

BUCKINGHAM MFG.

PN 128R Ladder Tether System Instructions / Warnings

The Buckingham PN 128R Ladder Tether System is intended to be used only on an approved IAA (375 lbs. rated) fiberglass extension ladder with a V-rung / V-bar installed to create a ladder mounted lifeline system. Approved Ladder Manufacturers include: Bauer, Little Giant, Louisville, Werner and Green Bull. The PN 128R Ladder Tether System includes a PN 3912 Ladder FP Anchor Strap, PN 39Y8Q2 Retro Ladder Tether Lifeline, PN 5004BQ2 Mobile Fall Arrester (MFA) and PN 355TQ2 Ladder Lash Straps (two straps). Kit components are shown below.

This product when used by an individual with a weight of 350 lbs. (fully equipped) meets applicable requirements of OSHA 1926.502 (d)(16)(ii).

Note: hardware / material colors may vary from that shown below.



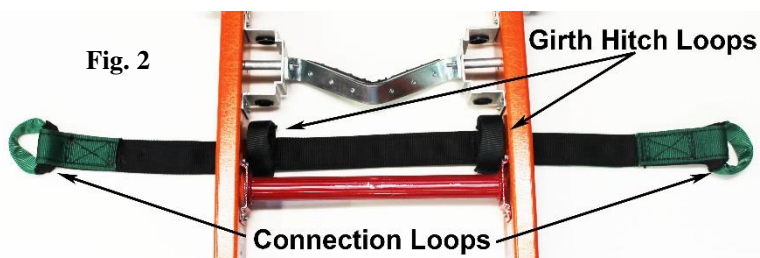
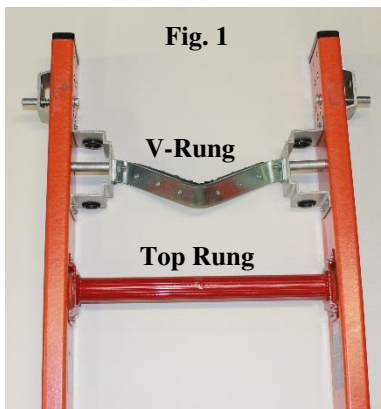
Ladder Mount
Storage Bag for
355TQ2

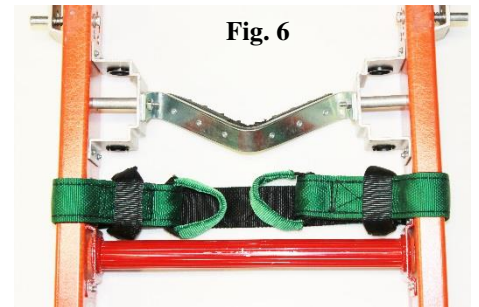
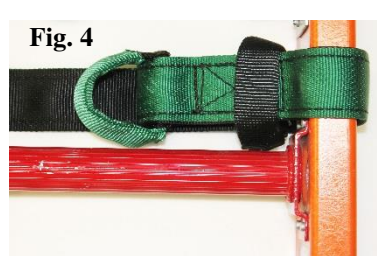


PN 3912 Ladder FP Anchor Strap Installation:

The PN 3912 Ladder FP Anchor Strap is intended for use as a temporary anchor point for connection of the carabiner of the PN 39Y8Q2 Retro Ladder Tether Lifeline.

1. Lay the ladder on a flat surface with the top section facing up (Fig. 1).
2. Position the 3912 Ladder FP Anchor Strap under the top section of the ladder between the V-rung and the top rung ensuring the black side of strap is facing up (Fig. 2).
3. Insert one of the green connection loops through the black girth hitch loop and pull tight (Fig. 3 – 4).
4. Repeat step 3 on opposite side (Fig. 5 – 6).



