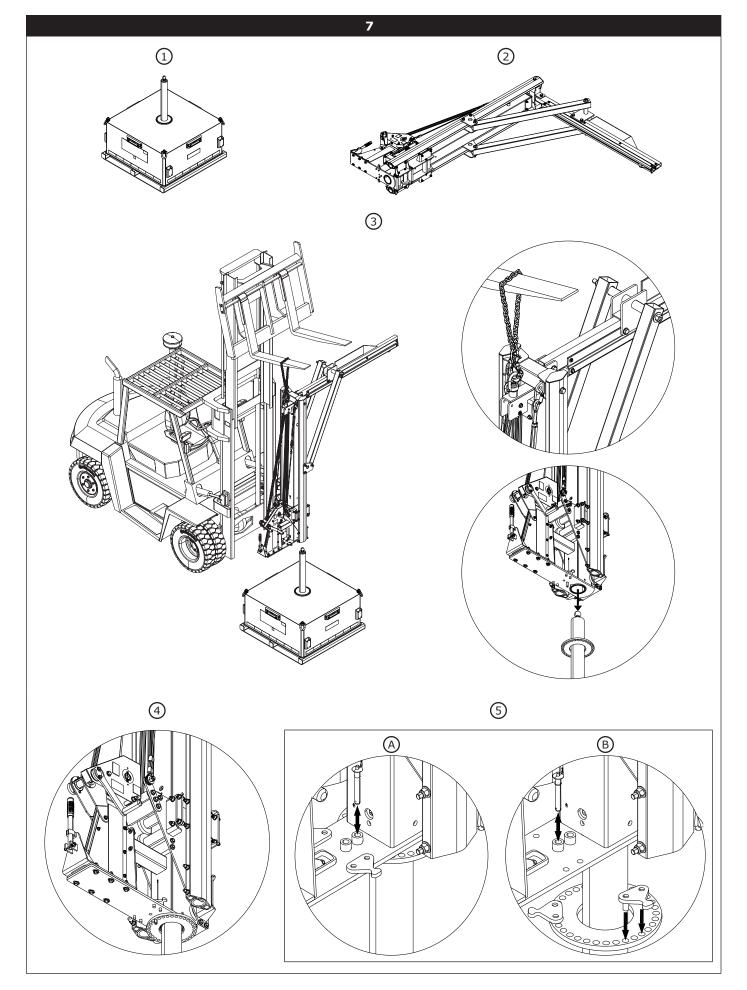
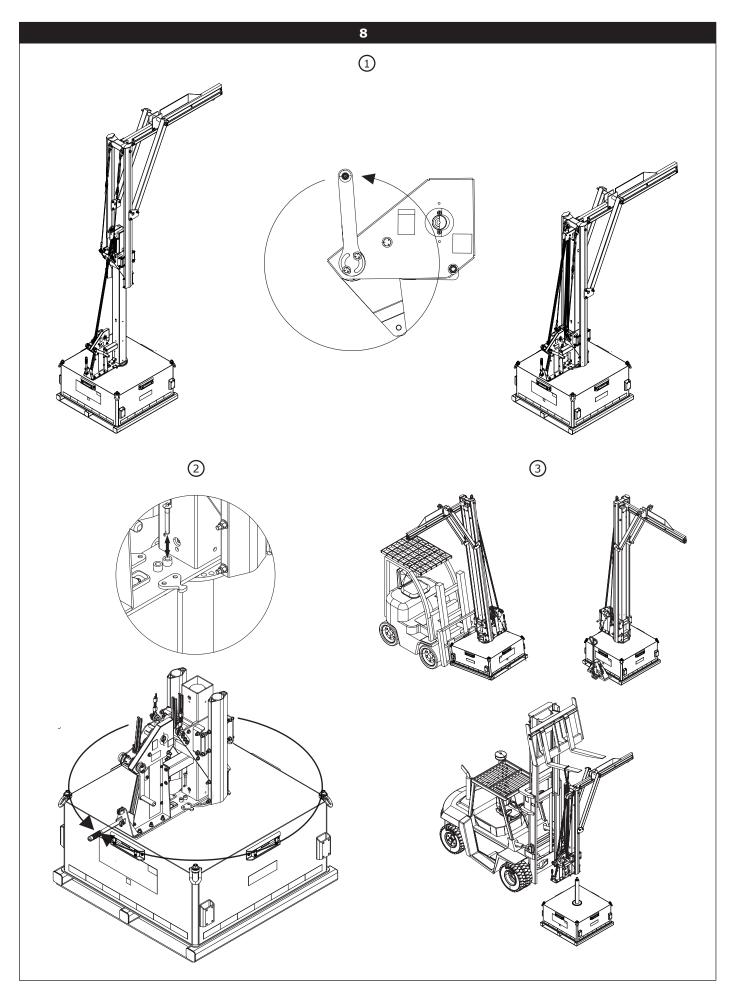
