Fall Protection

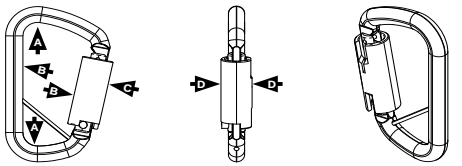
CE	EN 362: 2004 CLASS B
CE Type Test BSI Kitemark Court Davy Avenue Knowlhill Milton Keynes MK5 8PP United Kingdom	**CE Production Quality Control** BSI Kitemark Court Davy Avenue Knowlhill Milton Keynes MK5 8PP United Kingdom

SELF-LOCKING CARABINERS

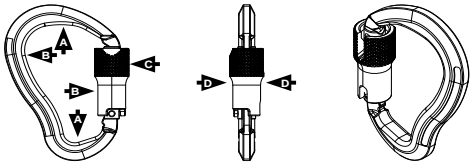
Model Numbers: *(See Figure 1.)*

User Instruction Manual

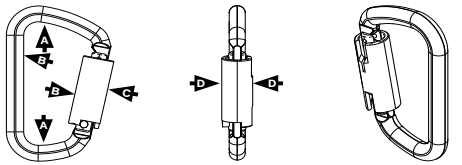
1



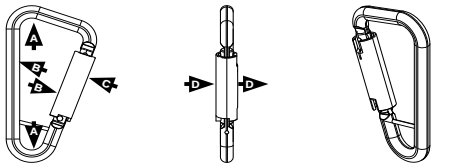
2000005		
Material:	Alloy Steel	
Throat Size:	3/4 in (19 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



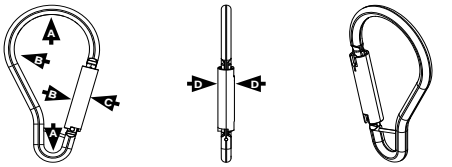
2000025		
Material:	Aluminum Alloy	
Throat Size:	3/4 in (19 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000112		
Material:	Alloy Steel	
Throat Size:	11/16 in (17 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000113		
Material:	Alloy Steel	
Throat Size:	1-3/16 in (30 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000114		
Material:	Alloy Steel	
Throat Size:	2-3/16 in (56 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)

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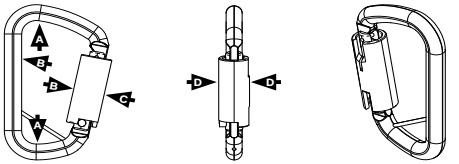
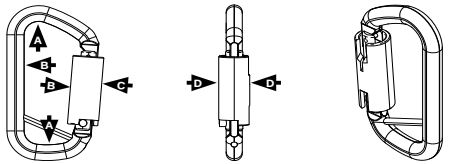
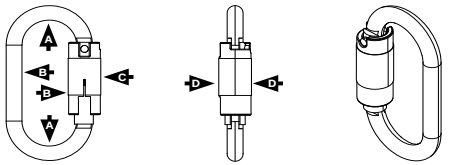


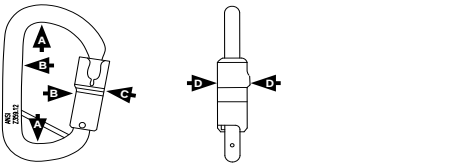
2000117		
Material:	Alloy Steel	
Throat Size:	11/16 in (17 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



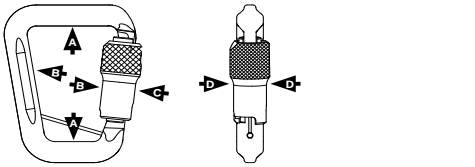
2000127		
Material:	Stainless Steel	
Throat Size:	11/16 in (17 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



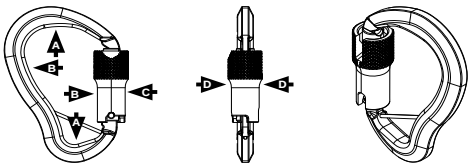
2000159		
Material:	Alloy Steel	
Throat Size:	3/4 in (19 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000160		
Material:	Aluminum Alloy	
Throat Size:	2/3 in (17 mm)	
Minmium Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000162		
Material:	Aluminum Alloy	
Throat Size:	1 in (25 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000184		
Material:	Aluminum Alloy	
Throat Size:	7/10 in (18 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)

