

**Fall Protection** 

EN795: 2012 Type B CEN/TS16415: 2013 Type B PPE Regulation (EU) 2016/425 Regulation 2016/425 on PPE as brought into UK law and amended

Conforms to the

requirements of 29 CFR OSHA 1910.140

and 29 CFR OSHA 1926.502

CE Type Test
No. 2797
BSI
The Netherlands B.V.
Say Building
John M. Keynesplein 9
1066 EP
Amsterdam Netherlands

United Kingdom

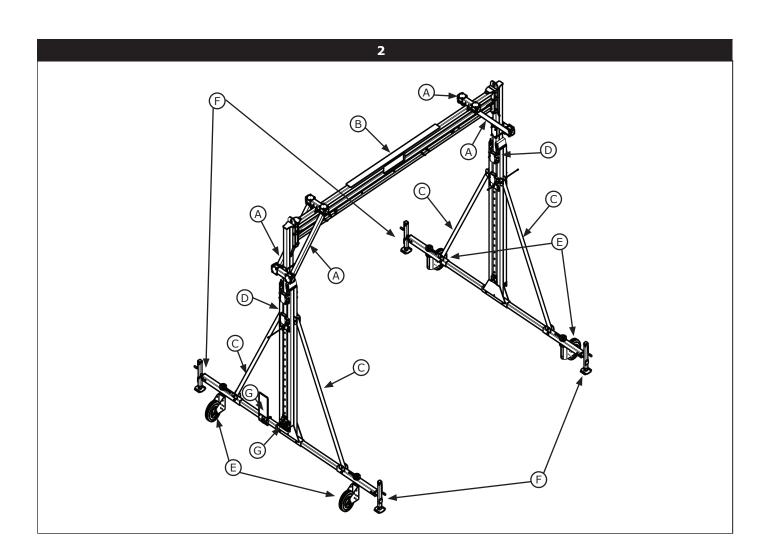
CE Production Quality Control
No. 2797
BSI
The Netherlands B.V.
Say Building
John M. Keynesplein 9
1066 EP
Amsterdam
Netherlands UKCA Type Test
No. 0086
BSI
Kitemark Court
Davy Avenue
Knowlhill
Milton Keynes
MK5 8PP

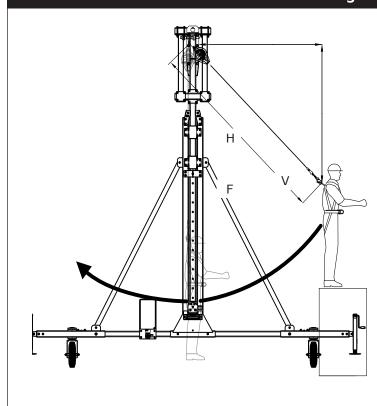
UKCA Production
Quality Control
No. 0086
BSI
Kitemark Court
Davy Avenue
Knowlhill
Milton Keynes
MKS 8PP
United Kingdom

**FALL ARREST SYSTEM** A-FRAME RAIL

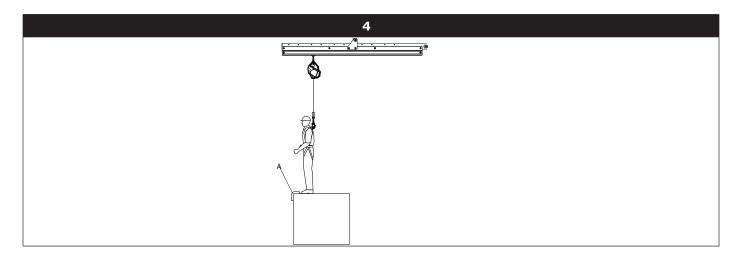
**USER INSTRUCTION MANUAL** 5902446 REV. G

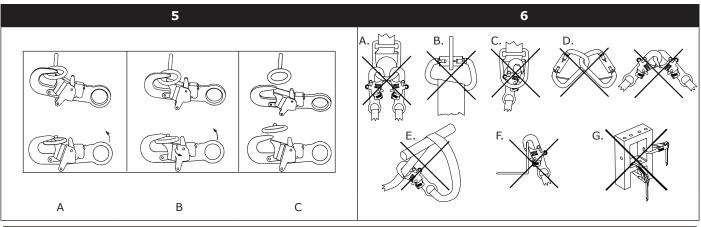
1 **OSHA Models** 8517780 8517781 8517790 8517791 8517792 8517793 8517794 8517795 8517796 8517797 8517798 8530806 8530826 **CE Models** 8560021 8560027 8560028 8560029 8530030 8530032 8530033 8530034 8530036