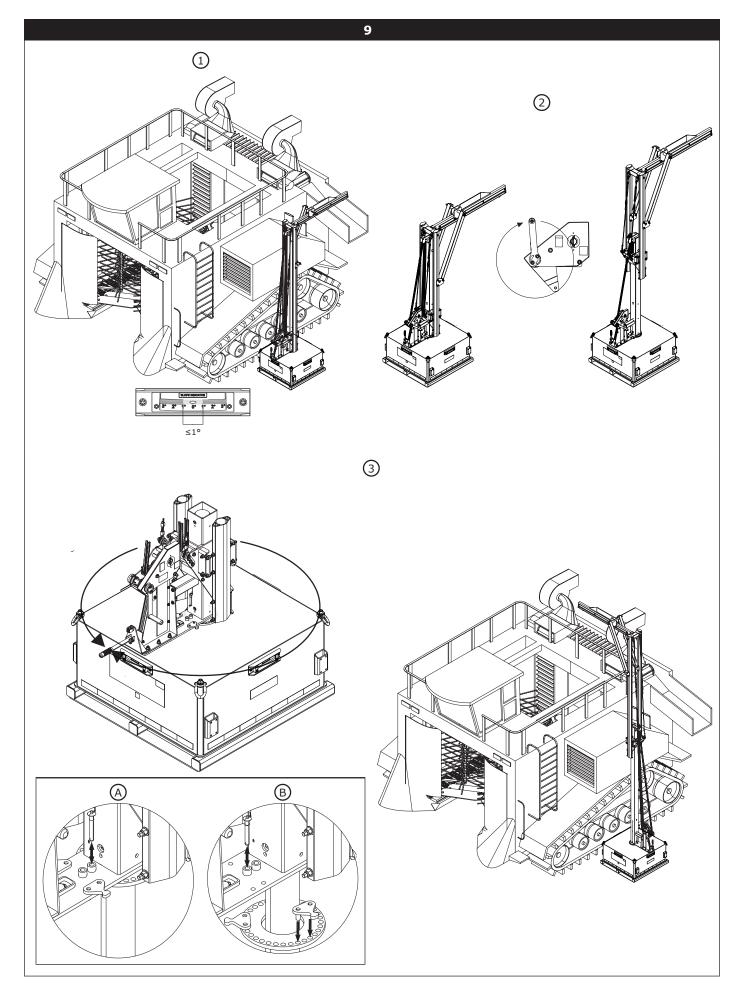
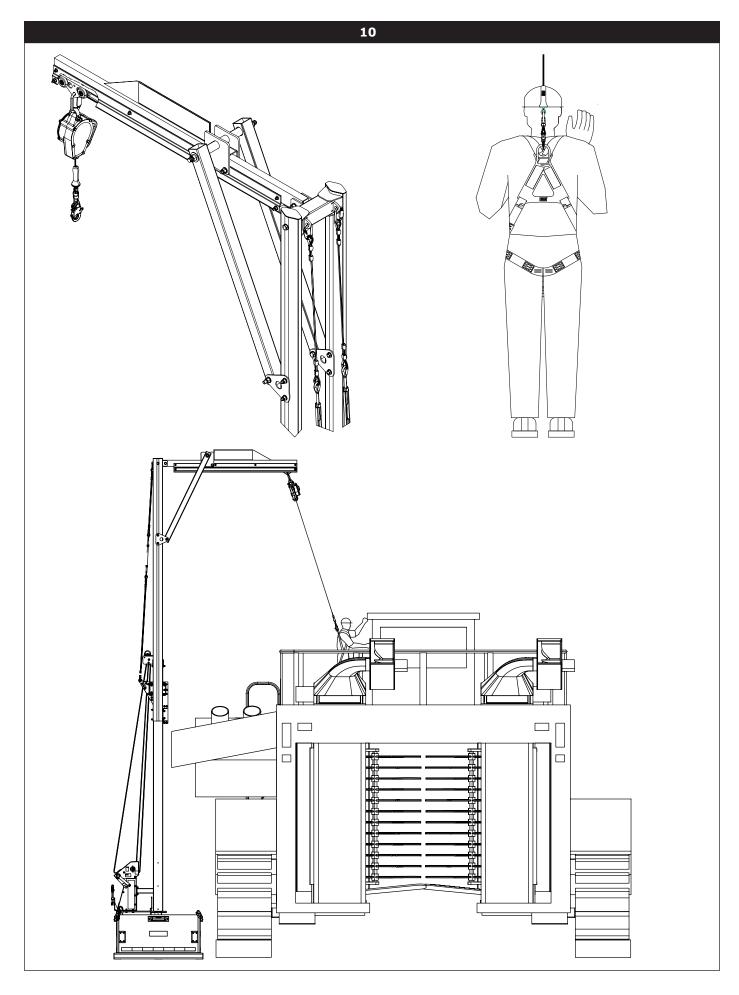