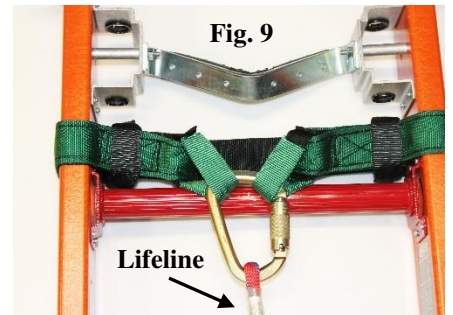
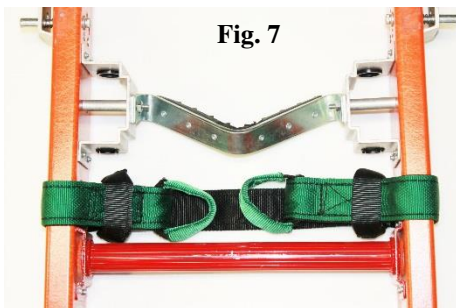


Note: Only attach the Ladder FP Anchor Strap to the top section of an approved extension ladder.

Attaching the PN 39Y8Q2 Retro Ladder Tether Lifeline to the 3912 Ladder FP Anchor Strap:

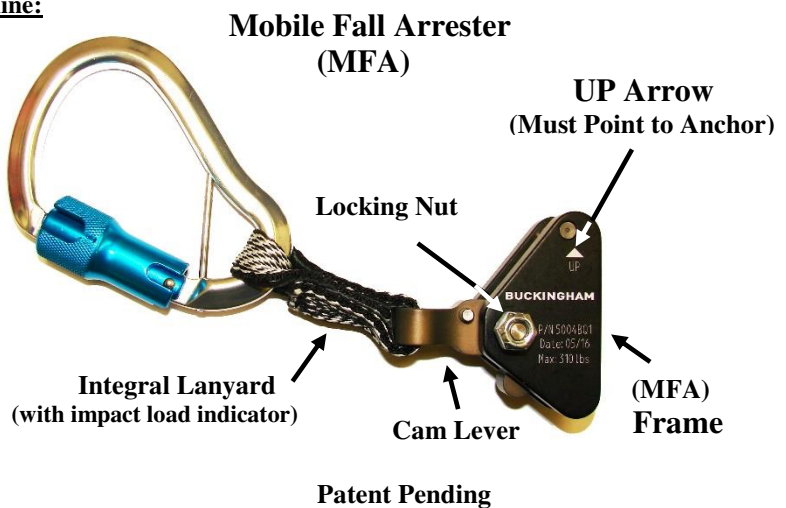
The PN 39Y8Q2 Retro Ladder Tether Lifeline is intended only for use as a temporary lifeline in combination the 3912 Ladder FP Anchor Strap and 5004BQ2 Mobile Fall Arrester (MFA).

1. Ensure the PN 3912 Ladder FP Anchor Strap is properly attached as outlined above. When properly attached, the anchor strap should appear as shown in Fig. 7.
2. Connect the carabiner from the PN 39Y8Q2 through both of the green connection loops on the previously installed anchor strap (Fig. 8). Visually check that the carabiner freely engages the connection loops and that the gate is completely closed. Never rely solely on the feel or sound of a carabiner engaging.
3. Ensure the lifeline hangs down the center of the ladder on the same side you will climb (Fig. 9).



The lifeline used in this system is a 7/16" (11mm) Kernmantle construction rope consisting of a braided polyester cover and a braided nylon core. The rope has a 5,000 lb. MBS (in new condition).

Attaching the PN 5004BQ2 Mobile Fall Arrester (MFA) to the Lifeline:



1. Ensure the UP arrow on the frame of the MFA is facing the top of the lifeline (Fig. 10).
2. Rotate the cam into the open position (Fig. 11).
3. Insert the tail of the lifeline through the top of the MFA channel (Fig. 12 - 13).
4. Slide the MFA into the desired position (Fig. 14).

Top of Lifeline



Fig. 10



Fig. 11

Fig. 12



Fig. 13



Fig. 14

Properly position and raise the ladder to the desired location on the pole. When raising the ladder into position you must maintain the MFA at a height you can reach from the ground. Adjust the MFA as necessary to maintain a proper height when raising the ladder.

Once the ladder is properly positioned on the pole, you must secure the tail end of the lifeline to a rung on the ladder below a point the 5004BQ2 MFA is installed, prior to connecting the carabiner of the MFA to the sternal attachment element of your harness and ascending the ladder.

