

USER INSTRUCTION MANUAL

Please read this User Instruction Manual carefully before installing and using this product.

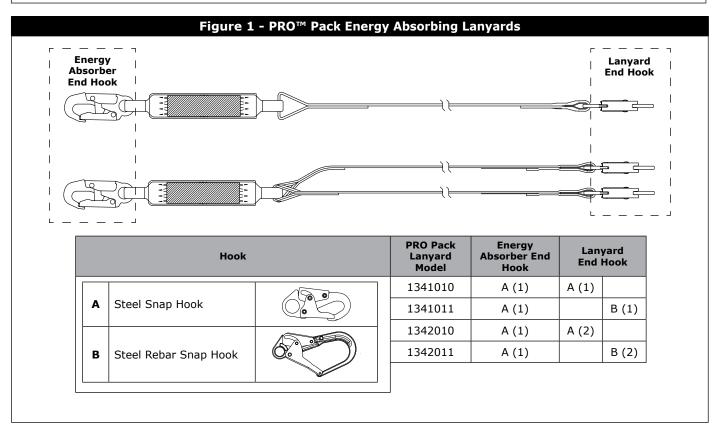
PRO™ Pack

420 Lbs. Capacity Energy Absorbing Lanyards

LANYARDS WITH INTEGRAL ENERGY ABSORBERS USED IN PERSONAL FALL ARREST SYSTEMS

This manual should be used as part of an employee training program as required by OSHA.

DANGER: This product is part of a personal fall arrest, restraint or rescue system. Working at height creates inherent and unavoidable risks which can result in serious injury or death. The user must follow the manufacturer's instructions for each component of the system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this equipment. Alterations or misuse of this product or failure to follow instructions may result in serious injury or death.



DESCRIPTION:

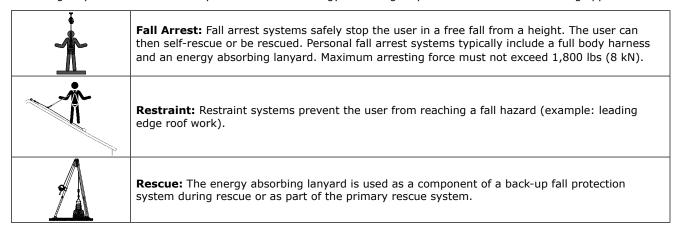
Figure 1 identifies the PRO™ Pack 420 lbs. capacity Energy Absorbing Lanyard models covered by this instruction manual.

IMPORTANT: If you have questions on the use, care, or suitability of this equipment for your application, contact Capital Safety.

IMPORTANT: Before using this equipment, record the product identification information from the ID label in the "Inspection and Maintenance Log" in this instruction document.

1.0 APPLICATIONS

PURPOSE: PRO™ Pack Energy Absorbing Lanyards and Energy Absorbers are intended to be used as part of a personal 11 fall arrest system. Applications include activities where the possibility of a fall exists. See Figure 1 for the energy absorbing lanyard models covered by this instruction. Energy absorbing lanyards are used in the following applications:



LIMITATIONS AND REQUIREMENTS: 1.2

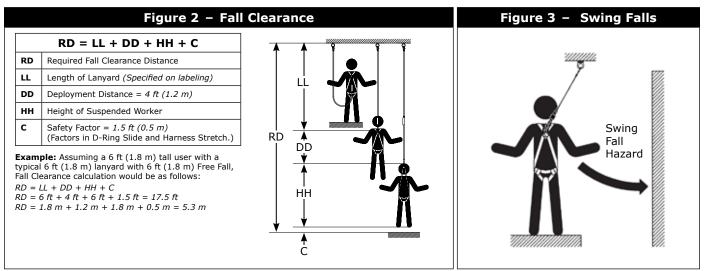
WARNING: Always consider the following application limitations and requirements before using this equipment.