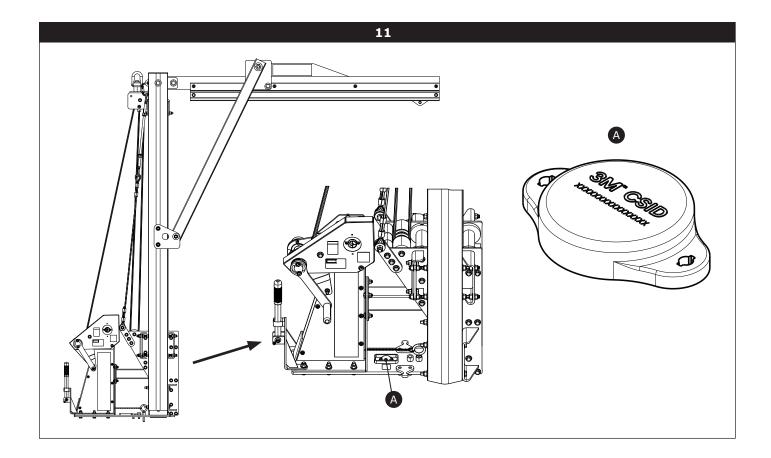
<b>F</b> ← H - ft (m) →								
		0	1	2	3	4	5	6
	(m)	(0.0)	(0.3)	(0.6)	(0.9)	(1.2)	(1.5)	(1.8)
	0	0.0	1.0	2.0	3.0	4.0	5.0	6.0
	(0.0)	(0.0)	(0.3)	(0.6)	(0.9)	(1.2)	(1.5)	(1.8)
	1	1.0	1.4	2.2	3.2	4.1	5.1	6.1
	(0.3)	(0.3)	(0.4)	(0.7)	(1.0)	(1.3)	(1.6)	(1.9)
	2	2.0	2.2	2.8	3.6	4.5	5.4	6.3
	(0.6)	(0.6)	(0.7)	(0.9)	(1.1)	(1.4)	(1.6)	(1.9)
	3	3.0	3.2	3.6	4.2	5.0	5.8	6.7
	(0.9)	(0.9)	(1.0)	(1.1)	(1.3)	(1.5)	(1.8)	(2.0)
	4	4.0	4.1	4.5	5.0	5.7	6.4	7.2
	(1.2)	(1.2)	(1.3)	(1.4)	(1.5)	(1.7)	(2.0)	(2.2)
	5	5.0	5.1	5.4	5.8	6.4	7.1	7.8
	(1.5)	(1.5)	(1.6)	(1.6)	(1.8)	(2.0)	(2.2)	(2.4)
	6	6.0	6.1	6.3	6.7	7.2	7.8	8.5
	(1.8)	(1.8)	(1.9)	(1.9)	(2.0)	(2.2)	(2.4)	(2.6)
	7	7.0	7.1	7.3	7.6	8.1	8.6	9.2
	(2.1)	(2.1)	(2.2)	(2.2)	(2.3)	(2.5)	(2.6)	(2.8)
	8	8.0	8.1	8.2	8.5	8.9	9.4	10.0
	(2.4)	(2.4)	(2.5)	(2.5)	(2.6)	(2.7)	(2.9)	(3.0)
	9	9.0	9.1	9.2	9.5	9.8	10.3	10.8
	(2.7)	(2.7)	(2.8)	(2.8)	(2.9)	(3.0)	(3.1)	(3.3)
	10	10.0	10.0	10.2	10.4	10.8	11.2	11.7
	(3.0)	(3.0)	(3.1)	(3.1)	(3.2)	(3.3)	(3.4)	(3.6)
↑	11	11.0	11.0	11.2	11.4	11.7	12.1	12.5
	(3.4)	(3.4)	(3.4)	(3.4)	(3.5)	(3.6)	(3.7)	(3.8)
<ul><li>&lt; V - ft (m) →</li></ul>	12	12.0	12.0	12.2	12.4	12.6	13.0	13.4
	(3.7)	(3.7)	(3.7)	(3.7)	(3.8)	(3.9)	(4.0)	(4.1)
/ - fi	13	13.0	13.0	13.2	13.3	13.6	13.9	14.3
	(4.0)	(4.0)	(4.0)	(4.0)	(4.1)	(4.1)	(4.2)	(4.4)
\	14	14.0	14.0	14.1	14.3	14.6	14.9	15.2
	(4.3)	(4.3)	(4.3)	(4.3)	(4.4)	(4.4)	(4.5)	(4.6)
	15	15.0	15.0	15.1	15.3	15.5	15.8	16.2
	(4.6)	(4.6)	(4.6)	(4.6)	(4.7)	(4.7)	(4.8)	(4.9)
	16	16.0	16.0	16.1	16.3	16.5	16.8	17.1
	(4.9)	(4.9)	(4.9)	(4.9)	(5.0)	(5.0)	(5.1)	(5.2)
	17	17.0	17.0	17.1	17.3	17.5	17.7	18.0
	(5.2)	(5.2)	(5.2)	(5.2)	(5.3)	(5.3)	(5.4)	(5.5)
	18	18.0	18.0	18.1	18.2	18.4	18.7	19.0
	(5.5)	(5.5)	(5.5)	(5.5)	(5.6)	(5.6)	(5.7)	(5.8)
	19	19.0	19.0	19.1	19.2	19.4	19.6	19.9
	(5.8)	(5.8)	(5.8)	(5.8)	(5.9)	(5.9)	(6.0)	(6.1)
	20	20.0	20.0	20.1	20.2	20.4	20.6	20.9
	(6.1)	(6.1)	(6.1)	(6.1)	(6.2)	(6.2)	(6.3)	(6.4)
	21	21.0	21.0	21.1	21.2	21.4	21.6	21.8
	(6.4)	(6.4)	(6.4)	(6.4)	(6.5)	(6.5)	(6.6)	(6.7)
	22	22.0	22.0	22.1	22.2	22.4	22.6	22.8
	(6.7)	(6.7)	(6.7)	(6.7)	(6.8)	(6.8)	(6.9)	(7.0)
	23	23.0	23.0	23.1	23.2	23.3	23.5	23.8
	(7.0)	(7.0)	(7.0)	(7.0)	(7.1)	(7.1)	(7.2)	(7.2)
	24	24.0	24.0	24.1	24.2	24.3	24.5	24.7
	(7.3)	(7.3)	(7.3)	(7.3)	(7.4)	(7.4)	(7.5)	(7.5)
	25	25.0	25.0	25.1	25.2	25.3	25.5	25.7
	(7.6)	(7.6)	(7.6)	(7.6)	(7.7)	(7.7)	(7.8)	(7.8)

