

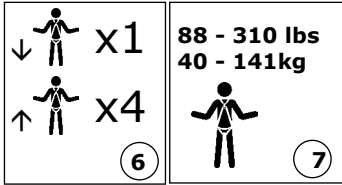


INSTALLATION INSTRUCTIONS ^①

LAD-SAF™ ^② Flexible Cable Safety Systems



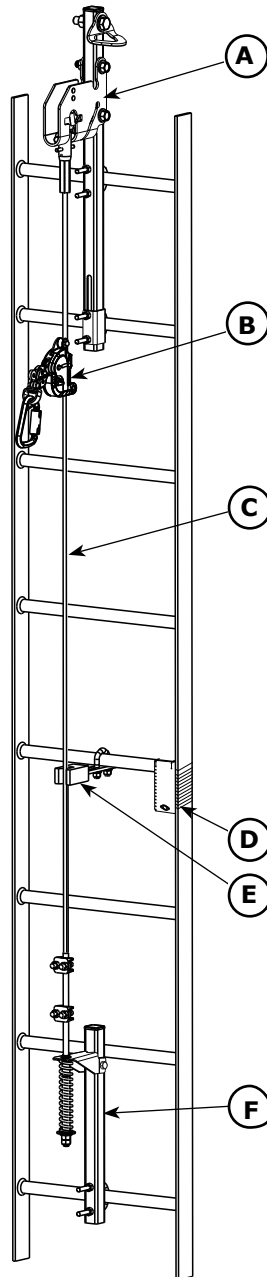
Fall Protection



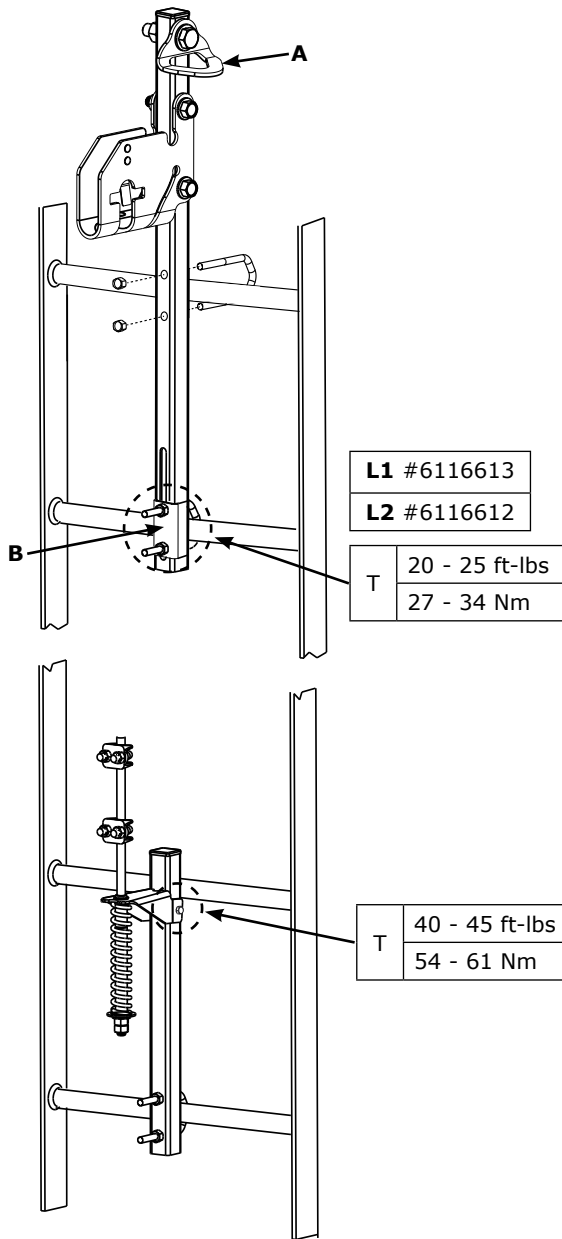
CE TYPE TEST	BSI (0086) Kitemark Court Davy Ave, Knowlhill Milton Keynes MK5 8PP, UK ^④
CE PRODUCTION QUALITY CONTROL	BSI (0086) Kitemark Court Davy Ave, Knowlhill Milton Keynes MK5 8PP, UK ^⑤

^③	
ISO 9001	ANSI Z359.16
CE	EN 353-1:2014
CSA	CSA Z259.2.5
OSHA	1926.1053, 1910.29

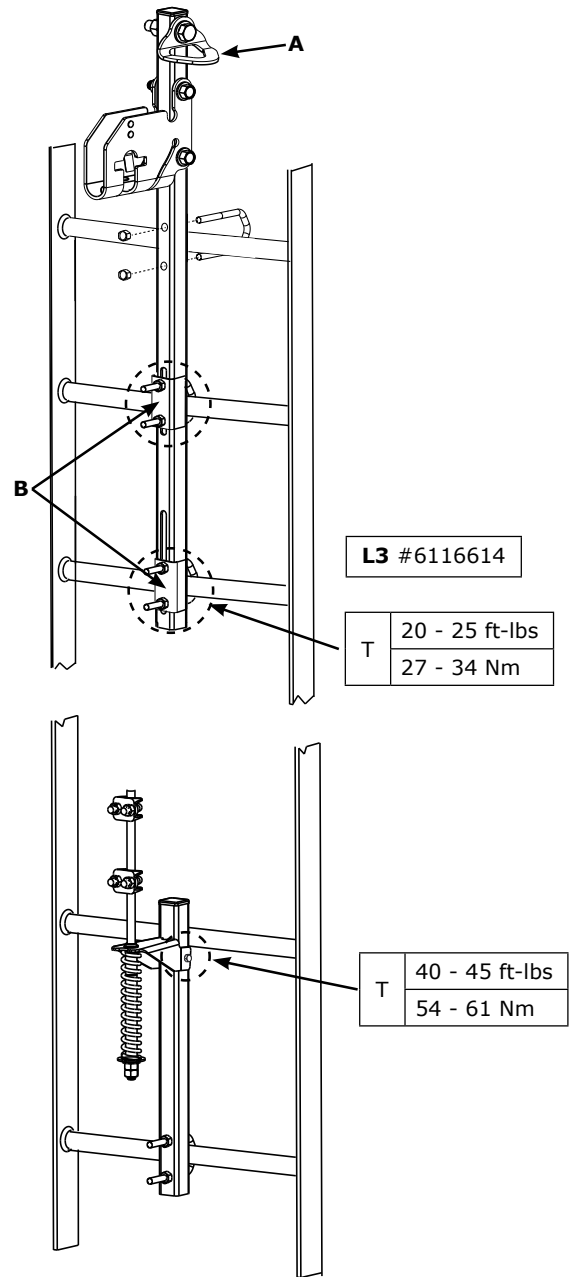
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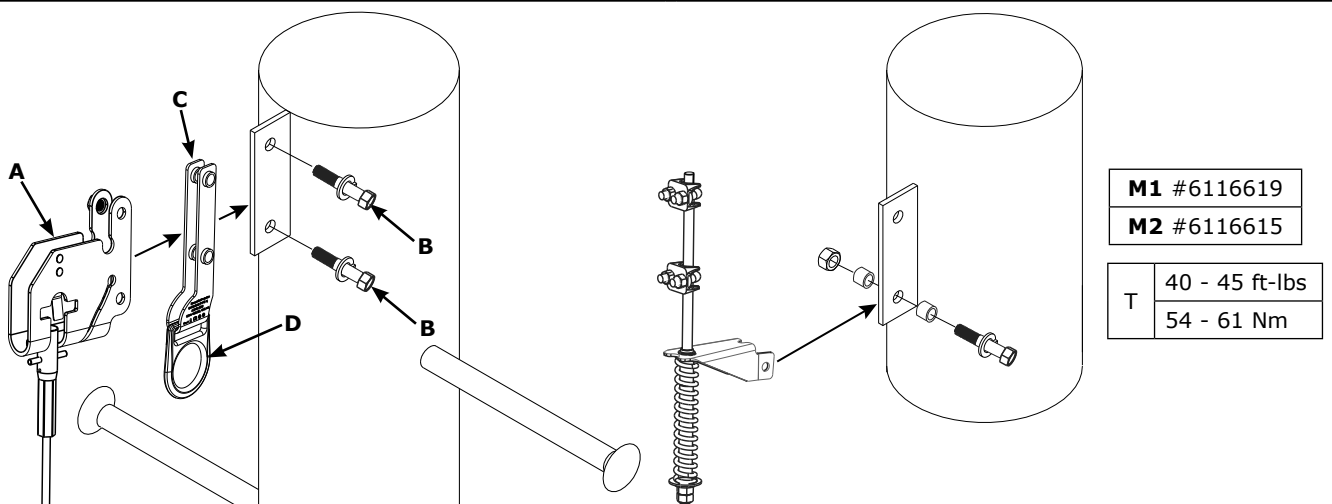
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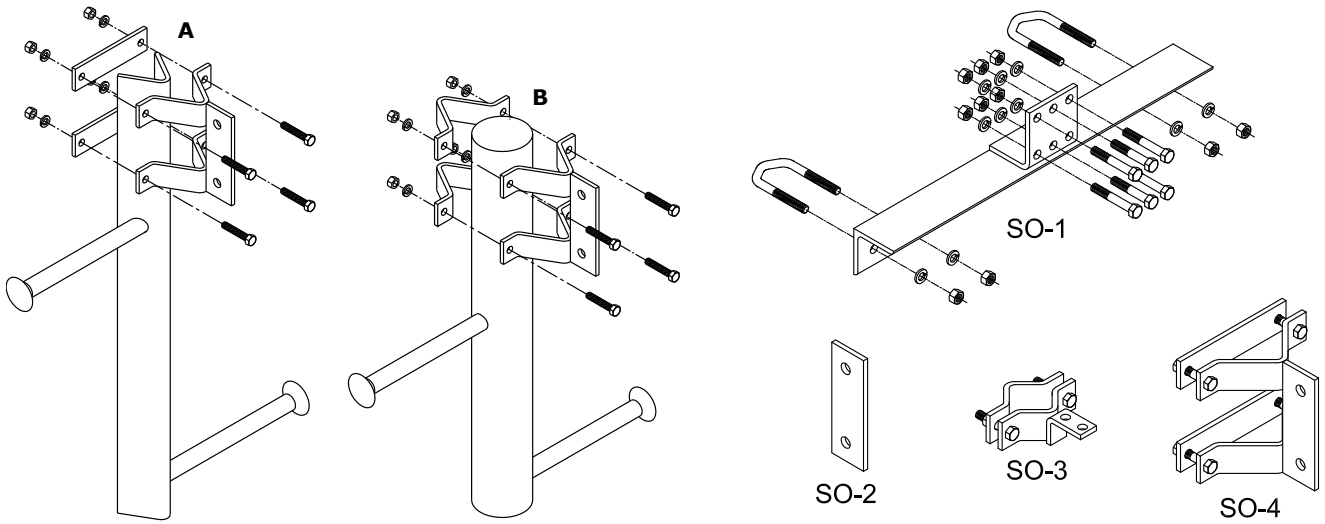
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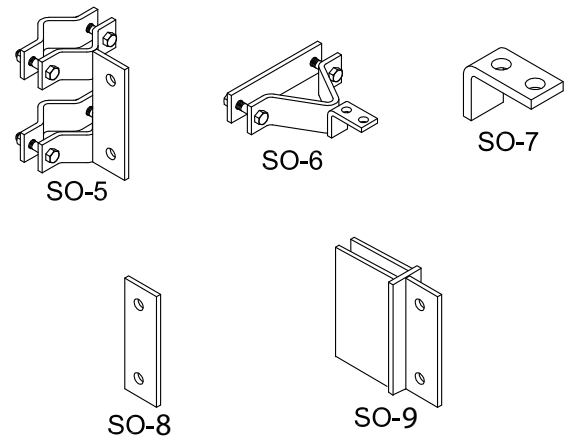
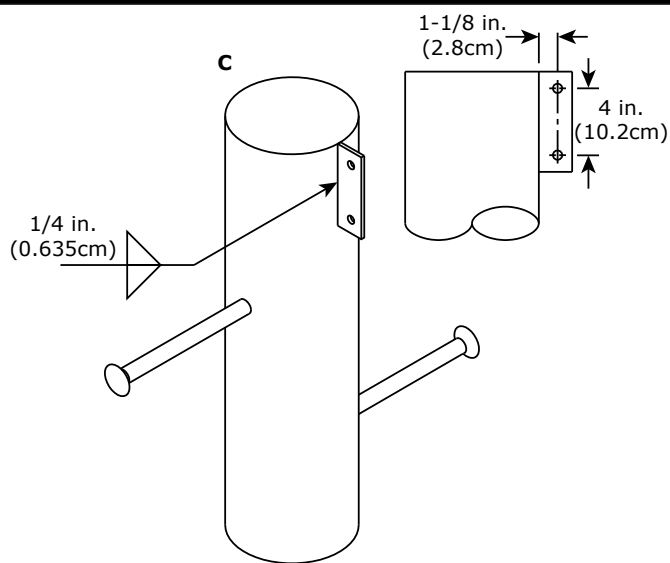
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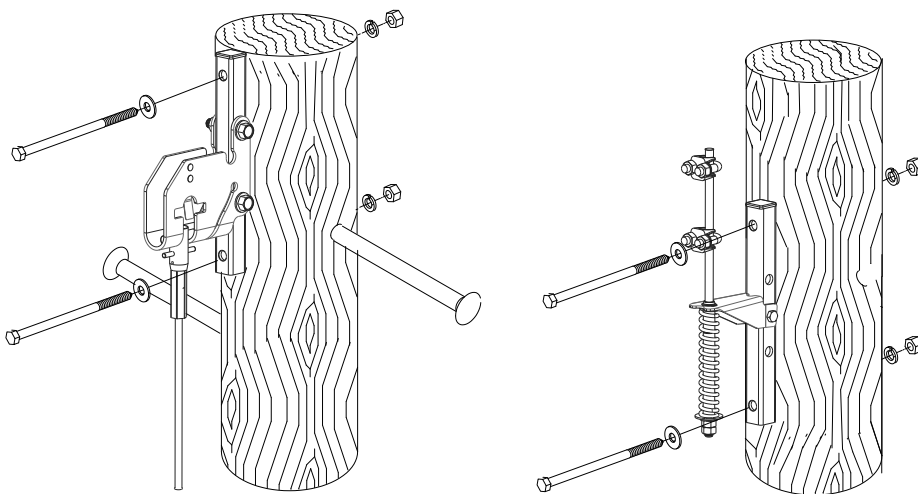
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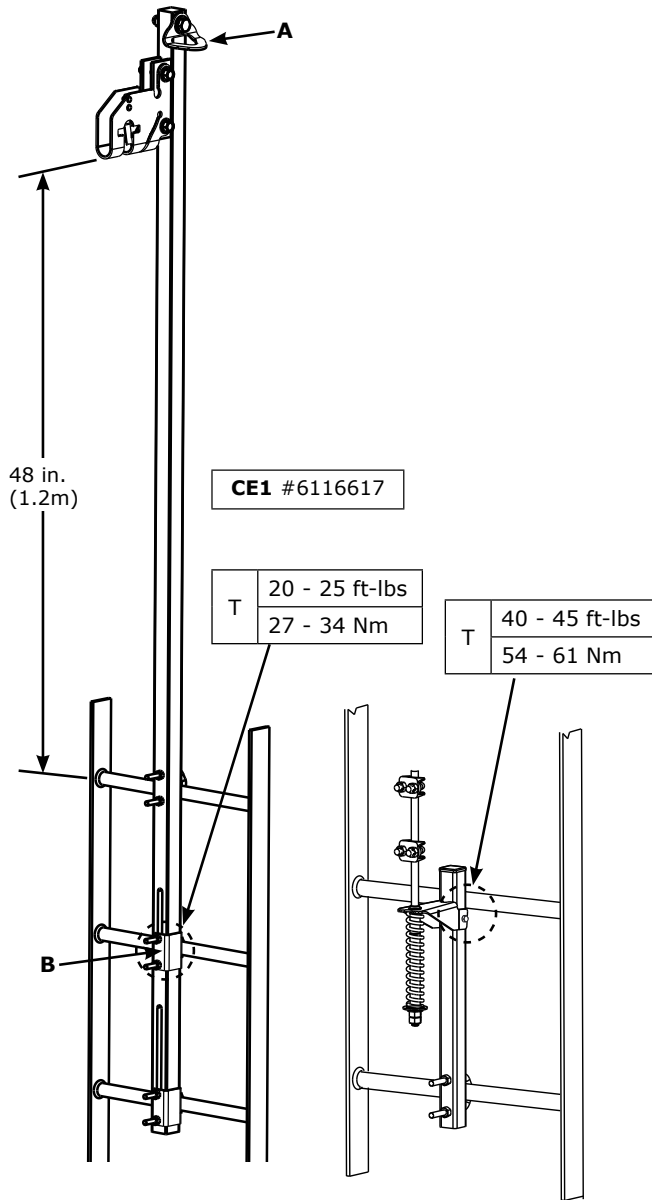
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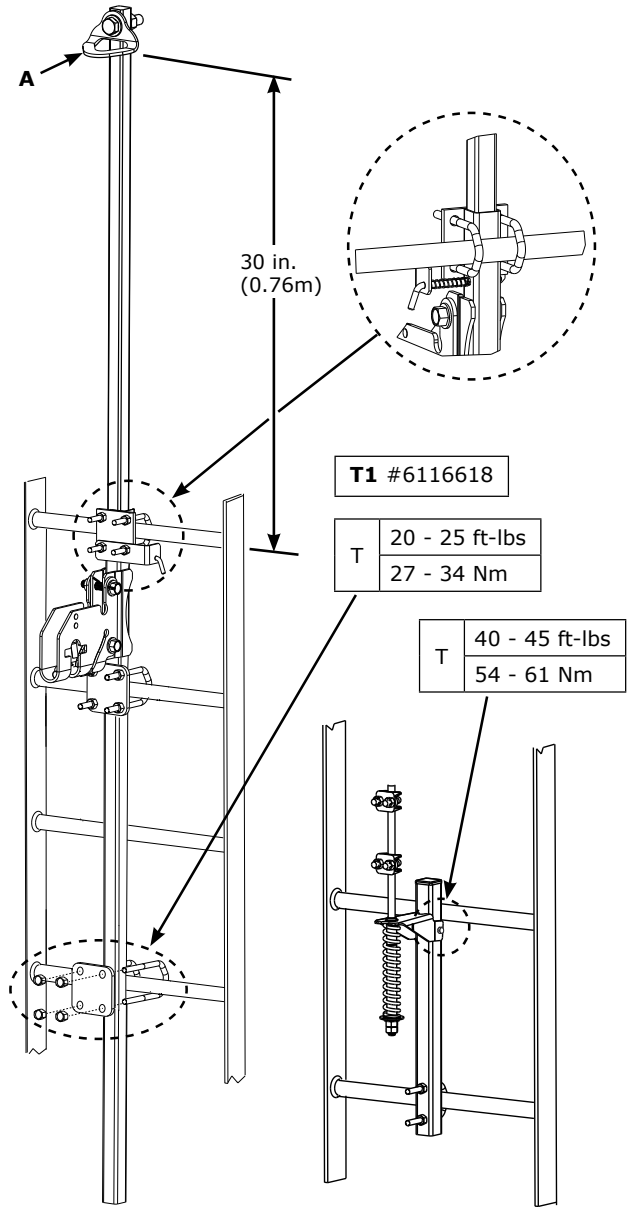
W1 #6116616

