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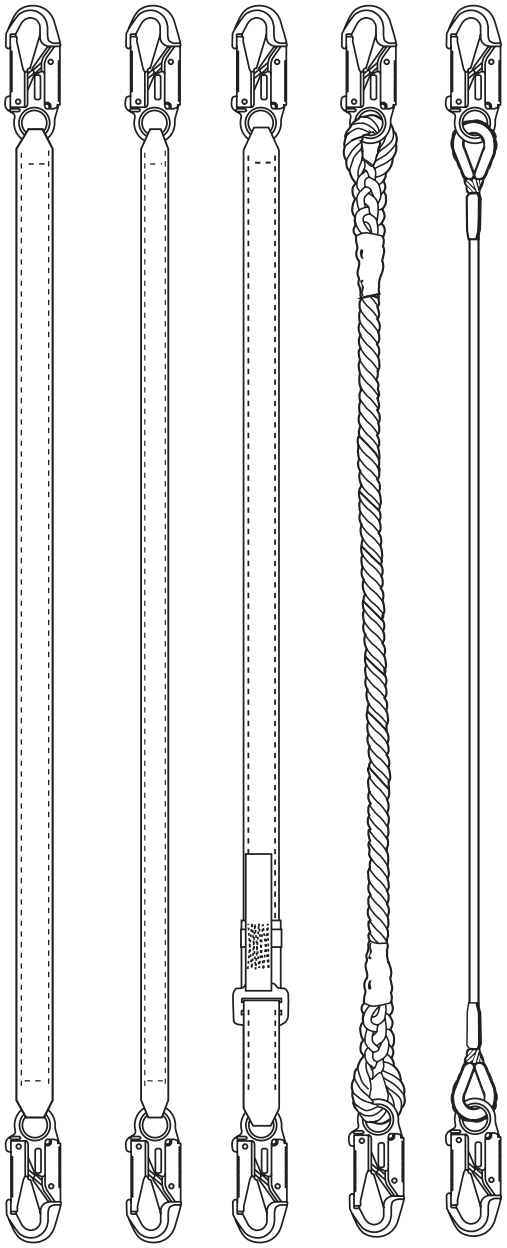
MSA Sure-Stop™ Lanyards

Application, Operation, Maintenance & Inspection Instructions Manual

Please read this manual.
This information is vital to your safety.

⚠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.



Synthetic Strap | Synthetic Strap | Synthetic Strap | Synthetic Rope | Wire Rope

Application

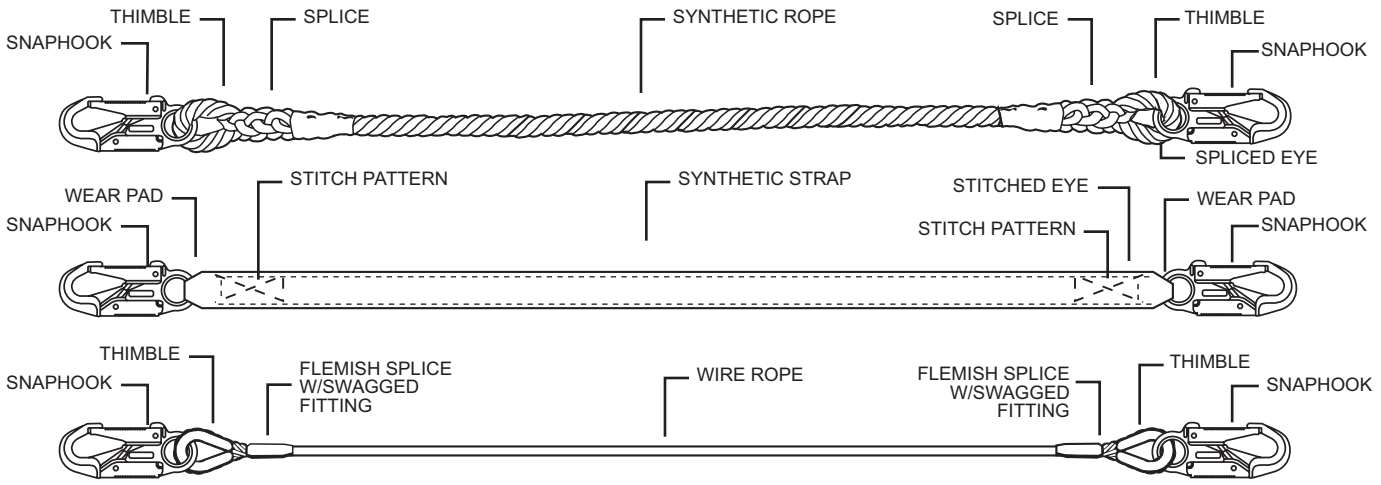
A lanyard connects the users body harness or waistbelt to a stationary or mobile anchorage/anchorage connector. Lanyards are short in length, manufactured with high quality, high tensile strength webbing, rope or steel cable, with connecting hardware fitted on the ends. Lanyards are available in standard and adjustable lengths. Application for lanyards include Fall Arrest, Work Restriction and Work Positioning.