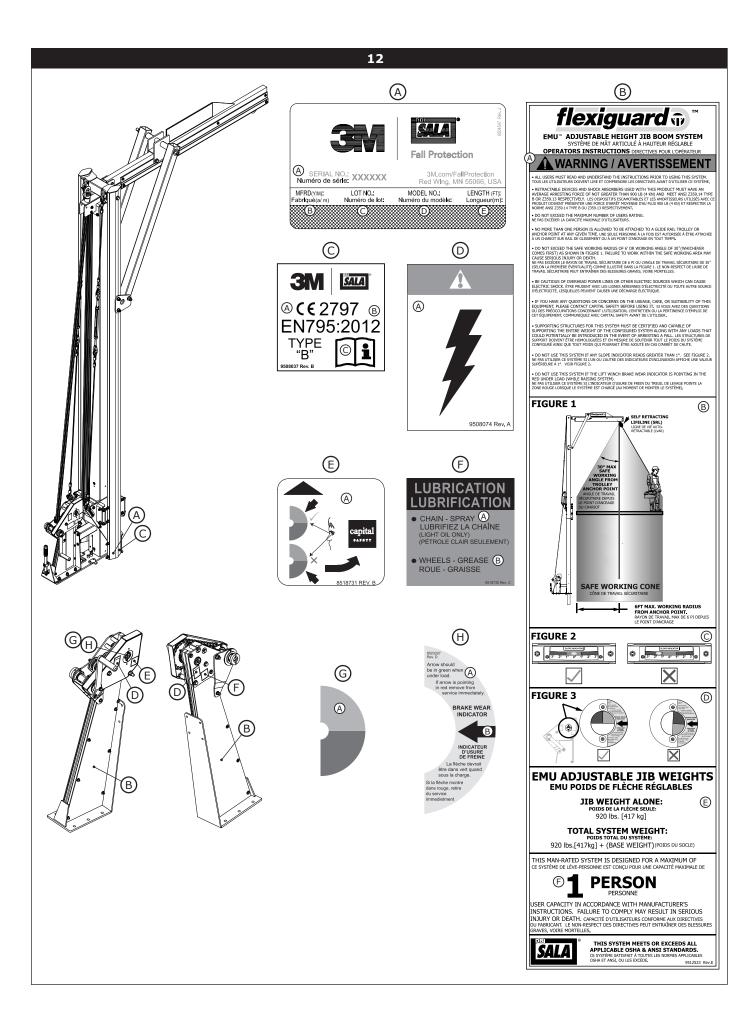


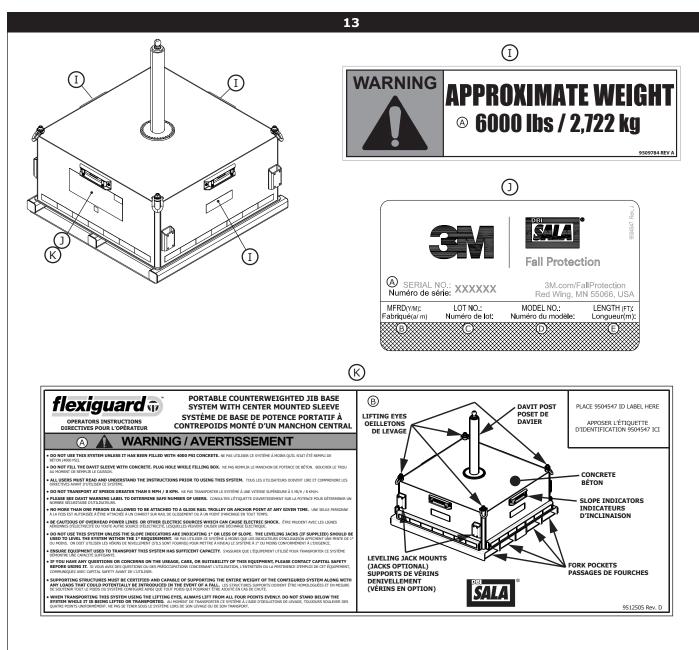














### SAFETY INFORMATION

Please read, understand, and follow all safety information contained in these instructions prior to the use of this Flexiguard 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 Flexiguard System is intended for use as part of a complete fall protection or rescue 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 User Instructions, is not approved by 3M and could result in serious injury or death.

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

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

#### To reduce the risks associated with transporting a Flexiguard system which, if not avoided, could result in serious injury or death:

- Ensure the system is properly secured or configured prior to transport. Refer to the User Instructions for detailed transportation requirements.
  - Only transport below 5 mph (8 km/h) and at inclines of 10° or less, or as outlined in the User Instructions.
- Ensure the system will not contact overhead objects or electrical hazards while transporting or in use.
- To reduce the risks associated with working with a Flexiguard 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, in accordance with the User Instructions.
  - If inspection reveals an unsafe or defective condition, remove the system from service and repair or replace according to the User Instructions.
    Any system that has been subject to fall arrest or impact force must be immediately removed from service. Refer to the User Instructions or
  - The substrate or structure on which the system is attached/positioned must be able to sustain the static loads specified for the system in the
  - The substrate or structure on which the system is attached/positioned must be able to sustain the static loads specified for the system in the orientations permitted in the User Instructions or Installation Instructions.
  - Do not exceed the number of allowable users as per the User Instructions.
  - Never attach to a system until it is fully assembled, positioned, adjusted, and installed. Do not adjust the system while a user is attached.
  - Never work outside the safe work area as defined by the User Instructions.
  - Do not connect to the system while it is being transported or installed.
  - Always maintain 100% tie-off when transferring between anchor points on the system.
  - Use caution when installing, using, and moving the system as moving parts may create potential pinch points.
  - Ensure proper lockout/tagout procedures have been followed when applicable.
  - Only connect fall protection subsystems to the designated anchorage connection point on the system.
  - When drilling holes for assembly or installation of the system, ensure no electric lines, gas lines, or other critical materials or equipment will be contacted by the drill.
  - 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 or Qualified Person before using these systems.
- To reduce the risks associated with working at heights 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 the 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 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 incident occurs, immediately seek medical attention for the fallen worker 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.

 $\checkmark$  If you have questions on the use, care, or suitability of this equipment for your application, contact 3M Fall Protection. For general questions, refer to national Standards including CE and applicable local requirements governing occupational safety for more information about fall protection systems.

 $\checkmark$  Prior to installation and use of this equipment, record the product identification information from the ID label in the Inspection and Maintenance Log (Table 2) at the back of this manual.

#### **PRODUCT DESCRIPTION:**

Figure 1 illustrates the Flexiguard<sup>®</sup> Adjustable Jib Boom Fall Arrest Systems. The Adjustable Jib Booms are adjustable height boom mounted Glide Rail Fall Arrest Systems that rotate 360° on various base options. Systems with a Counterweight Base can be transported with a Forklift, Pallet Jack, Crane, etc.

Figure 2 illustrates components of the Adjustable Jib Boom Fall Arrest Systems. See Table 1 for component identification and specifications. The Jib Rail Assembly (A) extends from an Adjustable Upright (B) and supports a Glide Rail (C) with a Four-Wheeled Trolley (D) that travels back and forth in the Rail Halves. The Trolley is equipped with a 5/8" Eye for connection of a Self-Retracting Lifeline or Energy Absorbing Lanyard.