- **CAPACITY:** The PRO™ Pack Energy Absorbing Lanyard is designed for use by persons with a combined weight (clothing, tools, etc.) of no more than 420 lbs. (191 kg). Make sure all of the components in your system are rated to a capacity appropriate to your application.
- **B.** FREE FALL: Personal fall arrest systems incorporating this equipment must be rigged to limit the free fall to 6 feet (1.8 m) or less when using PRO™ Pack energy absorbing lanyards.
- C. FALL CLEARANCE: There must be sufficient clearance below the user to arrest a fall before the user strikes the ground or other obstruction. The clearance required depends on several factors:
 - Deployment distance
- Energy absorbing lanyard length
- Movement of harness attachment element
- Worker height

 Free fall distance • Elevation of anchorage Figure 2 illustrates fall clearance calculation for an energy absorbing lanyard.

D. SWING FALLS: Swing falls occur when the anchorage point is not directly above the point where a fall occurs (see Figure 3). Minimize swing falls by working as close to and directly below the anchorage point as possible. Do not permit a swing fall if injury could occur.

WARNING: The force of striking an object in a swing fall may cause serious injury or death.



- E. ENVIRONMENTAL HAZARDS: Use of this equipment in areas containing physical or environmental hazards may require that additional precautions be taken to reduce the possibility of damage to this equipment or injury to the user. Hazards may include, but are not limited to: high heat, strong or caustic chemicals, corrosive environments, the possibility of electric current flowing through this equipment when working near high voltage power lines, explosive or toxic gases, moving machinery, or sharp edges. Contact Capital Safety if you have any questions about the application of this equipment
- F. TRAINING: It is the responsibility of the user and the purchaser of this equipment to assure that they are familiar with these instructions, trained in the correct care and use of, and are aware of the operating characteristics, application limits, and the consequences of improper use of this equipment.

IMPORTANT: Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated on a periodic basis.

- **G. SHARP EDGES:** Avoid working where system components may be in contact with, or abrade against, unprotected sharp edges. Do not loop lanyard around small diameter structural members. If working with this equipment near sharp edges is unavoidable, protection against cutting must be provided by using a heavy pad or other means over the exposed sharp edge.
- **1.3 APPLICABLE STANDARDS:** Refer to applicable local, state, and federal (OSHA) requirements governing occupational safety for more information on Energy Absorbing Lanyards, Energy Absorbers and associated components.
- **1.4 RESCUE PLAN:** When using this equipment, the employer must have a rescue plan and the means at hand to implement the rescue, as well as communicate that plan to users, authorized persons, and rescuers.
- **1.5 INSPECTION BEFORE USE:** The energy absorbing lanyard must be inspected according to procedures in *Section 4* of this instruction manual.

2.0 SYSTEM REQUIREMENTS

2.1 COMPATIBILITY OF COMPONENTS: PROTECTA equipment is designed for use with Capital Safety approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may effect the safety and reliability of the complete system.

2.2 COMPATIBILITY OF CONNECTORS:

IMPORTANT: Use only connectors that are suitable to each application and are compatible with connecting elements.

- Connectors must be compatible with the anchorage or other system components.
- Connectors must be compatible in size, shape, and strength.
- Non-compatible connectors may unintentionally disengage (see Figure 4).

Connectors are considered to be compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Do not use equipment that is not compatible. Contact Capital Safety if you have any questions about compatibility. Connectors (hooks, carabiners, and D-Rings) must be capable of supporting at least 5,000 lbs. (22.2 kN).

2.3 MAKING CONNECTIONS: PROTECTA connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Figure 5 for inappropriate connections.

PROTECTA snap hooks and carabiners should not be connected:

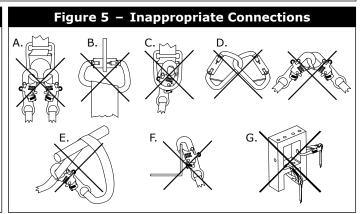
- A. To a D-Ring to which another connector is attached.
- **B.** In a manner that would result in a load on the gate.

WARNING: Large throat snap hooks should not be connected to standard size D-Rings or similar objects which will result in a load on the gate if the hook or D-Ring twists or rotates, unless the snap hook complies with ANSI Z359.12 and is equipped with a 3,600 lb (16 kN) gate. Check the marking on your snap hook to verify that it is appropriate for your application.

- **C.** In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor, and without visual confirmation seems to be fully engaged to the anchor point.
- D. To each other.
- **E.** Directly to webbing or rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allows such a connection).
- **F.** To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or that roll-out could occur.
- **G.** In a manner that does not allow the connector to align properly while under load.

