INSTRUCTION MANUAL

FRONTLINE®

FALL PROTECTION

USER MANUAL

GUARDRAIL SYSTEMS

GUS10, GUS75, GUS05, GUS-FXD,
GUG55, GUT010, GUS10-CR-EA, GUBDO.

Rev. Feb. 2026

Frontline Fall Protection Inc.

INSTRUCTION MANUAL

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 ladders, ladder systems and/or 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.**

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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 ¡s 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 guardrail system is meant to be installed ONLY by competent and trained personnel in fall protection. This system serves as part of a complete passive fall prevention system. This system has been designed to comply with OSHA 1926 and OSHA 1910.

User/Installer MUST read, understand and follow all safety information contained in these instructions prior to the use or installation of this system. Misuse of this system other than its original intended use or not described in this User

Instruction Manual is not approved by Frontline Fall Protection and could result in serious injury or death.

These instructions must be provided to the installer/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. The following are requirements for the safe use of this system:

- Do not install this equipment until proper training, fall protection and rescue programs are in place.
- Do not install this equipment near electrical lines. A minimum of 10' distance from electrical lines or other electrical hazards is required.
- Do not install this equipment on slippery surfaces, gravel or slopes.
- Do not install this equipment less than 18" from a fall hazard or leading edge.
- Do not use this equipment for other uses other than its original and designed intended use.
- Do not lean or climb at any point of the guardrail system.
- Do not use this product if it does not pass safety inspection or that the safety and integrity of it is questionable.
- Installers should consult a doctor prior installing this equipment, as physical labor and heavy lifting is required for the proper installation of this system.
- Pregnant women or minors must not be exposed to a workplace hazard and must not install this equipment.
- All installers/users must refer to local, state or federal safety and health regulations before using this equipment. Whichever is most stringent shall supersede and apply.
- Never alter or intentionally misuse this equipment, always inspect before each use to ensure its compliance and safe use.
- Always examine the work area and the surroundings to identify hazards that may impact safety before commencing work.
- Do not try to lift/move the guardrail system in its entirety, know your limits and use lifting equipment when applicable.

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.

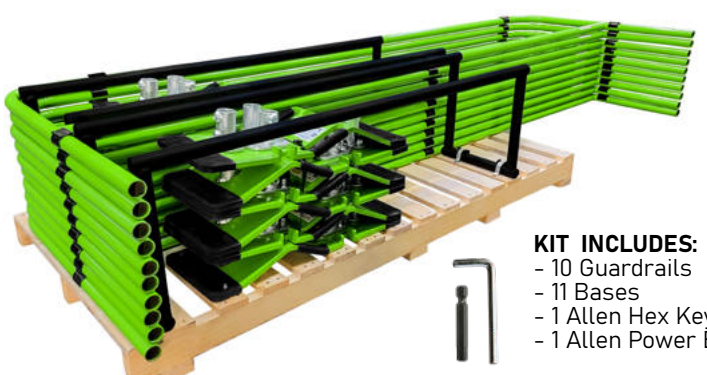
Training must be done in the language that the employee understands and shall, be documented and kept as outlined under OSHA recordkeeping regulations. No user or employee shall perform work without the proper training and understanding on how to properly and safely use this product.

GENERAL DISCLAIMER

Frontline has tested their product to comply with OSHA under a controlled environment and with certain substrates. Frontline cannot and does not guarantee the same performance for different substrates. Please contact info@frontlinefall.com if you have any questions regarding this subject matter.

APPLICATION

This system has been designed to serve as a passive fall prevention system. This system should be set-up anywhere where there is a leading edge or fall hazard that is over 4' for general industries and 6' for the construction industry. Refer to state and local safety regulations in case there's a more stringent requirement, as the most stringent will apply. Once the system has effectively been installed, set in place and fall hazard eliminated, the use of active fall arrest systems may not be required. Check with your employer for more details on fall protection compliance if the area is questionable.



KIT INCLUDES:
- 10 Guardrails
- 11 Bases
- 1 Allen Hex Key
- 1 Allen Power Bit

INSTALLATION

Employers/users must ensure installers are properly trained in fall protection, have a complete fall protection and rescue program in place prior to installation. Remember not to install on slippery or gravel surfaces. Don't install on slopes or 10' from powerline or electrical hazards.