The Adjustable Upright is mounted on a Hitch Ball Post (E) that is embedded in a concrete filled Counterweight Base (F). The height of the Jib Boom is adjusted with a Hand Crank (G) and Lifting Mechanism (H) that raise or lower the Adjustable Upright. The Adjustable Upright can be rotated 360° with the foldable Rotation Handle (I) and locked at 11° increments with the Rotation Lock Pin Mechanism (J) or allowed to rotate through a range defined by two Rotation Limiters (P). The bottom of the Counterweight Base has Lifting Channels (K) and Lifting Eyes (L) for transport with a Forklift, Pallet Jack, Crane, etc. and Slope Indicators (M) to ensure the system is level. Optional Leveling Jacks (N) can be installed on the Counterweight Bases.

System Spec	ifications:					
Capacity:	1 Person per Glide Trolley with a combined weight (including clothing, tools, etc.) of no more than 140 kg (310 lb.).					
Anchorage:	Structure supporting the Fall Arrest System must withstand a 39 kN (8,800 lbf) vertical load.					
Component S	pecifications:					
Figure 2 Reference	Component	Materials	Rating			
A	Jib Rail Assembly	Aluminum				
B	Adjustable Upright Assembly	Tubes - Steel Rollers - Nylatron Lifting Connection Point - Steel	Connection Point - LIFTING ONLY, not for Fall Protection: 544 kg (1,200 lb.) Vertical ( $\psi$ ) Load			
C	Glide Rail	Aluminum Rail Halves	817 kg (1,800 lb.) Vertical ( $\psi$ ) Load			
D	Four-Wheeled Trolley	Wheels - Nylon Bearings - Steel 5/8" Eye - Stainless Steel	2,268 kg (5,000 lb.) Vertical ( $\psi$ ) Load			
E	Hitch Ball Post	Tube - Steel Hitch Ball Pivot - Steel				
F	Counterweight Base: 8560013	Steel Concrete with Steel Rebar	Filled with 4,000 psi Concrete: 8560013 = 2,703 kg (5,960 lb.)			
G	Hand Crank	Steel				
θ	Lifting Mechanism	Base - Aluminum Chain & Chain Cover - Steel Gears - Steel Rollers - Plastic				
I	Rotation Handle	Tube - Steel Hand Grip - Rubber				
J	Rotation Lock Pin Mechanism	Plate - Steel Pin - Zinc Plated Steel				
K	Lifting Channels	Steel				
L	Lifting Eyes	Steel	2,268 kg (5,000 lb.) Vertical ( $\psi$ ) Load (1,250 lb. per Eye)			
M	Slope Indicators	Plastic Gauge on Aluminum C-Channel				
$\mathbb{N}$	Jack Kit - 8530563 (Optional - sold seperately)	Jack - Steel Mounting Tubes - Steel Mounting Pin - Steel	3,175 kg (7,000 lb.) Top Wind Jacks			
0	Rotation Limiters	Steel with Magnets				

#### **1.0 PRODUCT APPLICATION**

- **PURPOSE:** Flexiquard<sup>™</sup> Anchorage Systems are designed to provide anchorage connection points for a Personal Fall 1.1 Arrest System (PFAS).
- STANDARDS: Your Flexiguard Anchorage System conforms to the national or regional standard(s) identified on the front 1.2 cover of these instructions. If this product is resold outside the original country of destination, the re-seller must provide these instructions in the language of the country in which the product will be used.
- 1.3 **SUPERVISION:** Installation of this equipment must be supervised by a Qualified Person<sup>1</sup>. Use of this equipment must be supervised by a Competent Person<sup>2</sup>.
- 1.4 **TRAINING:** This equipment must be installed and used by persons trained in its correct application. This manual is to be used as part of an employee training program as required by CE. It is the responsibility of the users and installers of this equipment to ensure they are familiar with these instructions, trained in the correct care and use of this equipment, and are aware of the operating characteristics, application limitations, and consequences of improper use of this equipment.
- 1.5 RESCUE PLAN: When using this equipment and connecting subsystem(s), the employer must have a rescue plan and the means at hand to implement and communicate that plan to users, authorized persons<sup>3</sup>, and rescuers<sup>4</sup>. A trained, onsite rescue team is recommended. Team members should be provided with the equipment and techniques to perform a successful rescue. Training should be provided on a periodic basis to ensure rescuer proficiency.
- INSPECTION FREQUENCY: The Flexiguard Anchorage System shall be inspected by the user before each use and, 1.6 additionally, by a Competent Person other than the user at intervals of no longer than one year.<sup>5</sup> Inspection procedures are described in the "Inspection and Maintenance Log". Results of each Competent Person inspection should be recorded on copies of the "Inspection and Maintenance Log".
- AFTER A FALL: If the Flexiquard Anchorage System is subjected to the forces of arresting a fall, remove the system 1.7 from service immediately and clearly mark it "DO NOT USE." Destroy or repair the system as required by these instructions.

#### SYSTEM REQUIREMENTS 2.0

- ANCHORAGE: Anchorage requirements vary with the fall protection application. Structure on which the Flexiguard 21 Anchorage System is placed or mounted must meet the Anchorage specifications defined in Table 1.
- PERSONAL FALL ARREST SYSTEM: Personal Fall Arrest Systems (PFAS) used with the system must meet applicable 2.2 Fall Protection standards, codes, and requirements. Refer to the instructions included with your connecting subsystem for additional fall requirements. The PFAS must incorporate a Full Body Harness and limit Arresting Force to the following values:

Connecting Subsystem	Maximum Arresting Force			
Energy Absorbing Lanyard	6 kN (1,350 lbf)			
Self-Retracting Device (SRD)	6 kN (1,350 lbf)			