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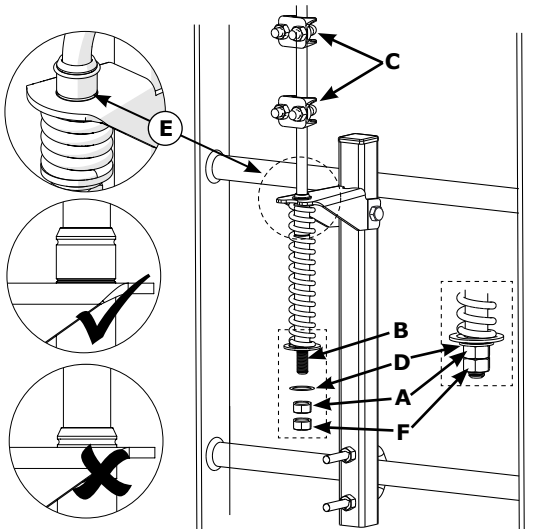
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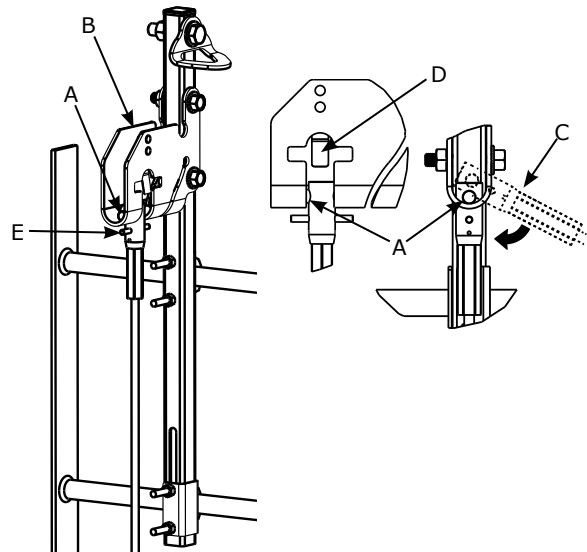
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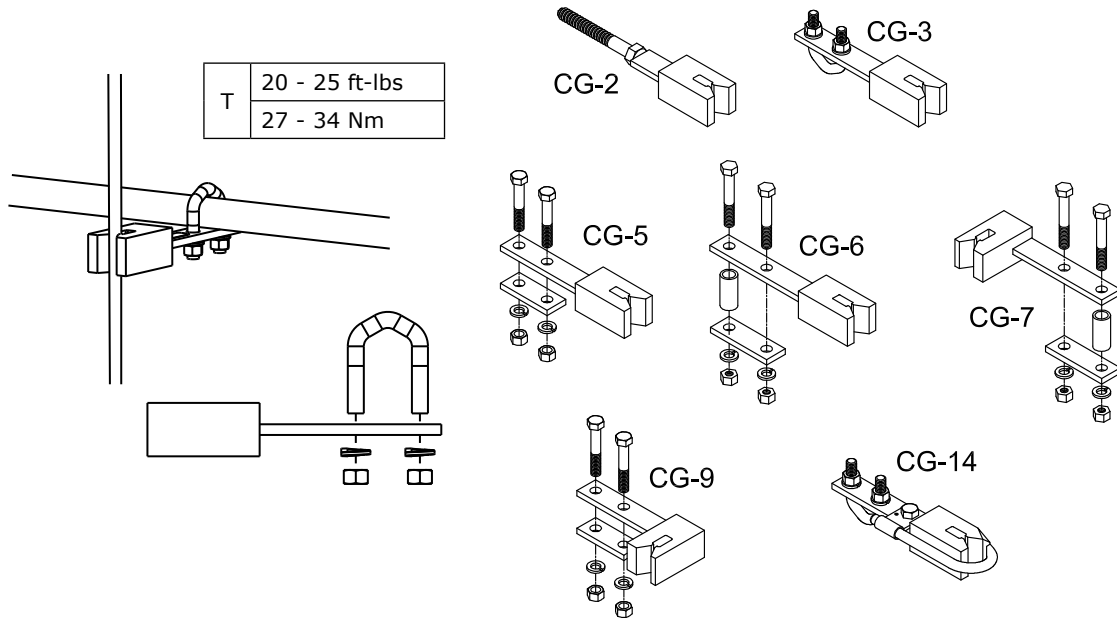
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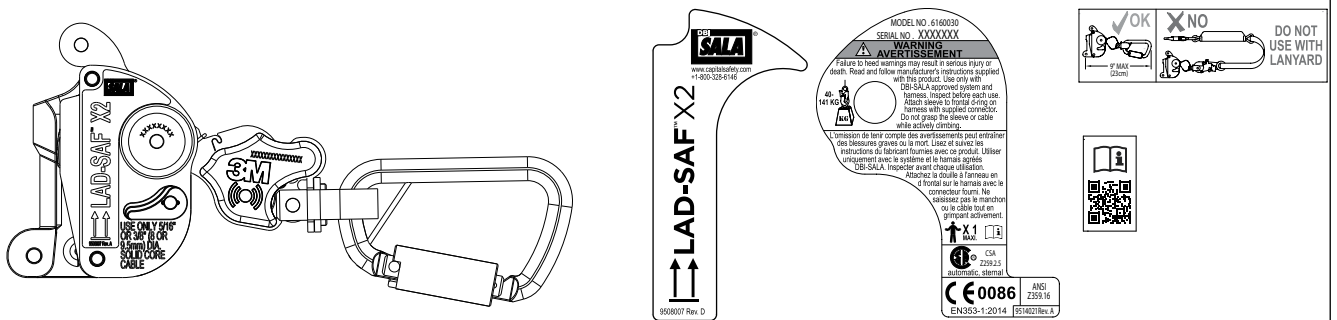
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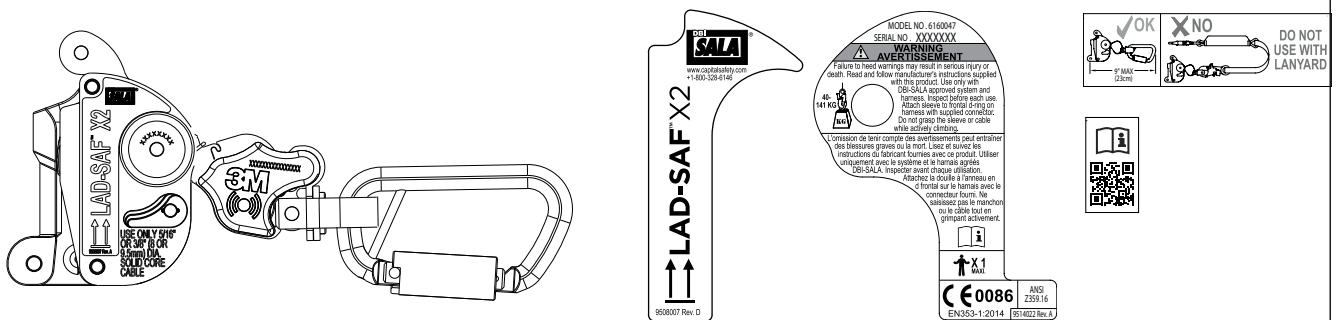
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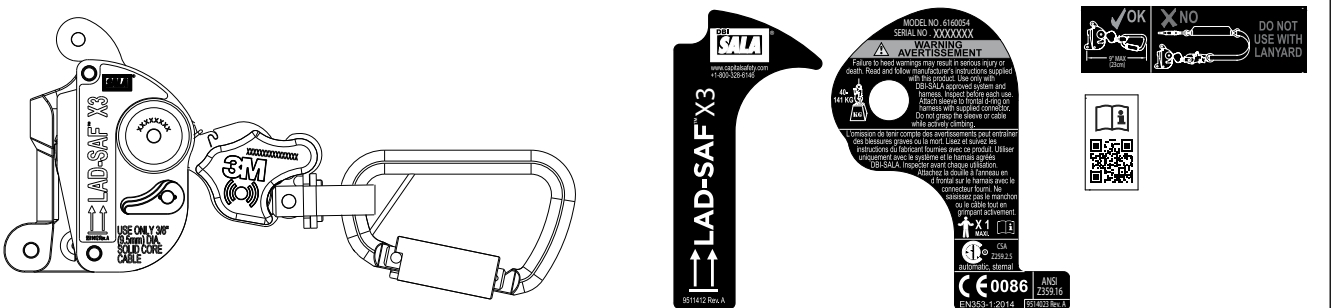
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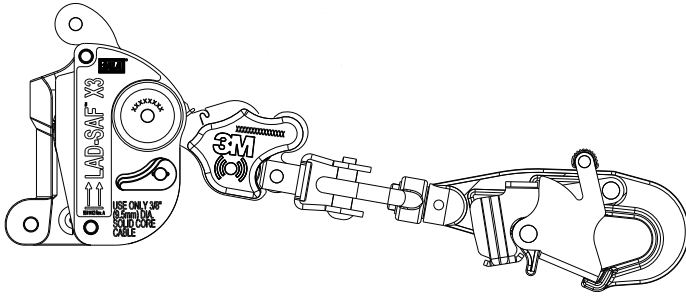
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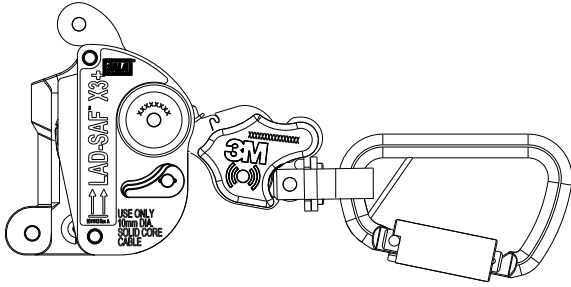
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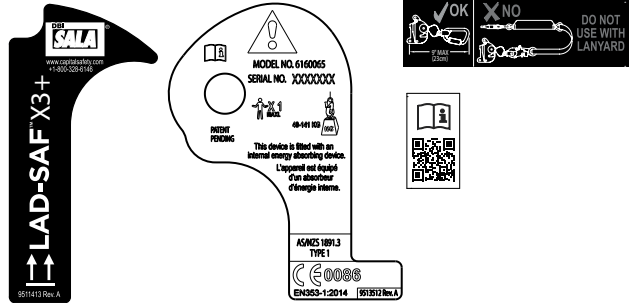
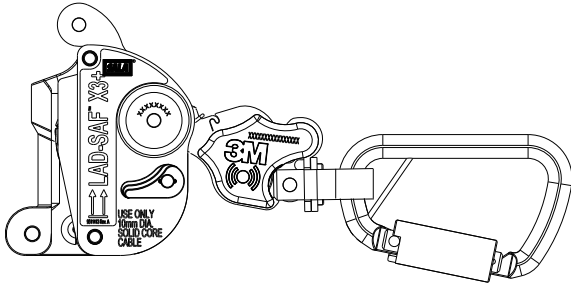
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17