A layout plan should be done of the fall hazard exposed area which is being covered prior to installation so that the proper lineal foot amount of guardrail system is accounted for. Once the guardrail system is onsite and ready to be installed, the following steps must be followed:

NON-PENETRATING INSTALLATION

1. The perimeter of the work area must be completely covered with guardrail systems in order to eliminate fall hazard exposure.

a. Use fall protection as needed and when/where applicable.

2. Start from one end of the roof or leading edge and place two baseplates between each rail section and run the system continuously throughout the inside perimeter in order to cover and eliminate all fall hazards.

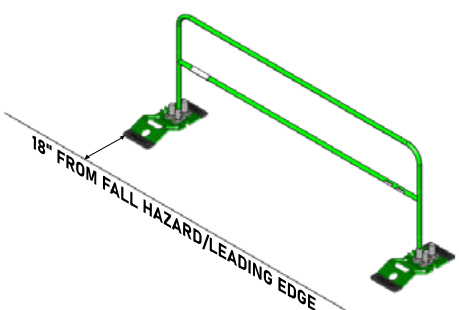
3. When placing the baseplates, ensure the following steps are taken: (Figure 1)

a. Baseplates must be leveled and placed on a non-slippery/non-gravel surface.

b. Baseplates must be perpendicular to the fall hazard/leading edge.

c. Baseplates must be a minimum of 18" away from the fall hazard/leading edge.

FIGURE 1



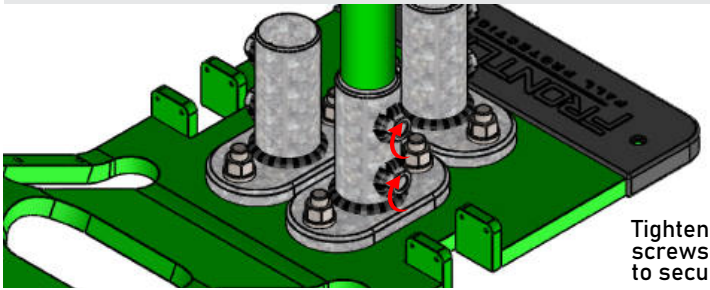
4. When placing the guardrails into the baseplates ensure the following:
(Figure 2)

a. The guardrails are parallel to the fall hazard/leading edge

b. Guardrails on both sides are inserted into the fittings .

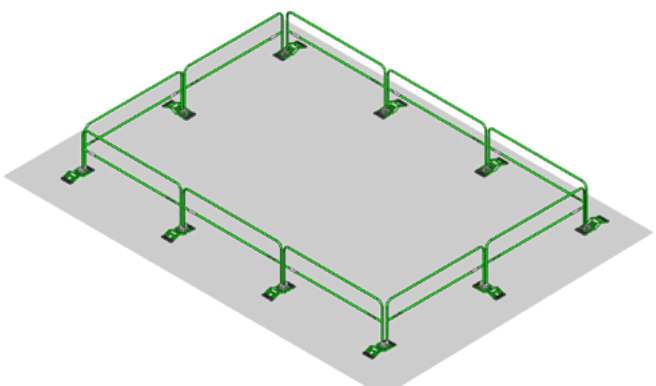
c. Both grub screws on fittings are tightened with allen hex key or allen power bit on both sides of the guardrails in order to lock and secure the guardrail to the baseplate.

FIGURE 2



5. All guardrails should run in continuous systems and be closed off (Figure 3)

FIGURE 3



6. If entire guardrail run cannot be of a closed system, then use two 10' outrigger sections at the ends. Place one at the beginning of the run and the second at the end of the run. Both outrigger's need to be perpendicular to the run. (Figure 4)

a. When running more than 200 lnft of straight and continuous guardrail sections, then an intermediate outrigger is also required on the center of the run. Use an additional outrigger for every additional 200 lnft of continuous run (Figure 5)