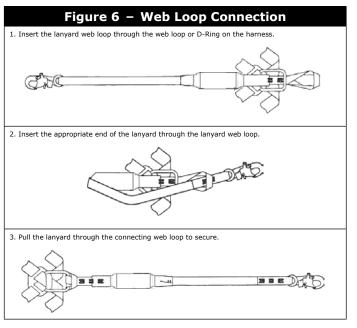
CAUTION: Ensure all connectors are fully closed and locked.

Force is applied to the Snap Hook. Force is applied to the Snap Hook. The Gate presses against the Connecting Ring. The Gate opens allowing the Snap Hook to slip off.



- 2.4 WEB LOOP CONNECTIONS: See Figure 6. Insert the energy absorbing lanyard web loop through the harness web loop or D-Ring. Insert the opposite end of the energy absorbing lanyard through the lanyard web loop. Pull the attached energy absorbing lanyard through the lanyard web loop to secure it.
- **2.5 ANCHORAGE STRENGTH:** Anchorages selected for use with the energy absorbing lanyards must have a strength capable of sustaining the static load requirements of the intended fall protection application:
 - **A.** Fall Arrest: Anchorages selected for personal fall arrest systems (PFAS) shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
 - Two times the arresting force for certified anchorages¹, or
 - **2.** 5,000 pounds (22.2 kN) for non-certified anchorages.

When more than one fall arrest system is attached to an anchorage, the strengths set forth in (1) and (2) above shall be multiplied by the number of systems attached to the anchorage.



WARNING: Anchorages must be rigid. Large deformations of the anchorage will affect system performance, and may increase the required fall clearance below the system, which could result in serious injury or death.

From OSHA 1926.502 and 1910.66: Anchorages used for attachment of PFAS must be independent of any anchorage being used to support or suspend platforms and must be capable of supporting at least 5,000 lbs. (22.2 kN) per each attached user. Or, be designed, installed, and used as part of a complete PFAS which maintains a safety factor of at least two, and is supervised by a qualified person.

3.0 OPERATION AND USE

WARNING: Do not alter or intentionally misuse this equipment. Consult Capital Safety when using this equipment in combination with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the operation of this equipment. Use caution when using this equipment around moving machinery, electrical hazards, chemical hazards, sharp edges, or overhead materials that may fall onto the lanyard. Do not loop the lanyard around small structural members. Failure to heed this warning may result in equipment malfunction, serious injury, or death.

WARNING: Consult your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use any PROTECTA fall protection equipment.

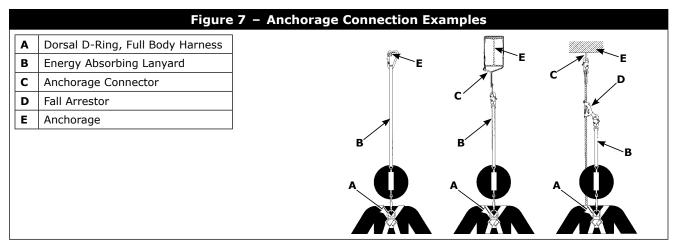
- **3.1 BEFORE EACH USE** of this equipment, inspect it according to "Inspection Checklist" (Table 1).
- **3.2 PLAN** your system before use. Consider all factors that will affect your safety during use of this equipment. The following list gives important points to consider when planning your system:
 - A. ANCHORAGE: Select an anchorage that meets the requirements specified in "System Requirements".
 - **B. SHARP EDGES:** Avoid working where system components may be in contact with, or abrade against, unprotected sharp edges.
 - **C. AFTER A FALL:** Components which have been subjected to the forces of arresting a fall must be removed from service and destroyed. See the "*Inspection and Maintenance Log."*
 - **D. RESCUE:** The employer must have a rescue plan when using this equipment. The employer must have the ability to perform a rescue quickly and safely.

WARNING: Read and follow manufacturer's instructions for associated equipment (full body harness, rope grab, etc.) used in your fall protection system.

