INSTRUCTION MANUAL

FRONTLINE®

FALL PROTECTION

USER MANUAL

FALL ARREST CART ANCHOR SYSTEM

CMT04

Rev. Feb. 2026

Frontline Fall Protection Inc.
INSTRUCTION MANUAL
This product meets applicable OSHA 1910 and OSHA 1926 fall protection standards.
These instructions apply to the following model(s):

CMT04

Applicable standards and regulations depend on the type of work being done, and also might include state-specific regulations. Refer to local, state, and federal (OSHA) requirements for additional information concerning the governing body of occupational safety regarding Personal Fall Arrest Systems (PFAS).

All users must refer to local, state or federals safety and health regulations before using this equipment. If there's a contradiction between any local, state, federal requirement and/or standard with this manual or within this manual, whichever is the most stringent will apply.

You are required to read and fully understand the user instruction manual BEFORE using this product. Improper use and installation can result in serious injury or death. User manuals occasionally may be updated so for the latest user manual please visit www.frontlinefall.com/uim.

TABLE OF CONTENTS

DEFINITIONS: For better use and understanding, the following is some terminology and definitions as referenced by OSHA that may help better understand this user manual. Please refer to OSHA 1910 or 1926 for full details.

Anchorage
A secure point of attachment for lifelines, lanyards, or deceleration devices.
Attachment Point
A loop or "D" ring connected (integrally) to the body support that provides a means for attachment of other components of the fall protection system.
Body Harness
Means straps, which may be secured about the worker in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.
Carabiner
A link with a gate that is normally closed or that automatically closes, and is used to connect components of a personal fall protection system.
Competent Person
Is defined as "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" [29 CFR 1926.32(f)]. By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation and has the authority to correct them.
Connector
A device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).
D Ring
A form of attachment point on body belts and fully body harnesses meant for attachment of other components of a fall protection and positioning system.
Deceleration Device
Means any mechanism that serves to dissipate energy during a fall.
Deceleration Distance
The vertical distance a falling employee travels from the point at which the deceleration device begins to operate, excluding lifeline elongation and free fall distance, until stopping. It is measured as the distance between the location of an employee's body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.
Fall Arrest System
A fall arrest system means a system used to arrest an employee in a fall from
a working level. It consists of an anchor point, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.
Fall Prevention System
Those systems and techniques that eliminate the possibility of a fall.
Fall Protection System
Any of the following when used to protect a worker from a fall or minimize the risk from falling: Guardrails, Safety belt or a full body harness with a lanyard and/or lifeline and an anchor, and their related equipment, Safety net, Control zone, Safety monitor with a control zone, and other acceptable procedures.
Fall Restraint System
A work positioning system to prevent a worker from falling from a work position, or a travel restriction system such as guardrails or a personal fall protection system to prevent a worker from traveling to an edge from which the worker could fall.
Free Fall
The act of falling before the personal fall arrest system begins to apply force to arrest the fall.
Free Fall Distance
Vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, lifeline and lanyard elongation, but includes any

deceleration device slide distance or self-retracting lifeline/lanyard extension before the devices operate and fall arrest forces occur.

Full Body Harness

A body support device consisting of connected straps designed to distribute a fall arresting force over at least the thigh, shoulders and pelvis, with provision for attaching a lanyard, lifeline or other components.

Lanyard

A flexible line of webbing, synthetic rope or wire rope that is used to secure a safety belt or full body harness to a lifeline or anchor.

Horizontal Lifeline System

A system composed of a synthetic or wire rope installed horizontally between two anchors, to which a worker attaches a personal fall protection system.

Leading Edge

The edge of a floor, roof, or formwork for a floor or other walking or working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.

Lifeline

A synthetic or wire rope, rigged from one or more anchors, to which a worker's lanyard or other part of a personal fall protection system is attached.

Low-Slope Roof

A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Lower Levels

Those areas or surfaces to which a worker can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

Passive Fall Prevention

Refers to a system that is non-dynamic, stationary, and does not move, adapt, or change when in or out of use. Passive systems don't require the use of personal protective equipment or active participation from the worker. Typically, passive systems include netting, handrails, and guardrails.

Personal Fall Arrest System (PFAS)

A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.

Positioning System (work-positioning system)

A system of equipment and connectors that, when used with a body harness or body belt, allows an employee to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free. Positioning systems also are called "positioning system devices" and "work-positioning equipment".

Qualified

A person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

Rope Grab

A deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking or both (also referred to as a fall arrester).

Self-Retracting Lifeline/Lanyard

A deceleration device containing a drum-wound line, which can be slowly extracted from, or retracted onto, the drum under slight tension during normal worker movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Shock Absorber

A device intended to limit the deceleration forces exerted on a worker during fall arrest.

Snap Hooks

A connector consists of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Unprotected Sides and Edges

Any side or edge (except at entrances to points of access) of a walking or working surface (for

example, floor, roof, ramp, or runway) where there is no wall or guardrail system at least 39 inches high.

Walking/Working Surface

Any surface (whether horizontal or vertical) on which a worker walks or works, including but not limited to floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel; but not including ladders, vehicles, or trailers, on which workers must be located in order to perform their job duties.

Warning Line System

A barrier erected on a roof to warn workers that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body harness, or safety net systems to protect workers in the area.

Working load

Refers to aggregate simultaneous load of personnel, equipment, and/or material to be supported by the equipment or system.

GENERAL STATEMENT AND WARNINGS

This Anchorage Connector is meant to be used ONLY by trained personnel in fall protection. This anchorage connected is ONLY intended for use as part of a complete personal fall protection system. This anchorage connector has been designed to meet or exceed ANSI Z359.18, OSHA 1926 and/or OSHA 1910.

User MUST read, understand, and follow all safety information contained in these instructions prior to the use of this Anchorage Connector. Use in any other applications 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 Frontline Fall Protection and could result in serious injury or death. This device is only to be used by trained users in workplace applications.

These instructions must be provided to the user of this equipment. Retain these instructions for future reference or you can find a copy of them at www.frontlinefall.com for more information regarding any portion of this user instructions manual please contact us at info@frontlinefall.com.

· Do not use this equipment until proper training, fall protection and rescue programs are in place.
· Do not use this equipment in combination with other components or subsystems other than those described in this manual.
· Do not use this is equipment for other uses other than its original and designed intended use.
· Do not use product that has been impacted to a fall, that does not pass inspection or that the safety and integrity of it is questionable.
· Consult a doctor prior using this equipment to ensure user is in physical conditions to use this equipment and if physical fit in the event there's a fall.
· Pregnant women or minors must not be exposed to a workplace hazard and must not use this equipment.
· Avoid sharp and/or abrasive surfaces and edges as this will compromise the safety of the Personal Fall Arrest System.
· All user must refer to local, state or federals safety and health regulations before using this equipment. Whichever is most stringent shall supersede and apply.
· Avoid moving machinery, thermal, electrical, and/or chemical hazards as contact may cause serious injury or death.
· Avoid swing falls at all times when using Personal Fall Arrest Systems.
· Follow the weight restrictions/limitations in this manual.
· Never alter or intentionally misuse this equipment, always inspect before each use to ensure its compliance and safe use.
· Never connect rebar hooks, large carabiners, large snaphooks or non- approved hooks/connectors to the full body harnesses dorsal D-rings as this may cause a roll-out and/or unintentional disengagement.
· Avoid contact with arc flash welding at all times. Arc flash from arc welding operations, including accidental arcs from electrical equipment, can damage the PFAS equipment resulting in injury or death.
· Always examine the work area and the surroundings to identify hazards that may impact safety and proper functioning of the Personal Fall Arrest System before commencing work.