FIGURE 4

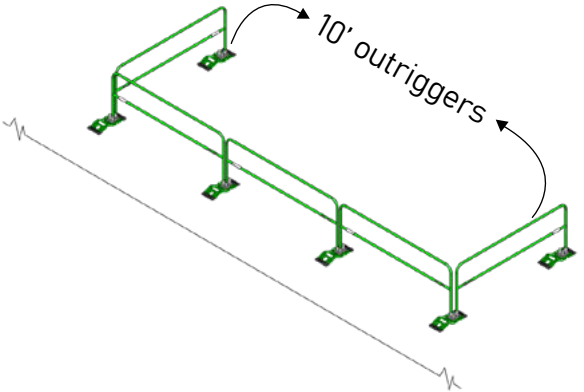
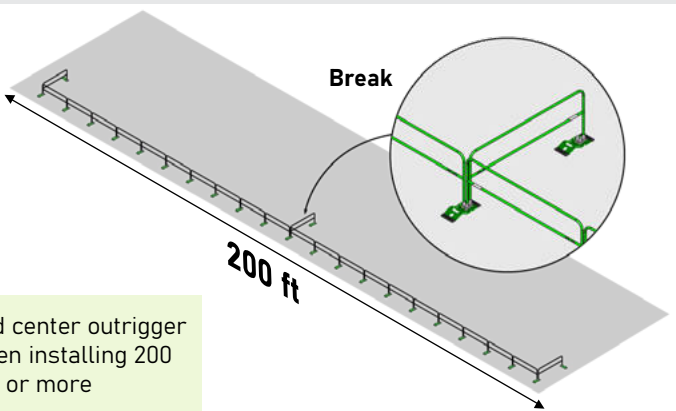


FIGURE 5



Add center outrigger when installing 200 lnft or more

7. Baseplates include slots and holes to accommodate toe boards. If necessary or required, insert 2" x 4" or similar into baseplates slots and secure toe board by inserting a minimum of two nails through the openings and into the 2" x 4" wood member. (Figure 6)

FIGURE 6

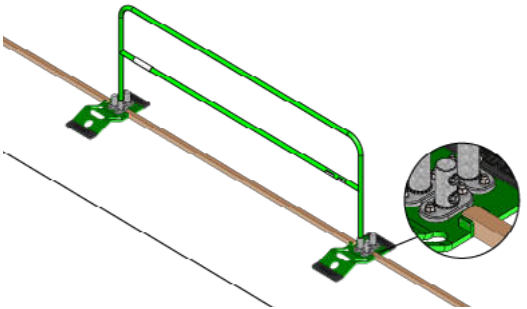
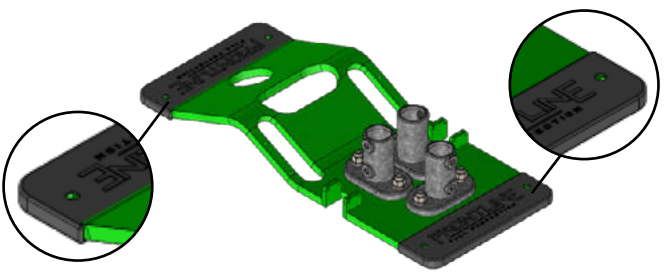


FIGURE 7



Note: Optional Frontline custom built toe boards are also variable part number GUTO. (Figure 7)

FIGURE 8

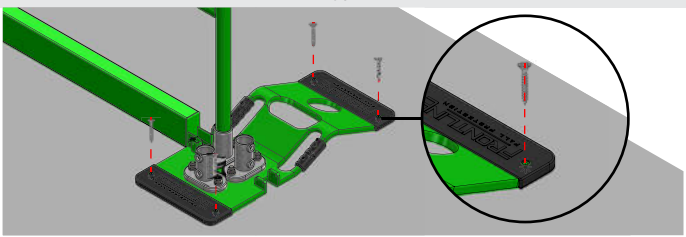


8. Once installed, inspect and ensure that all sections are firm and that there are no lose guardrails. Perform a push/pull test on all guardrail sections to ensure the stability of the system.