18



19

3M **LAD-SAF™** 3M.com Fall Protection

Installation Date / Fecha de instalación: 1

Installed By / Instalado por: 2

Anchorage requirements / Requisitos de anclaje: 3

System weight / Peso del sistema: 4

Length of system / Longitud del sistema: 5

Date of Manufacture / Fecha de fabricación: 6

Date of inspection / Fecha de inspección: 7

System Serial No. / Número de serie del sistema: 8

Manufacturer's instructions / Instrucciones del fabricante: 9

WARNING / ADVERTENCIA: 10

11

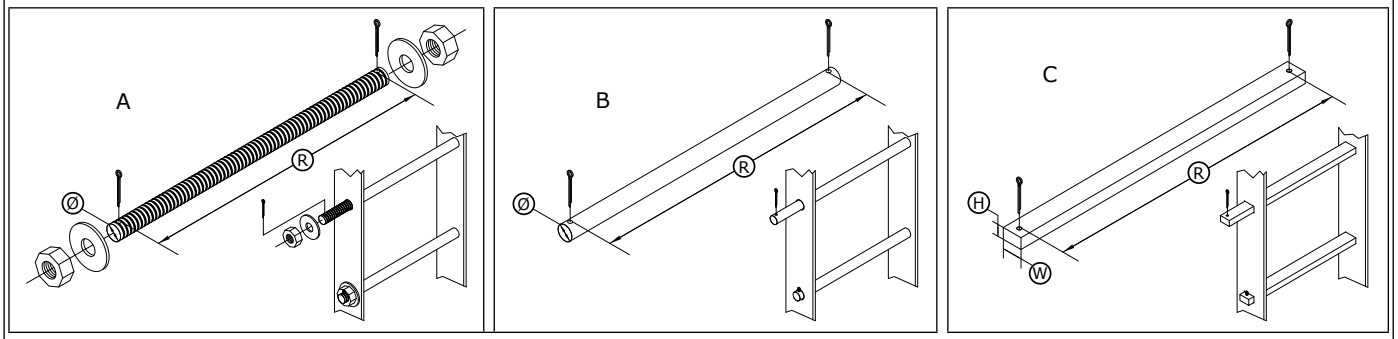
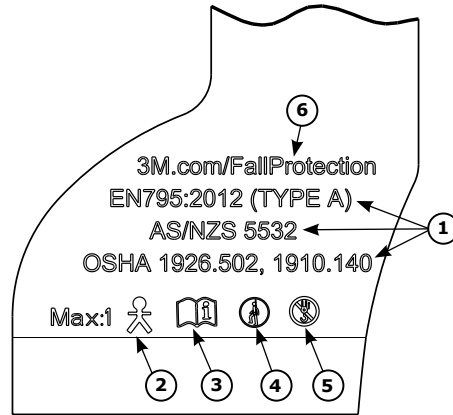
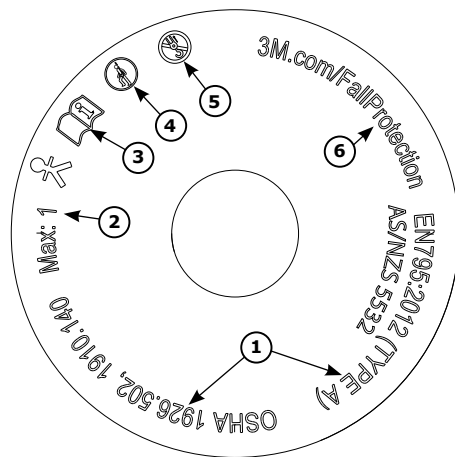
3/8" (9.5mm) CABLE

10mm CABLE

CE0086

EN335-1:2014

9013946 Rev. A



EN SAFETY INFORMATION

Please read, understand, and follow all safety information contained in these instructions prior to the use of this Vertical System. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH.

These instructions must be provided to the user of this equipment. Retain these instructions for future reference.

Intended Use:

This Vertical System is intended for use as part of a complete personal fall protection system.

Use in any other application including, but not limited to, material handling, recreational or sports related activities, or other activities not described in the Product Instructions, is not approved by 3M and could result in serious injury or death.

This device is only to be used by trained users in workplace applications.

WARNING

This Flexible Cable/Rigid Rail System is part of a personal fall protection system. It is expected that all users be fully trained in the safe installation and operation of their personal fall protection system. **Misuse of this device could result in serious injury or death.** For proper selection, operation, installation, maintenance, and service, refer to these Product Instructions and all manufacturer recommendations, see a supervisor, or contact 3M Technical Service.