- Select a surface that can withstand the counterweight anchors load of no less than 1,500 lbs, plus the user(s), weight tools and any other equipment and material that may be loaded on the roof or substrate.
- Never use the system when moving it or when wheels or on the ground and not elevated
- If rigging the cart system, it needs to be performed under the supervision and approval by a qualified rigger/person.

TRAINING REQUIREMENTS

Before using Frontline Fall Protection product, user and employers must ensure that the person using this equipment has been trained on the proper use, care and maintenance of this product by a competent person qualified in Fall Protection. It is the responsibility of the user of this product to ensure that proper training has been done in addition to reading and fully understanding these user instructions manual.

Additionally, the employer must establish a training program to employees that are exposed to a fall hazard and trained by a competent person qualified in those areas. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.

Retraining is necessary when the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill to carry out those duties. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete.
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete.
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.
- Changes in the OSHA regulations or ANSI Standards.

Training must be done in the language that the employee understands and shall, be documented and kept as outlined under OSHA recordkeeping regulations. No user or employee shall perform work without the proper training and understanding on how to properly and safely use this product.

SYSTEM REQUIREMENTS

Compatible Connectors: In order to use Frontline Fall Protection Anchors, connecting devices must including a compatible connector. Compatible connectors must be approved Snaphooks or carabiner which meet OSHA and ANSI standards to be compatible with the member to which they are connected to prevent unintentional disengagement. Snaphooks or carabiners shall be of locking type designed and used to prevent disengagement of the Snaphooks by the contact of the Snaphooks keeper by the connected member.
Frontline PFAS equipment must be used with Frontline equipment only. If a qualified person deems that other manufacturer equipment is compatible, it is under the sole discretion and responsibility of that qualified person and Frontline assumes no responsibility for any issues arising of any incompatibilities or any liability should there be an incident, fall or accident.

Anchorage Substrate Connection: Frontline has tested their product to comply with OSHA and/ or ANSI under a controlled environment and with certain substrates. Frontline cannot and does not guarantee the same performance for different substrates. Frontline anchors will meet or exceed OSHA and/or ANSI requirements, but it's ultimately up-to the end user/installer/owner of the product to ensure that their specific substrate will resist and withstand the required loads as stated by OSHA and/or ANSI or other governing safety entities. OSHA and/or ANSI anchor compliance and testing covers only the anchor and does not extend to the substrate to which the anchorage or connector is attached to. Please contact info@frontlinefall.com if you have any questions regarding this subject matter.

Making connections: When making the anchor connecting device connection, ensure that the connecting equipment is compatible and meets or exceeds OSHA and ANSI standards. Once connected, visually inspect the connection and perform a pull test to ensure that the equipment is locked and fully functioning. If equipment is not working properly or the safety integrity is in question,

do NOT use and consult with Qualified Person. No more than one PFAS may be connected to a Fall Arrest Anchor at one time.

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 and that there's only one connection point per anchor per person. Perform a few pull tests to verify that the connection has been effective.

Frontline connectors (Snaphooks and carabiners) are designed to be used only as specified in each product's user's instructions. See figure 2 for examples of inappropriate connections.

FIGURE 1 - NON-COMPATIBLE CONNECTIONS

1.

DO NOT connect two snaphooks or carabiners to each other.

2.

DO NOT connect two snaphooks or carabiners to a single D-ring at the same time.

3.

DO NOT connect in a way that would create a loading on the gate.

4.

DO NOT attach to a object in a manner where by the gate of the snap hook or carabiner would be prevented from fully locking. Always visibly inspect for proper and full closure of the snap hook or carabiner

5.

DO NOT attach directly back into the component itself such as webbing, cable, or rope, unless specifically allowed by manufacturer and instructions.

6.

DO NOT attach in manner where the connector, gate or release lever, may become caught on the anchor causing additional risk of false connection.

7.

DO NOT attach a double snaphook to two side/ positioning D-rings in a manner whereby the D-rings will engage the gates.

NOTE: Large snap hooks must not be connected to objects which will result in load on the gate if the hook twists or rotates, unless the snap hook complies with ANSI Z359.1-2007 or ANSI Z359.12 and is equipped with a 3,600 lb (16 kN) gate. Check the marking on your snap hook to verify it's compatibility.

Personal Fall Arrest System: All PFAS used with this equipment must meet OSHA and ANSI Z359 requirements. A full body harness along with a compliant connecting device must be worn when this equipment is used as a component of a PFAS. As required by OSHA, the PFAS must be able to arrest the user's fall with a maximum arresting force of 1,800 lbs (8 kN), and limit the free fall to 6 ft (1.8 m). Once equipment is subject to a fall or an impact, equipment must be removed from service.

Structure Mounting Selection: When selecting a mounting structure, there are various factors to considered. Some which are described below, but not all inclusive:

- Select a surface that can withstand the counterweight anchors load of no less than 1,500 lbs, plus the user(s) weight, tools and any other equipment and material that may be loaded on the roof or substrate.
- Select a work area, that will be free of obstructions.
- Select a work area, that will be free of any other recognizable safety hazards.
- Ensure there are no swing hazards.

If the user is unable to determine whether the anchorage meets the manufacturer's specification, please contact Frontline at info@frontlinefall.com

Before Working with your PFAS: It is required that before using PFAS, a fall protection plan should be in place and used including the working conditions and equipment to be used. Here are some aspects, but not all inclusive, of the items that need be included in a fall protection plan:

- End user training on the safe use, care and maintenance of equipment and jobsite conditions prior to commencing work.
- Inspection procedures.
- Fall clearances and potential swing falls.
- Proper structure/substrate anchoring to withstand the minimum required loads.
- A rescue plan in case end user or someone is subject to a fall.

Total Fall Clearance for PFAS: According to OSHA, the total fall clearance distance is the minimum vertical distance between the worker and the lower level that is necessary to ensure the worker does not contact a lower level during a fall. The total fall clearance distance needs to be calculated by the user/employer before a decision is made to use a PFAS. If the available distance is not greater than the total fall clearance distance, it is inappropriate to use the PFAS and a fall restraint system might be used instead. Total fall clearance distance calculations are simple to perform based on several factors, including but not all inclusive:

- Lanyard/Self Retracting Lifeline length which may vary depending on the device being used and their specifications. See connecting device user manual for more information.
- The height at which the lanyard is anchored relative to where the other end attaches to the worker's harness.
- The distance the worker will travel as the deceleration device absorbs the energy from the fall (i.e., slows it down.)
- The worker's height.
- D-ring shift and a safety factor.