FIXED AND PENETRATING INSTALLATION

Concrete, Metal and Wood:
Frontline guardrail systems base plates also include two perforations at both ends in case employer/user wants to secure the bases permanently to substrate or roof. The base plates can be anchored onto concrete, metal or wood and the type of fastener to be used depends on the specific substrate and the user desired additional resistance loads of the system. To permanently attach bases plates to the substrate, simply fasten through all perforations and fix to substrate as shown on Figure 9.

FIGURE 9



Concrete installation with GUS-FXD:
When installing onto concrete Frontline requires only fully cured concrete and a minimum strength of 3,000 psi 6" thick concrete. The substrate also must withstand the required 5,000 lbs minimum breaking strength and approved before use by a qualified person. Thereafter, then follow the next steps:

1. Use (2) 3/8" concrete wedge anchors - Must be able to withstand, no less than 200 lbs of force in any direction.

2. Ensure that GUS-FXD is flat on the concrete surface without any obstructions.

3. Drill two 3/8" holes so the concrete wedge anchors can fit snug and be properly installed.

a. For proper concrete wedge installation refer to wedge anchor manufacturer's instructions.

b. Anchors must be embedded onto the concrete a minimum 3" in depth.

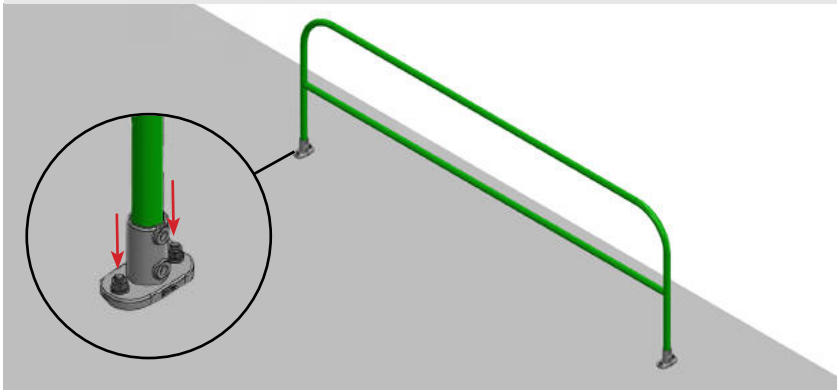
4. Insert the 2 concrete wedge anchors through the GUS-FXD openings for concrete use and tighten with appropriate torque according to wedge bolt anchor manufacturer recommendations until the anchor is secured and properly installed. (Figure 10)

5. Visually and physically inspect that the anchor is fully and properly installed.

6. Once correctly installed and inspected, guardrail system is ready for use.

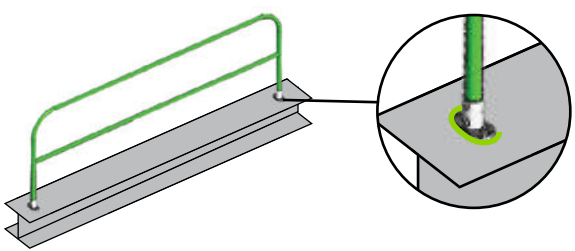
WARNING: Concrete cannot be hollow, must be fully cured and able to withstand the rated loads or as part of a complete personal fall arrest system which maintains a safety factor of at least two under the supervision and approval of a qualified person as described by OSHA.

FIGURE 10



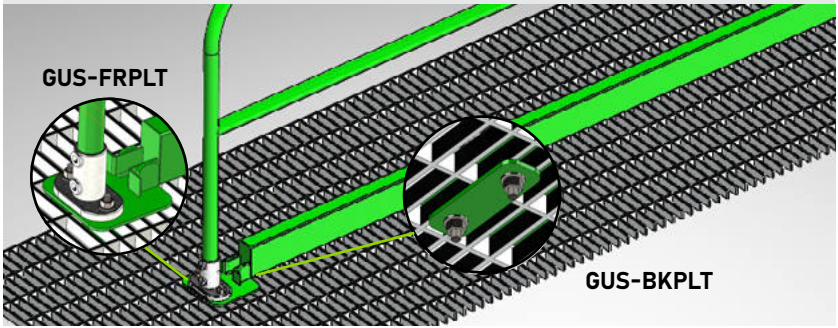
Weld-on or Steel Grates:
If user intends to weld-on the guardrail system then part number GUS-FXD should be used to weld-on to desired steel structure. Welding needs to be done around the whole fitting and performed and approved by a qualified welder (Figure 11).