Function

The MSA Sure-Stop™ lanyard performs a tethering function which restricts movement and can arrest a user's fall. A lanyard consists of a short flexible line of synthetic rope, steel rope or synthetic webbing which generally has connectors (hooks) on both ends.

Printed in U.S.A.

Name of Each Part



Design Working Capacities

ONE PERSON: Design working load is 310 lbs (140.6 kg) for individual use on an approved anchorage connector/anchorage.

Specifications

ROPE LANYARDS

- 5/8" (16mm) x 4' (1.2m)
- 3-strand Nylon Rope or Polyester Rope
- M.B.S. 8500 lbs. (37.8kN)
- 5-tuck hand splice terminations
- Forged self-locking snap hooks
- Longer lengths available
- Approx. weight: 1.6 lbs. (720g)
- CSA approved CSA Z259.1
- Meets ANSI when used in conjuction with a Shock Absorber

WEB LANYARDS

- 1" (25 mm) x 4' (1.2 mm) or
- 1 3/4" (44mm) x 4' (1.2m)
- Nylon Webbing
- M.B.S. 8500 lbs. (37.8kN)
- Sewn Stitch pattern terminations
- Forged self-locking snap hooks
- Longer lengths available
- Approx weight: 1.3 lbs. (600g)
- CSA approved CSA Z259.1
- Meets ANSI when used with a Shock Absorber

CABLE LANYARDS

- 1/4" (6mm) x 4' (1.2m)
- Galvanized aircraft cable
- Red vinyl coated
- M.B.S. 8500 lbs. (37.8kN)
- Forged self-locking snap hooks
- Longer lengths available
- Approx. weight: 1.9 lbs. (850g)
- Must be used with a personal Shock Absorber

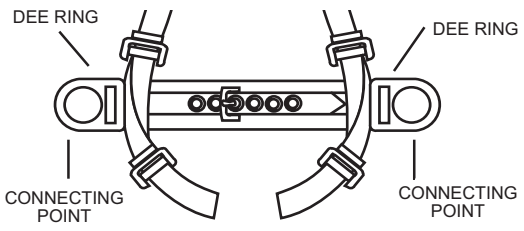
Operating Instructions

Fall Arrest/Restraint

1a. **Attachment to Full Body Harness/Waistbelts**
The locking snap hook on the lanyard shall be attached to the forged back D-ring on an approved full body harness/waistbelt making sure visually that the gate and keeper on the hook is securely closed.

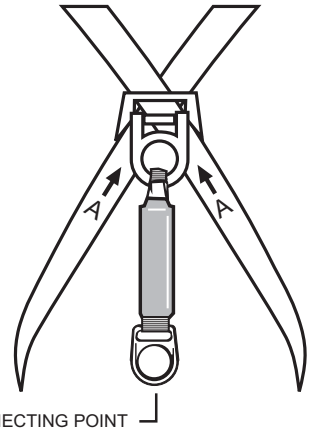
⚠ **WARNING:** Do not rely on the feel and/or sound of a snap hook when engaging it. Always check visually for proper engagement of the snap. Gate must be closed after each hook up!