- **To reduce the risks associated with working with a Flexible Cable/Rigid Rail System which, if not avoided, could result in serious injury or death:**
 - Inspect all components of the system before each use, at least annually, and after any fall event. Inspect in accordance with the Product Instructions.
 - If inspection reveals an unsafe or defective condition in a component of the system, remove the component from service and destroy it.
 - Any Flexible Cable/Rigid Rail System that has been subject to fall arrest or impact force must be immediately removed from service and all components must be inspected by a Competent Person prior to being used again.
 - Do not connect to the system while it is being installed.
 - Ensure the system is appropriately rated for the number of simultaneous users.
 - When unpacking the cable it may rapidly uncoil. Use proper safety procedures and appropriate personal protective equipment when unpacking cable.
 - Only use approved connectors to attach body harness to the system. Do not use any additional connecting devices.
 - Use only cable specified and approved in the Product Instructions.
 - Do not interfere with the locking action of the shuttle/sleeve device. Only manipulate the device to attach and detach from the system.
 - Always maintain three points of contact while climbing. Refer to the Product Instructions for further information on proper climbing technique.
 - Ensure that fall protection systems/subsystems assembled from components made by different manufacturers are compatible and meet the requirements of applicable standards, including the ANSI Z359 or other applicable fall protection codes, standards, or requirements. Always consult a Competent and/or Qualified Person before using these systems.
- **To reduce the risks associated with working at height which, if not avoided, could result in serious injury or death:**
 - Ensure your health and physical condition allow you to safely withstand all of the forces associated with working at height. Consult with your doctor if you have any questions regarding your ability to use this equipment.
 - Never exceed allowable capacity of your fall protection equipment.
 - Never exceed maximum free fall distance of your fall protection equipment.
 - Do not use any fall protection equipment that fails pre-use or other scheduled inspections, or if you have concerns about the use or suitability of the equipment for your application. Contact 3M Technical Services with any questions.
 - Some subsystem and component combinations may interfere with the operation of this equipment. Only use compatible connections. Consult 3M prior to using this equipment in combination with components or subsystems other than those described in the User Instructions.
 - Use extra precautions when working around moving machinery (e.g. top drive of oil rigs), electrical hazards, extreme temperatures, chemical hazards, explosive or toxic gases, sharp edges, or below overhead materials that could fall onto you or your fall protection equipment.
 - Use Arc Flash or Hot Works devices when working in high heat environments.
 - Avoid surfaces and objects that can damage the user or equipment.
 - Ensure there is adequate fall clearance when working at height.
 - Never modify or alter your fall protection equipment. Only 3M or parties authorized in writing by 3M may make repairs to the equipment.
 - Prior to use of fall protection equipment, ensure a rescue plan is in place which allows for prompt rescue if a fall incident occurs.
 - If a fall event occurs, immediately seek medical attention for the worker who has fallen.
 - Do not use a body belt for fall arrest applications. Use only a Full Body Harness.
 - Minimize swing falls by working as directly below the anchorage point as possible.
 - If training with this device, a secondary fall protection system must be utilized in a manner that does not expose the trainee to an unintended fall hazard.
 - Always wear appropriate personal protective equipment when installing, using, or inspecting the device/system.

EN ☒ Prior to installation and use of this equipment, record the product identification information from the ID label in the Installation Checklist at the back of this manual.

PRODUCT DESCRIPTION:

Figure 1 illustrates the Lad-Saf® Flexible Cable Safety System. Figures 2 through 21 illustrate components of the Lad-Saf® Flexible Cable Safety System. See Table 1 for system component descriptions. See Table 2 for system component specifications.

Table 1 – Component Descriptions	Item Number	Figure	Description																								
Systems L1 and L2	6116613 6116612	2	Used on standard rung attachments. Additional feature ("A" in Figure 2) serves as a single point anchor for a single user attachment. Minimum breaking strength is 3,600 lbs (16kN). Conforms to EN795:2012 Type A, OSHA 1926.502, 1910.140, AS/NZS 5532. L1 and L2 Systems will fit rung types and spacing listed below.																								
System L3	6116614	3	Used on standard rung attachments. Additional feature ("A" in Figure 3) serves as a single point anchor for a single user attachment. Minimum breaking strength is 3,600 lbs (16kN). Conforms to EN795:2012 Type A, OSHA 1926.502, 1910.140, AS/NZS 5532. L3 System will fit rung types and spacing listed below.																								
Systems M1 and M2	6116619 6116615	4	Used on standard monopoles or in combination with standoff supports. Mounting holes spaced 4" (101mm) on center. Additional feature ("C" in Figure 4) serves as a single point anchor for a single user attachment. Minimum breaking strength is 3,600 lbs (16kN). Conforms to EN795:2012 Type A, OSHA 1926.502, 1910.140, AS/NZS 5532.																								
System W1	6116616	7	Used on standard wood poles with 1/2" (12mm) fasteners.																								
System CE1	6116617	8	To extend the system up to 48" (1.2m) beyond a finishing platform. Additional feature ("A" in Figure 8) serves as a single point anchor for a single user attachment. Minimum breaking strength is 16kN (3,600 lbs). Conforms to EN795:2012 Type A, OSHA 1926.502, 1910.140, AS/NZS 5532. CE1 System will fit rung types and spacing listed below.																								
System T1	6116618	9	Used on standard rung attachments. Telescoping tube will extend single point anchor to 30" (0.76m). Additional feature ("A" in Figure 9) serves as a single point anchor for a single user attachment. Minimum breaking strength is 3,600 lbs (16kN). Conforms to EN795:2012 Type A, OSHA 1926.502, 1910.140, AS/NZS 5532. T1 System will fit rung types and spacing listed below.																								
Tensioner		10	After groove pulls through plate, cable is in tension.																								
Cable Install		11	Confirm that the large pin is resting inside of the top plate.																								
Cable Guide		12	Used to guide the cable in vertical systems.																								
Standoff Bracket		5	Used in conjunction with the M1 and M2 system to provide an attachment for a safety system or cable guide.																								
Lad-Saf X2		13, 14	Used as a Sleeve in vertical systems. Allows the user to move freely up and down the system while maintaining attachment. Use only with supplied karabiner or snaphook.																								
Lad-Saf X3		15, 16																									
Lad-Saf X3+		17, 18																									
System Tag		19	System Tag Markings and RFID Tag <table border="1"> <tr> <td>1</td><td>Installation Date</td><td>7</td><td>Date Inspected</td></tr> <tr> <td>2</td><td>Installed By</td><td>8</td><td>System serial number</td></tr> <tr> <td>3</td><td>Anchorage Requirements</td><td>9</td><td>System warnings</td></tr> <tr> <td>4</td><td>Max Users Per System</td><td>10</td><td>Cable type and sleeve compatibility matrix along with standards certification.</td></tr> <tr> <td>5</td><td>System Length</td><td>11</td><td>RFID Tag</td></tr> <tr> <td>6</td><td>Date of Manufacture</td><td></td><td></td></tr> </table>	1	Installation Date	7	Date Inspected	2	Installed By	8	System serial number	3	Anchorage Requirements	9	System warnings	4	Max Users Per System	10	Cable type and sleeve compatibility matrix along with standards certification.	5	System Length	11	RFID Tag	6	Date of Manufacture		
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Single Point Anchor Warning		20	Stamping on Washer, top of Systems L1, L2, L3, CE1 and T1. Stamping on Monopole Single Point Anchor Assembly ("C" in Figure 4) used with Systems M1 and M2. <table border="1"> <tr> <td>1</td><td>Standard to which Anchor conforms.</td><td>4</td><td>Used for fall arrest.</td></tr> <tr> <td>2</td><td>Maximum number of users.</td><td>5</td><td>Do not use for lifting.</td></tr> <tr> <td>3</td><td>Read user instruction.</td><td>6</td><td>Manufacturer internet site.</td></tr> </table>	1	Standard to which Anchor conforms.	4	Used for fall arrest.	2	Maximum number of users.	5	Do not use for lifting.	3	Read user instruction.	6	Manufacturer internet site.												
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Rung Supports		21	Used to provide additional support for rung types that are unable to withstand loading requirements as specified in Section 2.2.																								

L1, L2, L3, CE1 and T1 Systems will fit the following rung types and spacing:

Spacing	9"-12.25" (200mm-310mm)
Cylindrical rung	0.5"-1.6" (13mm-40mm) diameter
Square rung	0.5"-1.6" (13mm-40mm)
Diamond rung	0.5"-1.6" (13mm-40mm) height
Angle Iron	0.5"-1.6" (13mm-40mm) leg height
Rectangular rung	0.5"-1.6" (13mm-40mm) height, 0.5"-1.9" (13mm-48mm) width

**Table 1 –
Component Descriptions**

	Item Number:	ANSI, CSA, AS/NZS	CE	Figure	Description			
Standoff Bracket	SO-1	6100705	6100705	5	Flex Top/Btm Standoff, 2" OD 24.25" Pole Centers			
	SO-2	6100710	KC36100710		Flex Standoff, Pole, SS			
	SO-3	6100675	6100675		Flex Cable Guide Standoff, 2" OD Pole			
		6100677	6100677		Flex Cable Guide Standoff, 2-1/2" OD Pole			
		6100679	6100679		Flex Cable Guide Standoff, 3" OD Pole			
		6100680	6100680		Flex Cable Guide Standoff, 3-1/2" OD Pole			
		6100681	6100681		Flex Cable Guide Standoff, 4" OD Pole			
		6100682	6100682		Flex Cable Guide Standoff, 4-1/4" OD Pole			
	SO-4	6100636	6100636		Angle Iron Standoff 3", 90 Deg, Top & Bottom, Galv			
		6100642	6100642		Angle Iron Standoff 8", 90 Deg, Top & Bottom, Galv			
	SO-5	6100651	6100651		Flex Top/Btm Standoff, 2-3/8" OD Pole			
		6100652	6100652		Flex Top/Btm Standoff, 2-1/2" Dia Pole			
		6100654	6100654		Flex Top/Btm Standoff, 3" OD Pole			
	SO-6	6100621	6100621		Angle Iron Standoff 3", 90 Deg, Cable Guide, Galv			
6100627		6100627	Angle Iron Standoff 6", 90 Deg, Cable Guide, Galv					
6100629		6100629	Angle Iron Standoff 8", 90 Deg, Cable Guide, Galv					
6100635		6100635	Angle Iron Standoff 2", 90 Deg, Top & Bottom, SS					
SO-7	6100386	6100386		Flex Cable Guide Standoff, Steel				
SO-8	6100232	6100232		Flex Standoff, 5-10" Pole,				
SO-9	6100230	6100230		Flex Standoff				
						Typical Application:	Structure Size:	Structure Type:
Cable Guides	CG-2	6100140	6100140	12	Flex Cable Guide, Ss	Wood pole	NA	NA
	CG-3	6100400	KC3PL330		Flex Cable Guide Assy, Galv	Standard	< 1-1/8 in	Round/Square
	CG-3	6100401	6100401		Flex Cable Guide Assy, Ss	LEB & Telescoping	<1-1/8 in	Round/Square
	CG-3	6100410	6100410		Flex Cable Guide, Galv	Standard	<1 in	Round/Square
	CG-5	6100427	6100427		Flex Cable Guide Assy, Ss	Standard	1-5/8x1	Round/Square
	CG-3	6100440	6100440		Flex Cable Guide, Ss	Standard	<1 in	Round/Square
	CG-3	6100450	6100450		Flex Cable Guide, Ss	LEB & Telescoping	<1 in	Round/Square
	CG-6	6100454	6100454		Flex Cable Guide Assy, Ss	Standard	1x3/4 in	Angle
	CG-5	6100457	6100457		Flex Cable Guide Assy, Ss	Standard	<1 in	Round/Square
	CG-7	6100500	6100500		Flex Cable Guide, Galv, L	Monopole	5-3/4 in Long	NA
	CG-9	6100505	KC3PL190		Flex Cable Guide Assy, Ss, L	Monopole	5-3/4 in Long	NA
	CG-9	6100512	6100512		Flex Cable Guide, Ss, L	Monopole	5-3/4 in Long	NA
	CG-9	6100513	6100513		Flex Cable Guide, Ss, L	Standard	<1-5/8 in	Round/Square
	CG-9	6100515	KC3PL105		Flex Cable Guide Assy, Galv, L	Monopole	5-3/4 in Long	NA
	CG-9	6100519	6100519		Flex Cable Guide, Ss, L	Standard	<2-1/8 in	Round/Square
	CG-9	6100522	6100522		Flex Cable Guide Assy, Galv, L	Monopole	5-3/4 in Long	NA
	CG-7	6100527	6100527		Flex Cable Guide Assy, Ss, L	Monopole	1x1 in	Angle
	CG-14	6100530	KC36100530		Flex Cable Guide Assy, Galv, Latch	Standard	<1 in	Round/Square
	CG-14	6100531	6100531		Flex Cable Guide, Galv, Latch	Standard	<1 in	Round/Square