FIGURE 11



If the guardrails are being used over steel grates, then use GUS-FXD in conjunction with steel bolt, nut and washers as show on figure 9. Place fitting in an upright position and use steel bolt dimension depending on the depth and width of steel grate. Steel bolts should go through fittings, in between the GUS front plate, through the steel grates and down underneath through backer plate in order to accommodate washer and nut as shown on Figure 12.

FIGURE 12



The system should have enough torque so that is stable and qualified person is to ensure that it's installed properly and that the system is rigid and cable of withstanding the 200 lbs for as required by OSHA.

Note: Outriggers are not required for fixed / penetrating installation. System needs to withstand the 200 lbs of force as outlined by OSHA and it is approved by a qualified person.

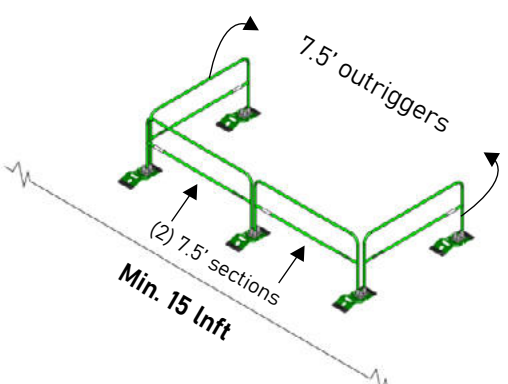
CAL OSHA

California OSHA Compliance and installation:

THIS IS ONLY FOR CAL OSHA (CALIFORNIA OSHA) COMPLIANCE

9. For the guardrail systems to meet CAL OSHA requirements, a minimum of two sections of GUS75 are required (Figure 13)

FIGURE 13



Note: A minimum of two sections and two outriggers are required.

10. If entire guardrail run cannot be of a closed system, then use two 7.5' outrigger sections at the ends. Place one at the beginning of the run and the second at the end of the run. Both outrigger's need to be perpendicular to the run (Figure 14)

a. When running more than 200 lnft of straight and continuous guardrail sections, then an intermediate outrigger is also required on the center of the run. Use an additional outrigger for every additional 195 lnft of continuous run (Figure 15)

FIGURE 14

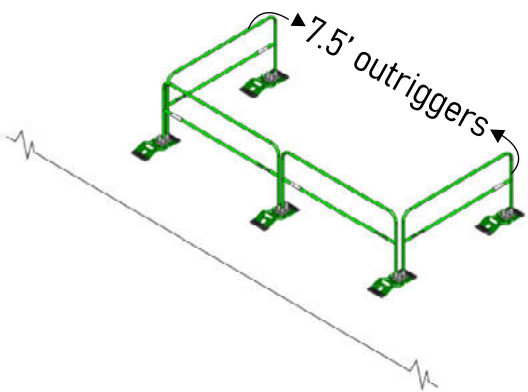
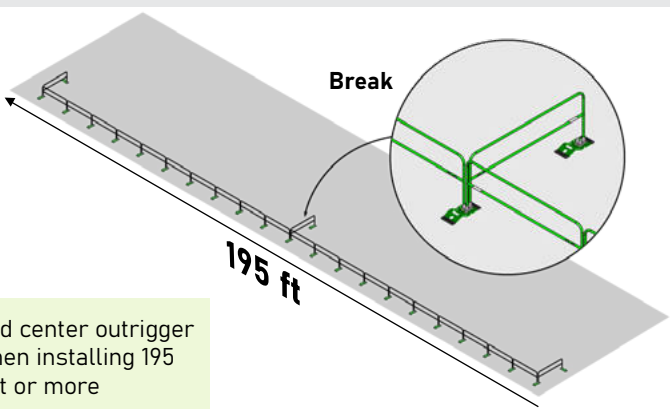


FIGURE 15



Add center outrigger when installing 195 lnft or more



1. Position gate over desired base. Slide gate rail into base fitting and secure by tightening the two grub screws.



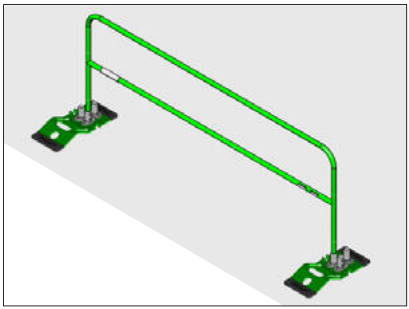
2. Position other guardrail approximately 5' apart while leaving a space for gate lock to slide in.