- FALL PATH AND SRD LOCKING SPEED: A clear path is required to assure positive locking of an SRD. Situations which 2.3 do not allow for an unobstructed fall path should be avoided. Working in confined or cramped spaces may not allow the body to reach sufficient speed to cause the SRD to lock if a fall occurs. Working on slowly shifting material, such as sand or grain, may not allow enough speed buildup to cause the SRD to lock.
- 2.4 **HAZARDS:** Use of this equipment in areas with environmental hazards may require additional precautions to prevent injury to the user or damage to the equipment. Hazards may include, but are not limited to: heat, chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges, or overhead materials that may fall and contact the user or Personal Fall Arrest System.
- FALL CLEARANCE: There must be sufficient clearance below the user to arrest a fall before the user strikes the ground 2.5 or other obstruction. Fall Clearance is dependent on the following factors:
  - **Deceleration Distance** Worker Height •

Free Fall Distance

- Elevation of Anchorage Connector
- Movement of Harness Attachment Element Connecting Subsystem Length

See the instruction manual of your connecting subsystem for specifics regarding Fall Clearance calculation.

- 2.6 SWING FALLS: Swing Falls occur when the anchorage point is not directly above the point where a fall occurs (see Figure 3). The force of striking an object in a swing fall may cause serious injury or death. Minimize swing falls by working as directly below the anchorage point as possible. Do not permit a swing fall if injury could occur. Swing falls will significantly increase the clearance required when a Self-Retracting Device or other variable length connecting subsystem is used.
- SHARP EDGES: Avoid working where Lifeline or Lanyard components of the Personal Fall Arrest System (PFAS) can 2.7 contact or abrade against unprotected sharp edges (see Figure 4). Where contact with a sharp edge is unavoidable, cover the edge with protective material (A).
- 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.
- Competent Person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. 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 Inspection Frequency: Extreme working conditions (harsh environments, prolonged use, etc.)may require increasing the frequency of competent person inspections

- **2.8 COMPONENT COMPATIBILITY:** 3M equipment is designed for use with 3M approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.
- 2.8 **CONNECTOR COMPATIBILITY:** 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 3M if you have any questions about compatibility.

Connectors must comply with EN 362. Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage (see Figure 5). Connectors must be compatible in size, shape, and strength. If the connecting element to which a snap hook or carabiner attaches is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner (A). This force may cause the gate to open (B), allowing the snap hook or carabiner to disengage from the connecting point (C).

**2.9 MAKING CONNECTIONS:** Snap hooks and carabiners used with this equipment must be self-locking. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

3M connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Figure 6 for examples of inappropriate connections. Do not connect snap hooks and carabiners:

- A. To a D-ring to which another connector is attached.
- B. In a manner that would result in a load on the gate. 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 is equipped with a 16 kN (3,600 lbf) 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.

#### 3.0 INSTALLATION

 $\checkmark$  The Flexiguard<sup>®</sup> Adjustable Jib Boom must be installed by a Qualified Person<sup>1</sup> and the installation must be certified by a Qualified Person as: meeting the criteria for a Certified Anchorage, or capable of supporting the potential forces that could be encountered during a fall.

 $\boxed{M}$  Do not alter or intentionally misuse this equipment. Consult 3M Fall Protection when installing or using this equipment in combination with components or subsystems other than those described in this manual. Some subsystems and component combinations may interfere with the operation of this equipment.

 $\boxed{V}$  Labels and markings present on the SafRig FAS should be accessible to the user at all times. If inaccessible after installation, it is recommended that labels and markings be documented with additional markings near the installation site.

- **3.1 PLANNING:** Plan your fall protection system prior to installation of the Flexiguard Anchorage System. Account for all factors that may affect your safety before, during, and after a fall. Consider all requirements, limitations, and specifications defined in Section 2 and Table 1.
- 3.2 **INSTALLING THE JIB BOOM ON THE BASE:** Figure 7 illustrates installation of the Jib Boom on the Base:
  - **1. Install Bases:** Counterweight Bases should come pre-assembled, but may need to be filled with 4,000 psi concrete. Contact 3M Fall Protection if you have questions regarding appropriate concrete and its preparation.
  - 2. Assemble the Jib Boom: Assemble the Jib Boom as instructed in the Assembly Instruction (see Table 1).
  - **3. Position the Jib Boom over the Base:** Lift the assembled Jib Boom boom by the Hoist Ring with a Forklift or Crane. Position the Jib Boom so the Mounting Socket in the bottom of the upright is directly over the Hitch Ball Post.
  - 4. Lower the Jib Boom onto the Base: Lower the Jib Boom onto the Base until the Hitch Ball fully seats in the Mounting Socket.
  - **5. Configure Jib Boom Rotation:** The Jib Boom can be locked at 11° rotation increments with the Rotation Lock Pin Mechanism or allowed to rotate through a range defined by two Rotation Limiters.
    - **A.** No Rotation: Rotate the Jib Boom to the desired position and then insert the Rotation Lock Pin through the inside Pin Hole and aligned hole in the Rotation Plate to prevent the Jib Boom from rotating.
    - **B. Rotation Range:** Insert the Rotation Lock Pin through the outside Pin Hole and then install Rotation Limiters on each side of the Lock Pin: Remove the Rotation Limiters from their storage positions on the Jib Boom. Insert the Rotation Limiter mounting pegs through the desired holes in the Rotation Plate to define the rotation range.

 $\checkmark$  The Jib Boom may be used without the Rotation Lock Pin inserted, allowing 360° rotation; but can cause increased swing fall in multiple directions in the event of a fall.