Securing the tail of the Lifeline onto the ladder using a clove hitch:

1. Pass the tail of the lifeline around and behind the ladder rung (Fig. 15).
2. Pass the tail of the lifeline back around the front of the ladder rung and over the lifeline (Fig. 16).
3. Pass the tail of the lifeline back under the rung of the ladder forming a loop (Fig. 17).
4. Pass the tail of the lifeline back over the ladder rung and through the loop formed in step 3 (Fig. 18).
5. Now pull down on tail of the lifeline tightening the knot and securing the lifeline to the ladder rung (Fig. 19).

Once the tail of the lifeline has been secured, you can adjust the tension on the lifeline to aid in the MFA travel up and down the lifeline with less effort. Climbing position and the speed at which user climbs will determine the tension needed on the lifeline. (example: If the user's body position is farther from the ladder and climbing is at a slow pace, little to no tension on the lifeline may be required. More tension on the lifeline may be required if the user's body position is closer to the ladder).

To increase the tension on the lifeline: Pull down on the rope above the hitch, pushing the slack into the hitch and pull down on the rope below the hitch, removing the slack from the hitch (Fig. 20).

To decrease the tension on the lifeline: Push up on the rope from below the knot, pushing the slack into the hitch and pull up on the rope above the hitch, removing the slack from the hitch (Fig. 21).



Fig. 15



Fig. 16



Fig. 17

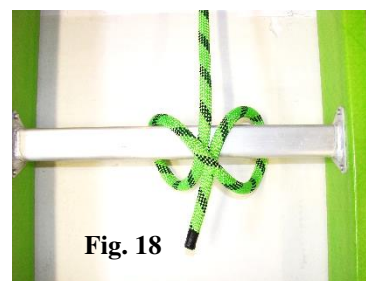


Fig. 18

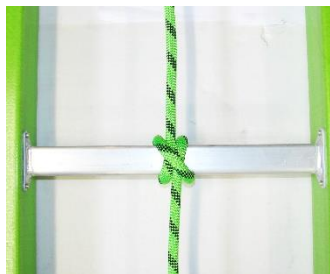


Fig. 19

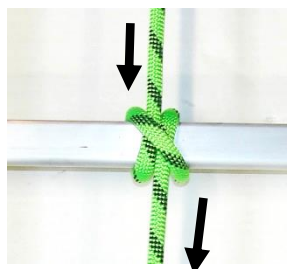


Fig. 20

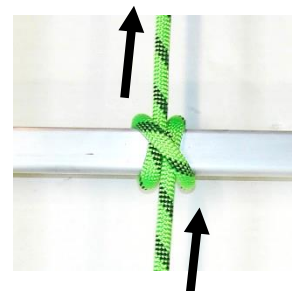


Fig. 21

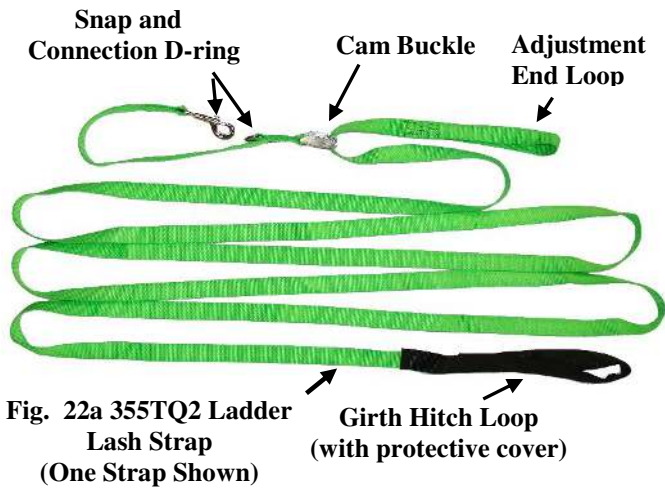


Fig. 22a 355TQ2 Ladder Lash Strap (One Strap Shown)



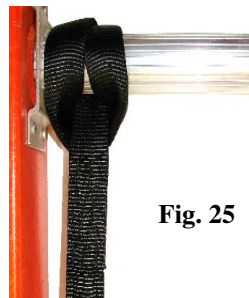
Fig. 22c



Installation of the 355TQ2 Ladder Lock System on the ladder:

The PN 355TQ2 Ladder Lock System consists of two straps (used to stabilize the ladder to the pole) and the ladder mount storage bag.