1b. **Positioning Attachment to Full Body Harness/Waistbelt**
The locking snap hook on one end of the lanyard shall be attached to the forged D-ring located at the side (3 o'clock position) on the waistbelt. The lanyard is then wrapped around the anchorage and the other locking snap hook of the lanyard is attached to the other side D-ring at the side (9 o'clock position) on the waistbelt.



2a. **Attachment to a Personal Shock Absorber**
The locking snap hook on the lanyard shall be attached to the forged steel D-ring on an approved personal shock absorber making sure visually that the gate and keeper on the hook is securely closed.

⚠ **WARNING:** Do not rely on the feel and/or sound of a snap hook when engaging it!



2b. The deceleration distance elongation of the personal shock absorber must be taken into consideration to determine the user's total fall distance. A MSA Surety Sure-Stop™ personal shock absorber's elongation can extend the original length by 39 inches (1.0 m).

⚠ **WARNING:** Ensure there is sufficient clearance below the work area taking into consideration the deceleration distance/elongation of the activated shock absorber!

3a. **Attachment to Anchorage Connectors**
The lanyard locking snap hook at the opposite end to the body holding device shall be attached securely to an approved anchorage connector. Make sure visually that the gate and keeper on the hook is securely closed.

⚠ **WARNING:** Do not rely on the feel and/or sound of a snap hook when engaging it!

3b. The location of the approved anchorage/anchorage connector must take into consideration the hazards of total fall distance and obstructions below and each side of the fall arrest area.

⚠ **WARNING:** Work directly under the approved anchorage/anchorage connector attachment point at all times, as swing falls can result in serious injury or death.

3c. Lanyards shall be kept as short as possible to minimize the possible free fall distance of the user. In any case, the free fall distance shall not exceed government or other applicable regulations and standards.

⚠ **WARNING:** The total fall distance of the user shall not exceed the minimum clearance on application.

Inspection

1. The lanyard 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. Detailed inspections must be recorded in the inspection log.

2. When inspection reveals defects in, damage to, or inadequate maintenance of lanyard, the lanyard shall be permanently removed from service or undergo adequate corrective maintenance before returning to service.

3. Remove system from service immediately, destroy and discard lanyard if it does not pass this inspection and replace immediately if lanyard has:

- been subjected to the forces of arresting a fall;
- absence or illegibility of markings;
- absence of any elements affecting the equipment form, fit or function;
- evidence of defects in or damage to hardware elements including cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration, needed or excessive lubrication, excessive aging and excessive wear;
- evidence of damage to lanyard body and/or spliced terminations including cuts, tears, abrasion, heat burns, kinks, knots, broken strands or excessive wear;
- alteration, absence of parts, or evidence of defects in, damage to or improper function of mechanical devices and connectors.

VISIBLE SIGNS OF EXPOSURE DAMAGE TO POLYESTER AND NYLON SYNTHETIC MATERIAL

	Nylon	Polyester
Heat	Fibers become brittle, will shrivel and turn brown in color and break when flexed. Should not be used above 200□F.	Same as nylon. Should not be used above 180□F.
Chemicals	Fibers change color and texture similar to a brownish smudge or smear, will become less elastic with transverse cracks resulting from bending.	Same as nylon.
Flame or Molten Metal	Fibers strands fuse together, become hard, brittle, and shiny in appearance. Does not support combustion.	Same as nylon. Does not support combustion.
Paint and Solvents	Paint can penetrate into the weave and dry, causing the webbing to become hard, brittle and eventually break the fibers. Solvents and drying agents within paint cause damage similar to chemical exposure.	Same as nylon.
Dirt and Grit	Particles work into the weave and can cut and fray fibers.	Same as nylon.