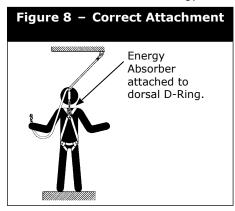
3.4 CONNECTING TO BODY SUPPORT AND ANCHORAGE OR ANCHORAGE CONNECTOR: See Figure 7. Energy absorbing lanyards should be connected to the body support first and then connected to the rest of the system. Always connect the energy absorber end of the lanyard to the D-Ring on the back between the shoulders (dorsal D-Ring) on a full body harness. Capital Safety does not recommend using a body belt for fall arrest applications. If using a body belt, connect the energy absorbing end of the lanyard to the D-Ring and position the belt so the D-Ring is located on the back side of the body.

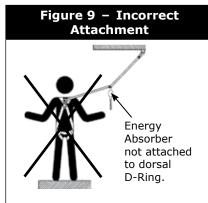
Connect the lanyard end to the anchorage or anchorage connector. Some anchorage connector devices may be supplied with a permanently attached energy absorber. Use of an additional energy absorber or energy absorbing lanyard with this lanyard system is not recommended.

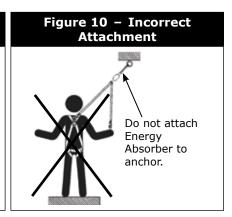
1 **Certified Anchorage:** An anchorage for fall arrest, restraint or work positioning that a qualified person certifies to be capable of supporting the potential fall forces that could be encountered during a fall or that meet the criteria for certified anchorage prescribed by the associated standard(s).



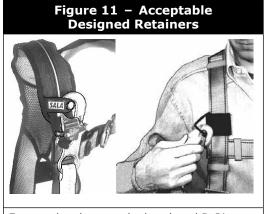
- **3.5 A. 100% TIE-OFF LANYARD CONSIDERATIONS:** Commonly known as 100% tie-off, "Y" type, twin leg, or double lanyards; these energy absorbing lanyards can be used to provide continuous fall protection while ascending, descending, or moving laterally. With one lanyard leg attached, the worker can move to a new location, attach unused lanyard leg, and disconnect attached leg. This procedure is repeated until a new location is reached. Other practices that must be followed in order to use a 100% tie-off type lanyard safely include:
 - 1. The energy absorber portion of the lanyard must be connected to the dorsal D-Ring only. Use only the snap hook (or other connector provided) to attach the energy absorber portion directly to the harness dorsal D-Ring. See Figures 8 and 9.
 - 2. Do not connect the energy absorber to the anchorage. See Figure 10.



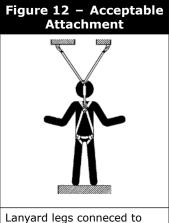




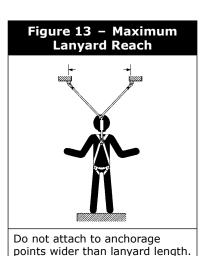
- **3.** Do not attach the unused leg of the lanyard back to the harness at any location unless a specially designed lanyard retainer is provided for this purpose. See Figure 11.
- 4. Connection of both lanyard legs to separate anchorage points is acceptable. See Figure 12.
- 5. When moving from one anchorage point to the next (such as traversing a horizontal or vertical structure) do not connect to anchorage points that are farther apart than the lanyard length (as marked on the lanyard label). See Figure 13.
- **6.** Never connect more than one person to a "Y" type lanyard at a time.
- 7. Do not allow any lanyard to pass under arms or legs during use.



Energy absorber attached to dorsal D-Ring.



Lanyard legs conneced to separate anchorage points.



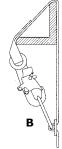
Attaching a Tie-Back Lanyard: See Figure 14. Place the tie-back lanyard over the anchoring structure. Ensure the lanyard is not twisted. Adjust the floating D-Ring so it hangs below the anchoring structure. Attach the lanyard end hook to the floating D-Ring.

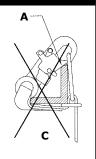
Ensure the lanyard is cinched tight around the anchorage during use.

B. ATTACHING A LANYARD WITH WEB LOOPS: See Section 2.4

Figure 14 - Attaching Tie-Back

- **A** Do not allow gate to contact anchorage member.
- **B** Proper Connection.
- **C** Improper connection.