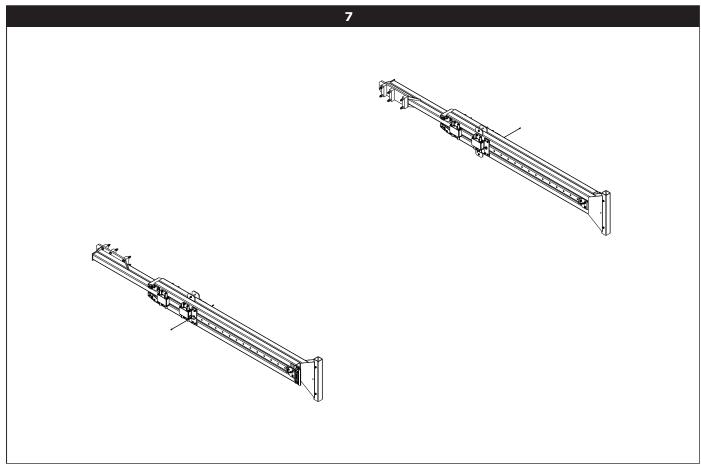


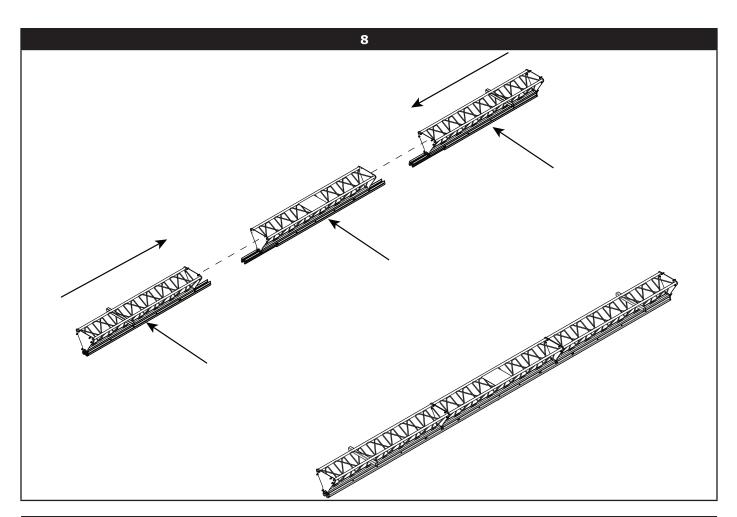


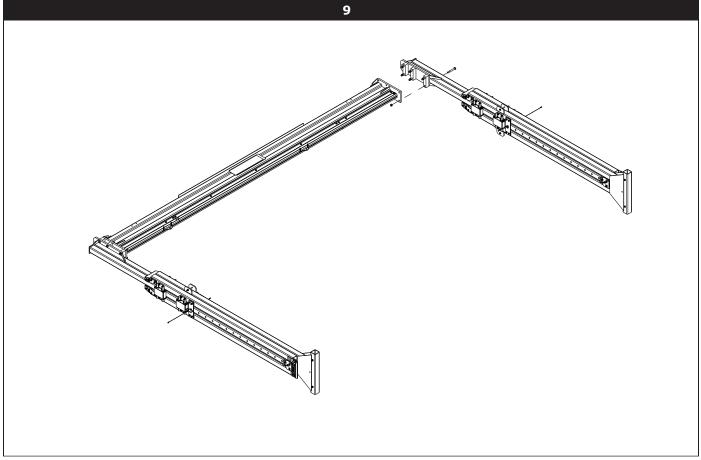
| F<br>ft (m)                           |       | ← H - ft (m) → |            |            |            |            |            |            |
|---------------------------------------|-------|----------------|------------|------------|------------|------------|------------|------------|
|                                       |       | 0<br>(0.0)     | 1<br>(0.3) | 2<br>(0.6) | 3<br>(0.9) | 4<br>(1.2) | 5<br>(1.5) | 6<br>(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)      |
| <b>↑</b>                              | 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)      |
| $\leftarrow$ V - ft (m) $\Rightarrow$ | 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)      |
| <b>\</b>                              | 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)      |