Below are illustrations to help guide the user to determine minimum fall clearances and swing hazards:

FIGURE 2

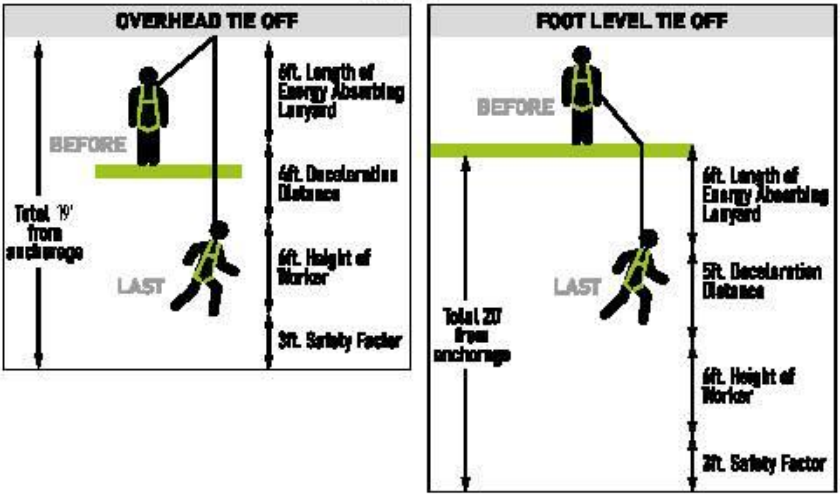
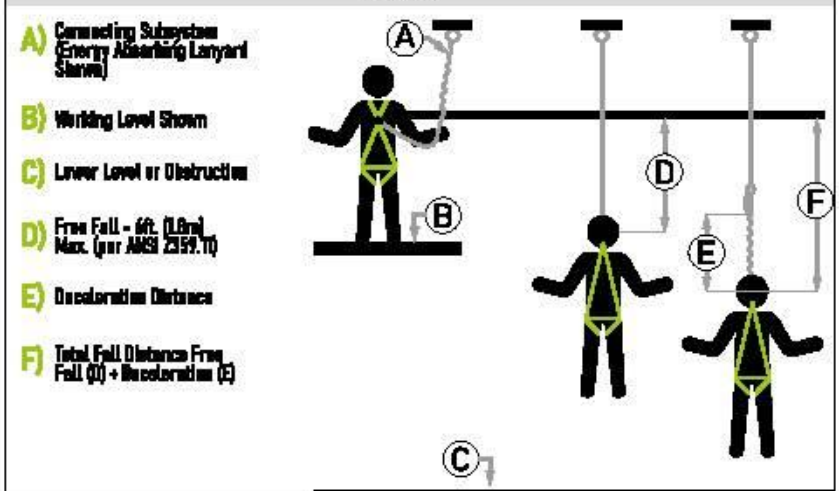


FIGURE 3

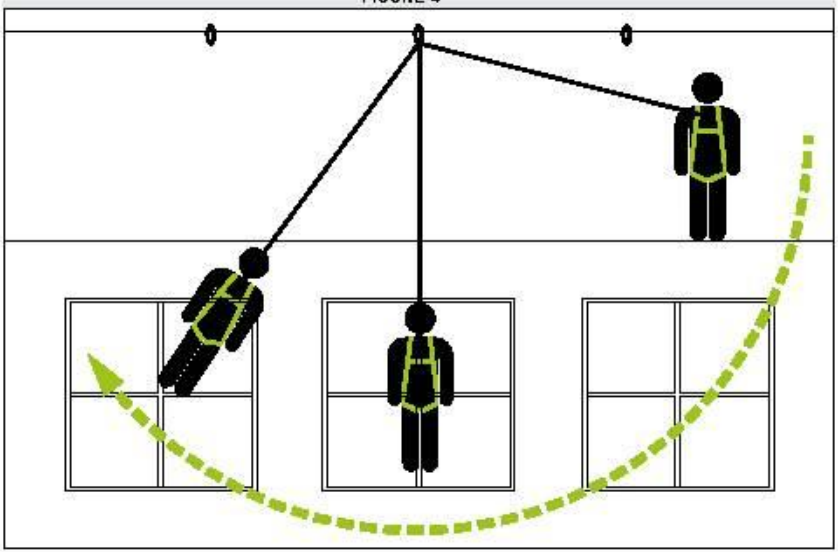


*This information is for reference only, it's ultimately up to the employer/user of the product to make the correct fall clearance calculations as there varying factors that can impact the distance.

Swing Fall Hazards: The swing fall hazard is created by the pendulum effect, which can swing a fallen worker into a nearby surface, such as a wall or protruding beam. In addition to calculating the total fall clearance distance before beginning work on an elevated level, it is important to evaluate the swing fall hazard at the edges where a worker might fall.

A worker who falls while connected to an anchor (unless it is directly overhead) will swing back and forth like a pendulum. Workers can be seriously injured if they strike objects during a swing fall. Installing the anchorage point directly above the work area (i.e, connected to an overhead attachment point with sufficient strength) will help prevent injury.

FIGURE 4



Employer/user must avoid swing hazards at all times. See Direction Loading and approved angles for specific anchor to avoid swing hazards or even anchor failure.

INSPECTION REQUIREMENTS

This anchor and any other PFAS shall be inspected BEFORE each use. The program administrator, authorized user and/or rescuer inspecting the product shall have the proper training on the use, maintenance, care and inspection of this product. Additionally, a competent or qualified person other than the user shall conduct thorough safety inspections every 6 months or sooner, when necessary or required by the authorized user or employer. Some of the items that shall be inspected, but not all inclusive, are the following:

- Safety labels/markings/tags that are legible with appropriate OSHA/ANSI markings, product limitations, user capacity and other markings as required by OSHA/ANSI.
- Defects or any imperfections on the products such as; Corrosion, broken, bent, deformed, excessive wear, defects in welded areas or any other evidence of damage or alterations affecting the safety functionality of the anchor.
- Any other conditions that may question the integrity of the anchor, shall be put out of service.
- Any product that has been subject to a fall or an impact, shall be put out of service.

- Clean/clear product of any surface contamination such as concrete, stucco, roofing material or other material that may impact the safe use of the product.
- Any damage to the equipment or inadequate maintenance.
- The details of the "Inspection Checklist and Log" at the end of this manual.

Permanently remove equipment from service that does not passes any of these inspection criteria, hasn't undergone preventative service or maintenance requirements or if the equipment is questionable.

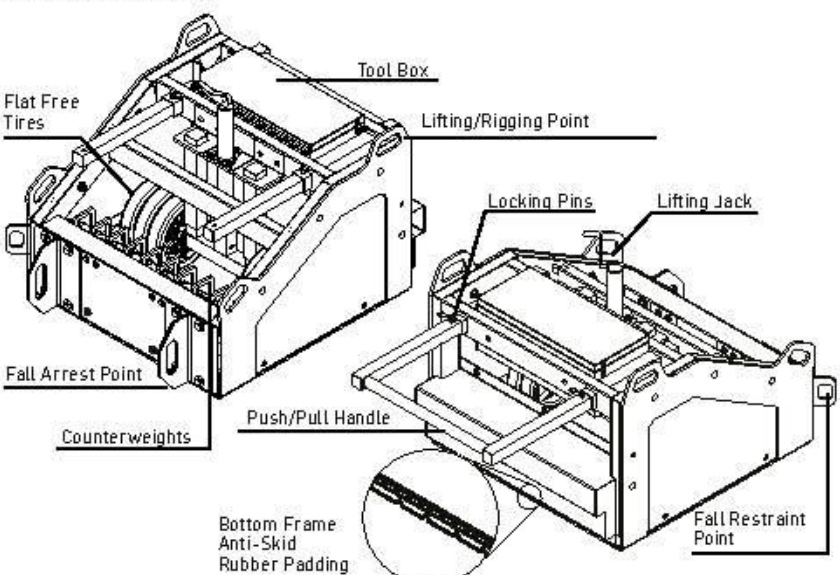
As required by ANSI Z359.18 6.1.2/6.1.3, the "The program administrator shall set inspection criteria for the equipment. Such criteria shall equal or exceed the most restrictive of the criteria established by this standard or the manufacturer's user instructions. Keep inspection criteria current in relationship to changing patterns or conditions of use. The program administrator shall maintain documentation of equipment inspections. This documentation shall include, at a minimum, the identity of the equipment, inspection date, name of the competent or qualified person conducting the inspection and the results of that inspection."