C. CONNECTING TO A ROPE GRAB (FALL ARRESTOR): It is recommended the lanyard end (vs. the energy absorber end) be attached to the rope grab. This recommendation is made to reduce possible interference with the operation of the rope grab by the energy absorber "pack." Attaching a component style energy absorber to a rope grab is not recommended, with the exception of a "direct-coupling" between a rope grab and a harness. Some rope grabs may be supplied with a permanently attached energy absorbing lanyard. For these cases, use of an additional energy absorber connected between the rope grab and the body support is not recommended.

In some cases it may be permissible to couple an energy absorber component between the anchorage (or anchorage connector) and the rope grab lifeline. In all cases, ensure the length of the energy absorber or energy absorbing lanyard does not exceed the rope grab manufacturer's recommended maximum connection length (3 feet [.9 m] maximum per ANSI Z359.1). Consult the manufacturer's instructions provided with the Rope Grab for further details.

- **D. CONNECTING TO SELF RETRACTING LIFELINE:** Capital Safety does not recommend connecting an energy absorbing lanyard or energy absorber component to a self retracting lifeline. Special applications do exist where it may be permissible. Contact Capital Safety if you are considering connecting an energy absorbing lanyard to a self retracting lifeline.
- **3.6 AFTER USE,** return the lanyard for cleaning or storage as described in section 5.0.

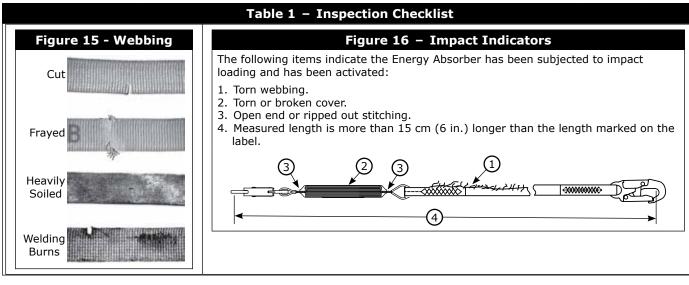
4.0 INSPECTION

- **4.1 INSPECTION FREQUENCY:** The Energy Absorbing Lanyard shall be inspected by the user before each use and, additionally, by a competent person¹ other than the user at intervals of no more than one year². Inspection procedures are described in the "Inspection Checklist" (Table 1). Results of each Competent Person inspection should be recorded on copies of the "Inspection and Maintenance Log" (lanyards).
- **4.2 UNSAFE OR DEFECTIVE CONDITIONS:** If inspection reveals an unsafe or defective condition, remove the lanyard from service and destroy. Lanyards are not repairable.
- **4.3 PRODUCT LIFE:** The functional life of the lanyard is determined by work conditions and maintenance. As long as the lanyard passes inspection criteria, it may remain in service.

WARNING: Failure to properly inspect the lanyard could result in product failure and serious injury or death.

Table 1 - Inspection Checklist				
Component: Inspection: (See Section 4.2 for Inspection Frequency)			Fail	
Lanyard Hardware	Inspect energy absorbing lanyard or energy absorber component hardware (snap hooks, adjusters, swages, thimbles, etc.). These items must not be damaged, broken, distorted, or have any sharp edges, burrs, cracks, worn parts, or corrosion. Ensure the connecting hooks work properly. Hook gates must move freely and lock upon closing. Ensure adjusters (if present) work properly.			
Webbing & Stitching (Figure 15)	The webbing material must be free of frayed, cut, or broken fibers. Check for tears, abrasions, mold, burns, or discoloration, etc. The webbing must be free of knots, excessive soiling, heavy paint buildup, and rust staining. Check for chemical or heat damage indicated by brown, discolored, or brittle areas. Check for ultraviolet damage indicated by discoloration and the presence of splinters or slivers on the webbing surface. All of the above factors are known to reduce webbing strength. Inspect stitching for pulled or cut stitches. Broken stitches may be an indication the energy absorbing lanyard or energy absorber component has been impact loaded and must be removed from service.			
Energy Absorber & Impact Indication (Figure 16)	Inspect the energy absorber to determine if it has been activated. There should be no evidence of elongation. Ensure energy absorber cover is secure and not torn or damaged.			
Label	Label should be present and fully legible (see Section 6 'Labels').			
System & Subsystem Components	Inspect each system component or subsystem according to manufacturer's instructions and confirm that it can continue to be used.			