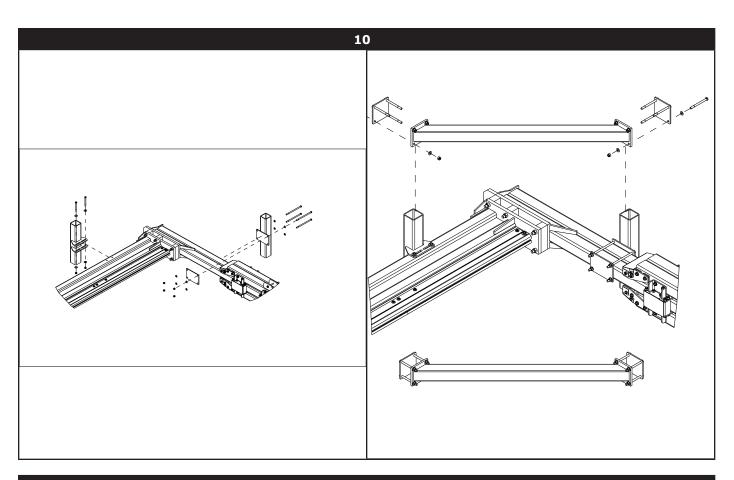


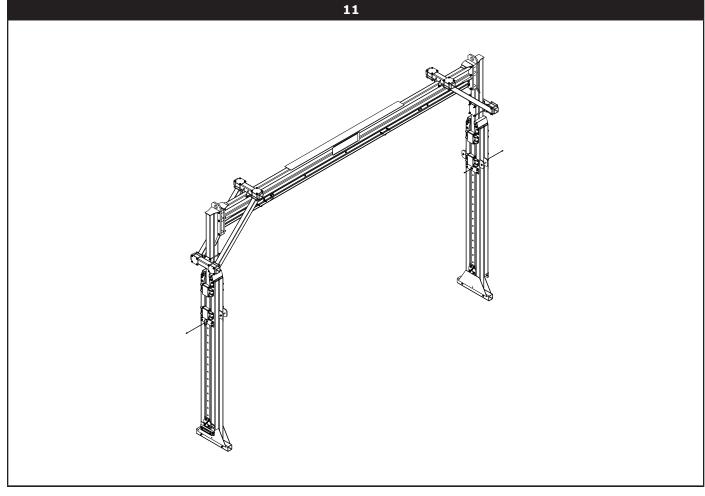


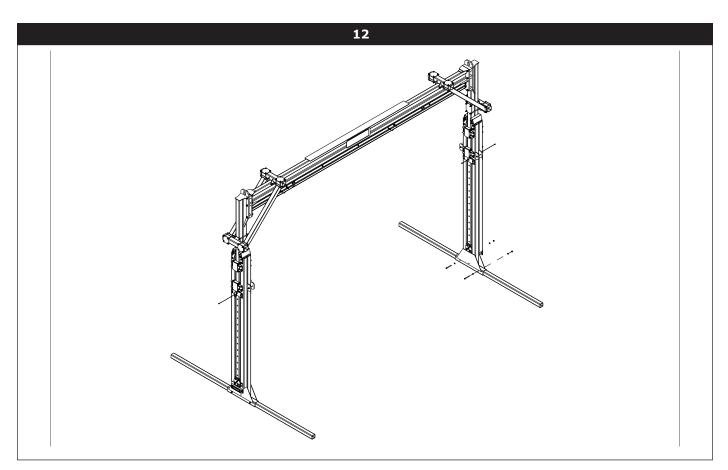


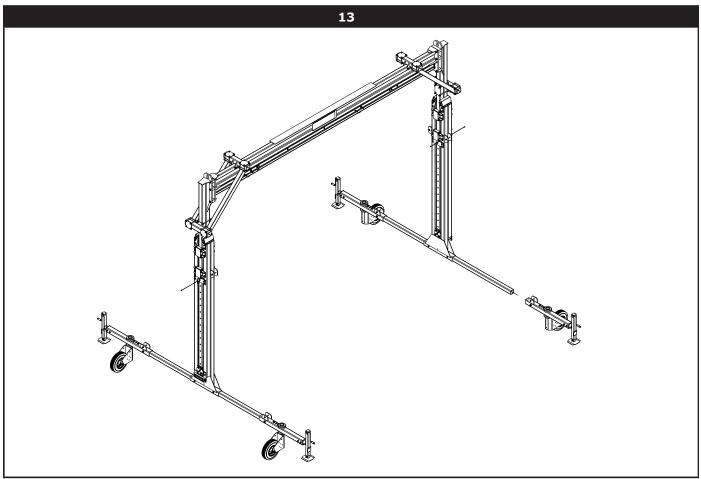


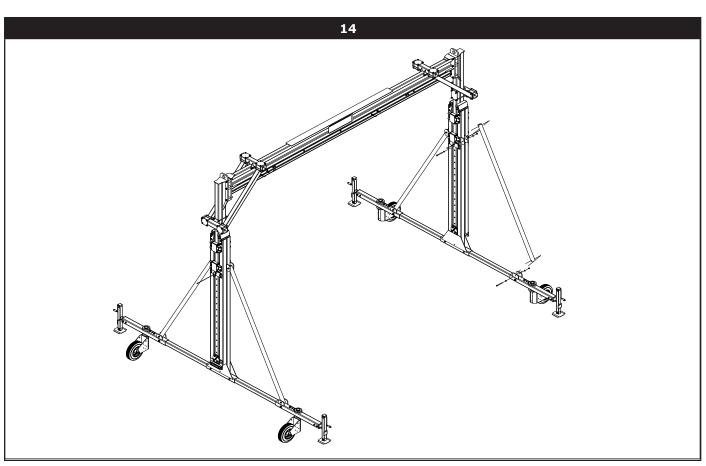


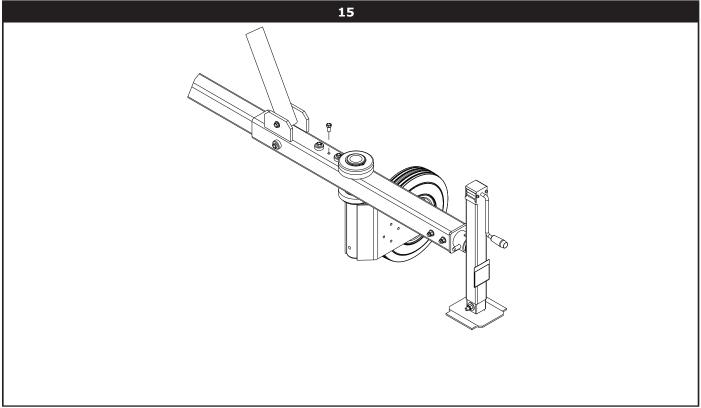


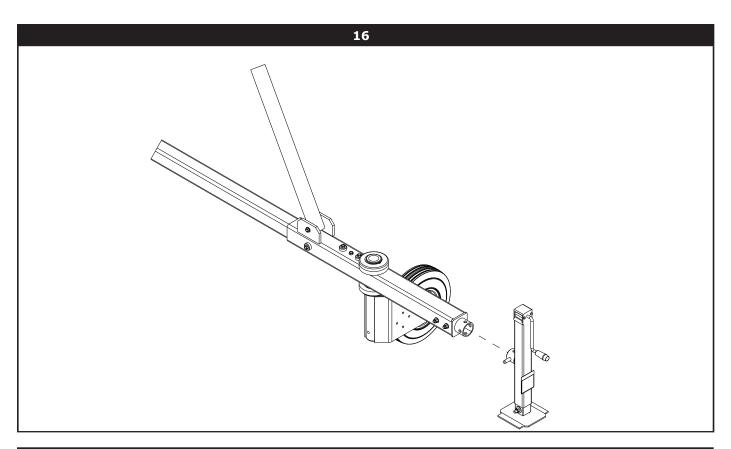


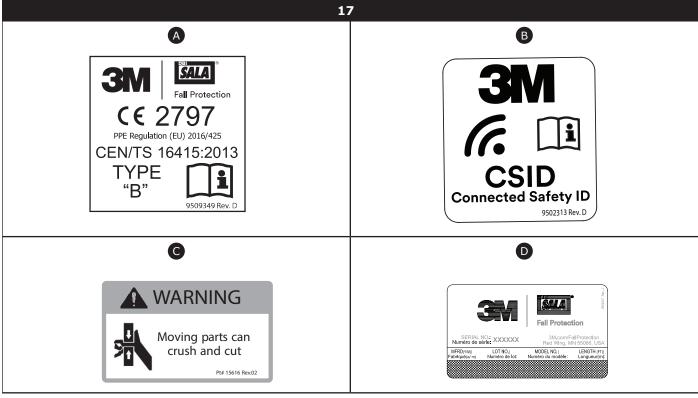




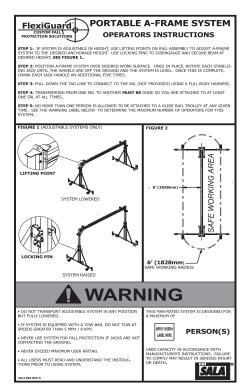














# FIXED PORTABLE A-FRAME SYSTEM

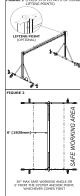
OPERATORS INSTRUCTIONS
STEP 1: PUSH SYSTEM INTO WORKING
POSITION OR IF SYSTEM HAS OPTIONAL
LIFTING POINTS, YOU MAY ATTACH A
CRANE TO BOTH LIFTING POINTS TO
POSITION A-FRAME SYSTEM TO THE
DESIRED WORKING AREA.
SEE FIGURE 1

STEP 2: POSITION A-FRAME SYSTEM OVE DESIRED WORK SURFACE. ONCE IN PLACE OCTATE EACH STABILIZING JACK UNTIL THE WHEELS ARE OFF THE GROUND AND THE SYSTEM IS LEVEL. ONCE THIS IS COMPLETE, CRAME EACH JACK HANDLE AN ADDITIONAL FIVE TIMES.

ONNECT TO THE SRL (NOT PROVIDED)

O ANOTHER MUST BE DONE SO YOU ARE ITTACHED TO AT LEAST ONE SRL AT ALL

ALLOWED TO BE ATTACHED TO A GLIDE RAIL TROLLEY AT ANY GIVEN TIME. SEE THE WARNING LABEL BELOW TO DETERMINE THE MAXIMUM NUMBER OF OPERATORS FOR THIS SYSTEM.