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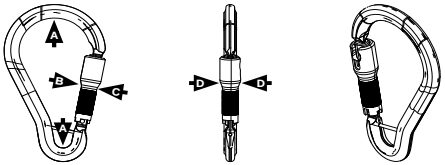
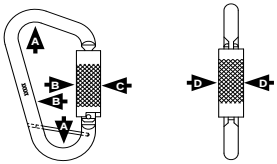
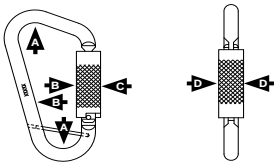


2000188		
Material:	Aluminum Alloy	
Throat Size:	2 in (52 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000300		
Material:	Alloy Steel	
Throat Size:	2 in (52 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)



2000301		
Material:	Stainless Steel	
Throat Size:	2 in (52 mm)	
Minimum Breaking Strength:	A.	5,000 lbs (22.2 kN)
	B.	3,600 lbs (16 kN)
Gate Strength:	C.	3,600 lbs (16 kN)
	D.	3,600 lbs (16 kN)

⚠ ***WARNING:*** *This product is part of a Personal Fall Protection System. 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.*

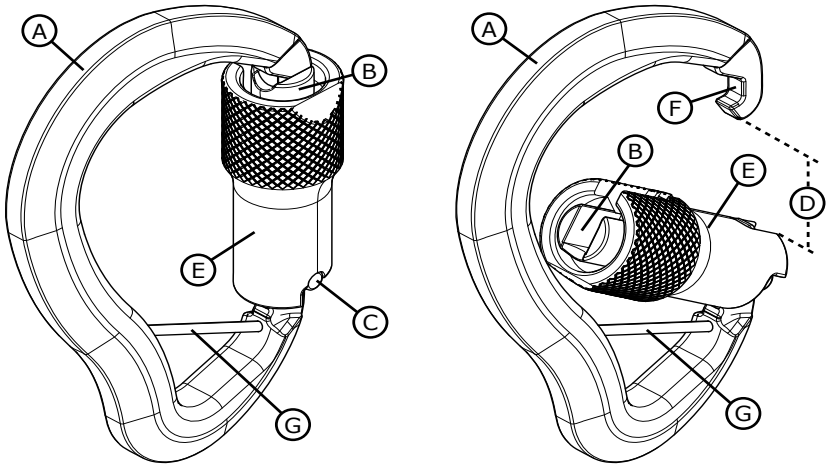
ⓘ ***IMPORTANT:*** *If you have questions on the use, care, or suitability of this equipment for your application, contact 3M Fall Protection.*

ⓘ ***IMPORTANT:*** *Before using this equipment, record the product identification information from the ID label in the 'Inspection and Maintenance Log' at the back of this manual.*

DESCRIPTION:

Figure 1 identifies 3M Fall Protection® Self-Locking Carabiners which can be purchased separate from 3M Personal Protective Equipment (PPE)[1] and used as connectors in a Fall Protection System. Figure 2 illustrates the components of a Carabiner. Carabiners are self-locking connectors comprised of a trapezoidal or oval shaped Body (A) with a Gate (B) on a Hinge (C) that opens to attach the Carabiner around another object and, when released, automatically closes across the Throat (D) to retain connection around the object. A Lock (E) closes around the Nose (F) of the Carabiner to prevent the Gate from involuntarily opening. Some Carabiner models are equipped with a Retaining Pin (G) that provides a captive eye for connection of a Lanyard, Lifeline, or similar component.