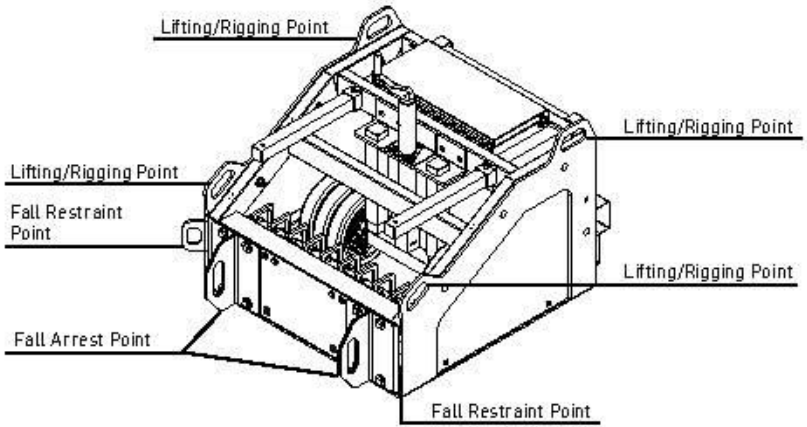
Additionally, at the end of this manual you have a more detailed list of the inspection requirements for this particular product. These are minimum requirements, and all inspections should be documented for recordkeeping. Any questions regarding the safety inspection of Frontline Fall Protection products please contact us at info@frontlinefall.com.

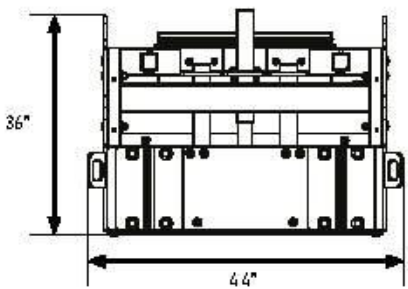
PRODUCT DESCRIPTION

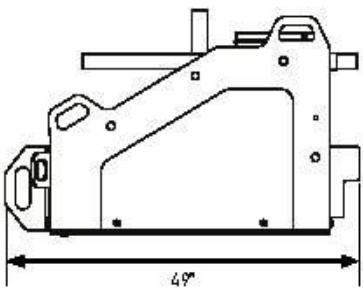
The Frontline fall arrest counterweight system has a capacity for up to 4 users, 2 in fall arrest and 2 on fall restraint. The system is a non-penetrating anchor meant for fall arrest and/or fall restraint applications when exposed to a fall hazard. This counterweight anchor is for temporary applications and comes fully assembled with lifting points in case it needs to be moved around or lifted from one location to the next under the supervision and approval of a qualified person.

PRODUCT COMPONENTS



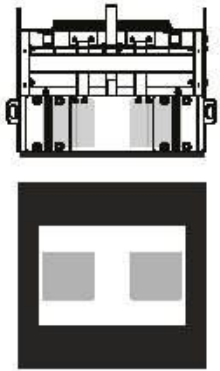




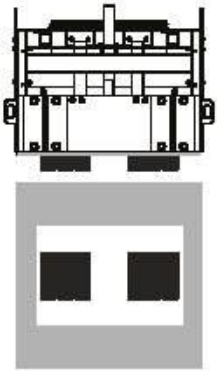


SYSTEM SPECIFICATIONS:	
USER CAPACITY:	4 users, 2 in fall arrest and 2 on fall restraint with a combined weight (clothing, tools, etc.) of no more than: 310 lbs/user.
COMPATIBLE EQUIPMENT:	All connecting equipment used with this fall arrest system must limit the maximum fall forces to no greater than 1,800 lbs
MATERIAL:	ASTM A36 Rated Steel
FINISH:	Cart Finish: Powder Coated
DIMENSIONS:	49" x 44" x 36" (L x W x H)
WEIGHT:	±1,500 lbs
USE:	Temporary
APPROVED SUBSTRATES:	Concrete, TPO, EPDM, Asphalt
LIFTING/RIGGING POINTS	FALL ARREST POINTS FALL RESTRAINT POINTS

WARNING: The cart in its entirety weighs ± 1,500 lbs, the below are the approximate weights/SQFT when the cart is in its rested or raised position:



1- Rested on the base: 225 lbs/SQFT (over the base and frame)



2- Raised in its mobile position: 9,709 lbs/SQFT (over the wheels)

APPLICATION

This Anchorage Connector has been tested for compliance with the requirements of OSHA. Testing covers only the Anchorage Connector and does not extend to the connector, body harness, subsystem and/or substrate to which the Anchorage Connector is attached to.

Prior to installation and use of this equipment, record the product identification information from the label in the Inspection and Maintenance Log at the end of this manual. Use a pen or fine point sharpie with blue or black ink when logging inspections.

Purpose: The Frontline Fall Arrest Anchors are designed to be used as a component in a Personal Fall Arrest System (PFAS) Frontline Fall Arrest
Anchors are tested to meet or exceed applicable OSHA and/or ANSI standards so employees can work safely tie-off while maintaining mobility and being productive when using Anchorage Connector.

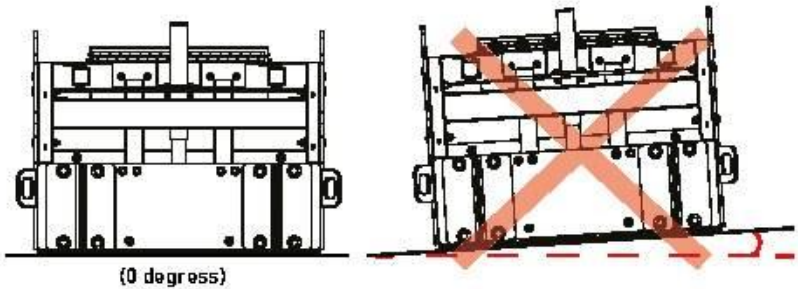
Approved Applications: Below are applications for which all Frontline Fall Arrest Anchors are best used in. This list is intended to define the approved applications in which this product may be used:

APPROVED APPLICATIONS CHART		
APPLICATION	DESCRIPTION	APPROVED APPLICATION
PERSONAL FALL ARREST	Person fall arrest is when the application where the user can be subject to a fall. The anchorage needs to be used in conjunction with approved connecting device such as a lanyard or self-retracting lifeline and a harness. Maximum permissible free fall is 6 ft (1.8 m). Anchorages selected for fall arrest systems shall be able to sustaining static loads applied in the directions permitted by the system of at least 5,000 lbs (23 kN) for non-certified anchorages or two times the maximum arresting force for certified anchorages	X
RESTRAINT	Restraint is the application used by the user where the user is limited in distance so they cannot reach or be exposed to a fall hazard. Restraint systems shall have the strength capable of sustaining static loads applied to all directions permitted by the system and, No less than 1,000 lbs for non-certified field anchorages and two times the foreseeable force for certified anchorages or as determined by ANSI/ASSE Z359.6. This system also is composed of the anchorage, connecting device such as a lanyard or self-retracting lifeline and a harness	X

INSTALLATION

Before using the Frontline counterweight cart system, Frontline requires that the substrate can withstand the cart's load of no less than 1,500 lbs, plus the user(s), weight, tools and any other equipment and material that may be loaded on the roof or substrate. The work area must also be flat and set on a dry area (Figure 5).

