

# BUCKINGHAM MFG.

## BUCKARREST / BUCKSTOP INSTRUCTIONS & WARNINGS

### Energy Absorbing Lanyards

#### BuckArrest (Model No. 6XXXX) / BuckStop (Model No. 5XXXX)

- ◆ This equipment is intended for use by properly trained professionals only.
- ◆ Fall protection equipment, (i.e. fall arrest, work positioning belts, 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.
- ◆ Manufacturer's instructions shall be provided to the user of this product. If an additional copy is needed, contact supplier, Buckingham Mfg. Co. at 1-800-937-2825 or website at [www.buckinghammfg.com](http://www.buckinghammfg.com).
- ◆ Read, understand and follow all instructions and warnings attached to and / or packed with product before using this equipment.
- ◆ Employer - instruct employee as to proper use and warnings before use of equipment.
- ◆ Be certain this equipment is suitable for the intended use and work environment. It should only be used as personal protection equipment (PPE). If suitability for intended use is in doubt, contact supplier, consult a safety engineer or Buckingham Mfg. Co. before using.
- ◆ ANSI Z359.13, ASTM F887, and applicable OSHA regulations are standards / regulations utilized by Buckingham Manufacturing Co. for various Energy Absorbing Lanyards manufactured. Energy Absorbing Lanyards are labeled to these standards as they are applicable.

The table below outlines energy absorber requirements according to these standards / regulations.

STANDARD	MAXIMUM ALLOWABLE FREE FALL	STATED CAPACITY RANGE	MAXIMUM ARREST FORCE	AVERAGE ARREST FORCE	MAXIMUM ELONGATION
ANSI Z359.13	6 ft. (1.83 m)	130 lbs. - 310 lbs. (59 kg - 140.6 kg)	1800 lbs. (8 kN)	900 lbs. (4 kN)	48 in. (1.2 m)
ANSI Z359.13	12 ft. (3.66 m)	130 lbs. - 310 lbs. (59 kg - 140.6 kg)	1800 lbs. (8 kN)	1350 lbs. (6 kN)	60 in. (1.5 m)
OSHA 1926.502(d)(16)	6 ft. (1.83 m)	* 310 lbs. Maximum (140.6 kg) Maximum	1800 lbs. (8 kN)	NA	42 in. (1.07 m)

- \* If the system is used by an employee having a combined tool and body weight of 310 pounds (140 kg) or more, then the employer must appropriately modify the criteria and protocols of the Appendix to provide proper protection for such heavier weights, or the system will not be deemed to be in compliance with the requirements of OSHA 1926.502. (d)(16).

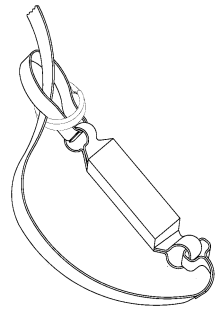
#### NOTES:

- Buckingham's Energy Absorbing Lanyards are manufactured, tested and rated for use by a person with a maximum weight of 350 lbs. (158.8 kg) when fully equipped. At this weight rating, our product meets the maximum arrest force and elongation requirements of the above listed ANSI and OSHA standards / regulations.
- Specially Designed Buckingham Energy Absorbing Lanyards suffixed with "X4" are manufactured, tested and rated for use by a person with a maximum weight of 420 lbs. (190.5 kg) when fully equipped and only when used with an equivalently weight rated harness / accessories with free fall being limited to a maximum of 6 ft. (1.83 m). These units also meet the maximum arrest force and elongation requirements of the above listed ANSI and OSHA standards / regulations.
- ◆ Product must not be altered in any way.
- ◆ Only Buckingham Mfg. Co. or those people authorized in writing by Buckingham Mfg. Co. may make repairs to this equipment.
- ◆ In the event of a fall, the employee must have a rescue plan and the means to implement it.
- ◆ Never use an Energy Absorbing Lanyard for positioning. Unit can open and extend, which could result in a fall.
- ◆ OSHA requires that impact force in a fall NOT exceed an 1800 lb. limit with a harness. Keep connecting device slack to a minimum to stay under these limits.
- ◆ Buckingham's BuckArrest and BuckStop (Energy Absorbing Lanyards) are manufactured with a protective containment pack built around the inner energy absorbing material (tear-away). This pack is designed to deploy upon arresting a fall allowing the lanyard to elongate and exposing the inner energy absorbing material. If the pack is deployed and the inner (tear-away) material is visible, the Energy Absorbing Lanyard has been impact loaded. If any evidence of wear, deterioration or impact loading as outlined is observed, immediately cease use, destroy the product and replace it with new equipment.
- ◆ Always attach BuckArrest / BuckStop to designated rear D-ring of a personal fall arrest system.
- ◆ If connecting to a personal fall arrest system by attaching directly through the web loop of the BuckArrest / BuckStop carefully inspect the web loop for cuts, kinks, abrasions, burns, excessive swelling, excessive wear discoloration, charring, broken fibers, loose stitching and chemical or physical exposures.