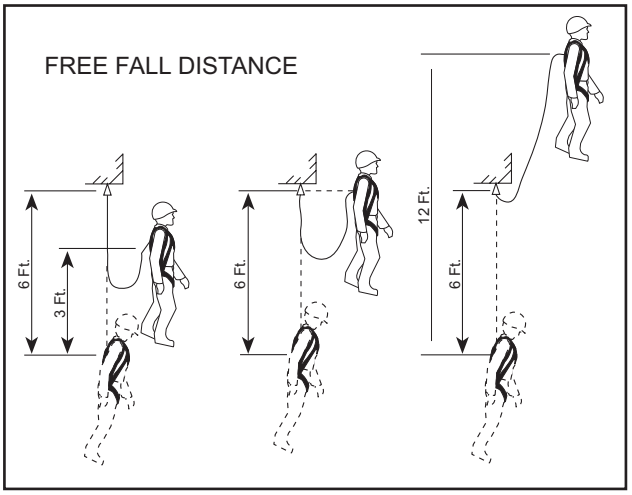
4. MSA or persons or entities authorized in writing by the manufacturer, shall make repairs to equipment. No unauthorized repairs and/or modifications are allowed.

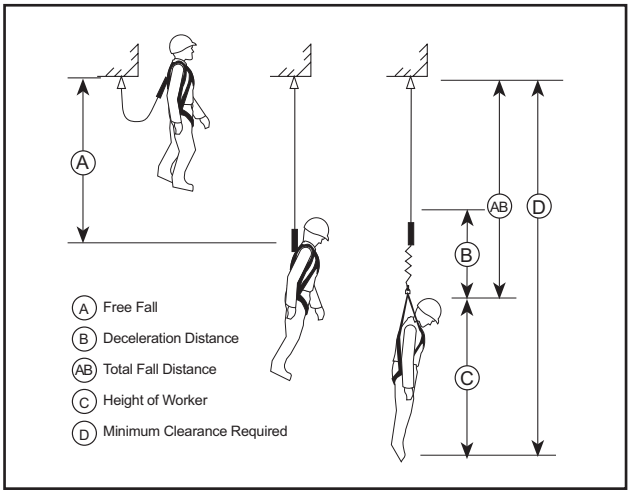
Maintenance and Storage

1. Maintenance and storage of equipment 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 as “unusable” and removed from service.
3. To clean synthetic lanyards, wipe with a wet sponge. For more difficult to remove stains, use mild detergent and/or soap. DO NOT USE CHEMICALS OR HARSH DETERGENTS. Rinse off soap with clear water and hang to dry naturally. DO NOT use high pressure washers to clean lanyards or hardware.
4. All hardware should be cleaned and lubricated with a light oil to ensure good working order.
5. Store in a clean, dry area free from excessive heat, steam, sunlight, harmful fumes, corrosive agents and rodents.
6. When in doubt of the operation, maintenance and inspection procedures, DO NOT USE.

Design Statements

1. The MSA Sure-Stop™ Lanyards shall comply with government or other applicable regulations and standards.
2. All potential users of this equipment and user’s management must read and understand the product instructions fully before use, failure to do so could result in serious injury or death.
3. All equipment should be used as part of a complete comprehensive engineered fall protection system. No unauthorized manufacturer’s equipment should be used in the system without written approval by MSA. If the buyer chooses to disregard this warning he assumes sole responsibility for the integrity of the entire system.
4. The anchorage/anchorage connector that the lanyard will be attached to shall be capable of supporting 5000 lbs. (22kN).





5. Do not exceed free fall distance specified by applicable regulations and standards. When using a lanyard, keep the amount of slack between the anchorage/anchorage connector and the harness/waistbelt at an absolute minimum to reduce the free fall distance and the impact force to the user.
6. The total fall distance of the user’s Fall Arrest System (FAS) shall not exceed the minimum clearance on application. Always check for obstructions below the work area to ensure your potential fall path is clear. Work directly under the anchorage/anchorage connector at all times, as swing falls can result in serious injury or death.
7. The maximum arrest force applied to the user should be limited to 900 lbs. (4kN) limit with a waistbelt, or an 1800lbs. (8kN) limit with a full body harness. To limit theseforces, minimize the free fall distance or incorporate a Sure-Stop™ shock absorber device to limit force.
8. Only one (1) person may use a given lanyard at one time secured to an independent anchorage/anchorage connector.

Continued on next page...