Table 2 – Component Specifications				Standards	Figure	Capacity (lbs/kg)	Minimum User Weight (lbs/kg)	No. Users	Activation Force (lbs/kN)	Max deployment length (in/mm)	Minimum Breaking Strength (lbs/kN)	Weight (lbs/kg)	Operating temp range (°F/°C)	
Component	Item Number	Material	Part Code										Max	Min
System - L1*	6116613	304 Stainless Steel	L1	ANSI, AUS, CE, CSA, OSHA	2	310/140		2			3,600/16	20/9.1	140/60	-40/-40
System - L2*	6116612	Galvanised Steel	L2	ANSI, AUS, CE, CSA, OSHA	2	310/140		2			3,600/16	20/9.1	140/60	-40/-40
System - L3*	6116614	Galvanised Steel	L3	ANSI, AUS, CE, CSA, OSHA	3	310/140		4			4,560/20.27	24/10.9	140/60	-40/-40
System - M1*	6116619	304 Stainless Steel	M1	ANSI, AUS, CE, CSA, OSHA	4	310/140		4**			4,560/20.27	9/4.1	140/60	-40/-40
System - M2*	6116615	Galvanised Steel	M2	ANSI, AUS, CE, CSA, OSHA	4	310/140		4**			4,560/20.27	9/4.1	140/60	-40/-40
System - W1	6116616	Galvanised Steel	W1	ANSI, AUS, CE, CSA, OSHA	7	310/140		2			3,600/16	14/6.4	140/60	-40/-40
System - CE1*	6116617	Galvanised Steel	CE1	ANSI, AUS, CE, CSA, OSHA	8	310/140		2			3,600/16	46/21	140/60	-40/-40
System - T1*	6116618	Galvanised Steel	T1	ANSI, AUS, CE, CSA, OSHA	9	310/140		4			4,560/20.27	40/18.2	140/60	-40/-40
Lad-Saf X2	6160030	Stainless Steel		ANSI, CE, CSA, OSHA	14	310/141	88/40	1	450/2	4.0/102	3,600/16	2.1/1	140/60	-40/-40
Lad-Saf X2	6160047	Stainless Steel		ANSI, CE, CSA, OSHA	15	310/141	88/40	1	450/2	4.0/102	3,600/16	2.1/1	140/60	-40/-40
Lad-Saf X3	6160054	Stainless Steel		ANSI, CE, CSA, OSHA	16	310/141	88/40	1	450/2	4.0/102	3,600/16	2.1/1	140/60	-40/-40
Lad-Saf X3	6160057	Stainless Steel		CE	17	310/141	88/40	1	450/2	4.0/102	3,600/16	2.1/1	140/60	-40/-40
Lad-Saf X3+	6160052	Stainless Steel		AUS, CE	18	310/141	88/40	1	450/2	4.0/102	3,600/16	2.1/1	140/60	-40/-40
Lad-Saf X3+	6160065	Stainless Steel		AUS, CE	19	310/141	88/40	1	450/2	4.0/102	3,600/16	2.1/1	140/60	-40/-40
Cable - 3/8" (9.5mm) 1x7	6104XXX	Galvanised Steel									15,400/68.4	0.27/ft-0.41/m	140/60	-40/-40
Cable - 3/8" (9.5mm) 1x7	6105XXX	Stainless Steel									18,000/80	0.27/ft-0.41/m	140/60	-40/-40
Cable - 3/8" (9.5mm) 7x19	6106XXX	Galvanised Steel									14,400/64	0.27/ft-0.41/m	140/60	-40/-40
Cable - 3/8" (9.5mm) 7x19	6107XXX	Stainless Steel									12,000/53.3	0.27/ft-0.41/m	140/60	-40/-40
Cable - 10mm 7x19	LS001-7/19-SS	Stainless Steel									11,925/53	0.27/ft-0.41/m	140/60	-40/-40
Cable - 10mm 1x19	LS001-1/19-G	Galvanised Steel									19,800/88	0.27/ft-0.41/m	140/60	-40/-40

*System - Single Point Anchor minimum breaking strength 3,600 lbs (16kN).

** Number of users limited to 1 when used in conjunction with SO-4 & SO-5. See Figure 5.

References on cover	①	Installation instructions
	②	Lad-Saf™ Flexible Cable Safety Systems
	③	Standards
	④	Number of notified body that performed CE test.
	⑤	Number of notified body checking the manufacture of this PPE.
	⑥	Number of users.
	⑦	User weight is 88 - 310 lbs (40 - 141kg) including tools, other equipment and clothing.

Figure 1	Ⓐ	Top Bracket
	Ⓑ	Sleeve
	Ⓒ	Cable
	Ⓓ	RFID Tag
	Ⓔ	Cable Guide
	Ⓕ	Bottom Bracket

1.0 PRODUCT APPLICATION

- 1.1 PURPOSE:** The LAD-SAF™ Flexible Cable Safety System (Figure 1) is part of a personal fall protection system. When used in combination with the Lad-Saf™ Detachable Cable Sleeve (sold separately), the Lad-Saf™ Flexible Cable Safety System is designed to protect a worker in the event of a fall while climbing fixed ladders or similar climbing structures. LAD-SAF™ Flexible Cable Safety Systems are intended to be installed on fixed ladders or ladder like climbing surfaces that are part of a structure (e.g., mono poles [wood, steel, or concrete] buildings, manways, antenna structures and towers). The personal protection equipment (PPE) which is selected will form an essential part of the system. Always wear a full body harness with a sternal (chest) attachment point, in accordance with ANSI Z359.11 or with the relevant national standard. When climbing, the user of the system should wear a climbing helmet which conforms to the national standard.
- 1.2 LIMITATIONS:** LAD-SAF™ Flexible Cable Safety Systems are not intended to be installed on portable ladders. LAD-SAF™ Flexible Cable Safety Systems are designed for use on structures that are generally vertical. The safety system must not exceed a maximum angle of 15° from vertical. The following application limitations must be considered before installing the LAD-SAF™ Flexible Cable Safety System.
- A. STRUCTURE:** The structure to which the LAD-SAF™ Flexible Cable Safety System is installed must be capable of withstanding the loads applied by the system in the event of a fall (see Section 2.2).
 - B. SYSTEM CAPACITY:** The number of users allowed on the LAD-SAF™ Flexible Cable Safety System at one time varies depending on the type of system and installation. Generally, LAD-SAF™ Flexible Cable Safety System capacities range from one to four users. See Table 2 for more information on capacity limitations. LAD-SAF™ Flexible Cable Safety System capacities are based on a maximum user weight of 310 lbs (141kg), including tools and clothing.
 - C. ENVIRONMENTAL HAZARDS:** Use of the LAD-SAF™ Flexible Cable Safety System in areas with environmental hazards may require that additional precautions be taken to reduce the possibility of injury to the user or damage to the equipment. (e.g., high heat caused by welding or metal cutting, caustic chemicals, seawater, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges).
- 1.3 SUPERVISION:** Installation of the LAD-SAF™ Flexible Cable Safety System must be supervised by a Qualified Person¹.
- 1.4 TRAINING:** The LAD-SAF™ Flexible Cable Safety System must be installed by persons trained in its correct application. This manual is to be used as part of an employee training program as required by OSHA. It is the responsibility of the installers of this equipment to ensure they are familiar with these instructions, trained in the correct care of this equipment.
- 1.5** Refer to applicable local, and national requirements governing this equipment for more information on vertical safety systems and associated components, including OSHA 1910.140, OSHA 1910.29, OSHA 1926.1053 and OSHA 1926.502.

2.0 SYSTEM CONSIDERATIONS

- 2.1 COMPATIBILITY OF COMPONENTS AND SUBSYSTEMS:** This equipment is designed for use with 3M Fall Protection approved components and subsystems. The use of non-approved components and subsystems (e.g., harnesses, lanyards, sleeves, etc.) may jeopardize compatibility of equipment, and could affect the safety and reliability of the complete system. If you have questions on the installation or suitability of this equipment for your application, contact 3M Fall Protection.

COMPATIBILITY WITH CLIMB ASSIST SYSTEMS: 3M Fall Protection LAD-SAF™ Flexible Cable Safety Systems, including 3M Fall Protection LAD-SAF™ Detachable Cable Sleeves, are designed for use with 3M Fall Protection approved climb assist systems. The use of any other type of climb assist system may be incompatible with the LAD-SAF™ Flexible Cable Safety System and LAD-SAF™ Detachable Cable Sleeves, and could create a serious safety hazard for the user. Do not use non-3M Fall Protection climb assist systems without first consulting a competent person and/or a qualified person at your worksite for approval. If you have additional questions about compatibility, please contact 3M Technical Services.

☑ANSI Z359.1-2007 Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components, requires a competent person and/or a qualified person to "ensure that systems assembled from components and subsystems made by different manufacturers meet the requirements of this standard."

1 Qualified Person: A person with a recognized degree of professional certificate and with extensive knowledge, training, and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating, and specifying fall protections and rescue systems to the extent required by OSHA and other applicable standards.

2.2 LOAD REQUIREMENTS FOR STRUCTURE: The climbing structure to which the LAD-SAF™ system is installed must be capable of supporting the total loading imposed by the system.

A. STATIC LOADING: The static loads imposed onto the system include the weight of the top bracket, weight of the cable per length of system and a safety factor (SF). The following is an example for determining the static loading imposed on the system for a 100 ft (30 m) system:

- i. L3 top bracket weight = 24 lbs (10.9 kg)
- ii. 100 ft (30m) of 3/8" (9.5mm) 1x7 Galvanized cable weight = 27 lbs (12.3 kg)
- iii. **TOTAL STATIC LOADING:** (24 lbs + 27 lbs) x 1.2SF = 61 lbs
(10.9 kg + 12.3 kg) x 1.2SF x 9.81 m/s² = 0.27 kN

B. DYNAMIC LOADING: The following are the dynamic loads imposed onto the system per user:

- i. One user: 2,700 lbs (12 kN)
- ii. Two user: 3,320 lbs (14.76 kN)
- iii. Three user: 3,940 lbs (17.51 kN)
- iv. Four user: 4,560 lbs (20.27 kN)

C. TOTAL LOADING: The total load imposed onto the structure must take into account the static and dynamic loading given above for the length and type of system. Below is an example in determining total loading imposed onto the structure:

- i. Static loading for a 100 ft (30 m) system: 61 lbs (0.27 kN)
- ii. Dynamic loading for a two-user system: 3,320 lbs (14.76 kN)
- iii. **Total loading = 3,381 lbs (15 kN)**

The following Systems allow up to two users on the system at one time (see Table 2):

Systems L1, L2, W1 and CE1.

The following Systems allow up to four users on the system at one time (see Table 2):

Systems L3, M1, M2 and T1.

☒ *Other installation requirements may limit the number of users allowed on a system. See section 3.0 and Table 2.*

Bottom Bracket Assembly: The bottom bracket connection must be capable of supporting a system pretension load of 350 lbs (1.6 kN) in the direction of loading.

For calculation purposes, the required bracket load may be assumed to be distributed evenly between the number of rung attachments.

3.0 SYSTEM INSTALLATION

3.1 LAD-SAF™ systems are designed for easy installation onto a variety of structures. To begin the installation you need to know the model numbers of the system, cable guides, standoffs and type of cable (galvanized or stainless steel). Figures 2 through 12 identify most models. Some brackets are designed to be installed using stand-off supports which go between the bracket and structure. You need to know model numbers of stand-off supports if included with your system. See Table 1 for model numbers of most stand-off supports. Follow the instructions for the models included in your system.

Generally, the LAD-SAF™ system is installed from the top of the structure down. The basic procedure is:

- Step 1.** Install the top bracket
 - Step 2.** Connect the cable to the top bracket
 - Step 3.** Install the cable guides
 - Step 4.** Install the bottom bracket assembly
 - Step 5.** Tension the cable
 - Step 6.** Inspect the installation
- Planning the installation can minimize the amount of time on the structure and improve safety.