- **3.3 INSTALLING OPTIONAL LEVELING JACKS:** An optional Jack Leveling Kit is available for the Counterweight Bases. Install the Leveling Jacks on the Counterweight Base as instructed in the included Installation Instruction.
- **3.4 TRANSPORTING THE SYSTEM:** Figure 8 illustrates transport of the Jib Boom. Prepare and transport the system as follows:
  - 1. Lower the Jib Boom: Turn the Vertical Adjustment Hand Crank until the Adjustable Upright and Jib Boom are fully lowered.
  - 2. Rotate the Jib Boom: Remove the Rotation Lock Pin, rotate the Jib Boom for best clearance during transport, and then reinsert the Rotation Lock Pin to prevent the Jib Boom from rotating during transport.
  - **3. Transport the System:** Transport Jib Boom systems with a Counterweight Base to the desired work location with a Forklift or Pallet Jack and the Lifting Channels; or Crane or similar equipment and the Lifting Eyes on the Counterweight Base. Transport the Jib Boom from one base to another base with a Crane, Hoist or Forklift with a Lifting Strap/Chain and the Hoist Ring on the top end of the Upright Assembly.

 $\boxed{V}$  Do not transport at speeds exceeding 8 kph (5 mph). Never transport the system on slopes greater than 10°. Excessive speeds or slopes may cause system and tow vehicle tip-overs resulting in serious injury or death.

When transporting the Jib Boom, be aware of overhead obstructions and electrical hazards which may result in serious injury or death.

- **3.5 POSITIONING THE SYSTEM:** Figure 9 illustrates positioning and preparation of the Jib Boom for work. Position and prepare the system as follows:
  - 1. Position the Jib Boom: Place the Adjustable Jib Boom near the work area on a surface with 1° or less of slope.
  - **2. Slope Indicators:** The Counterweight Base is equipped with three Slope Indicators for verification of a level surface. Optional Leveling Jacks may be installed in the Leveling Jack Mounts on the Counterweight Base for purposes of leveling the Jib Boom on a surface that is not level. Extend the Leveling Jacks until they contact the ground. Crank the Leveling Jacks up or down as needed until all Slope Indicators indicate less than 1° of slope.
  - 3. Raise the Jib Boom: Turn the Vertical Adjustment Hand Crank clockwise until the Jib Rail Assembly reaches the desired height.
  - 4. Rotate the Jib Boom: Remove the Rotation Lock Pin and rotate the Jib Boom to the desired work position with the Rotation Handle. The Jib Boom can be locked at 11° rotation increments with the Rotation Lock Pin Mechanism or allowed to rotate through a range defined by two Rotation Limiters:
    - **A. No Rotation:** Rotate the Jib Boom to the desired position and then insert the Rotation Lock Pin through the inside Pin Hole and aligned hole in the Rotation Plate to prevent the Jib Boom from rotating.
    - **B. Rotation Range:** Insert the Rotation Lock Pin through the outside Pin Hole and then install Rotation Limiters on each side of the Lock Pin. Insert the Rotation Limiter mounting pegs through the desired holes in the Rotation Plate to define the rotation range.
    - **C. 360° Rotation:** The Jib Boom may be used without the Rotation Lock Pin inserted, allowing 360° rotation; be aware that, in the event of a fall, this practice can increase swing fall in multiple directions.

#### 4.0 USE

- **4.1 BEFORE EACH USE:** Verify that your work area and Personal Fall Arrest System (PFAS) meet all criteria defined in Section 2 and a formal Rescue Plan is in place. Inspect the Jib Boom per the '*User'* inspection points defined on the "*Inspection and Maintenance Log*" (Table 2). If inspection reveals an unsafe or defective condition, do not use the Jib Boom. Remove the system from service and contact 3M Fall Protection regarding replacement or repair.
- **4.2 FALL ARREST CONNECTIONS:** Figure 10 illustrates application of the Jib Boom and its Fall Arrest Connections. The Jib Boom must always be used with a Full Body Harness and Fall Arrest subsystem. The Glide Rail System is equipped with a Four-Wheel Trolley that travels back-and-forth inside the Rail Halves. An SRD or Energy Absorbing Lanyard can be connected the Four-Wheel Trolley. Connect the other end of the SRD or Energy Absorbing Lanyard to the back Dorsal D-Ring on the Harness.

 $\boxed{M}$  No more than one person, meeting the Capacity requirements specified in Table 1, shall be attached to the Glide Four-Wheel Trolley.

**4.3 DETERMINING A SAFE WORK AREA:** Refer to the Table in Figure 3. The gray shading on the table designates safe working distances where the angle of the Lifeline is less than or equal to 30° from vertical and the Horizontal Distance (H) from the anchorage connection point is less than or equal to 1.82 m (6.0 ft.). NEVER work at a Horizontal Distance (H) and Vertical Distance (V) that results in a calculated Vertical Fall Distance (F) exceeding the gray shaded values shown in the table.

#### 5.0 INSPECTION

 $\checkmark$  After equipment has been removed from service, it may not be returned to service until a Competent Person confirms in writing that it is acceptable to do so.

**5.1 INSPECTION FREQUENCY:** The Flexiguard Adjustable Jib Boom must be inspected at the intervals defined in Section 1. Inspection procedures are described in the "*Inspection and Maintenance Log"* (*Table 2*). Inspect all other components of the Fall Protection System per the frequencies and procedures defined in the manufacturer's instructions.

Record the inspection date on the inspected equipment. Record the inspection date and results on the "Inspection and Maintenance Log" at the back of this manual.

- **5.2 DEFECTS:** If inspection reveals an unsafe or defective condition, remove the Adjustable Jib Boom from service immediately and contact 3M Fall Protection regarding replacement or repair. Do not attempt to repair the system.
- **5.3 PRODUCT LIFE:** The functional life of the Adjustable Jib Boom is determined by work conditions and maintenance. As long as the product passes inspection criteria, it may remain in service.

#### 6.0 MAINTENANCE, SERVICING, STORAGE

**6.1 CLEANING:** Periodically clean the Adjustable Jib Boom's metal components with a soft brush, warm water, and a mild soap solution. Ensure parts are thoroughly rinsed with clean water.

Although highly resistant to chemicals and environmental conditions, avoid contaminating the Flexiguard Adjustable Jib Boom with acids, bitumen, cement, paint, cleaning fluids, etc. If the equipment contacts acids or other caustic chemicals, remove from service and wash with water and a mild soap solution. Inspect per Table 2 before returning to service.