- ◆ Energy Absorbing Lanyards should be considered as a part of a personal fall arrest system used in conjunction with a harness. The energy absorber (pack / single end) must always be attached to the fall arrest attachment device of the harness. Cover of energy absorber must not be removed and does not have any effect on the energy absorbing feature. Harnesses must be worn so the fall arrest attachment is centered in back near shoulder blade level. It is recommended that:

- A connecting device and fall arrest attachment manufactured with a web loop be attached with a hitch (See detail), or carabiner.
- If using a locking snap hook to a web loop fall arrest attachment the web loop must be protected by an integral wear piece to enhance visual inspection.
- Web loop fall arrest attachments must be inspected before each use. The inspection should include, but not be limited to, inspecting for: webbing cuts, kinks, abrasions, burns, excessive swelling, excessive wear, discoloration, charring, broken fibers, loose stitching and chemical or physical exposures.

Note: The use of a locking snaphook to a web loop fall arrest attachment without an integral wear piece is acceptable in emergency situations (i.e. rescue, evacuation, etc.) Attachment of a locking snap hook to a web loop fall arrest attachment with no wear piece can cause premature wear of the webbing and stitching. This degradation can cause the web loop layers to separate and be incapable of supporting your weight. Therefore the web loop fall arrest attachment must be inspected before use. Additionally, connections used to attach to the fall arrest attachment must have a minimum gate rating of 3600 lbf. and meet ANSI Z359.12 requirements.



- ◆ Fall arrest anchor points must support a minimum of 5,000 lbf. (22.2 kN) per attached worker and be independent of worker support.
- ◆ No fall protection system can guarantee that you will not sustain injuries should a fall occur. Therefore, BuckArrests / BuckStops should be kept as short as possible to minimize free fall distance. OSHA requires that maximum length of Energy Absorbing Lanyards provide for a fall of no greater than six (6) feet (1.8 m), allow no contact with any lower level and unit elongation not exceed 42" (1.07 m).
- ◆ The fall arrest attachment point on the user should be in the middle of the back near shoulder blade level.
- ◆ When using a standard BuckArrest / BuckStop keep anchor point above rear fall arrest attachment. If climbing above anchor point, attach to a new anchor point higher up. If anchor point above the fall arrest attachment device is not available, BuckArrest / BuckStop positioning must be such that free fall will be limited to a maximum of six (6') feet (1.8 m) or the specified overall length of the BuckArrest / BuckStop, whichever is less and such that there will be no contact with a lower level. If anchor point is below fall arrest attachment, a BuckArrest / BuckStop product number suffixed with X12 be used. See Fig. 1. for calculating fall distance / clearance for both standard and X12 BuckArrest / BuckStop.

FC = Fall Clearance / Distance  
 LL = Lanyard Length  
 EL = Elongation Length  
 UH = User's Height  
 SF = Safety Factor (accounts for harness stretch)

Example: With a standard 6' Lanyard with 4' Elongation Length used by a 6' tall person.

$$FC = LL + EL + UH + SF$$

$$FC = 6' + 4' + 6' + 3' = 19'$$

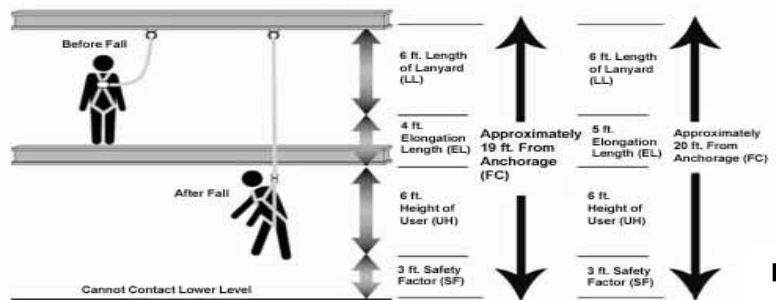


Fig. 1

**NOTE: The example shown below requires a special Energy Absorbing Lanyard. Lanyard product number must be suffixed with X12.**

Example: With a 6' Lanyard (suffixed X12) with 5' Elongation Length used by a 6' tall person.