FIGURE 5

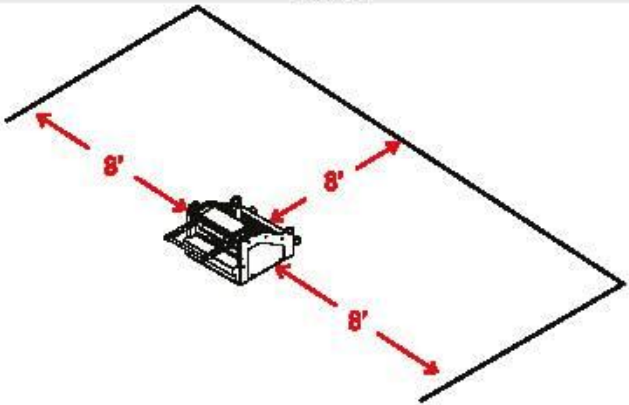


Surface must be dry, clean and free from debris, slippery materials, rot, decay, cracking and/or any other hazardous materials that would affect the safe use of the product.

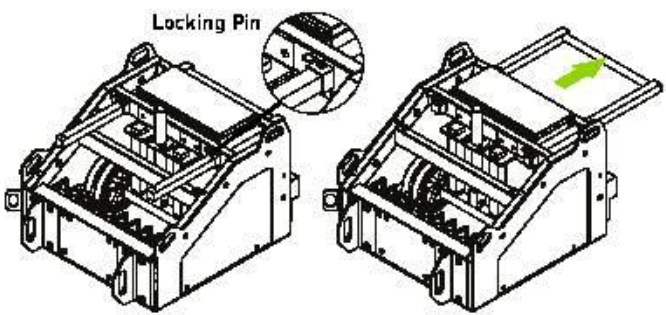
Once the work area and substrate has been verified that it can sustain such loads, then the following steps should be followed:

1. Place the cart in the desired location and make sure the cart is placed at a minimum of 8' from the leading edge or fall hazard (Figure 6).

FIGURE 6

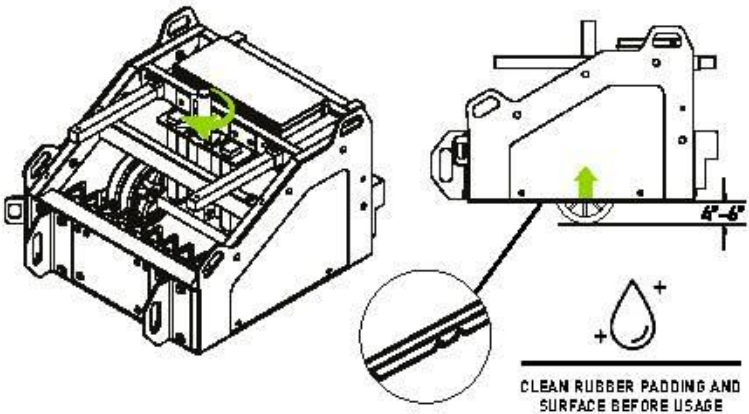


a. To move the cart, pull the lock pins from the handles and pull the handles back so that they extend to the back of the cart. Thereafter, place the lock pins back into the handle to secure the handles



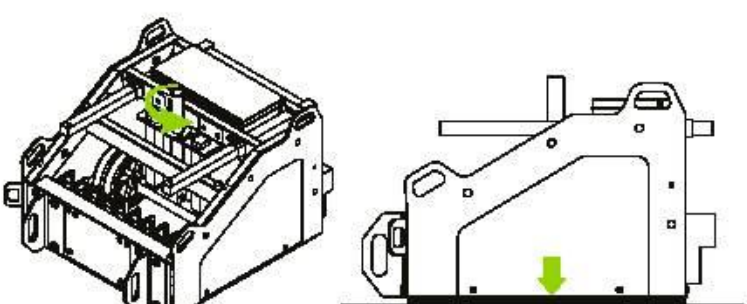
b. Then, lift the jack handle and turn the handle clockwise to raise the cart and lower the wheels

c. Lift the cart about 4'-6' above the floor to have enough clearance to be able to move the cart easily and located in the work area



d. Clean the substrate where the cart will lay on and ensure the cart rubber padding is also dust free/brush cleaned (this ensures best friction coefficient) and ensure to dry after cleaning surface & padding.

e. Once placed in the desired location, rotate the jack handle counterclockwise to lower the cart and raise the wheels of the floor. Wheels must be raised completely off the floor a minimum of 6" and the cart frame resting on the substrate before using for fall arrest/restraint.



f. Leave jack handle in its lowered position to prevent accidental movement

2. Once the cart is in place, always inspect the product before usage and ensure at a minimum that:

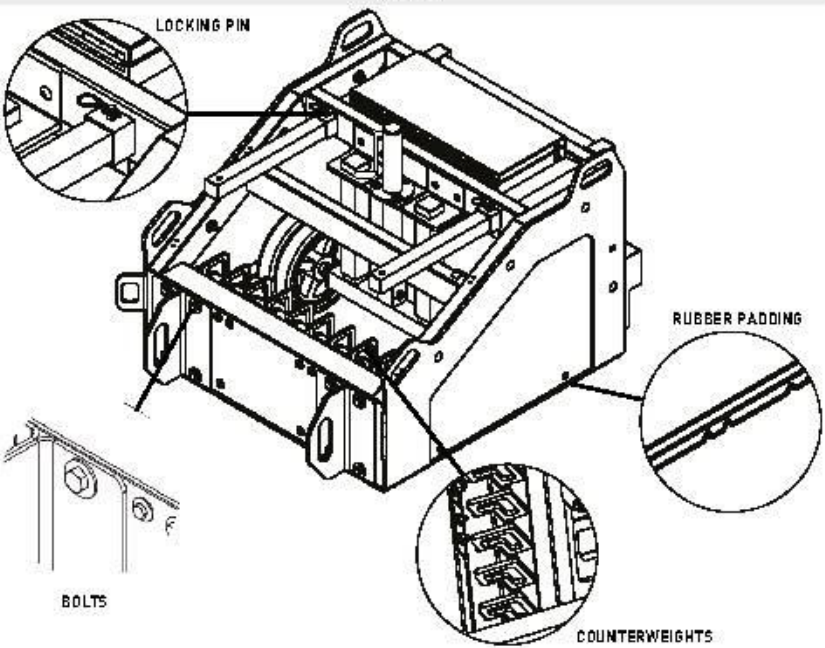
a. All the carts counterweights are securely placed on the front and back of the frame of the anchor.

b. Check that all the hardware is tight and secured and that there are no missing/lose nuts, washers and bolts.

c. Ensure Bottom Frame Anti-Skid Rubber Padding is in place, clean and secured.

d. Ensure that there are no missing components as per Figure 7.

FIGURE 7



e. Inspect "Inspection Checklist and Log" at the end of this manual on page 29.

f. Any component or part of the inspection that is questionable or does not pass.