# WARNING IF SYSTEM IS EQUIPPED WITH A TOW B DO NOT TOW AT SPEEDS GREATER THAN MPH / 8 KPH. NEVER USE SYSTEM FOR FALL.

CONTACTING THE GROUND.

• WHEN USING A CRANE ALWAYS USE BOTH-LIFTING POINTS TO POSITION THE SYSTEM

• NEVER EXCEED MAXIMUM USER RATING.

 ALL USERS MUST READ AND UNDERSTA THE INSTRUCTIONS
THIS MAN-RATED SYSTEM IS DESIGNED FOR A MAXIMUM OF:

 PERSONS

SER CAPACITY IN ACCORDANCE WITH ANUMENTUREN'S INSTRUCTIONS, NAILURE TO SCHOOLS INJURY OR DE DEL







# MAXIMUM LIFT CAPACITY: 5000 lbs / 22kN Capacite maximale de portance: 5000 lbs / 22kN

Do not remove this label. Fully retract or rotate jack before towing. Engage locking pin on swivel jack before towing or using jack. Blocks used to increase height can cause instability and may cause injury or death. Enlever pas cette etiquette. Retracter completement la prise avant le remorquage. Engager la pin pivotent avant de remorquage ou en utilisent la prise. Blocs utilize pour augmenter la hauteur peut entrainer une instabilite et peuvent cause une blesseur our la mort.