WARNING: Excessive heat, open flame, molten metal are hazards which must be considered when selecting the appropriate lanyard. Sure-Stop™ synthetic rope or web lanyards are not designed for use in high temperature environments. Maximum rated service temperature is 120□F(49□C). Sure-Stop™ synthetic rope or web lanyards are not flame or heat

WARNING: Due to the possibility of moisture absorption by the lanyard materials, we do not recommend using lanyards where contact with high voltage power lines may occur. Moisture absorbed by the lanyard may provide a path for electrical current to flow, resulting in an electrical shock or electrocution.

WARNING: Do not use a steel cable lanyard near energized equipment or where contact with high voltage power lines may occur. The metal cable may provide a path for

WARNING: Do not rely on the feel and/or sound of a locking snap hook when engaging it. Always check visually for proper engagement of the locking snap hook. The locking snap hook gate must be closed after each hook up.

WARNING: Never reduce the length of a lanyard with knots. Knots can reduce the strength by 50 percent of the original strength. Never lengthen a lanyard by attaching two (2) lanyards together. Select an adjustable lanyard for shortening or lengthening the length.

WARNING: Never use lanyards for anything other than for Fall Protection applications.

WARNING: To anyone who has a history of back or neck problems which could be aggravated or complicated by using this equipment should obtain medical advice before doing so.

WARNING: Never allow a lanyard to pass under or get wrapped around your legs or arms.

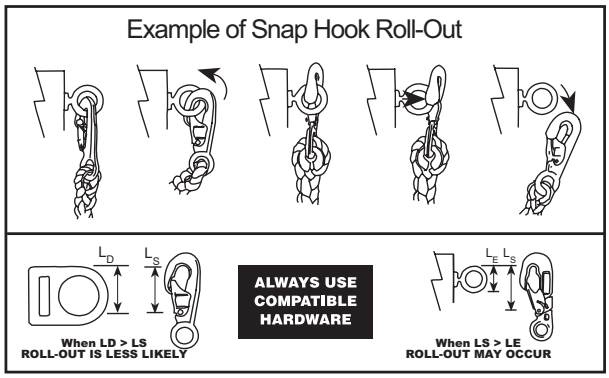
WARNING: Fall Protection products shall not be used while under the influence of drugs or alcohol.

WARNING: Do not allow lanyards to make contact with sharp edges, sharp corners, protrusions or abrasive surfaces. A complete loss or reduction of strength of the lanyard may lead to serious injury or death to the user.

WARNING: Locking snap hooks are standard on all MSA lanyards. Locking snap hooks incorporate a positive locking mechanism in addition to the spring loaded keeper, which will not allow the gate to open under moderate pressure without first releasing the mechanism. Such a feature properly designed effectively prevents roll-out from occurring.

The following connections must be avoided (unless properly designed locking snap hooks are used) because they are conditions which can result in roll-out when a non-locking snap hook is used:

- Direct connection of a snap hook to a horizontal lifeline.
- Two (or more) snap hooks connected to one dee-ring.
- Two snap hooks connected to each other.
- A snap hook connected back on its integral lanyard.
- Improper dimensions of the dee-ring, rebar, or other anchorage/anchorage connector attachment point in relation to the snap hook gate to be depressed by a turning motion of the snap hook.



WARNING Chemical hazards must be considered when selecting the appropriate lanyard.

	Acids	Alcohols	Aldehydes	Strong Alkalis	Bleaching Agents	Ethers	Halo-Genated Hydro-Carbons	Keytones	Oils Crudes	Oils Lubricating	Soaps & Detergents	Water & Seawater	Weak Alkalis
NYLON	NO	OK	OK	OK	NO	OK	OK	OK	OK	OK	OK	OK	OK
POLYESTER	*	OK	NO	**	OK	NO	OK	NO	OK	OK	OK	OK	OK

NOTE: Additional information is available regarding effects of chemicals on nylon or polyester webbing by contacting your nearest distributor.

* Disintegrated by concentrated sulfuric acid.
** Degraded by strong alkalis at elevated temperature.

Detailed Inspection and Maintenance Log

Model Number _____ **Date Purchased** _____

Inspection Date	Inspection Items Noted	Corrective Action Taken	Maintenance Performed
Approved by _____			
Approved by _____			
Approved by _____			
Approved by _____			
Approved by _____			
Approved by _____			
Approved by _____			

Notes:

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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