- ☒ **Use proper safety procedures when installing LAD-SAF™ systems.**
- **Wear personal protective equipment, including safety glasses and steel-toed shoes.**
 - **Use personal fall arrest or restraint systems when exposed to a fall hazard while installing LAD-SAF™ systems.**
 - **Do not connect to the LAD-SAF™ system being installed.**
 - **Do not connect to a partially installed LAD-SAF™ system.**
 - **Use caution when installing LAD-SAF™ systems near electrical power lines. LAD-SAF™ cables are conductive.**

3.2 WELDING RECOMMENDATIONS: Some installations require welding brackets to the structure. DBI-SALA recommends that welding be completed by a certified professional welder in accordance with applicable national welding codes or standards. Base and filler materials must be compatible with galvanized or stainless steel, depending on the materials of your system. Protect finished welds from corrosion with coating or paint.

3.3 RUNG SUPPORT: Rung supports can be used to reinforce hollow rungs to reduce crushing or collapsing of the rung due to tightening of the Safety System Clamps, and to generally strengthen the rung. The Rung Support must have sufficient length extending on either side of the Side Rails to install Rung Support fasteners. Install rung support at each LAD-SAF™ component connection point. The structure must be evaluated by a qualified person to determine if the load requirements for the system are met.

Rung Supports are available in various shapes and lengths. For best results, select a Rung Support size that will fit closely with the inside dimensions of the rung. See Figure 21 for examples of rung supports.

A, Figure 21	Model	Ø	R
	6100187	1 in (2.5 cm)	22 in (56 cm)
	6100188	1 in (2.5 cm)	26 in (66 cm)
	6100189	1 in (2.5 cm)	30 in (76 cm)
	Materials	Aluminum Bar, Stainless Steel Fasteners	

Install at each point indicated below:

1. Slide the Rung Support through the open rung.
2. Slide Washers over each end of the Rung Support and secure with Nuts. Tighten Nuts until Washer's are flush against the Rail.
3. Insert Cotter Pins through the holes in each end of the Rung Support. Cotter Pins should inserted from the top of the Rung Support to prevent them from dropping out of the holes.
4. Separate and bend the Cotter Pin Legs to ensure Cotter Pins stay in the holes and the Rung Supports can not slide out of the Rung.

B, Figure 21	Model	Ø	R
	6100151	1 in (2.5 cm)	17 in (43 cm)
	Materials	Aluminum Bar, Stainless Steel Fasteners	

Install at each point indicated below:

1. Slide the Rung Support through the open rung.
2. Insert Cotter Pins through the holes in each end of the Rung Support. Cotter Pins should inserted from the top of the Rung Support to prevent them from dropping out of the holes.
3. Separate and bend the Cotter Pin Legs to ensure Cotter Pins stay in the holes and the Rung Supports can not slide out of the Rung.

C, Figure 21	Model	H	W	R
	6100186	.63 in (1.6 cm)	1 in (2.5 cm)	19 in (48 cm)
	Materials	Aluminum Bar, Stainless Steel Fasteners		

Install at each point indicated below:

1. Slide the Rung Support through the open rung.
2. Insert Cotter Pins through the holes in each end of the Rung Support. Cotter Pins should inserted from the top of the Rung Support to prevent them from dropping out of the holes.
3. Separate and bend the Cotter Pin Legs to ensure Cotter Pins stay in the holes and the Rung Supports can not slide out of the Rung.

- 3.4 TOP BRACKET INSTALLATION:** Before installing the top bracket it is recommended that the climbing structure be evaluated by a qualified person to determine if the load requirements for the system are satisfied. The top bracket should be positioned to allow users safe access when connecting or disconnecting from the system. The top bracket is typically mounted in the center of the climbing surface for ease of climbing, but may be located towards the side if required.

A. INSTALLATION OF L1 AND L2 SYSTEMS:

See Figure 2 for a typical installation of the L1 and L2 Systems. The top bracket should be positioned to allow users safe access when connecting or disconnecting from the system. Do not substitute other fasteners.

Installation procedure:

1. **Top Bracket:** Slide rung clamps (B) over tube and install fasteners as shown. Torque fasteners as specified.
2. **Bottom Bracket:** Install fasteners as shown. Torque fasteners as specified.

B. INSTALLATION OF L3 SYSTEM:

See Figure 3 for a typical installation of the L3 System. The top bracket should be positioned to allow users safe access when connecting or disconnecting from the system. Do not substitute other fasteners.

Installation procedure:

1. **Top Bracket:** Slide rung clamps (B) over tube and install fasteners as shown. Torque fasteners as specified.
2. **Bottom Bracket:** Install fasteners as shown. Torque fasteners as specified.

C. INSTALLATION OF M1 AND M2 SYSTEMS:

See Figure 4 for a typical installation of the M1 and M2 System onto a monopole. The top bracket should be positioned to allow users safe access when connecting or disconnecting from the system. The top brackets are to be connected to the structure with a 3M DBI-SALA standoff or customer supplied stand-off support. Stand-off supports must support the loads specified in section 2.2, and must be compatible with the LAD-SAF™ system.

Angle Leg and Round Leg Stand-off Installation:

See Figure 5 for the installation of the angle (A) and round leg (B) stand-off supports. Install stand-off supports using the hardware provided. Do not substitute other fasteners. Torque 3/8-inch fasteners to 20-25 ft-lbs (27-34 N-m). Install the top bracket to the stand-off support using the 1/2-inch fasteners provided. Torque 1/2-inch fasteners to 40-45 ft-lbs (54-61 N-m).

Weld-on Stand-off Installation:

Install the stand-off support (C) as shown in Figure 5. See section 3.2 for welding recommendations. The stand-off must be perpendicular to the pole surface and in-line with the carrier cable.

☒ Installations that use the angle leg or round leg stand-off support brackets are limited to one user on the system at a time.

M1 and M2 System Installation:

See Figure 4. Installation procedure:

1. **Top Bracket:** Install top plate (A), hardware (B) and Single Point Anchor assembly (C) as shown in Figure 4. Slide the D-Ring (D) over the assembly (C) before installing. Torque fasteners as specified.
2. **Bottom Bracket:** Install bolt, spacers and fasteners as shown. Torque fasteners as specified.

D. INSTALLATION OF W1 SYSTEM:

See Figure 7 for a typical installation of the W1 System on a wooden pole. The top bracket should be positioned to allow users safe access when connecting or disconnecting from the system. Use 1/2-inch fasteners (not provided) to attach the top bracket to the pole. Fasteners should extend through the pole when possible. 3M DBI-SALA recommends using lock washers, double nuts, or other methods to ensure fasteners will not loosen.

E. INSTALLATION OF CE1 SYSTEM:

See Figure 8 for a typical installation of the CE1 System. The top bracket should be positioned to allow users safe access when connecting or disconnecting from the system.

Installation procedure:

1. **Top Bracket:** Slide rung clamps (B) over tube and install fasteners as shown. Torque fasteners as specified.
2. **Bottom Bracket:** Install fasteners as shown. Torque fasteners as specified.

F. INSTALLATION OF T1 SYSTEM:

See Figure 9 for a typical installation of the T1 System. The top bracket should be positioned to allow users safe access when connecting or disconnecting from the system. Typical applications include access ladders into manholes or under trap doors. Do not substitute other fasteners.

Installation procedure:

1. **Top Bracket:** Install clamp plates and fasteners as shown. Torque fasteners as specified.
2. **Bottom Bracket:** Install fasteners as shown. Torque fasteners as specified.

3.5 INSTALLATION OF CARRIER CABLE ASSEMBLY TO TOP BRACKET:

A. INSTALLATION OF CARRIER CABLE ASSEMBLY:

1. Lay the carrier cable assembly out on the ground in a clean area by rolling the coil. Do not pull cable from center of coil. For some installations it may be easier to lower the carrier cable from the top connection level down to the bottom bracket. If so, carefully lower the cable by unspooling without twisting the cable at the top connection. Do not drop the cable to the lower level.

☒ *Carrier cable is very stiff and may spring out of coil unexpectedly. Use proper safety procedures when unrolling cable. Use appropriate safety gear, including gloves and safety glasses, when unrolling cable.*

Inspect the cable for shipping damage before proceeding. Do not install damaged cable.

2. See Figure 11 for installation of the carrier cable into the top bracket. Ensure the end of cable is free of kinks and unraveled strands.

Installation procedure: Insert lug end (C) of carrier cable assembly into the side of the top plate (B) profile at an approximate angle of 45 degrees while pressing against spring gate (D). The small pin (E) and spring gate (D) are designed to prevent the lug/cable assembly from inadvertently disconnecting from the top plate (B). Make certain that only the large pin (A) rests inside the top plate (B).

3.6 INSTALLATION OF CABLE GUIDES, ALL MODELS:

Cable guides protect the carrier cable from chafing against the structure and to prevent the climber from excessively deflecting the cable from side to side. Cable guides should be positioned at approximately 20-40 ft (6-12m) along the carrier cable between the top and bottom brackets, and at any point along the system where the cable may abrade against the structure. Cable guides should be staggered along the system to reduce harmonic effects of the wind, such as at 23 (7.01), 25 (7.61), and 27 (8.23) feet (m) intervals. For high wind areas "L" shaped cable guides may be used. The "L" shaped cable guides should be alternated with opening on the left, then right, etc. up the structure Latching cable guides are also available.

Direct Connection to Structure:

See Figure 12 for a typical installation of a cable guide. Some cable guides utilize rung spacers and clamp plates while others do not (see Figure 12). Install the cable guide using the hardware provided. Do not substitute other fasteners. Torque fasteners to 20-25 ft-lbs (27-34 N-m).

3.7 TENSIONING THE SYSTEM:

☒ *Depending on the length of the system, and the environment in which the system is installed, it may be necessary to periodically re-tension the system. Extreme temperature ranges and very long systems will likely require periodic re-tensioning.*

Carrier Cable Tension Adjustment:

1. See Figure 10. Thread tensioning nut (A) onto end of tension rod (B) so that 3-5 threads are exposed below the nut. Insert cable into saddle clamps (C). Lift up on tensioner assembly until tensioning nut bottoms out on bottom washer (D). Tighten saddle clamp nuts and torque to 35 ft-lbs (47.5 N-m). Tighten tensioning nut until groove (E) is exposed above top bracket. Tighten jam nut (F) against tensioning nut. Cut off excess cable just below the lower saddle clip.

4.0 IDENTIFICATION AND INSPECTION AFTER SYSTEM INSTALLATION:

- A. Install the installation and service label onto the structure in a prominent location. Use the steel wire provided with the label to attach it to the structure. Before installing the label, mark the following:

- Installation Date
- Installed By
- Maximum Users Per System
- System Length

Use a metal letter stamp to mark the label. Record the system identification information in the *Installation Checklist* at the end of this manual.

- B.** After installation conduct a final inspection of the system as follows:
- Ensure all fasteners are in place and properly tightened.
 - Ensure the carrier cable is properly tensioned. Do not use the Lad-Saf™ system if the bottom of the cable is not secured/tensioned with the bottom bracket assembly.
 - Ensure the carrier cable assembly is installed per Figure 11.
 - Ensure the carrier cable does not abrade against the structure at any point.
 - Ensure the system information is recorded on the label.

5.0 INSPECTION

5.1 INSPECTION FREQUENCY:

For information on inspection frequency, inspection steps and use of the Lad-Saf Flexible Cable Safety System, refer to instructions for use (IFU) 3M Fall Protection manual 5902182.

5.2 RFID TAG:

The Lad-Saf™ system includes a Radio Frequency Identification (RFID) tag (Figure 19). The RFID tag can be used in conjunction with a handheld reading device and web based portal to simplify inspection and inventory control and provide records for your fall protection equipment. If you are a first-time user, contact a 3M Fall Protection Customer Service representative (see back cover). If you have already registered, go to 3M.com/FallProtection. Follow the instructions provided with your handheld reader or on the web portal to transfer your data to your web log.

6.0 MAINTENANCE, SERVICING, STORAGE

- 6.1** If the carrier cable becomes heavily soiled with oil, grease, paint, or other substances, clean it with warm soapy water. Wipe off the cable with a clean, dry cloth. Do not force dry with heat. Do not use acid or caustic chemicals that could damage the cable.