- 2 Competent Person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazard-ous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- 3 Inspection Frequency: Extreme working conditions (harsh environments, prolonged use, etc.) may require increasing the frequency of competent person inspections.



5.0 MAINTENANCE, SERVICING, STORAGE

- 5.1 Clean lanyard with water and a mild detergent solution. Wipe off hardware with a clean, dry cloth, and hang to air dry. Do not force dry with heat. An excessive buildup of dirt, paint, etc., may prevent the lanyard from working properly, and in severe cases degrade the webbing or rope to a point where it has become weakened and should be removed from service. If you have any questions concerning the condition or cleaning of your lanyard, doubts about putting it into service or require more information, contact Capital Safety.
- **5.2** Additional maintenance and servicing procedures (replacement parts) must be completed by a factory authorized service center. Authorization must be in writing. Do not disassemble the unit. See Section 4.1 for inspection frequency.
- **5.3** Store the lanyard in a cool, dry, clean environment out of direct sunlight. Avoid areas where chemical vapors may exist. Thoroughly inspect the lanyard or energy absorber component after extended storage.
- **6.0 LABELS** This label must be securely attached to the lanyard and fully visible.

ATTACH THIS END OF ENERGY ABSORBER TO FALL ARREST ATTACHMENT ELEMENT OF HARNESS SERIAL:	WARNING Manufacturer's instructions must be read and understood prior to use, instructions supplied with this product at time of shipment must be followed. Avoid contact with sharp and abrasive edges. Make only compatible connections. Not fiame or heat resistant. Do not remove this label, Failure to heed warnings and instructions could result in serious liquiry or death. Any unth which has seen fall arresting service should not be used after such service. Do not exceed the capacity of this or other system components. Capacity is the confidence whigh inducted she user's body weight, clothing, took, and any objects carried.					
Capacity: 130-420 lbs. Maximum Free Fall: 6 ft. Deceleration Distance: 42 in. Maximum Arrest Force: 1800 Material: Polyester	www.capitalsafety.com +1-800-387-7484		OSHA standards 1910.66 and 1926.503 Mfrd.(yr/mo):		Length _(ft) :	

INSPECTION AND MAINTENANCE LOG

SERIAL NUMBER:			
MODEL NUMBER:			
DATE PURCHASED:		DATE OF FIRST USE:	
INSPECTION DATE	INSPECTION ITEMS	CORRECTIVE ACTION	MAINTENANCE

INSPECTION DATE	INSPECTION ITEMS NOTED	CORRECTIVE ACTION	MAINTENANCE PERFORMED
Approved By:			
Approved By:			
Approved By:			
Approved By:	,		

LIMITED LIFETIME WARRANTY

Warranty to End User: D B Industries, Inc., dba CAPITAL SAFETY USA ("CAPITAL SAFETY") warrants to the original end user ("End User") that its products are free from defects in materials and workmanship under normal use and service. This warranty extends for the lifetime of the product from the date the product is purchased by the End User, in new and unused condition, from a CAPITAL SAFETY authorized distributor. CAPITAL SAFETY'S entire liability to End User and End User's exclusive remedy under this warranty is limited to the repair or replacement in kind of any defective product within its lifetime (as CAPITAL SAFETY in its sole discretion determines and deems appropriate). No oral or written information or advice given by CAPITAL SAFETY, its distributors, directors, officers, agents or employees shall create any different or additional warranties or in any way increase the scope of this warranty. CAPITAL SAFETY will not accept liability for defects that are the result of product abuse, misuse, alteration or modification, or for defects that are due to a failure to install, maintain, or use the product in accordance with the manufacturer's instructions.

CAPITAL SAFETY'S WARRANTY APPLIES ONLY TO THE END USER. THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO OUR PRODUCTS AND IS IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, EXPRESSED OR IMPLIED. CAPITAL SAFETY EXPRESSLY EXCLUDES AND DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND SHALL NOT BE LIABLE FOR INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY NATURE, INCLUDING WITHOUT LIMITATION, LOST PROFITS, REVENUES, OR PRODUCTIVITY, OR FOR BODILY INJURY OR DEATH OR LOSS OR DAMAGE TO PROPERTY, UNDER ANY THEORY OF LIABILITY, INCLUDING WITHOUT LIMITATION, CONTRACT, WARRANTY, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY.



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