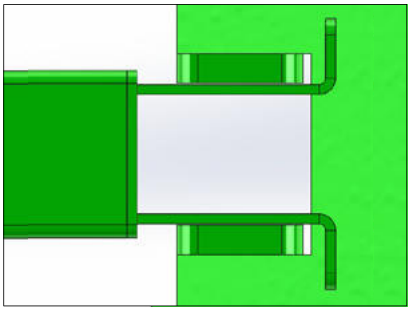
3. Ensure to slide safety pin in order to lock and secure gate.



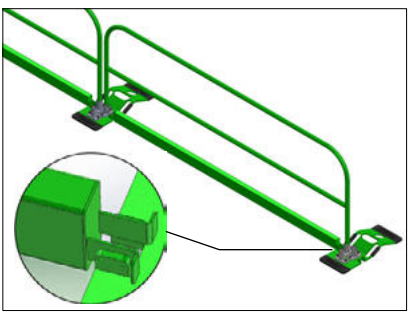
4. To open the gate again, just remove safety pin, raise latch and open freely.



1. Before installing the metal toe boards, ensure that the work area is flat and clear of obstructions.



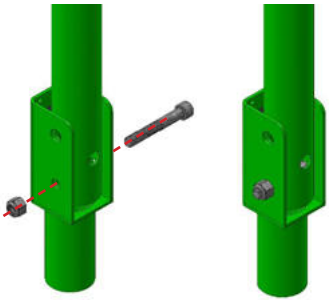
2. Position metal toe board directly above and in-between guardrail base toe board slot with metal angle facing down so it can fit snug and secured in the base.



3. Follow the same instruction for the next guardrail base with the appropriate length and ensure that the metal toe board is secured between both bases and flat on the floor

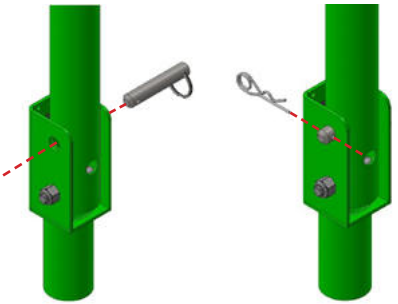
GUS10-CR-EA - COLLAPSIBLE GUARDRAIL SECTION

1. Attached the rail to the collapsible accessory



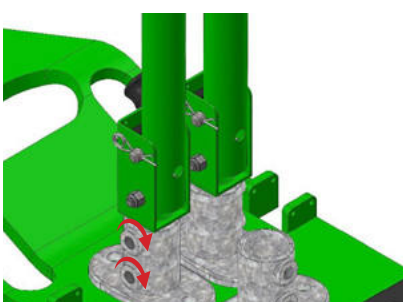
Align the two holes in the rail with the holes in the collapsible accessory. Insert the Ø3/8" × 2-1/2" socket head cap screw through the lower hole and secure it with the lock nut. Tighten until snug; the rail must still rotate freely. This screw acts as the pivot point of the system.

2. Lock the rail in the upright position



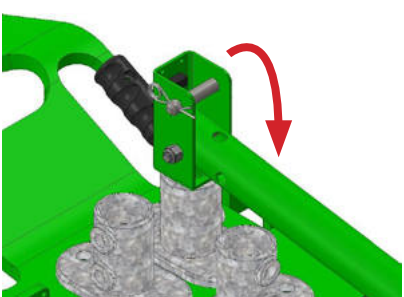
Insert the Ø1/2" stainless steel pin through the upper hole and secure it with the R-clip.