1. Place the girth hitch loop of the ladder lock strap under the top rung (left side) of the top section of the ladder (Fig. 23).
2. Pass the snap end, cam buckle, and adjustment end loop through the girth hitch loop (Fig. 24).
3. Pull the remainder of the strap through the girth hitch loop until the loop is tight to the rung (Fig. 25). Repeat steps 1 – 3 for second strap placed on the top rung (right side). Both straps need to be attached to the top rung of the top section of the ladder (Fig. 26).



Installation of the Ladder Mount Storage Bag on the Ladder:

1. Lay the ladder on the ground with the front side of the ladder facing up (Fig. 27). Place the ladder mount storage bag under the life line and between the top two rungs of the ladder's top section with the flap facing up (Fig. 28). Note: when ladder is set on the pole ready for use, the BUCK logo of the storage bag and the flap (with the hook and loop closure) will face away from the pole.
2. Attach the two upper cover straps (Fig. 22b) around the top rung of the top section of the ladder and tighten so the bag is close to the top rung (Fig. 29).
3. Next adjust the length of the two lower straps (Fig. 22b) and loop them around the next lower rung of the ladder top section, snap the quick connect buckles together and pull on the loose ends of the straps to tighten (Fig. 29 - 30).

Fig. 27



Fig. 28



Fig. 29



Fig. 30



NOTE: Ladder Lash Straps Raised Above Top Rung for Clarity of Bag Position in Fig. 26 – 29

Securing the ladder to the pole:

1. If the ladder straps are stored in the ladder mount storage bag, remove them from the bag, pass them over the top rung and out the back side of ladder and allow to hang free (Fig. 31)
2. Place the ladder against the pole (Fig. 32).
3. Extend the ladder to the desired height (Fig. 33).

Fig. 31



Fig. 32



Fig. 33



Fig. 34



$A \div 4 = D$ (distance from pole)

Fig. 35



Pole Properly Seated in V-Rung / V-Bar



Fig. 36

4. Position the bottom of the ladder the appropriate distance from the base of the pole following the ladder manufacturers recommendations (approx. 4:1 ratio, i.e. for every 4 foot of extension the bottom of the ladder needs to be one foot away from pole ($A \div 4 =$ distance from pole) or approx. 75.5°) (Fig. 34).
5. Ensure the ladder is properly aligned (vertically) with the pole and the pole is seated in the V-rung / V-bar (Fig. 35 - 36).
6. Take one of the ladder straps pass it behind and around the pole and connect the bottom of the ladder strap to the opposite side of the ladder rail between the fourth and fifth rung (Fig. 37- 41).

Fig. 37



Fig. 38



Fig. 39



Fig. 40



Fig. 41



7. Take the opposite side ladder strap, pass it behind and around the pole, and connect the bottom of the ladder strap to the opposite side of the ladder rail between the fourth and fifth rung (Fig. 42 - 45). The two straps form an 'X' behind the pole (Fig. 46)
8. To tighten the straps, grasp behind the cam buckle with one hand and pull the tail end of the strap through the cam buckle with the other hand (Fig. 47 - 48). Straps must be pulled snug to fully seat the V-rung / V-bar of the ladder against the pole to prevent the ladder from coming off the pole. Test the ladder after installing the straps by standing on the ground and pulling back on the ladder. If the top of the ladder comes away from the pole, the straps need to be retightened.
9. Excess strapping can be pulled behind the pole and tied together to keep straps off the ground and eliminate a trip hazard (Fig. 49 - 50).