$$FC = LL + EL + UH + SF$$

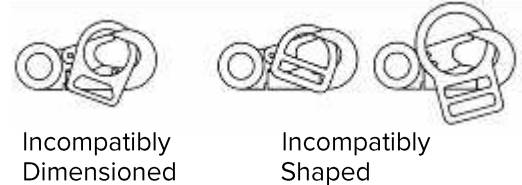
$$FC = 6' + 5' + 6' + 3' = 20'$$

- ◆ Always work directly under fall arrest anchor point to avoid swing fall injuries (pendulum effect).
- ◆ Never wrap a unit around a sharp structural member or use where contact of the webbing with sharp edges, corners or abrasive surfaces are likely as the material could be cut or damaged. Sharp and abrasive surfaces may include but not be limited to (sheet metal, steel, concrete, block, stone, laminated materials etc.)
- ◆ Avoid contact of this equipment with high temperature surfaces, welding, or other heat sources, electrical hazards or moving machinery.
- ◆ Avoid contact of this equipment with chemicals, which may damage the material. If in doubt, contact supplier or Buckingham Mfg. Co.
- ◆ Use PPE only for the specific purpose for which it is designed and intended.
- ◆ Never use this product as a tie back type unit unless it is equipped with tie back type snaphooks / carabiners. If tying back, ensure the tie back snaphook / carabiner is properly connected to the webbing section of the lanyard as shown in Fig. 2. Never tie back around the energy absorbing pack as this will result in altering its energy absorption / extension properties.

Fig. 2.



- ◆ Always visually check that the snap hook / carabiner freely engages D-ring or anchor point and the keeper / gate is completely closed with each use. Never rely solely on the feel or sound of the snap hook/carabiner engaging.
- ◆ Use this product only with harness compliant to applicable regulations / standards (e.g. OSHA / ANSI Z359.11 / ASTM F-887).
- ◆ Before each use and additionally, by a competent person other than the user at intervals of no more than one year, check that: 1) unit is free of burns, cuts, abrasions, kinks, knots, broken strands and chemical or physical exposures, cracks, charring, excessive wear, discoloration, swelling, loose, cut, or missing stitching. 2) snap hooks, carabiners and D-rings are not distorted or cracked. 3) snaphook / carabiner keepers / gates are not bent, free of burrs, clean and functioning properly. 4) outer cover has no broken stitches, tears, stretch marks or other evidence of impact loading. 5) Energy Absorber pack has not been deployed. If the unit does not pass this inspection, mark it as “unusable”, remove it from service, destroy, discard and replace immediately.
- ◆ Ensure each snap hook / carabiner is positioned so that its keeper / gate is never load bearing.
- ◆ For personal use only. NOT for towing or hoisting.
- ◆ Unless the snap hook is a locking type and designed for the following connections, snap hooks shall not be engaged:
  - ◆ directly to webbing, rope or wire rope,
  - ◆ to each other - they are not intended to be used that way and could twist apart,
  - ◆ to a D-ring to which another snap hook or other connector is attached,
  - ◆ to a horizontal lifeline,
  - ◆ to any object which is incompatibly shaped or dimensioned in relation to the snap hook such that the connected object could depress the snap hook keeper / gate a sufficient amount to cause it to release. (see illustration).
- ◆ Before each use ensure snap hook / carabiner locking mechanism is functioning properly.
- ◆ Lubricate lock mechanism and keeper on both sides of snap hook at least weekly or as often as required to maintain smooth operation (no binding) with light weight lubricant such as BuckLube™, WD-40®, etc.
- ◆ Never disable locking mechanism of the snap hook/carabiner, punch holes in or alter a connecting device in any way.
- ◆ Ensure there is no pressure on the snap hook locking mechanism sufficient to depress it as this will, due to its length, render it incompatible with currently designed D-rings and make it very susceptible to rollout.
- ◆ Never knot the BuckArrest / BuckStop. Knots can reduce the strength of the unit up to 50% and reduce the effectiveness of the energy absorption / extension.
- ◆ Never work without independent fall-arrest protection if there is danger of a fall.
- ◆ Product covered under these instructions / warnings should not be resold / redistributed or re-used after use by original user.



**Special Instructions pertaining to Dual Lanyards:** The Dual Lanyard is designed to provide continuous fall protection, by means of one lanyard leg always being connected to an anchor point while your climbing / working position is being changed. Product may vary from that shown (energy absorber, hardware, etc.).

Connect to a new fall arrest anchor point with one lanyard leg, while staying connected to the original fall arrest anchor point with the adjacent lanyard leg. Once connected to the new anchor point disconnect from the original anchor point and repeat this procedure until your desired work position is reached.



**Warning:** Dual lanyards must be used in a manner in which the energy absorber pack is not by-passed as this will render it ineffective as an Energy Absorbing Lanyard and in the event of a fall result in impact forces exceeding OSHA requirements.

**Special Instructions pertaining to Dual Lanyards with Step Bolt Style Locking**

**Snaphooks:** This section pertains to the Buck StepClimb™ Lanyard (PN 5+R6715RD3S1+Z) or any other product equipped with Step Bolt Style Locking Snaphooks (PN 1719) The Buck StepClimb™ Lanyard and Step Bolt Locking Snaphook (PN 1719) is shown in Fig. 3 & 4.