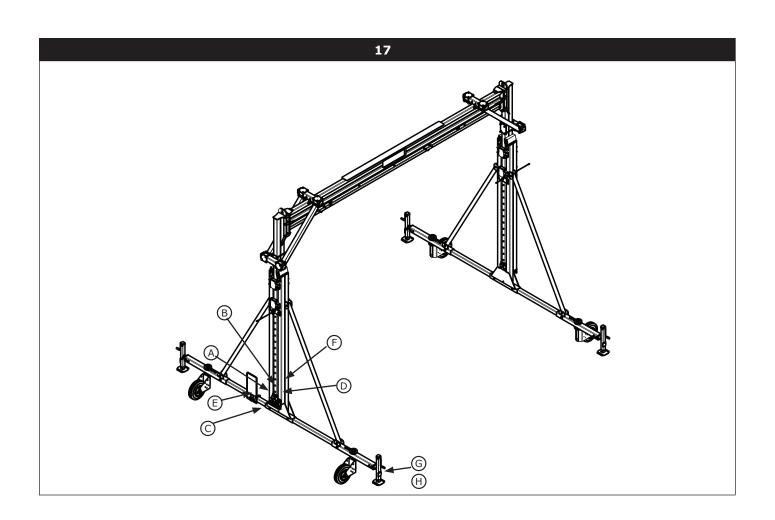
8518723 Rev. B



# WARNING

Ensure the leg screws / jacks are in contact with the surface. To prevent instability, screw legs down to contact surface and crank the handle an extra 5 times, approximately one (1) inch of the screw leg. If the surface is uneven adjust accordingly.

Pt# 8524261 Rev.03



### **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.



## WARNING

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 contact 3M Fall Protection.
- 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.

☑ 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  $3M^{\text{TM}}$  A-Frame Rail System. The A-Frame Rail Fall Arrest System (Figure 1) is an A-frame supported Trolley Rail assembly for overhead horizontal anchorage of 3M fall arrest or fall restraint equipment. Wheeled anchorage devices can travel along the rail assembly and serve as moving anchorage points for Self-Retracting Devices(SRDs) or Lanyards. The rail assemblies are supported in a horizontal overhead position by A-Frame Uprights equipped with Swiveling Wheel Assemblies and Top-Wind Jacks for portability and secure positioning.

Figure 2 illustrates the components of the A-Frame Rail System specified in Table 1. The system includes a Horizontal Rail Assembly with up to four trolleys(not pictured, sold separately) that ride on the rail to any position along the Rail Assembly. The trolleys serve as attachment points for the anchorage of a Personal Fall Arrest System(PFAS). The system can be moved by hand or towed by a maintenance vehicle when equipped with proper accessories.

| Table 1 - Specifications            |   |  |  |  |  |
|-------------------------------------|---|--|--|--|--|
| A-Frame Rail System Specifications: |   |  |  |  |  |
| System Capacity                     | 2 persons, unless otherwise specified by system labeling, each with a combined weight of user, clothes, and tools of no more than 310 lb(140 kg). This is in compliance with PD CEN/TS 16415:2013 |  |  |  |  |
| Anchorage                           | structure the A-Frame Rail System is mounted on must be able to withstand the weight of the em plus the maximum fall arrest forces allowed by the system.   |  |  |  |  |

| Component Specifications: |  |                                   |  |  |
|---------------------------|--|-----------------------------------|--|--|
| Figure 2<br>Reference     | Component  | Materials                         |  |  |
| A                         | Rail Supporting Gusset (not included with all systems) | Aluminum                          |  |  |
| B                         | Rail Assembly  | Aluminum                          |  |  |
| ©                         | Upright Support Gusset                                 | Aluminum                          |  |  |
| 0                         | A-Frame Upright  | Aluminum                          |  |  |
| E                         | Swiveling Wheel Assembly                               | Pneumatic foam-filled or urethane |  |  |
| F                         | Top-Wind Jack  | Steel                             |  |  |
| G                         | Label Locations  | Polyester                         |  |  |

#### 1.0 PRODUCT APPLICATION

- **1.1 PURPOSE:** Flexiguard Systems are designed to provide a secure anchorage structure and to provide anchorage connection points for Fall Protection systems. Flexiguard Systems may be used for Fall Arrest, Fall Restraint, Rescue, and Work Positioning applications, based on the specific allowed uses for each Flexiguard product. Each Flexiguard System has detailed information about the allowed uses, anchorage points, and anchorage requirements in Table 1. Flexiguard Systems are to be used as part of a fall protection system and not for lifting.
- **1.2 SUPERVISION:** Installation of this equipment must be supervised by a Qualified Person<sup>1</sup>. Use of this equipment must be supervised by a Qualified Person<sup>1</sup>.
- **1.3 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 OSHA. 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.
- **1.4 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>2</sup>, and rescuers<sup>3</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.
- **1.5 INSPECTION FREQUENCY:** The Flexiguard Anchorage System shall be inspected by the user before each use and, additionally, by a competent person other than the user at intervals of no longer than one year.<sup>4</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*".
- **1.6 AFTER A FALL:** If the Flexiguard System is subjected to the forces of arresting a fall, remove the system from service immediately and clearly mark it "DO NOT USE." Destroy or repair the system as required by these instructions in Section 5
- **1.7 STANDARDS:** This Flexiguard System conforms to the national or regional standards identified on the front 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.