7.0 SPECIFICATIONS

- 7.1** All top and bottom brackets, cable guides, carrier cable, and fasteners are made of galvanized or stainless steel. Contact 3M Fall Protection for material specification details if required. The LAD-SAF™ system, when installed according to the installation instructions, meets OSHA 1910.140, OSHA 1926.1053, OSHA 1910.29, OSHA 1926.502, ANSI Z359.16, CSA (Z259.2.5) and CE (EN353-1:2014) requirements.

8.0 LAD-SAF SYSTEM LABELING

☒ Please reference the User Manual supplied with the Lad-Saf™ Detachable Sleeve for proper use and maintenance of this system.

The Lad-Saf Flexible Cable Safety System Tag must be securely attached and fully legible. (See Figure 19) System Tag contents are listed in Table 1.

The System Tag includes the following warning:

WARNING: Failure to heed warnings may result in serious injury or death. Manufacturer's instructions supplied with this product at time of shipment must be followed for proper installation, use, inspection and maintenance. Unauthorized alteration or substitution of system elements or components is prohibited. Use only with compatible personnel protective equipment as per manufacturer's instructions. Before each use inspect system visually for defects. Formally inspect system in accordance with instructions at least annually, or in accordance with specified inspection criteria for the structure the system is secured to. Refer to instructions for information on periodic formal inspections. Minimum spacing of users of this system is 20ft. Do not remove this label.

A Single Point Anchor Warning is stamped on the washer at the top of Systems L1, L2, L3, CE1 and T1. See Table 1 and Figure 20. For the M1 and M2 systems, the same information is stamped onto the D-ring bracket. See Figure 4.

INSTALLATION CHECKLIST

Serial Number(s):			
Date Inspected:	Date Of Manufacture:		

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Install Date:</td> </tr> <tr> <td style="padding: 2px;">Installed By:</td> </tr> <tr> <td style="padding: 2px;">Corrective Action/Maintenance</td> </tr> </table>	Install Date:	Installed By:	Corrective Action/Maintenance	☐ Ensure all fasteners are in place and properly tightened. ☐ Ensure the Carrier Cable is properly tensioned ☐ Ensure the Carrier Cable does not abrade against the structure at any point. ☐ Ensure system information is recorded on the system label and Inspection and Maintenance Log: Components of the LAD-SAF system include a, Radio Frequency (RFID) tag. The RFID tag can be used in conjunction with the handheld reading device and web based portal (3M.com/FallProtection) to simplify inspection and inventory control, and maintain electronic records for your fall protection equipment.
Install Date:				
Installed By:				
Corrective Action/Maintenance				

GLOBAL PRODUCT WARRANTY, LIMITED REMEDY AND LIMITATION OF LIABILITY WARRANTY: THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Unless otherwise provided by local laws, 3M fall protection products are warranted against factory defects in workmanship and materials for a period of one year from the date of installation or first use by the original owner. LIMITED REMEDY: Upon written notice to 3M, 3M will repair or replace any product determined by 3M to have a factory defect in workmanship or materials. 3M reserves the right to require product be returned to its facility for evaluation of warranty claims. This warranty does not cover product damage due to wear, abuse, misuse, damage in transit, failure to maintain the product or other damage beyond 3M's control. 3M will be the sole judge of product condition and warranty options. This warranty applies only to the original purchaser and is the only warranty applicable to 3M's fall protection products. Please contact 3M's customer service department in your region for assistance. LIMITATION OF LIABILITY: TO THE EXTENT PERMITTED BY LOCAL LAWS, 3M IS NOT LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO LOSS OF PROFITS, IN ANY WAY RELATED TO THE PRODUCTS REGARDLESS OF THE LEGAL THEORY ASSERTED.	GARANTIE PRODUIT INTERNATIONALE, RECOURS LIMITÉ ET LIMITATION DE LA RESPONSABILITÉ GARANTIE : LES DISPOSITIONS SUIVANTES SONT PRISES EN LIEU ET PLACE DE TOUTES LES GARANTIES OU CONDITIONS, EXPRESSES OU IMPLICITES, Y COMPRIS LES GARANTIES OU CONDITIONS IMPLICITES DE QUALITÉ MARCHANDE OU D'ADAPTATION À UN USAGE SPÉCIFIQUE. À moins d'un conflit avec une législation locale, les produits antichute de 3M sont garantis contre les défauts de fabrication en usine et de matériaux pendant une période d'un an à compter de la date d'installation ou de la première utilisation par le propriétaire initial. RECOURS LIMITÉ : Sur demande écrite à 3M, 3M s'engage à réparer ou remplacer tout produit considéré par 3M comme souffrant d'un défaut de fabrication en usine ou de matériaux. 3M se réserve le droit d'exiger que le produit lui soit retourné pour une évaluation de la réclamation au titre de la garantie. Cette garantie ne couvre pas les dommages du produit liés à l'usure, aux abus, à la mauvaise utilisation, aux dommages liés aux transports, au manque d'entretien du produit ou tout autre dommage indépendant du contrôle de 3M. 3M sera l'unique juge de la condition du produit et des options de la garantie. Cette garantie ne s'applique qu'au propriétaire initial et elle constitue l'unique garantie s'appliquant aux produits antichute de 3M. Veuillez contacter le service à la clientèle 3M de votre région pour obtenir de l'assistance. LIMITATION DE LA RESPONSABILITÉ : DANS LES MESURES PERMISES PAR LA LÉGISLATION LOCALE, 3M N'EST PAS RESPONSABLE POUR TOUT DOMMAGE INDIRECT, ACCESSOIRE, SPÉCIFIQUE OU CONSÉCUTIF, Y COMPRIS, MAIS SANS S'Y LIMITER, LA PERTE DE PROFITS, LÉE DE QUELQUE MANIÈRE QUE CE SOIT AUX PRODUITS, MALGRÉ LA THÉORIE JURIDIQUE REVENDIQUÉE.
GARANZIA GLOBALE SUL PRODOTTO, RIMEDIO LIMITATO E LIMITAZIONE DI RESPONSABILITÀ GARANZIA: LA SEGUENTE GARANZIA SOSTITUISCE TUTTE LE GARANZIE O CONDIZIONI, ESPRESSE O IMPLICITE, COMPRESSE LE GARANZIE O CONDIZIONI IMPLICITE DI COMMERCIALITÀ O IDONEITÀ PER UN PARTICOLARE SCOPO. Salvo ove diversamente specificato dalle leggi locali, i prodotti di protezione anticaduta 3M sono garantiti da difetti di fabbricazione e dei materiali per un periodo di un anno dalla data di installazione o di primo utilizzo da parte del proprietario originale. RIMEDIO LIMITATO: previa comunicazione scritta a 3M, 3M riparerà o sostituirà qualsiasi prodotto in cui 3M avrà individuato un difetto di fabbricazione o dei materiali. 3M si riserva il diritto di richiedere la restituzione del prodotto all'impianto per la valutazione della richiesta di risarcimento in garanzia. La presente garanzia non copre i danni al prodotto causati da usura, abuso, utilizzo errato, trasporto o mancata manutenzione del prodotto o altri danni avvenuti fuori dal controllo di 3M. 3M è la sola che potrà giudicare le condizioni del prodotto e le opzioni di garanzia. La presente garanzia è valida solo per l'acquirente originale ed è l'unica applicabile ai prodotti di protezione anticaduta 3M. Per assistenza, contattare il Servizio Clienti di 3M della propria area. LIMITAZIONE DI RESPONSABILITÀ: NELLA MISURA CONSENTITA DALLE LEGGI LOCALI, 3M NON RISPONDE DI EVENTUALI DANNI INDIRETTI, INCIDENTALI, SPECIALI O CONSEGUENZIALI COMPRESI, SENZA LIMITAZIONE, DANNI PER PERDITA DI PROFITTO, IN QUALSIASI MODO COLLEGATI AI PRODOTTI INDIPENDENTEMENTE DALLA TEORIA LEGALE ASSERTITA.	GARANTÍA GLOBAL DE PRODUCTO. COMPENSACIÓN LIMITADA Y LIMITACIÓN DE RESPONSABILIDAD GARANTÍA: LAS SIGUIENTES DISPOSICIONES PREVALECEÁN SOBRE CUALQUIER GARANTÍA O CONDICIÓN, EXPRESA O IMPLÍCITA, INCLUIDAS LAS CONDICIONES O GARANTÍAS IMPLÍCITAS DE COMERCIALIZACIÓN O IDONEIDAD PARA UN FIN ESPECÍFICO. Salvo que la legislación local estipule lo contrario, los productos de protección contra caídas de 3M están garantizados contra defectos de fabricación de mano de obra y materiales durante un periodo de un año a partir de la fecha de instalación o del primer uso por parte del propietario original. COMPENSACIÓN LIMITADA: Tras recibir comunicación por escrito, 3M reparará o sustituirá los productos que considere que tienen un defecto de fabricación de mano de obra o materiales. 3M se reserva el derecho a solicitar la devolución del producto a sus instalaciones para evaluar las reclamaciones de garantía. Esta garantía no cubre los daños en el producto resultantes de desgaste, mal uso, uso indebido, daños durante el tránsito, mantenimiento inapropiado del producto o daños que escapen al control de 3M. 3M será el único con derecho a determinar el estado del producto y las opciones de garantía. Esta garantía puede ser utilizada únicamente por el comprador original y es la única que cubre los productos de protección contra caídas de 3M. Si necesita ayuda, póngase en contacto con el departamento de servicios de atención al cliente de 3M. LIMITACIÓN DE RESPONSABILIDAD: EN LA MEDIDA QUE LO PERMITA LA LEGISLACIÓN LOCAL, 3M NO SE RESPONSABILIZARÁ DE LOS DAÑOS INDIRECTOS, FORTUITOS, ESPECIALES O RESULTANTES, INCLUIDA LA PÉRDIDA DE GANANCIA, RELACIONADOS DE MANERA ALGUNA CON LOS PRODUCTOS, INDEPENDIENTEMENTE DE LOS FUNDAMENTOS LEGALES QUE SE ALEGUEN.
GLOBAL PRODUKTGARANTI, BEGRÄNSAD KOMPENSATION OCH BEGRÄNSAD ANSVARSSKYLDIGHET GARANTI: FÖLJANDE GÄLLER SOM ERSÄTTNING FÖR ALLA GARANTIER ELLER VILLKOR, UTTRYCKLIGA ELLER UNDERFÖRSTÅDDA, INKLUSIVE UNDERFÖRSTÅDDA GARANTIER ELLER VILLKOR FÖR SÄLJBARHET ELLER LÄMPLIGHET FÖR ETT VISST ÄNDAMÅL. Såvida inte annat stipuleras i lokala lagar, garanteras 3M:s fallskyddsprodukter mot fabriktionsfel avseende tillverkning och material under en period av ett år från datum för ursprunglig ägares installation eller första användning. BEGRÄNSAD KOMPENSATION: Efter skriftligt avisering till 3M, kommer 3M att reparera eller byta ut varje produkt, som av 3M fastställts vara behäftad med fabriktionsfel vad gäller tillverkning eller material. 3M förbehåller sig rätten att kräva att produkt returneras till företagets anläggning för utvärdering av garantianspråk. Denna garanti omfattar inte produktskada till följd av slitage, felaktig användning, missbruk, skada under transport, underlåtenhet att sköta produkten eller annan skada utom 3M:s kontroll. 3M är ensam bedömare av produktskick och garantialternativ. Denna garanti avser enbart den ursprungliga köparen och är den enda garanti som gäller för 3M:s fallskyddsprodukter. Kontakta 3M:s kundtjänstavdelning i din region för assistans. BEGRÄNSNING AV ANSVARSSKYLDIGHET: I DEN OMFATTNING SOM TILLÅTTS AV LOKALA LAGAR, ANSVARAR 3M INTE FÖR NÅGRA INDIREKTA, OFÖRUTSEDDA, SPECIELLA ELLER FÖLJDSKADOR, INKLUSIVE MEN INTE BEGRÄNSAT TILL FÖRLUST AV VINSTER, VILKA PÅ NÅGOT SÄTT HANFÖRTS TILL PRODUKTERNA, OAVSETT HÄVDAVD RÄTTSLIG GRUND.	GLOBALE PRODUKTGARANTIE, BESCHRÄNKTES RECHTSMITTEL UND HAFTUNGSBESCHRÄNKUNG GARANTIE: FOLGENDES GILT STELLVERTRETEND FÜR ALLE GARANTIEEN ODER BEDINGUNGEN, EINSCHLIESSLICH STILLSCHWEIGEND ANGENOMMENER GARANTIEEN ODER BEDINGUNGEN HINSICHTLICH DER TAUGLICHKEIT ODER EIGNUNG FÜR EINEN BESTIMMTEN ZWECK. Soweit gesetzlich nicht anders vorgeschrieben, werden bei 3M-Produkten für die Absturzsicherung werksseitige Mängel bei Verarbeitung und Material für einen Zeitraum von einem Jahr ab dem Datum der Installation oder der erstmaligen Benutzung durch den ursprünglichen Eigentümer garantiert. BESCHRÄNKTES RECHTSMITTEL: Nach schriftlicher Mitteilung an 3M wird 3M jedes Produkt ersetzen oder austauschen, bei dem durch 3M ein werksseitiger Material- oder Verarbeitungsfehler festgestellt wird. 3M behält sich das Recht vor, die Rücksendung des Produkts an das Werk zur Beurteilung der Garantiansprüche zu verlangen. Unter dieser Garantie sind keine Schäden am Produkt gedeckt, die auf Verschleiß, Missbrauch, Transportschäden, Versäumnis der Instandhaltung des Produkts oder sonstige außerhalb der Kontrolle von 3M liegende Schäden zurückzuführen sind. 3M trifft allein die Entscheidung über Produktzustand und Garantioptionen. Diese Garantie gilt ausschließlich für den ursprünglichen Käufer und ist die einzige, die für Absturzsicherungsprodukte von 3M maßgeblich ist. Kontaktieren Sie bitte die Kunden-Service-Abteilung, um Unterstützung zu erhalten. HAFTUNGSBESCHRÄNKUNG: SOWEIT NACH GELTENDEM RECHT ZULÄSSIG, IST 3M NICHT HAFTBAR FÜR UNMITTELBARE, MITTELBARE, BESONDERE SCHÄDEN ODER FOLGESCHÄDEN JEDER ART, EINSCHLIESSLICH VON VERLUST VON GEWINN, DER IM ZUSAMMENHANG MIT DEN PRODUKTEN ENTSTEHT, UNGEACHTET DER ANGEFÜHRTEN RECHTSTHEORIE.
WERELDWIJDE PRODUCTGARANTIE, BEPERKTE VERHAALSMOGELIJKHEID EN BEPERKING VAN AANSPRAKELIJKHEID GARANTIE: DE VOLGENDE BEPALING VERVANGT ALLE GARANTIES OF VOORWAARDEN, EXPLICIET OF IMPLICIET, INCLUSIEF DE IMPLICIETE GARANTIES OF VOORWAARDEN VAN VERKOOPBAARHEID OF GESCHIKTHEID VOOR EEN BEPAALD DOEL. Tenzij anders is bepaald door lokale wetgeving, zijn valbeschermingsproducten van 3M voorzien van een garantie op fabrieksfouten door fabricage- en materiaalgebreken gedurende een periode van één jaar na de datum van installatie of het eerste gebruik door de oorspronkelijke eigenaar. BEPERKTE VERHAALSMOGELIJKHEID: Na schriftelijke kennisgeving aan 3M zal 3M eender welk product repareren of vervangen waarvan 3M heeft vastgesteld dat het een fabrieksfout heeft door een fabricage- of materiaalgebrek. 3M behoudt zich het recht voor om te eisen dat het product naar zijn vestiging wordt gereetourneerd om garantieaanspraken te beoordelen. Deze garantie is niet van toepassing op productschade door slijtage, oneigenlijk gebruik, misbruik, transportschade, nalatigheid bij onderhoud van het product of andere schade waarover 3M geen controle heeft. 3M zal als enige oordelen over de toestand van het product en garantieopties. Deze garantie is alleen van toepassing op de oorspronkelijke koper en is de enige garantie die van toepassing is op valbeschermingsproducten van 3M. Neem contact op met de klantendienst van 3M voor uw regio als u assistentie wenst. BEPERKING VAN AANSPRAKELIJKHEID: VOOR ZOVER TOEGESTAAN DOOR LOKALE WETGEVING, IS 3M NIET AANSPRAKELIJK VOOR ENIGE INDIRECTE, INCIDENTELE, SPECIALE OF GEVOLGSCHADE, INCLUSIEF, MAAR NIET BEPERKT TOT, WINSTVERLIES, DIE OP ENIGE WIJZE VERBAND HOUDT MET DE PRODUCTEN, ONGEACHT DE RECHTSLEER DIE WORDT AANGEHAALD.	GLOBAL PRODUKTGARANTI, BEGRÆNSEDE RETSMIDLER OG BEGRÆNSNING AF GARANTIFORPLIGTELSE GARANTI: FØLGENDE ERSTATTER ALLE GARANTIER ELLER BETINGELSER, UDTRYKKELIGE ELLER UNDERFØRSTÅEDE, HERUNDER DE UNDERFØRSTÅEDE GARANTIER ELLER BETINGELSER FOR SÆLGBARHED ELLER EGNETHED TIL ET SPECIFIKT FORMÅL. Bortset fra hvad der sikres ved gældende love, er 3M's produkter til faldsikring omfattet af en garanti mod fabriksdefekter i den håndværksmæssige udførelse og materialer i en periode på et år fra installationsdatoen eller den første ejers ibrugtagningsdato. BEGRÆNSEDE RETSMIDLER: Ved skriftlig henvendelse til 3M vil 3M reparere eller erstatte ethvert produkt, der af 3M vurderes at have en fabriksdefekt i den håndværksmæssige udførelse eller materialer. 3M forbeholder sig ret til at kræve produktet returneret til dets anlæg for at vurdere krav om garanti. Denne garanti dækker ikke skade på produktet slid, misbrug, forkert brug, transportskade, manglende vedligeholdelse af produktet eller anden skade uden for 3M's kontrol. 3M vil alene fastslå produktets tilstand og mulighederne for garanti. Denne garanti gælder kun for den oprindelige køber og er den eneste garanti gældende for 3M's produkter til faldsikring. Kontakt venligst 3M's kundeserviceafdeling i dit område for at få hjælp. BEGRÆNSNING AF GARANTIFORPLIGTELSE: I DEN UDSTRÆKNING DET TILLADES AF LOKALE LOVE ER 3M IKKE ANSVARLIG FOR NOGEN INDIREKTE, TILFÆLDIGE, SPECIELLE ELLER PÅFØLGENDE SKADER, HERUNDER MEN IKKE BEGRÆNSET TIL TAB AF FØRTJENESTE, DER PÅ NOGEN MÅDE ER RELATERET TIL PRODUKTERNE UANSET DEN UDLAGTE JURIDISKE TEORI.