**6.2 SERVICE:** Only 3M Fall Protection or parties authorized in writing by 3M Fall Protection may make repairs to this equipment. If the Flexiguard Adjustable Jib Boom has been subject to fall force or inspection reveals an unsafe or defective conditions, remove the system from service and contact 3M Fall Protection regarding replacement or repair.

**6.3 STORAGE AND TRANSPORT:** The Flexiguard system is designed to be stored outdoors during normal weather conditions. If the weather is severe, it is recommended to store the system in an area that protects against damage to the system. Store the Flexiguard Adjustable Jib Boom and associated fall protection equipment in a cool, dry, clean environment out of direct sunlight. Avoid areas where chemical vapors may exist. Thoroughly inspect components after extended storage.

If the system is transported long distances, it should be disassembled and all components secured and protected from severe conditions during transport.

#### 7.0 RFID TAG

- **7.1 LOCATION:** 3M product covered in these user instructions is equipped with a Radio Frequency Identification (RFID) Tag. RFID Tags may be used in coordination with an RFID Tag Scanner for recording product inspection results. See Figure 11 for where your RFID Tag is located.
- **7.2 DISPOSAL:** Prior to disposing of this product, remove the RFID Tag and dispose/recycle in accordance with local regulations. For additional information on how to remove the RFID Tag, please refer to the website link below.



Do not dispose of your product as unsorted municipal waste. The crossed-out wheelie bin symbol indicates that all EEE (Electrical and Electronic Equipment) must be disposed of according to local law through available return and collection systems. Please contact your dealer or your local 3M representative for further information.

For more information, please visit our website: <u>http://www.3M.com/FallProtection/RFID</u>

# CE

#### 8.0 LABELS

Figures 12 and 13 illustrate labels present on the Adjustable Jib Boom. All labels must be present and fully legible on the system. The content of each label is as listed below:

A	A) Serial Number B) Manufactured (Year/Month) C) Lot Number D) Model Number E) Length (ft.)
B	A) Warning Statements B) Safe Working Cone C) Level Indicators D) Brake Wear Indicators E) Jib Weight and Total System Weight
©	A) Notified Body B) Applicable Standard C) Read all instructions.
D	A) Electrocution Hazard - Watch out for and avoid overhead power lines.
E	A) Inspect Brake Wear Indicators - Remove from service if the Brake Wear Indicator is in the red zone.
F	A) Lubrication for chain - spray B) Lubrication for wheels - grease
G	A) Brake Wear Zones
H	<ul><li>A) Arrow should be in green when under load. If arrow is pointing in red, remove service immediately.</li><li>B) Brake Wear Indicator</li></ul>
I	A) Approximate Weight 6000 lb. (2722 kg)
0	A) Serial Number B) Manufactured (Year/Month) C) Lot Number D) Model Number E) Length (ft.)
K	A) Warning Statements B) Base Components
	A) Warning Statements B) Maximum Lift Capacity: 5000 lbf (22 kN)

	Table 2 – Inspection and	d Maintenar	ice Log		
Inspection Date	: Inspec	cted By:			
Components:	Inspection: (See Section 1 for Inspection Frequency)			User	Competent Person
Tie-Back Cable and Turnbuckle	Inspect Turnbuckles for damage and proper adjustment.				
Assemblies (Diagram 1)	Check Tie-Back Cables for slack. Cables must be tight enough to apply slight pressure on the system structure, DO NOT OVERTIGHTEN. Inspect cables, for kinks (A), cut or broken wires (B), bird-caging (C), welding splatter (E), corrosion, chemical contact areas, or severely abraded areas. (see Diagram 1).				
Rail Support Assemblies	Check the Rail Support (A) for structural defect bends, corrosion, etc.				
(Diagram 2)	Inspect fasteners on Rail Supports to ensure they are tight.				
	Visually inspect the Gussets (B) for straightnes deformation or bend, indicating previous expo				
Glide Rail Assembly	Visually inspect fasteners (A) on the Glide Rail				
(Diagram 3)	Inspect the Rail Track (B) for structural defects without any bends or dents.				
	Visually inspect the Glide Four-Wheel Trolleys (C) for damage to the trolley and excessive wheel wear. Ensure the Trolleys roll freely in Glide Rail and the wheels are securely attached.				
Adjustable Upright Assembly	Inspect the Adjustable Upright Assembly for defects or structural damage including bends, corrosion, etc.				
(Diagram 4)	Inspect fasteners on Upright Assemblies to en				
	☑ Do not adjust Threaded Rods (A). They are preset by the manufacturer.				
	Periodically apply grease to the Grease Zerk (B) to lubricate the internal Hitch Ball Pivot				
Lifting Mechanism (Diagram 5)	Inspect the Brake Wear Indicators (A) while lo Brake Wear Indicator is in the Red zone (B), re from service and contact the manufacturer.				
	Inspect fasteners on the Drive Mechanism to e				
	Inspect the Drive Chain (C) for slack. Deflection more than 1/2 in. (13 mm).				
	Lubricate the Drive Chain with WD-40 (D) or a				
Anchorage Connection Points	Make sure all Anchorage Connection Points are other imperfections that my cause malfunction				
Labels (Figures 12 and 13)	Verify that all labels are securely attached and	abels are securely attached and are legible.			
PFAS and Other Equipment	Additional Personal Fall Arrest System (PFAS) etc) that are used with the Flexiguard Anchora installed and inspected per the manufacturer's	ige System sho			
Serial Number(s)	):		Date Purchas	ed:	
Model Number:		Date of First Use:			
Corrective Actior	/Maintenance:	Approved By: Date:		Next inspection due:	
Corrective Actior	Approved By: Date:		Next inspection due:		
Corrective Actior	/Maintenance:	Approved By: Date:		Next inspection due:	
Corrective Actior	/Maintenance:	Approved By: Date:		Next inspection due:	
Corrective Actior	/Maintenance:	Approved By: Date:		Next inspection due:	