#### 2.0 SYSTEM CONSIDERATIONS

- **2.1 ANCHORAGE:** Structure on which the Flexiguard Anchorage System is placed or mounted must meet the Anchorage specifications defined in Table 1.
- **2.2 PERSONAL FALL ARREST SYSTEM:** Figure 1 illustrates the application of this Flexiguard Anchorage System. Personal Fall Arrest Systems (PFAS) used with the system must meet applicable OSHA, ANSI, state, and federal requirements. The PFAS shall incorporate a Full Body Harness and Self-Retracting Device(SRD) with a 900 lb(4 kN) Average Arresting Force.
- 2.3 **FALL PATH AND SRD LOCKING SPEED:** A clear path is required to assure positive locking of an SRD. Situations which do not allow for an unobstructed fall path should be avoided. Working in confined or cramped spaces may not allow the User 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.
- **2.5 FALL CLEARANCE:** There must be sufficient clearance below the user to arrest a fall before the user strikes the ground or other obstruction. Fall Clearance is dependent on the following factors:
  - Deceleration DistanceFree Fall Distance
- Worker Height
  - Movement of Harness Attachment Element
- Elevation of Anchorage Connector
- Connecting Subsystem Length

See the Personal Fall Arrest System manufacturer's instructions 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 (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.

- **2.7 SHARP EDGES:** Avoid working where Lifeline or Lanyard components of the Personal Fall Arrest System (PFAS) can contact or abrade against unprotected sharp edges(Figure 4). Where contact with a sharp edge is unavoidable, cover the edge with protective material(A).
- **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 effect the safety and reliability of the complete system.

#### 3.0 INSTALLATION

- **3.1 PLANNING:** Plan your fall protection system prior to installation of the A-Frame Rail System. Account for all factors that may affect your safety before, during and after a fall. Consider all requirements defined in Section 2 and Table 1 to determine the correct fasteners and placement for mounting the A-Frame Rail System on the anchorage structure.
  - Anchorage: Anchorage on which the A-Frame Rail System is mounted must meet the Anchorage Load requirements specified in Table
     1.
  - A-Frame Rail System Placement: Installation of the A-Frame Rail System on a vertical surface is allowed. Offset the A-Frame Rail System from any edge of the surface per the fastener manufacturer recommended setback distance (B). Mount the A-Frame Rail System upright within 1° (5 cm) from vertical.

#### 3.2 ASSEMBLING THE A-FRAME RAIL SYSTEM:

- 1. With a forklift (or other suitable equipment), layout both Upright Assemblies onto a suitable support system (e.g. saw horses, jack stands, etc.) while verifying the Upright Assemblies are far enough apart so the Rail Assembly will fit between them(Figure 7).
- 2. Perform this step if your A-frame systems is equipped with a "truss" style rail assembly comprised of multiple rail sections. If your A-frame has a standard one piece beam please skip to the next step(Figure 8). To assemble the truss, slide the end sections onto the middle section. Fasten the large connecting plates together with the supplied 3/4" hardware. Once the connecting plates have been secured, fasten the overlapping trolley rail sections together using the supplied 3/8" hardware.
- 3. With a forklift (or other suitable equipment), guide the Rail Assembly in to place between the Upright Assemblies. Bolt in place with the head of the bolt inserted from inside of the Frame. Ensure the mating surfaces are plumb (Figure 9). Verify the Trolley Rail will be at the bottom and pointing to the ground when the A-Frame is in the vertical position.
- 4. If included with the system, install the Rail Supporting Gussets from the Rail Assembly to both Upright Assemblies. Ensure the angle of the Rail to the Upright is 90 degrees. Verify the Gusset Support Brackets mounted to the Rail Assembly are secured by checking the bolts with a wrench(Figure 10).
- 5. After all the Rail Supporting Gussets have been installed, torque the nuts and bolts securing the Rail Supporting Gussets to the mounting supports to the proper specification(Table 2).

| Table 2 |                           |     |  |  |
|---------|---------------------------|-----|--|--|
| Size    | Recommended Torque Values |     |  |  |
|         | lb-ft                     | N-m |  |  |
| 3/8"    | 45                        | 61  |  |  |
| 1/2"    | 60                        | 81  |  |  |
| 5/8"    | 75                        | 101 |  |  |
| 3/4"    | 130                       | 176 |  |  |
| 1"      | 210                       | 284 |  |  |