**GLOBAL PRODUKTGARANTI, BEGRENSET AVHJELP
OG BEGRENŚNING AV ERSTATNINGSANSVAR**

GARANTI: DET FØLGENDE KOMMER I STEDET FOR ALLE GARANTIER ELLER VILKÅR, UTTRYKKELIGE ELLER UNDERFORSTÅTTE, INKLUDERT DE UNDERFORSTÅTTE GARANTIENE ELLER VILKÅRENE OM SALGBARHET ELLER EGNETHET FOR ET BESTEMT FORMÅL.

Med mindre annet er bestemt av lokale lover, er 3Ms fallsikringsprodukter garantert mot fabriksjonsfeil i håndverksmessig utførelse og materialer for en periode på ett år fra installasjonsdatoen eller første bruk av den opprinnelige eieren.

BEGRENSET AVHJELP: Ved skriftlig melding til 3M, vil 3M reparere eller erstatte ethvert produkt som av 3M fastslås å ha en fabriksjonsfeil i håndverksmessig utførelse eller materialer. 3M forbeholder seg retten til å kreve at produktet blir levert tilbake til fabriken for evaluering av garantikrav. Denne garantien dekker ikke produktskade grunnet slitasje, misbruk, skade i transitt, unnlatelse av å vedlikeholde produktet eller annen skade utenfor 3Ms kontroll. 3M vil være den eneste til å bedømme produktvilkår og garantialternativer.

Denne garantien gjelder kun den opprinnelige kjøperen og er den eneste garantien som er anvendelig for 3Ms fallsikringsprodukter. Vennligst kontakt 3Ms kundeserviceavdeling i ditt område for hjelp.

BEGRENŚNING AV ERSTATNINGSANSVAR: I DEN UTSTREKNING DET ER TILLATT AV LOKALE LOVER, ER IKKE 3M ERSTATNINGSANSVARLIG FOR NOEN SOM HELST INDIREKTE, HENDELIGE, SPESIELLE ELLER FØLGEMESSIGE SKADER INKLUDERT, MEN IKKE BEGRENSET TIL TAP AV FORTJENESTE, PÅ NOEN SOM HELST MÅTE FORBUNDET MED PRODUKTENE, UAVHENGIG AV HVILKEN JURIDISK TEORI SOM PÅBEROPES.

**GLOBALNA GWARANCJA NA PRODUKTY, OGRANICZONE ROZWIĄZANIE
I OGRANICZENIE ODPOWIEDZIALNOŚCI**

GWARANCJA: PONIŻSZE POSTANOWIENIA ZASTĘPUJĄ WSZYSTKIE GWARANCJE LUB WARUNKI, WYRAŻNE LUB DOMNIEMANE, W TYM DOMNIEMANE GWARANCJE LUB WARUNKI SPRZEDAŻY LUB PRZYDATNOŚCI DO OKREŚLONEGO CELU.

O ile lokalne prawo nie przewiduje inaczej, produkty 3M służące do ochrony przed upadkiem są objęte gwarancją na wady fabryczne, w tym wady materiałowe i wykonawcze przez okres jednego roku od daty ich montażu lub pierwszego użycia przez pierwotnego właściciela.

OGRANICZONE ROZWIĄZANIE: Po pisemnym powiadomieniu 3M, 3M naprawi lub wymieni produkt uznany przez 3M za wadliwy w zakresie wykonawstwa lub zastosowanych materiałów. 3M zastrzega sobie prawo do zażądania zwrotu produktu do swojego obiektu w celu oceny roszczenia gwarancyjnego. Niniejsza gwarancja nie obejmuje uszkodzeń produktu wynikających ze zużycia, niewłaściwego użytkowania, uszkodzenia w transporcie, braku właściwej konserwacji produktu lub innych uszkodzeń będących poza kontrolą firmy 3M. 3M będzie jedyną stroną oceniającą stan produktu oraz możliwe opcje gwarancyjne.

Niniejsza gwarancja obejmuje wyłącznie pierwszego nabywcę i jest to jedyna gwarancja na produkty 3M służące do ochrony przed upadkiem. W celu uzyskania pomocy prosimy o kontakt z działem obsługi klienta firmy 3M w Państwa regionie.

OGRANICZENIE ODPOWIEDZIALNOŚCI: W ZAKRESIE DOZWOLONYM PRZEZ LOKALNE PRAWO, 3M NIE PONOSI ODPOWIEDZIALNOŚCI ZA JAKIEKOLWIEK POŚREDNIE, PRZYPADKOWE, NADZWYCZAJNE LUB WYNIKOWE SZKODY, W TYM, LECZ NIE WYŁĄCZNIE, UTRATY ZYSKÓW, W JAKIKOLWIEK SPOŚÓB ZWIĄZANE Z PRODUKTEM, NIEZALEŻNIE OD PRZEDSTAWIONEJ PODSTAWY PRAWNEJ.



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