Fig. 46

Fig. 42



Fig. 43



Fig. 44



Fig. 45





Fig. 47



Fig. 48



Fig. 49



Fig. 50

Attaching the PN 5004BQ2 Mobile Fall Arrester (MFA) to your full body harness

The 5004BQ2 Mobile Fall Arrester, MFA, is intended to be connected only to a compatible full body harness with an ANSI Z359.11 rated sternal attachment element (Buckingham Mfg. recommends the use of their PN U601A3700F14 full body harness).

Read carefully, understand and heed all instructions, warnings and cautions packaged with your harness before using this equipment.

1. Open the Integral Attachment Carabiner gate (Fig. 51).
2. Connect the carabiner to the harness sternal attachment element (D-ring shown) (Fig. 52).
3. Ensure the carabiner gate is completely closed and locked (Fig. 53). Visually check that carabiner freely engages the sternal attachment element and that it's gate is completely closed. Never rely solely on the feel or sound of a carabiner engaging.

Fig. 51

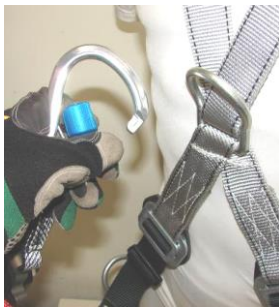


Fig. 52



Fig. 53



Removal of the 355TQ2 Ladder Lock System from the ladder:

1. If tied, untie from behind pole
2. Loosen the ladder lock straps by compressing the spring levers of the cam buckles to (releases the tension on the straps (Fig. 54).
3. Disconnect the snap hook from the D-ring on both straps (Fig. 55).
4. Uncross the straps from the backside of the pole and allow them to hang free (Fig. 56).
5. Lower the ladder to the lowest position
6. Remove the ladder from the pole.

Fig. 54



Fig. 55



Fig. 56



Storage of Ladder Lash Straps:

1. Open the ladder mounted storage bag
2. Neatly roll straps and insert them into the storage bag
3. Close storage bag by attaching the closure hook on the flap to the loop on the bag.

Inspection of the PN 128R Ladder Tether System:

Prior to and after each use, carefully inspect each component of this system. Supplement these inspections with monthly inspections even if the product has not been used. The inspection should include, but not be limited to the following:

- If any condition noted within these inspection criteria or those you may note are found, product referenced must be taken out of service and replaced.

Ladder Inspection:

Follow the ladder manufacturer's instructions.

Inspection of the PN 3912 Ladder FP Anchor Strap:

- Ensure webbing is free from abrasions, broken fibers, burns, charring, chemical or physical exposures, cracks, cuts, discoloration, excessive swelling, excessive wear, kinks, loose stitching.
- Ensure there is no loose stitching, broken / cut / burned threads.

Inspection of the PN 39Y8Q2 Retro Ladder Tether Lifeline:

Inspection of your rope should be a continuous process of observation before, during, and after each use.

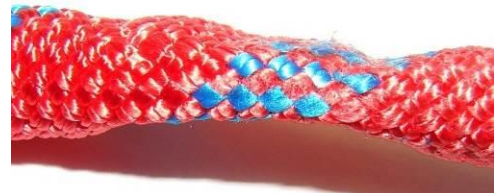
- Inspect rope for signs of excessive wear, abrasions, broken or pulled strands, burns, cuts, frayed strands, hockling, ice buildup, kinks, knots in any given area of the rope. A pulled strand should be re-threaded into the rope if possible, otherwise it may snag on a foreign object during use.
- Both inner and outer fibers contribute to the ropes strength. If either is worn, the rope will naturally be weakened.
- Inconsistent texture or stiff areas of rope indicate excessive dirt or grit embedded in the rope or rope has been exposed to a shock load. A hard or compacted rope indicates reduced strength.
- Inconsistent diameter (flat areas, bumps, or lumps) indicates core or internal damage from overloading or shock loading.
- With use, all ropes become dirty. Inspect for areas of discoloration that could have been caused by chemical contamination and may result in the rope becoming brittle or stiff.
- Glossy or glazed areas that generally indicate signs of heat damage.
- Rope cover is not damaged, missing or torn, splicing, whipping is in place, stitching is free of defects and stitched eyes have a protective cover (shrink tube) over the stitching.
- The core of the rope is of a contrasting color from the cover to aid in inspection. Ensure contrasting color warning center / core is not exposed.



