Fabriqué au Canada

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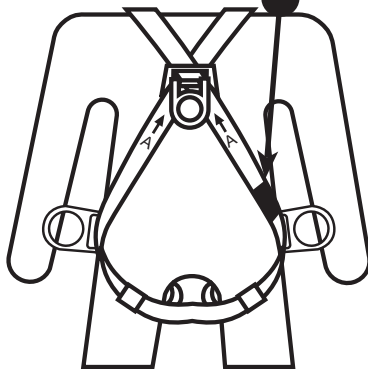
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GROUP / GROUPE:
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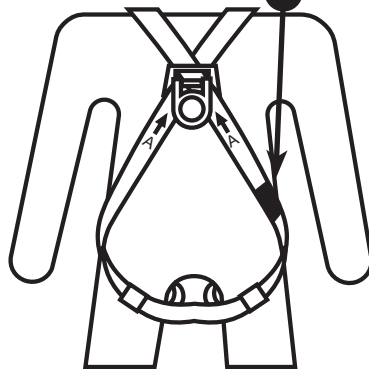
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 Made in Canada Fabriqué au Canada



Model 809



Model 909

○ **HARNES INSPECTION TAG**

MODEL or P/N _____
 CUSTOMER NAME _____

W.O. NUMBER _____
 INSPECT ONLY INSPECT AND CLEAN

WEBBING PASS FAIL
 CUTS ABRADED
 REQUIRES CLEANING CHEMICAL DAMAGE
 EXCESSIVE HEAT BURNED
 OTHER _____

STITCHING PASS FAIL
 BROKEN BURNED
 CUT PULLED
 OTHER _____ MISSING

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

DEE RING HARDWARE PASS FAIL
 CRACKED CHEMICAL CORROSION
 WELDED SHARP EDGES
 BENT

**DANGER
 REMOVE
 FROM SERVICE**

○

BUCKLES PASS FAIL
 CRACKED SHARP EDGES
 POOR FUNCTION BENT
 WELDED OTHER _____
 CHEMICAL CORROSION

GROMMETS PASS FAIL N/A
 BENT CHEMICAL CORROSION
 LOOSE MISSING

PLASTIC DEE SHIM PASS FAIL

KEEPERS PASS FAIL

LABELS PASS FAIL

HARNES ALTERED YES NO

FAILURE 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

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).

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