- 6. Attach lifting straps to both Lifting Anchors on the Rail Assembly. Before the A-Frame is lifted to the vertical position, it is recommended that you attach all SRD, taglines, and lanyards to the trolley(s).
- 7. With a crane (or other suitable equipment) and after all the nuts and bolts have been torqued to the required specification, lift the entire A-Frame Assembly off the ground and in to the vertical position (Figure 10).
- 8. With the A-Frame Assembly supported by the crane (or other suitable equipment), insert both Base Supports into the Upright Assembly Base Support Tubes (Figure 11).
- 9. After the Base Supports are equally positioned on both sides of the Upright Assemblies, bolt the Base Supports in to position.
- 10. Attach the Wheel Assemblies by inserting the Base Supports into the Wheel Assemblies (Figure 12).
- 11. Align the Upright Gusset to the fixed bracket on the Upright Assembly. Insert the bolt, secure the nut, and tighten (Figure 13).
- 12. Align the Upright Support Gusset with the bracket on the Wheel Assembly by sliding the Wheel Assembly until the bolt can be inserted. After the bolt has been inserted, secure the assembly with a nut and tighten. Repeat steps 12 and 13 for each of the remaining 3x Upright Support Gussets. All set screws must be loose to move the Wheel Assembly. If the A-Frame is not being supported by an overhead crane, it may be necessary to provide support under the Upright Assembly Base Support Tubes to prevent bowing of the Base Supports before aligning and attaching the Upright Support Gussets to the Wheel Assembly (Figure 13).
- 13. After all the nuts and bolts have been tightened to the proper torque specification, drill and tap the holes for the Wheel Lock Bolts. Each Wheel Assembly has one pre-drilled hole located on the top-side between the two locking bolts. Drill and tap to the size of the pre-drilled hole (Figure 14).
- 14. Insert the Wheel Lock Bolts and torque to the proper specification.
- 15. With the crane or other suitable lifting equipment, lower the A-Frame Assembly onto the ground.
- 16. Use a ladder or other suitable device to remove the lifting straps.
- 17. Attach all four Supporting Jacks to the end of the Wheel Assembly (Figure 15).

**3.3 RAISING AND LOWERING THE A-FRAME SYSTEM MANUALLY:** This section applies to A-Frame systems with height adjustment. If your A-Frame system is not adjustable, disregard this section. Secure a lifting device (overhead crane, forklift, or similar) to the Lifting Ring.

## $\overline{V}$ Lifting device must have a minimum capacity of 500 lb (227 kg) to avoid injury to personnel or equipment damage.

- 1. After the A-Frame system has been completely assembled, lower the jacks until the Support Pads are touching the ground.
- 2. After the Support Pads are touching the ground, turn each jack handle 8 to 10 times so the wheels are completely off the ground and so the entire A-Frame system is resting on all four jacks.
- 3. Hook up lifting straps to the lifting anchors on the top of the Rail Assembly.
- 4. Remove the locking pins on the Adjustable Upright Assembly.
- 5. Hook the lifting straps to the crane(or other suitable equipment) and lift the Rail Assembly to the desired height.
- 6. Insert the locking pins into the Adjustable Rail Assembly.
- 7. Remove the lifting straps from the Lifting Eyes.

#### 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 A-Frame Rail System per the '*User'* inspection points defined on the "*Inspection and Maintenance Log"* 2. If inspection reveals an unsafe or defective condition, do not use the system. Remove the system from service and destroy, or contact 3M regarding replacement or repair.
- **4.2 AFTER A FALL:** If the product is subjected to the forces of arresting a fall or exhibits damage consistent with the effect of fall arrest forces, it must be removed from service immediately for inspection. Clearly mark the product "DO NOT USE" and then either destroy the device or contact 3M with questions about returning to service or replacement. See Section 5 and 6 for more information.

#### 5.0 INSPECTION

- **5.1 INSPECTION FREQUENCY:** The product shall be inspected before each use by the user and, additionally, by a Competent Person other than the user at intervals of no longer than one year. A higher frequency of equipment use and harsher conditions may require increasing the frequency of Competent Person inspections. The frequency of these inspections should be determined by the Competent Person per the specific conditions of the work site.
  - It is recommended that the date of last inspection or next inspection due is visible on the A-Frame Rail System.
- **PRODUCT LIFE:** Inspect this product per the procedures listed in the "Inspection and Maintenance Log". Documentation of each inspection should be maintained by the owner of this equipment. An inspection and maintenance log should be placed near the product or be otherwise easily accessible to users. It is recommended that the product is marked with the date of next or last inspection.
- **DEFECTS:** If inspection reveals an unsafe or defective condition, or if there is any doubt about its condition for safe use, remove the equipment from service immediately. Clearly mark the device/system "DO NOT USE" and then either destroy the device/system or contact 3M regarding repair or replacement. Do not attempt to repair the device/system.
  - ✓ Only 3M or parties authorized in writing may make repairs to this equipment.
  - 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.
- **5.4 PRODUCT LIFE:** The functional life of the Fall Arrest System 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 A-Frame Rail System metal components with a soft brush, warm water, and a mild soap solution. Ensure parts are thoroughly rinsed with clean water.
- **6.2 SERVICE:** Only 3M or parties authorized in writing by 3M may make repairs to this equipment. If inspection reveals an unsafe or defective condition, or if there is any doubt about its condition for safe use, remove the equipment from service immediately. Clearly mark the device/system "DO NOT USE" and then either destroy the device/system or contact 3M regarding repair or replacement. Do not attempt to repair the device/system.
- **6.3 STORAGE AND TRANSPORT:** If applicable, store the 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.