Pulled Strand



Broken or Cut Strands



Inconsistent Diameter / Compacted Area



Melted / Glossy or Glazed Strands



Excessive Abrasion / Wear - Contrasting Core visible

Lifeline Carabiner:

- Component is free of cracks, distortion, corrosion, or nicks.
- The locking gate operates freely and smoothly, and automatically returns to the locked position (Note: Light oil lubrication (such as WD-40™) may be used in pivoting areas)

Inspection of the PN 5004BQ2 Mobile Fall Arrester (MFA)

- MFA is free of cracks – (usually depicted by fine jagged lines) and extensive wear or corrosion to cam, or housing.
- Cam is properly installed into the frame and facing the correct direction (as shown in the sketch on the frame) (Fig. 57).
- Shoulder Bolt and locking nut are in place and securely tightened.
- Impact load indicator is intact and not deployed. The impact load indicator is located in the integral lanyard inside of the carabiner eye (Fig. 58 - 59). It consists of a fold in the webbing that is stitched (Fig. 60) such that when a force in excess of approx. 600 lbf. is applied to the unit, the thread will break causing the length of the eye to increase indicating the unit has been subjected to an impact (Fig. 60 - 61). Remove from service if the impact load indicator has been deployed

Fig. 57



Fig. 58

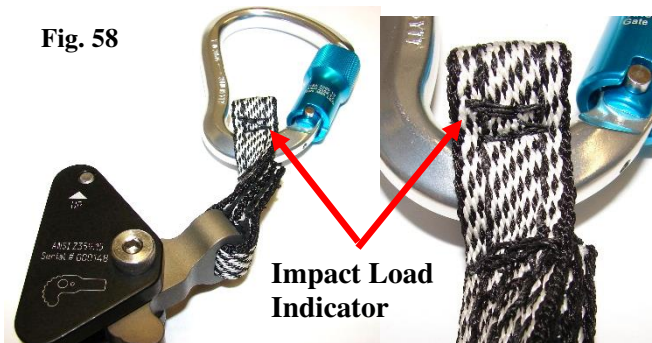


Fig. 59

Fig. 60

Impact Load Indicator



Fig. 61

Impact Load Indicator Deployed



- MFA is properly installed onto the ladder rope with the UP Arrow facing the anchor or top of the ladder (Fig. 57).
- Proper operation of MFA by pivoting the cam lever back and forth. Movement should be unrestricted with no binding resulting from debris, packed snow, or ice, etc.
- Proper movement of the MFA up and down the rope.
- Carabiner gate is not cracked or bent, is free of burrs, clean and functioning properly.

Inspection of the 355TQ2 Ladder Lock System

- Ensure webbing is free from abrasions, broken fibers, burns, charring, chemical or physical exposures, cracks, cuts, discoloration, excessive swelling, excessive wear, kinks, loose stitching.
- Ensure there is no loose stitching, broken / cut / burned threads.

Ensure components (cam buckle, snap and connection D-ring) have no cracks, distortion and /or excessive nicks, corrosion, etc. that may be detrimental to its intended function. The snap and cam buckle may be lubricated with a light weight lubricant such as WD-40™.

Harness Inspection:

Follow the harness manufacturer's instructions.

If any evidence of wear or deterioration as outlined above is observed, immediately cease use, destroy the product, and replace it with new equipment. Should any unusual conditions not outlined above be observed, or you have reasonable doubt about a particular condition, remove the equipment from service and notify your Supervisor, Safety Director, or contact Buckingham Mfg. Co. for clarification. Failure to carefully and completely inspect your equipment could result in serious injury or death.

Always perform a trial test while standing on the ground to ensure the MFA properly grips the rope / locks prior to climbing.