3. Once the cart is placed in the adequate working area and inspected, users have the combination of the following connection options:

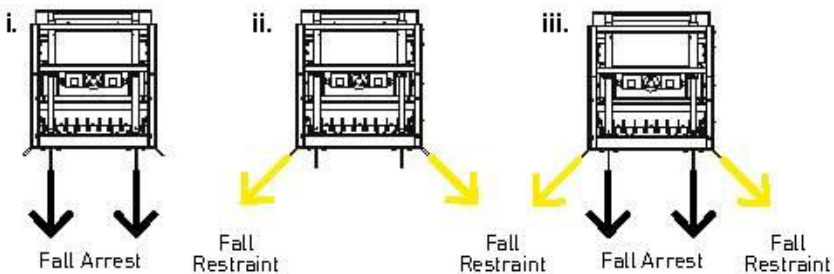
a. Fall Arrest: 2 users can tie-off in the black color-coded connection points and use the system for fall arrest.

b. Fall Restraint: 2 users can tie-off to the yellow color-coded connection points for fall restraint ONLY. User(s) MUST not have the possibility to fall when anchored to these points. Ensure that the lifeline/connector length to the fall exposure is calculated and be LESS of that distance prior to using the fall restraint connection points.

c. Combination: 4 users can simultaneously use the cart system, so as long as:

I. One connection point per user is used.
II. The users don't overlap each other in their working areas.
III. The users equipment don't overlap with each other where in case of a fall one can drag another user(s).
Iv. The 2 users in fall restraint do NOT have the possibility to be subject to a fall.

d. **WARNING:** When using any of these combinations, users cannot have the possibility to overlap with each other or be connected in a way where in the case of a fall one can drag another user(s).



4. When connecting to fall arrest or fall restraint, ensure to use a carabiner that meets OSHA/ANSI standards and are of compatible connection.

5. Once the substrate load capacity has been verified that it can withstand such loads, the cart system has been properly placed in the desired location, the product has been inspected as mentioned above and according to the "Inspection Checklist and Log" at the end of this manual, the connection points for usage have been determined then thereafter a qualified person must verify and ensure that the system has been properly set-up per this instruction manual and all the other PFAS are of compatibility and approved before using the system.

DISASSEMBLY/ASSEMBLY OF COUNTERWEIGHTS:

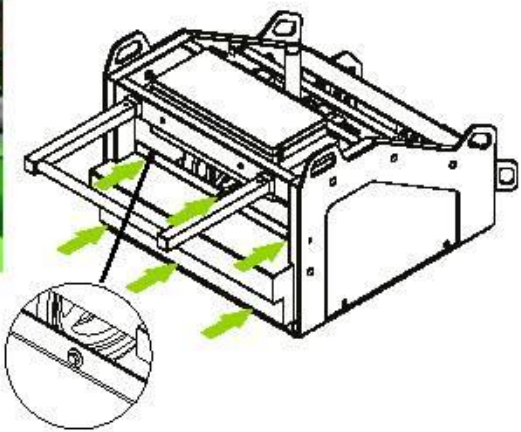
Under no circumstance should the system cart be dissembled and its the responsibility of the user should there be any disassembly of the cart system's couterweights.

The cart systems comes completely assembled, but if for any reason the user(s) may need to disassemble the cart's counterweights, then the following steps should be followed:

Disassembly:

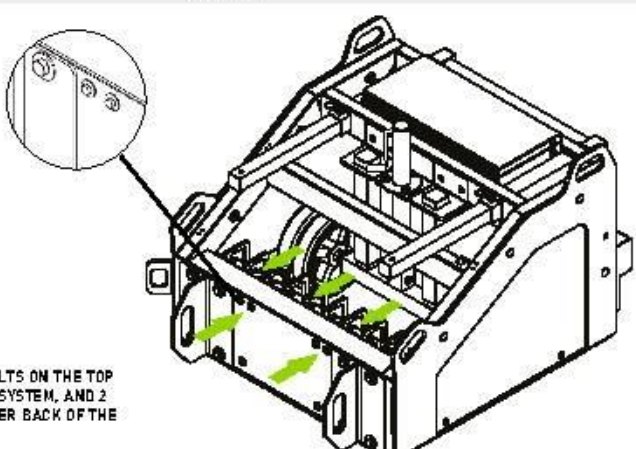
1. Locate the back and front counterweight cover and remove the bolts with a socket drill or wrench as shown on Figure 8 and 9. The system has a total of six bolts on the back and seven bolts on the front, both compromised of top and bottom bolts as shown on the figures below:

FIGURE 8



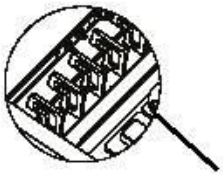
DISASSEMBLE 3 BOLTS ON THE TOP BACK OF THE CART SYSTEM, AND 3 BOLTS ON THE LOWER BACK OF THE BACK PLATE

FIGURE 9



DISASSEMBLE 4 BOLTS ON THE TOP BACK OF THE CART SYSTEM, AND 2 BOLTS ON THE LOWER BACK OF THE BACK PLATE

2. Once the bolts have been disassembled remove the covers and the counterweights include a to handle in order to grab them; They can now be freely removed from the frame tray.



3. **WARNING:** Under no circumstance dissemble any other component from the cart. Never use cart system without counterweights in place and fully installed and assembled. Under no circumstance dissemble any other component from the cart.

Assembly:

1. To assemble the counterweights on the cart system;

   a. Place all 20 counterweights back in their respective place, 10 units on the front and 10 units on the back of the frame tray.

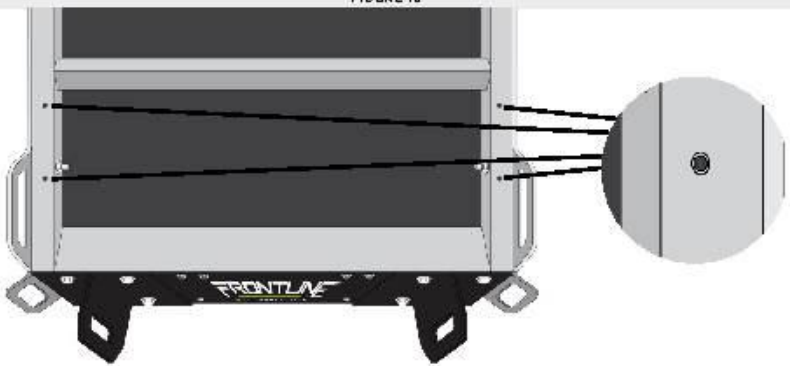
   b. Repeat the prior steps of disassembly but this time perform the assembly. Place covers over the counterweights and insert bolts, nuts and washers and secure properly. The cart system should have its 13 bolts inserted back with nuts and washers as it came in its original state. (7 bolts, nuts and washers on the front, and 6 bolts, nuts and washers on the back fully secured)

ASSEMBLY/ DISASSEMBLY OF SOLAR PANEL:

Assembly

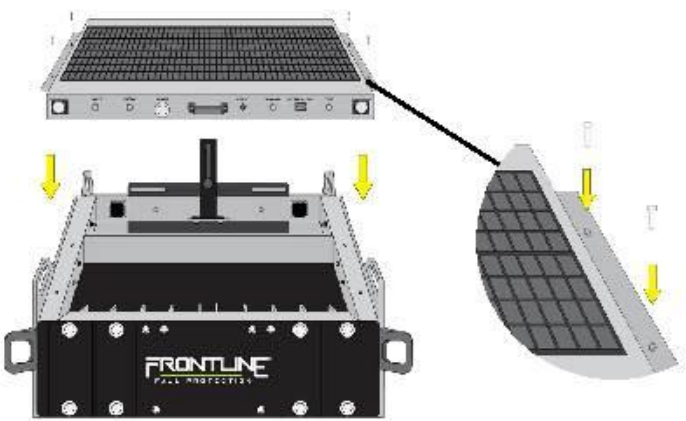
1. To install the solar panel on the CMT04, locate the 4 pre-drilled holes on the front of the CMT04, as shown in Figure 10.