3. Mount the assembly onto the base



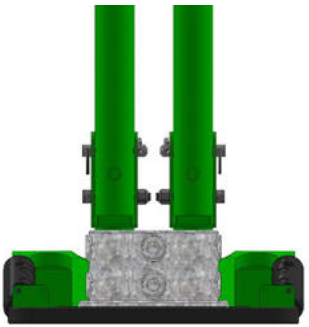
Place the rail assembly onto the rail base fitting and tighten both grub screws using an Allen key or an Allen hex power bit to lock and securely fasten the guardrail to the baseplate.

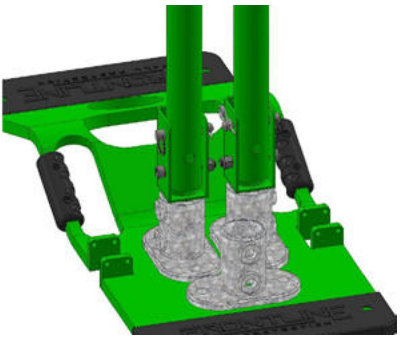
4. Lowering the rail



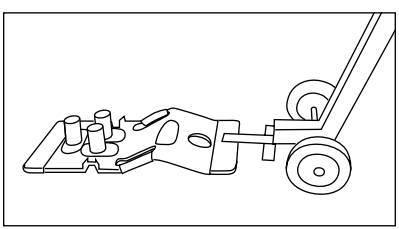
1. Remove the R-clip and pull out the locking pin from the upper hole. Do not remove the pivot screw.
2. Lower the rail.
3. Reinsert the pin into the hole and secure it with the R-clip. Do not leave the pin hanging from its lanyard.

NOTE: The two collapsible accessories are installed as mirror images. Insert the pivot screw and the locking pin from the outer side of each accessory, so that the lock nut and the R-clip face toward the center, between the two rails (see Figure X). On one rail, insert them from left to right; on the other, from right to left. Inserting the hardware in the wrong direction may cause interference with the adjacent rail and prevent proper installation or lowering of the rail.

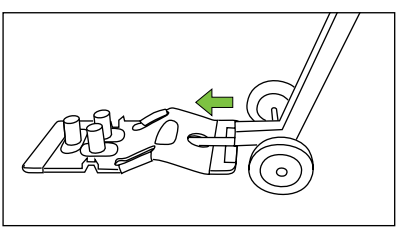




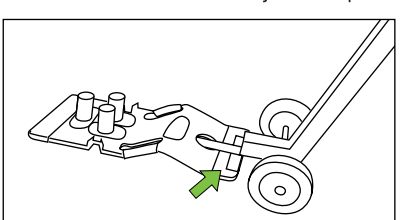
GUBDO - BASE DOLLY USER GUIDE



1. Position dolly over base and in direction of the base opening



2. Move forward with the dolly and towards base opening in order to feed the dolly's steel plate into the base opening



3. Once the dolly's steel plate is fully inserted into the base's opening and the back plate secures onto the base's EPDM support, you are now ready to lift and move the base around to desired location

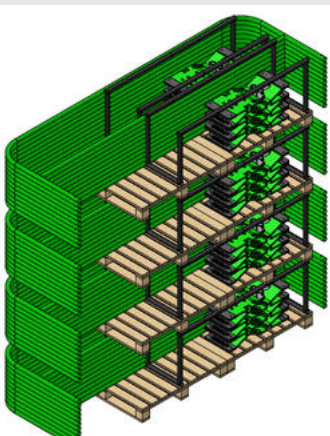
MAINTENANCE, STORAGE AND TRANSPORTATION

MAINTENANCE: In order to maintain product in good standing, it is necessary to keep them cleaned and in good condition. Avoid surface contamination such as concrete, stucco, roofing material, chemicals or other harmful substances that could accelerate cutting, abrading, damaging and/or rusting/corroding of products. Use warm water and soap to wash any containments and then dry off to help extend the life of the product.
Product that needs to undergo deeper maintenance and repairs outside of cleaning with warm water and soap is not recommended. Any rust preventative measures, chemical exposures repairs/ maintenance and/or other deeper maintenance are in the sole responsibility of the user and must be approved by a qualified person. Frontline assumes and takes no responsibility for maintenance measures outside of light maintenance as described above. Product that does not pass inspection or is questionable needs to be taken out of service immediately.
Maintenance can be done on site by installer/user for painting touch ups, application of anti corrosive agents to better preserve the system or any other similar aesthetics. If there's a product that does not pass inspection or is questionable needs to be taken out of service immediately.