Carabiner colors may vary dependent on availability



Fig. 3



Fig. 4

PN 1719

OVER



The Step Bolt Style Locking Snaphooks (PN 1719) used on the Buck StepClimb™ Lanyard are designed to provide a safe & easy way to ascend or descend a tower using it's existing step bolts. PN 1719 snaps will attach over the shank of either standard round 5/8" or 3/4" diameter step bolts (Fig. 5). Although the Step Bolt Style Locking Snaphook will also attach to the loop of the Buckingham PN 3058 (5/8") or PN 3075 (3/4") Step Bolt (Fig. 6) it will not compliment attachment to its shank (Fig. 7). The carabiners attached adjacent to the PN 1719 snaps on the Buck Step Climb Lanyard are intended for all other appropriate connections except for attachment to step bolt.



Fig. 5



Fig. 6

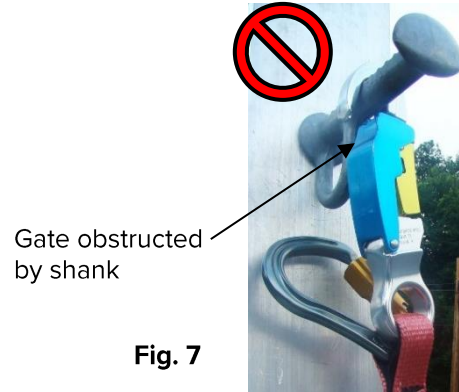


Fig. 7

Note: the Step Bolt Style Locking Snaphooks if improperly used (connected to incompatibly shaped or sized hardware such as, but not limited to, the P/N 30342 snap, 1720 snap, P/N 5005L5 carabiner) may unintentionally disengage (rollout) if the locking mechanism is defeated or depressed.

Buckingham Mfg. recommends using the PN 1719 snap only on approved step bolts. PN 1719 snap must never be connected to any large snaphook, carabiner or incompatibly shaped or sized component. Shown below are a few examples of improper connections using PN 1719 snap.



**Special Instructions pertaining to Dual Lanyards with Tie Back Style Locking Snaphooks:** This section pertains to the Buck ComboYard™ Lanyard (Fig. 8) or any other product equipped with Tie Back Style Locking Snaphooks. The ComboYard™ combines the best of multiple common lanyards into one. The ComboYard™ is a 5' dual tie back lanyard that becomes a 6' dual Energy Absorbing Lanyard when the Big BuckSnaps™ are added. The Tie Back Style Locking Snaphooks used on the ComboYard™ are designed to be attached back onto the lanyard (Fig. 9) or over step bolts (Fig. 10) (Note: step bolts must have a large enough head to prevent the snap from sliding off. When attached the Big BuckSnaps™ can be attached around angled steel up to 4" (Fig. 11).



Fig. 8

Buck ComboYard



Fig. 9



Fig. 10



Fig. 11



## **STATEMENT of OBSOLESCENCE:**

Precise “useful life expectancy” or “shelf life” for this product is not specified, as the degree of use, conditions of use, and the degree of care and storage determines useful life. All users maintain responsibility to select proper equipment for the job, be properly trained in its use, and ensure all personnel support equipment passes inspection before each use. Upon evidence of defects, damage or deterioration, all equipment shall be removed from service immediately and tagged or marked as unusable or destroyed. Additionally, all equipment shall be inspected on a regular basis not to exceed one year by a Competent Person, as defined by OSHA/ANSI, to verify that the equipment is safe for use. In the event of any question or concern regarding the condition of such equipment, users shall remove the equipment from service for further inspection. All users must comply with OSHA/ANSI/ASTM standards prior to and in using such equipment. For more information regarding safe and appropriate use of equipment, please contact Buckingham Manufacturing at 1-800-937-2825.

## **INTERNATIONAL USERS:**

Notwithstanding the above, please know that certain international jurisdictions require manufacturers of equipment to provide customers with a maximum useful lifespan (sometimes referred to as a “Statement of Obsolescence”). To the extent required, Buckingham personal protective equipment manufactured from synthetic fiber materials including but not limited to items such as webbing and/or rope are subject to a maximum useful lifespan of ten (10) years from the date of manufacture. As stated above proper usage, storage, maintenance, and care impacts the useful lifespan of equipment. Extreme circumstances may require that product must be retired after only one use. This statement is made in conformance and compliance with BS EN 365:2004. International users must ensure that product inspections are completed by Competent Persons as defined by international standards including but not limited to British Standard (“BS”). If equipment fails any inspections, it must be immediately withdrawn from service and destroyed. For more information regarding safe and appropriate use of equipment, please contact Buckingham Manufacturing at 1-800-937-2825.

**BUCKINGHAM MFG.**  
**BINGHAMTON, NY**  
**[www.buckinghammfg.com](http://www.buckinghammfg.com)**  
**1-800-937-2825**