Warnings:

- Completely read, understand, and follow all instructions, warnings, and guidelines pertaining to this and all associated equipment before use. Equipment must only be used as personal protection equipment. Failure to do so could result in your serious injury or death. Should questions arise concerning the proper use or condition of your equipment, contact Buckingham Manufacturing Co. at 1-800-937-2825.
- Selection of products should be such that they aid the worker in the performance of their job and particular work situation.
- Know the job and the regulations governing performance requirements and select the proper equipment.
- This equipment is intended for use by properly trained professionals only.
- Employer – instruct employees as to proper use, warnings, and cautions before use of this equipment.
- Only install the ladder FP anchor strap on the top section of an approved extension ladder. Never install on the lower section of an extension ladder.
- Always inspect the ladder prior to installing the ladder FP anchor strap, Never install this anchor strap on a questionable condition ladder.
- In order for the system to function as intended, both ladder lock straps must be properly connected and tightened. Never rely on just one strap to hold the ladder in position.
- Always maintain three points of contact when ascending or descending the ladder.
- Inspect pole condition prior to connecting this system. Never connect this ladder system to a pole that shows signs of damage, rot, loose soil, or any other questionable conditions.
- MFA is designed specifically for use on the 7/16" (11mm) Kernmantle rope and is not to be removed, used on any other rope or for another purpose.
- Never disassemble the MFA.
- Buckingham Mfg. Co recommends using PN U601A3700F14 harness with this system.
- To eliminate the potential for gate opening / releasing, ensure the carabiner is positioned so that the gate is never load bearing i.e. never lean into the ladder so far as to press the carabiner gate against a surface while ascending, descending or working from the ladder.
- The MFA is designed to only be connected to the user's sternal attachment element of the harness with the Integral Attachment Carabiner. Never extend the distance of the MFA attachment, see Fig. 62 – 63 for examples of prohibited attachment methods.



- Always position the MFA as high up the lifeline as possible while working, never allow the MFA to be positioned lower than the sternal attachment element of the harness. Limit Free Fall Distance to 16”
- All affixed labels should be left in place and all instructional material kept for future reference.
- This product, designed in accordance with ANSI Z359.15, is intended for use by an individual with a weight of 130 – 310 lbs. (fully equipped). When used by an individual outside the ANSI Z359.15 weight range and to a maximum weight of 350 lbs. (fully equipped) product meets applicable requirements of OSHA 1926.502 (d)(16)(ii).
- This rope lifeline is a 7/16” (11mm) Kernmantle construction rope and consists of a braided polyester cover and braided nylon core. The rope has a 5,000 lbf. (22.24kN) MBS and 2.5% elongation at 900 lbs. (4kN) (when new).
- Only one Fall Arrester (PN 5004BQ2 BuckArrester) and only one user shall be attached to the lifeline at one time.
- Do not overload the rope or the system.
- Only use this ladder tether lifeline with the attached MFA. Never attach an additional MFA or similar device as Buckingham cannot guarantee rope will properly compliment the device and function as designed.
- This system has been tested in accordance with ANSI Z359.15.
- Guard against debris entering the MFA which could block the action of the cam lever (pebbles, twigs, ice, snow, etc.).
- If ice or snow buildup is noted, run the MFA along the length of the rope to remove the build-up and ensure the MFA is clean and free of packed snow or ice.
- Fall protection equipment, (i.e. fall arrest, work positioning belts, climbers, retrieval, suspension etc.) should not be resold or provided to others for re-use after use by original user as assurance cannot be granted that a used product meets criteria of applicable standards and is safe for use to a subsequent user.
- Avoid contact of this equipment with sharp edges, sharp or pointed tools, high temperature surfaces, welding or other heat sources.
- Only Buckingham Mfg. Co., or those authorized in writing by Buckingham Mfg. Co., may make repairs / modifications to this equipment.
- Remove from service if subjected to impact loading. Even though no visible signs are present, internal damage may have occurred thus reducing its strength and margin of safety. Equipment subjected to impact loading must be immediately removed from service, destroyed and discarded.
- Lubricate the gate of the carabiner and Fall Arrester cam bolt as often as required to maintain smooth operation (no binding) with light weight lubricant such as WD-40®.
- Product covered under these instructions / warnings should not be resold / redistributed or re-used after use by original user.

Buckingham Mfg. Co
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Information contained in these written instructions supersedes all other information (written, audio, video etc.) produced by Buckingham Mfg. prior to the revision date of this document.