### 7.0 LABELS

Figure 17 illustrates labels on the A-Frame Rail System. Labels must be replaced if they are not fully legible. Information provided on each label is as follows:

| (li)     | Read all instructions.   |
|----------|--|
| A        | Notified Body  |
| В        | Connected Safety ID  |
| 0        | Pinch Hazard   |
| D        | A) Manufactured (Year, Month) B) Model Number C) Serial Number |
| <b>3</b> | Flexiguard A-Frame Adjustable Height System Information        |
| •        | Flexiguard A-Frame Fixed Height System Information             |
| G        | Capacity Warning   |
| •        | Stability Warning  |

| Increation Date:            | Table 3 - Ins   | pection and Maintena           | ance Log                          |                      |                     |  |
|-----------------------------|---|--------------------------------|-----------------------------------|----------------------|---------------------|--|
| Inspection Date:            |   | Inspected By:                  |                                   |                      | Competent           |  |
| Components:                 | Inspection: (See Section 1 for Inspe  | ection Frequency)              |                                   | User                 | Person <sup>1</sup> |  |
| A-Frame Rail System         | Inspect the A-Frame Rail System for cracks, dents, or deformities.                      |                                |                                   |                      |                     |  |
| (Figure 2 )                 | Inspect the entire unit for corrosion   |                                |                                   |                      |                     |  |
|                             |   | ilt for corrosion.             |                                   |                      | _                   |  |
| Labels                      | Verify that all labels are securely att   | ached and are legible (see 'La | ed and are legible (see 'Labels') |                      |                     |  |
| PFAS and Other<br>Equipment | Additional Personal Fall Arrest Syste with the Wall Mount Davit Base shou instructions. |                                |                                   |                      |                     |  |
| Serial Number(s             | ):  |                                | Date Purchas                      | sed:                 |                     |  |
| Model Number:               |   |                                | Date of First                     | Use:                 |                     |  |
| Corrective Action           | /Maintenance:   | Approved By:                   | Nevt                              | Inspection           | Dua:                |  |
| Corrective Action           | i/ Maintenance.   | Date:                          | INEXU                             | Inspection           | Due.                |  |
| Corrective Action           | /Maintenance:   | Approved By:                   | Next                              | Inspection           | Due:                |  |
|                             | .,  | Date:                          | - I text                          | 111000001011         | Duc.                |  |
| Corrective Action           | /Maintenance:   | Approved By:                   |                                   |                      | Due:                |  |
|                             | ,   | Date:                          |                                   |                      |                     |  |
| Corrective Action           | n/Maintenance:  | Approved By:                   | Next                              | Next Inspection Due: |                     |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| <b>Corrective Action</b>    | n/Maintenance:  | Approved By:                   | Next                              | Next Inspection Due: |                     |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| <b>Corrective Action</b>    | n/Maintenance:  | Approved By:                   | Next                              | Next Inspection Due: |                     |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| <b>Corrective Action</b>    | n/Maintenance:  | Approved By:                   | Next                              | Inspection           | Due:                |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| <b>Corrective Action</b>    | n/Maintenance:  | Approved By:                   | Next                              | Inspection           | Due:                |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| Corrective Action           | n/Maintenance:  | Approved By:                   | Next                              | Inspection           | Due:                |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| Corrective Action           | n/Maintenance:  | Approved By:                   | Next                              | Inspection           | Due:                |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| Corrective Action           | n/Maintenance:  | Approved By:                   | Next                              | Inspection           | ection Due:         |  |
|                             |   |                                | Date:                             |                      |                     |  |
| Corrective Action           | n/Maintenance:  |                                | Approved By: Next Ins             |                      | Due:                |  |
|                             |   | Date:                          |                                   |                      |                     |  |
| Corrective Action           | n/Maintenance:  |                                | Approved By: Next Ins             |                      | Due:                |  |
|                             |   |                                | Date:                             |                      | _                   |  |
| Corrective Action           | n/Maintenance:  |                                | Approved By: Next In              |                      | Due:                |  |
|                             | /a  | Date:                          |                                   |                      |                     |  |
| Corrective Action           | n/Maintenance:  | Approved By:                   | Next Inspection Due:              |                      | Due:                |  |
|                             | /Matakanana   |                                | Date:                             |                      |                     |  |
| Corrective Action           | ı/maintenance:  |                                | Approved By:  Next                |                      |                     |  |

Approved By:

Date:

Next Inspection Due:

**Corrective Action/Maintenance:** 



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