2



A Body **B** Gate **C** Hinge **D** Throat **E** Lock **F** Nose **G** Pin

1 ***Integrated Connectors:*** *Lanyards, SRLs, etc. are typically equipped with an integrated connector (Snap Hook, etc.) with a captive eye. Integrated Connectors can not be removed from their respective equipment without using a special tool or damaging the equipment. Use of Integrated Connectors is documented in the Manufacturer's instructions that come with the equipment.*

1.0 APPLICATIONS

1.1 PURPOSE: Capital Safety Self-Locking Carabiners can be used as Anchorage Connectors[1] or Connectors[2] in Fall Arrest, Restraint, Work Positioning, Suspension, and Rescue systems.

1.2 STANDARDS: Capital Safety Carabiners conform to the national or regional standard(s) identified on the front cover of these instructions.

1.3 TRAINING: This equipment is intended to be used by persons trained in its correct application and use. It is the responsibility of the user to assure they are familiar with these instructions and are trained in the correct care and use of this equipment. Users must also be aware of the operating characteristics, application limits, and the consequences of improper use.

1.4 LIMITATIONS: Always consider the following limitations when installing or using this equipment:

> ⚠ ***WARNING:*** *Failure to observe the following limitations may result in injury or death.*

- **Capacity:** The Carabiners listed in Figure 1 are intended for use by persons with a combined weight (person, clothing, tools, etc.) of no more than 420 lbs (191 kg). Only one Personal Protective System may be connected to the Carabiner at any time, except for emergency situations.
- **Hazards:** Use of this equipment in areas where surrounding hazards exist may require additional precautions to reduce the possibility of injury to the user or damage to the equipment. Hazards may include, but are not limited to: high heat, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, or overhead materials that may fall and contact the user or Fall Protection System.
  - **Corrosion:** Use near seawater or other corrosive environments may require more frequent inspection or service to ensure corrosion does not affect performance of the Carabiner.
  - **Chemicals:** Solutions containing acid or caustic chemicals, especially at elevated temperatures, may cause damage to this equipment. Consult Capital Safety if doubt exists concerning use of this equipment where chemical hazards are present.
  - **Electrical:** Do not install Carabiners where they, or the user, may contact electrical power lines.

2.0 USE

2.1 FALL PROTECTION AND RESCUE PLAN: The employer must have a Fall Protection and Rescue Plan in place. The plan should provide guidelines and requirements for an employer's managed fall protection program, including policies, duties and training; fall protection procedures; eliminating and controlling fall hazards; rescue procedures; incident investigations; and evaluating program effectiveness.

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1 ***Anchorage Connector:*** *A component or subsystem that functions as a coupling between the anchorage and a fall protection, work positioning, rope access, or rescue system.*

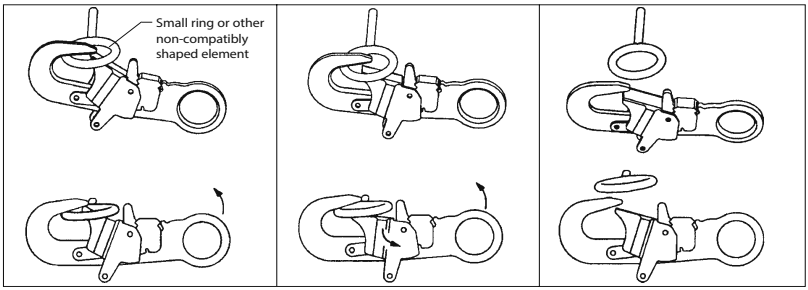
2 ***Connector:*** *A component or element that is use to couple parts of the system.*

2.2 INSPECTION FREQUENCY: Carabiners shall be inspected by the authorized person[3] or rescuer[4] before each use (See Section 4). Additionally, inspections shall be conducted by a competent person[5] other than the user. Extreme working conditions (harsh environment, prolonged use, etc.) may necessitate more frequent competent person inspections. The competent person shall use the Inspection Schedule (Section 4) to determine appropriate inspection intervals. Inspection procedures are described in Section 4. Results of the Competent Person inspection should be recorded in the *"Inspection and Maintenance Log"* on the back pages of these instructions.