FIGURE 10



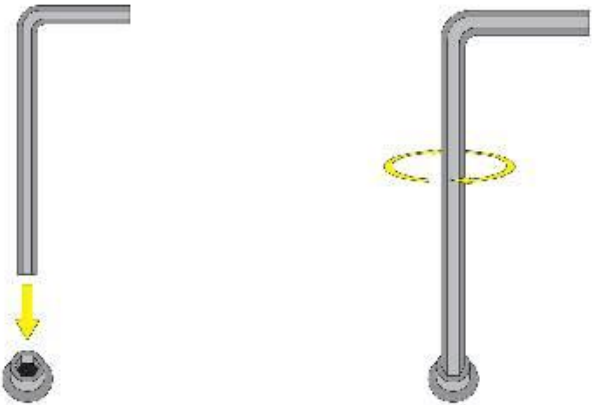
2. Place the solar panel aligning the four holes and then secure it with the included four 3/16" x 1" socket head (bristol) screws with their respective washers, as shown in Figure 11.

FIGURE 11



3. Tighten and secure each screw, as shown in Figure 12.

FIGURE 12



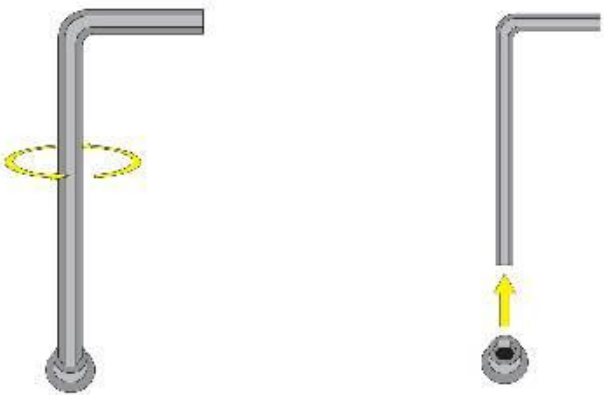
4. Finally, the solar module is installed on the CMT04 as shown in Figure 13.

FIGURE 13

Disassembly

1. For this procedure, remove the four screws installed as shown in Figure 11 and then proceed to remove the solar module.

FIGURE 14



2. Leaving the CMT04 as seen in Figure 15.

FIGURE 15

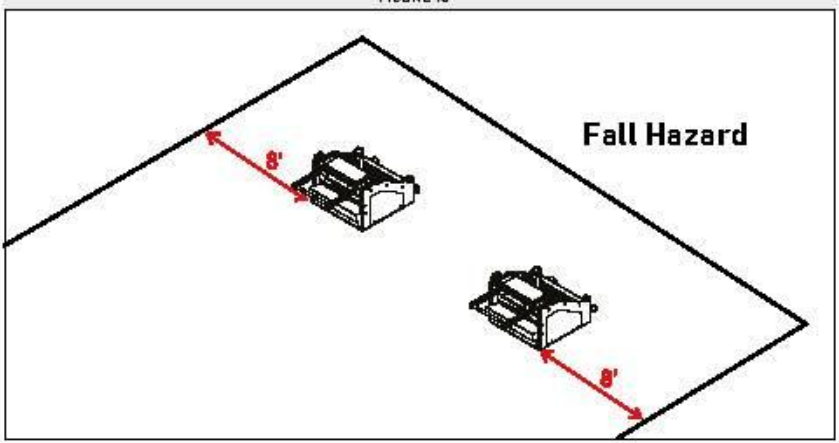
CMT04 CART SYSTEM USE WITH FRONTLINE HLK1004 HORIZONTAL LIFELINE SYSTEM:

This Frontline CMT04 fall arrest cart is compatible with the Frontline HLK1004 horizontal lifeline (HLL) and both systems comply with OSHA 1926 standards. The use of fall arrest for 2 users or fall restraint for 4 users is approved, provided that all user manual instructions are followed, Frontline equipment is used and installed accordingly, and all federal/local safety regulatory standards are followed.

In addition, the instructions listed below to set-up the CMT04 cart system and HLK1004 horizontal lifeline, the following steps should be followed to set-up the two systems together:

1. Set-up two fall arrest carts parallel to each other with the anchor points facing the fall hazard as shown on figure 16.

FIGURE 16

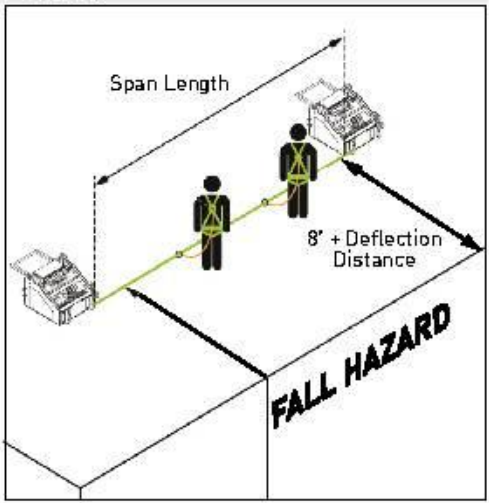


2. The spacing required from the carts to the fall hazard will be dependent on the horizontal lifeline span plus another 8' of safety factor at a MINIMUM as shown on figure 17 Deflection Distance Chart plus the added 8' safety factor.

WARNING: Before using the Frontline counterweight cart systems, Frontline requires that the substrate can withstand the two carts load of no less than 1,500 lbs (each cart, TWO carts ± 3,000 lbs), plus the user(s), weight, tools and any other equipment and material that may be loaded on the roof or substrate. The work area must also be flat and set on a dry area.

FIGURE 17

Deflection Distance Chart		
SPAN LENGTH	1 USER Min. Distance From the Edge	2 USERS Min. Distance From the Edge
15 ft.	3.87 ft.	4.30 ft.
20 ft.	4.33 ft.	4.82 ft.
25 ft.	5.28 ft.	5.91 ft.
30 ft.	5.74 ft.	6.43 ft.
35 ft.	6.69 ft.	7.51 ft.
40 ft.	7.15 ft.	8.04 ft.
45 ft.	8.07 ft.	9.09 ft.
50 ft.	8.56 ft.	9.65 ft.
55 ft.	8.48 ft.	10.70 ft.
60 ft.	9.94 ft.	11.22 ft.
65 ft.	10.89 ft.	12.30 ft.
70 ft.	11.35 ft.	12.83 ft.
75 ft.	12.30 ft.	13.95 ft.
80 ft.	12.76 ft.	14.44 ft.
85 ft.	13.68 ft.	15.49 ft.
90 ft.	14.14 ft.	16.01 ft.
95 ft.	15.06 ft.	17.06 ft.
100 ft.	15.52 ft.	17.59 ft.