STORAGE AND CLEANING: Equipment that has been physically exposed such as rain/dirty water, concrete, paint, buildup of other construction material or other surface contamination shall be cleaned with water and soap. Equipment with excessive corrosion or with enough corrosion to impact the integrity of the equipment shall be removed from service. When equipment is not in use, store in an area away from potential corrosion exposure and where the integrity of the equipment can be preserved.

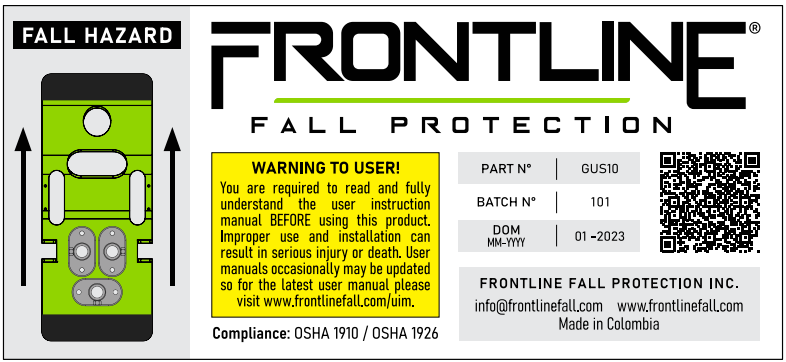
TRANSPORTATION AND WARNING: The guardrails custom built pallets are built in a way that can be singled stack, or four stacked safely for better transportation. When stacking the pallets, they must be placed on top of each other horizontally, in the same direction and with weight equally distributed. The pallets must go over the metal tube support structure as shown on Figure 16. Additionally, ensure guardrails are well braced when transporting them and personal are not under or around the load when transporting guardrails stacked.

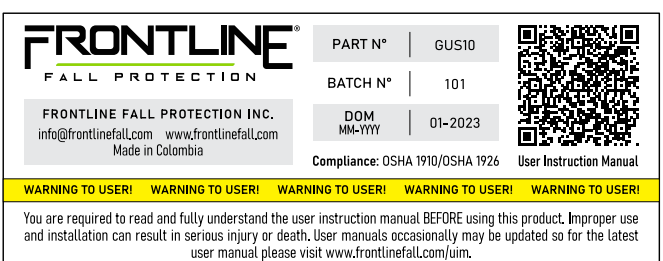
FIGURE 16



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**
ANCHORAGE:	Inspect the for damage: Look for cracks, dents, or deformities.		
	Inspect for lose grub screws, they should all be of tight fit.		
	Inspect for permanent deformation.		
	Inspect for any missing/malfunctioning parts on the fittings.		
	Inspect the entire unit for corrosion.		
	Inspect for missing EPDM footers.		
	Inspect for any other unconformity.		
	Ensure guardrail have outriggers as required by the user manual.		
	Ensure guardrails are not installed on sloped areas.		
	Ensure guardrails are a minimum of 18" from the edge.		
GUARDRAIL SYSTEM LABELS:	Inspect the guardrail system for legible labels.		

INSPECTION LOG			
COMPETENT PERSON:	**DATE OF INSPECTION**	**PASS**	**FAIL**


FALL HAZARD
FRONTLINE®
FALL PROTECTION
WARNING TO USER!
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.
Compliance: OSHA 1910 / OSHA 1926
PART N° | GUS10
BATCH N° | 101
DOM MM-YYYY | 01 -2023
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Made in Colombia


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BATCH N° | 101
DOM MM-YYYY | 01-2023
Compliance: OSHA 1910/OSHA 1926
User Instruction Manual
WARNING TO USER! WARNING TO USER! WARNING TO USER! WARNING TO USER! WARNING TO USER!
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.

INSPECTION CHART

DATE OF FIRST USE: _____

DATE MM/DD/YYY									
INITIALS									



Frontline Fall Protection Inc.

www.frontlinefall.com
info@frontlinefall.com

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