⚠ ***WARNING:*** *If the carabiner has been subjected to fall arrest forces: remove it from service, mark or tag as "UNUSABLE", inspect and service as instructed in Section 4. Continued use of the carabiner after fall arrest may result in injury or death.*

2.3 COMPATIBILITY OF CONNECTORS: 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. Contact Capital Safety if you have any questions about compatibility. See Figure 3 Uninentional Disengagement (Roll Out).

3



1. Force is applied to the snap hook.
2. The gate presses against the connecting ring.
3. The gate opens allowing the snap hook to slip off.

2.4 MAKING CONNECTIONS: Only self-locking snap hooks and/or carabiners shall be used with this equipment. Ensure all connectors are fully closed and locked and compatible. See Figure 4 Inappropriate Connections.

DBI-SALA connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user instructions. See Figure 4 for inappropriate connections. DBI-SALA snap hooks and carabiners should not be connected:

A. To a D-ring which another connector is already attached.

B. In a manner that would result in a load on the gate.

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3 Authorized Person: *A person assigned by the employer to perform duties at a location where the person will be exposed to a fall hazard.*

4 Rescuer: *Person or persons other than the rescue subject acting to perform an assisted rescue by operation of a rescue system.*

5 Competent Person: *An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of the employer's managed fall protection program who, through training and knowledge, is capable of identifying, evaluating, and addressing existing and potential fall hazards, and who has the employer's authority to take prompt corrective action with regard to such hazards.*

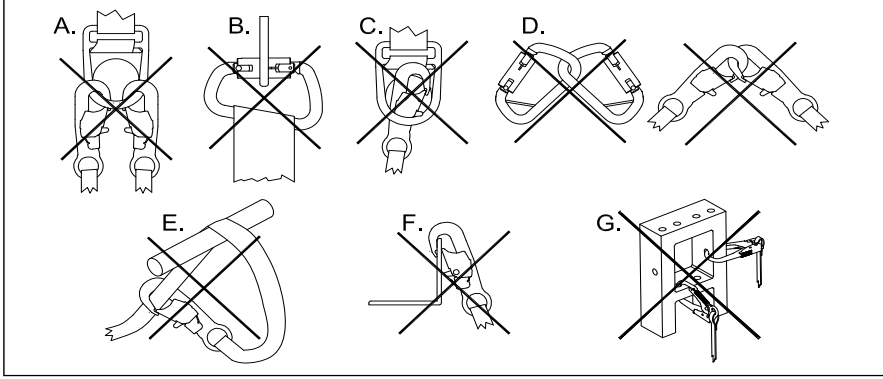
NOTE: *Large throat snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates, unless the snap hook complies with CE EN362:2004. Check the marking on your snap hook to verify that it is appropriate for your application.*

C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the D-ring, and without visual confirmation seems to be fully engaged to the anchor point.

D. Directly to webbing or rope lanyard for tie-back (unless specifically provided by the manufacturer).

E. To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or where roll-out could occur.

4



OTHER RESTRICTIONS:

- Do not make connections where the hook locking mechanism can come into contact with a structural member or other equipment and potentially release the hook.
- Do not attach connector into a loop or thimble of a wire rope or attach in any way to a slack wire rope.
- The connector must be free to align with the applied load as intended - regardless of the size or shape of the mating connector.
- A carabiner may be used to connect to a single or pair of soft loops on a body support such as a body belt or full body harness, provided the carabiner can fully close and lock. This type of connection is not allowed for snap hooks.
- A carabiner may be connected to a loop or ring connector that is already occupied by a choker style connector. This type of connection is not allowed for snap hooks.

2.5 ANCHORAGE STRENGTH: The anchorage strength required is dependent on the application type.

A. FALL ARREST: Anchorages selected for fall arrest systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least 12 kN (2,700 lbs) per EN 795.