*8' of Safety Factor must be added in addition to the deflection distance

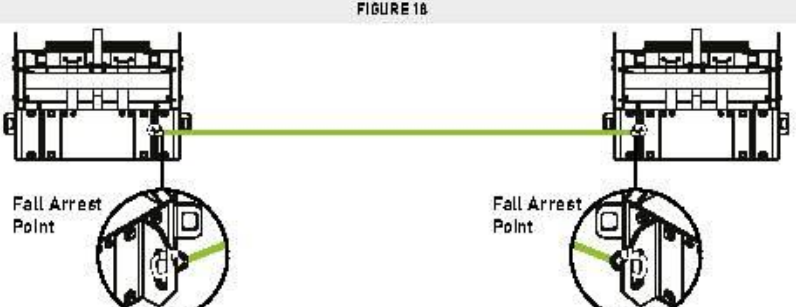
E.g.:

a. One user at a 20' span will need 4.33' of Deflection Distance plus 8' of Safety factor bringing the total distance form the fall hazard to 12.33' at a MINIMUM

b. Two users at a 40' span will need 8.04' of Deflection Distance plus 8' of Safety factor bringing the total distance form the fall hazard to 16.04' at a MINIMUM.

3. Once the span and deflection/clearance distance from the edge have been determined and properly set-up, you can now move forward to installing the HLK1004 horizontal lifeline system according to its respective user manual and using the outer fall arrest connection points from the carts as anchoring points as shown on Figure 18:

FIGURE 18



*For proper lifeline installation, please refer to Frontline user manual from the HLK1004

4. Tension the system according to the HLK1004 horizontal lifeline system user manual and set-up properly between the two carts serving as anchoring points.

a. Counterweights must be set on the carts and carts should be in their lowered position lying on the substrate and wheels off the ground

5. Once the system has been properly set-up, a qualified person in fall protection shall inspect both carts and horizontal lifeline system and approve of the set-up if everything has been installed accordingly to this user manual and the HLK1004 horizontal lifeline user manual.

a. If for any reason should there be any contradictions between user manual, or federal/local regulations the most stringent shall apply.

Other Safety Requirements:

- All users setting up these systems must follow all user manuals and be trained and experienced in fall protection prior to a fall exposure or system set-up. When in doubt of any system component part or if the system looks questionable, refrain from using the system immediately and report it to Frontline Fall Protection for further instructions.
- When using the horizontal lifeline system, the system ONLY allows for 2 users in fall arrest OR 4 users in fall restraint. The other fall arrest cart/restraint connections points shall NOT be used in conjunction when the horizontal lifeline system is in use.
- Compatible fall arrest connection systems, e.g. positioning devices, shock absorbing lanyards and/or self-retracting devices that meet OSHA and ANSI standards, must be used.
- Users and their connecting devices should be connected directly behind the user without the possibility should one user fall that it would drag another user who is connected to the system.
- Users working at fall restraint, shall NOT have the possibility to fall or be near a fall exposure.
- Horizontal lifeline shall always be of the floor and protected against being cut or abraded.

PICKING/LIFTING POINTS WARNING AND DISCLAIMER:

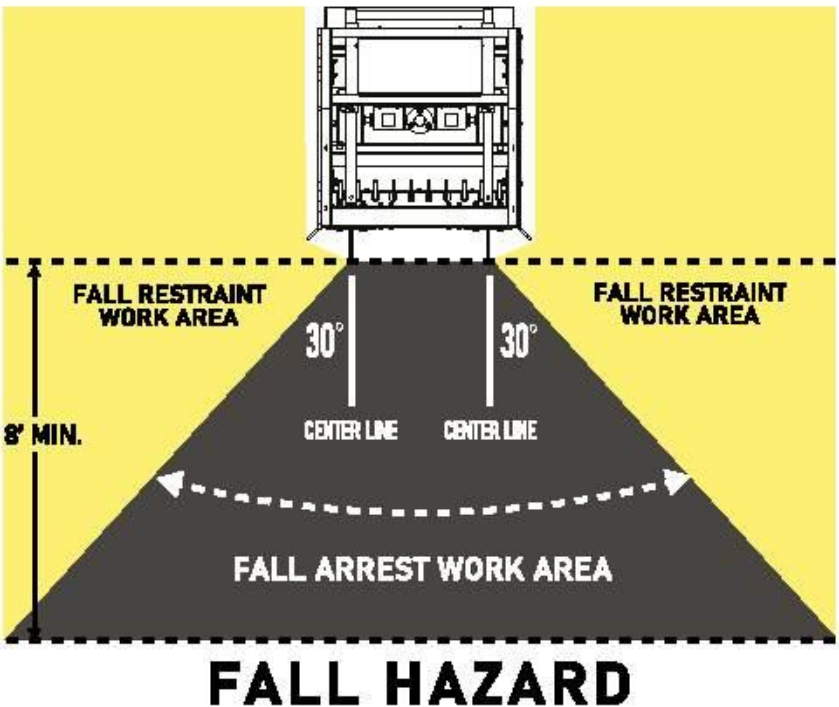
Frontline cart system provides picking/rigging points which are the green color-coded connection points to better transport the anchor from one location to another. Frontline does NOT allow cart system to be lifted, hoisted or flown above personnel where it can create a struck by or fallen object hazard for those working beneath at lower level. Lifting the cart system by means of crane or similar equipment must be approved and under the supervision of a qualified person. Product must be lifted/rigged and approved by a qualified person before lifting the anchor so the operation can be done safely. Frontline assumes no responsibilities on unsafe lifting/ rigging practices.

LIFTING/RIGGING POINTS

DIRECTION LOADING

The cart system has been tested to be used within a 30-degree angle from the carts fall arrest points as shown on Figure 10. For fall restraint purposes, the system can be used outside of fall arrest safe work area to avoid any overlapping of users/systems as shown below on Figure 19.

FIGURE 19



INSPECTION CHECKLIST AND LOG			
MODEL NUMBER:	DATE OF FIRST USE:		
INSPECTION	Prior to installation and prior to each use / Inspection by a competent person is required every 6 months	PASS	FAIL
CART SYSTEM:	Inspect the cart for damage. Look for cracks, dents, or deformities		
	Inspect for missing welding and welding non conformities		
	Inspect for permanent deformation on the anchoring connections points		
	Inspect that all counterweight systems in the front and back frames are in place and secure (Counterweight stacks 10 in the front, and 10 in the back)		
	Before using the system, inspect that the cart frame is lying directly on the substrate and that the wheels are off the ground a minimum of 6"		
	Inspect cart handles slide in and out no issues and that they have their locking pins		
	Inspect that the Bottom Frame Anti-Skid Rubber is wiped clean and not cracked, worn out, free from debris/dust, dry of any liquid or any contaminant before setting the device in place		
	Inspect the entire unit for corrosion		
	Inspect for any other unconformity		
LIFTING DEVICE AND WHEELS:	Inspect that jack is working properly, lifting and lowering the system with no issues		
	Inspect that the wheels and axel is lifting and lowering when the jack system is used		
	Inspect that the wheels are free from flats		
	Inspect the wheel rims to ensure there's no damage and rotate/move when the system is off the ground and pushed/pulled		
LABELS AND USER INSTRUCTION	Inspect all warning/labels are legible		
	Inspect that the user manual is included and stored in tool box or where its readily available		

INSPECTION LOG			
COMPETENT PERSON:	DATE OF INSPECTION	PASS	FAIL


COMMANDO
TANK
COLOR CODING: FALL ARREST FALL RESTRAINT LIFTING POINTS
FRONTLINE FALL PROTECTION INC.
INFO@FRONTLINEFALL.COM
WWW.FRONTLINEFALL.COM
FRONTLINE
FALL PROTECTION


COMMANDO
TANK
FRONTLINE
FALL PROTECTION
CMT04
2 FALL ARREST
2 FALL RESTRAINT

Frontline Fall Protection Inc.

www.frontlinefall.com
info@frontlinefall.com