3.0 OPERATION AND USE

WARNING: *Do not alter or intentionally misuse this equipment. Consult 3M 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, and sharp edges.*

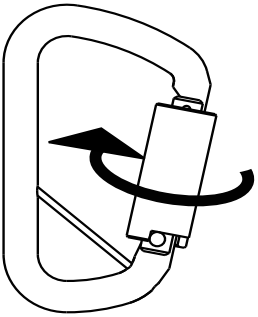
WARNING: *Consult your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use 3M carabiners.*

WARNING: *Follow the manufacturer's instructions for associated equipment (full body harness, lanyard, lifeline, etc.) used in your personal fall arrest, restraint, work positioning, suspension, or rescue system.*

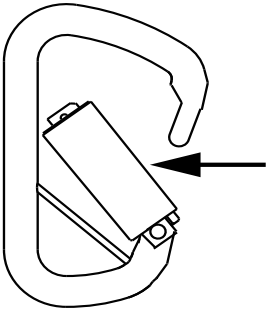
3.1 CARABINER OPERATION

A. CONNECT DOUBLE ACTION CARABINER: Connect the carabiner to the connection point, rotate the gate clockwise and push to the center of the carabiner. When positioned around a connection point, release gate to close and lock.
See Figure 5.

5



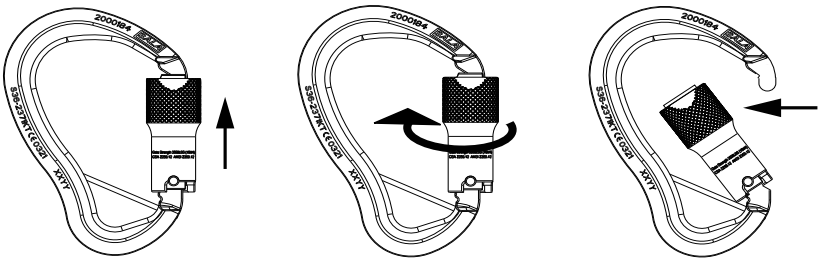
Step 1



Step 2

B. CONNECT TRIPLE ACTION CARABINER: Connect the carabiner to the connection point, rotate the gate clockwise, then pull gate up and push to the center of the carabiner. Position around a connection point, then release gate to close and lock. See Figure 6.

6



Step 1 ***Step 2*** ***Step 3***

3.2 USE CONSIDERATIONS

When making a connection using a carabiner, the mating connector must be compatible in size and shape. Improper loading directions can cause the hook to fail or the gate to open, releasing the load. Do not use hooks that will not completely close over the attachment object. Do not connect carabiners to carabiners, or snap hooks to carabiners. Do not install more than one snap hook or carabiner into a single connection ring or opening (except for emergency situations). Do not connect snap hooks or carabiners to objects or openings that may abrade or wear the hook material.

4.0 INSPECTION AND MAINTENANCE LOG

Serial Numbers:	
Model Numbers:	
Inspection Date:	**Inspected By:**

Inspection: (See Section 2.2 for Inspection Frequency)	**User**	**Competent Person**
Inspect the snap hook or carabiner for damage. Look carefully for cracks, sharp edges, burrs, dents, or deformities. Check for bending or distortion.		
Inspect the snap hook or carabiner for excessive corrosion. The gate and lock should operate smoothly, with no difficulty. Gates must fully close and engage nose of hook. See Figure 1.		
Inspect markings. Markings should be present and fully legible.		
Inspect each system component or subsystem according to manufacturer's instructions.		
Record the inspection date and results in the in the inspection and maintenance log.		

Corrective Action/Maintenance:	Approved By:
	Date:
Corrective Action/Maintenance:	Approved By:
	Date:
Corrective Action/Maintenance:	Approved By:
	Date:
Corrective Action/Maintenance:	Approved By:
	Date:
Corrective Action/Maintenance:	Approved By:
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	Date:
Corrective Action/Maintenance:	Approved By:
	Date:
Corrective Action/Maintenance:	Approved By:
	Date:
Corrective Action/Maintenance:	Approved By:
	Date:

LIMITED LIFETIME WARRANTY

Warranty to End User: 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 authorised 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. THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO OUR PRODUCTS AND IS IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, EXPRESSED OR IMPLIED.

3M | DBI SALA® PROTECTA®

Fall Protection

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