PENETRATOR
MOBILE FALL PROTECTION

SAFETY & OPERATIONS MANUAL

Do not throw away these instructions!
Read and understand these instructions before using this product.

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On-line
Safety & Operations
Manual

On-line
Assembly and Parts
Manual

Use these instructions as part of a training program as required by OSHA and any applicable state agency. The user must understand how to safely use the Penetrator and all safety equipment used in combination with the Penetrator Fall Protection device.

A competent person who is highly trained and experienced, assigned by the employer, must be responsible for all elements of a fall safety program, including the regulation, management, and application as it relates to the use of the Penetrator and related components.

Tie Down Roofing Products Division
ISO 9001:2015 Certification

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MADE IN THE USA

Instruction Sheet #08325
E1690, Rev. 3/15/23

TIE DOWN
MANUFACTURING INGENUITY

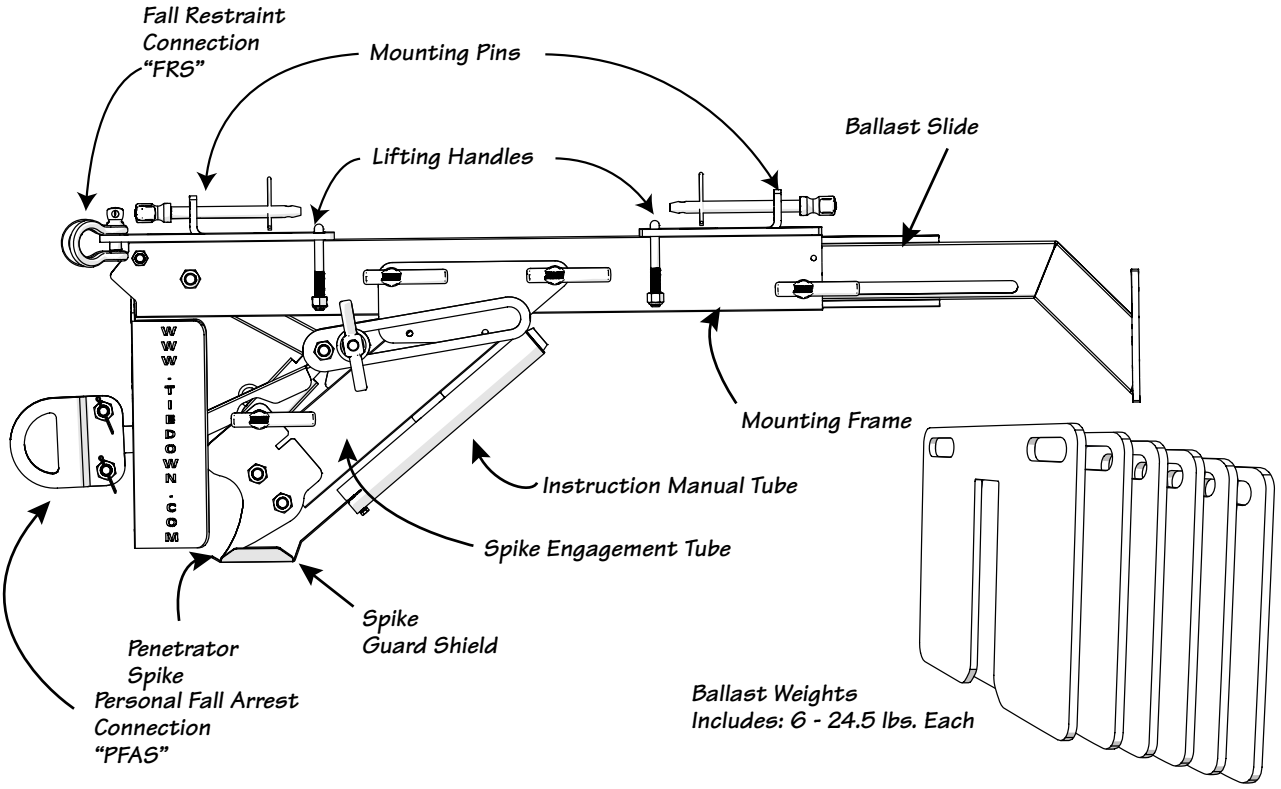
404-344-0000 • www.tiedown.com
605 Stonehill Drive SW, Atlanta, GA 30336
sales@tiedown.com

Introduction

The industries' first lightweight and fully portable mobile fall protection device 3 Fall Arrest and 2 Fall Restraint

When a fall occurs, the powerful penetrating spikes engage, piercing into the roof insulation and metal decking, thus creating a safe, secure anchor. For use on most substrates, EXCLUDING concrete, the Penetrator has been tested for use on Built-Up, TPO, ISO, PVC, EPDM, and other standard materials that are part of a finished roof system. The Penetrator is reusable and offers the lightest mobile fall protection system available on the market today.

New OSHA Rule in affect: Walking-Working Surfaces, #1910.28, please comply with this as well as all Local, State and Federal OSHA rules. The Penetrator is compliant with OSHA Fall Protection Regulation 1926.502



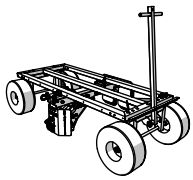
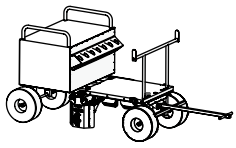
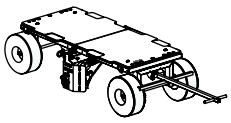
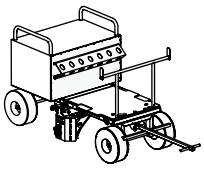
⚠ WARNING ⚠

Serious injury or death may occur if this equipment is used for purposes other than intended. Tie Down provides the following instructions for the use and care of this equipment. It is the responsibility of the user to understand and convey proper instruction to any and all individuals who use this product for Fall Arrest and or Fall Restraint. The Penetrator complies with the requirements set forth by the Federal Occupational Safety and Health Administration (OSHA) when used according to the manufacturers' instructions.

The Penetrator was designed and tested only to be used on the Roof Zone Trailer #65028 with Flat Free Tires.

Penetrator Model Configurations

PENETRATOR
MOBILE FALL PROTECTION

Hardware Included:	Original #65033	Pro #65043	Multi-Plus #65044	Sentinel #65042
Penetrator Device	*	*	*	*
Roofing Zone Cart	*	*	*	*
Aluminum Decking (1 Plate)		*		
Materials Box		*		*
Rolled Goods Rack		*		*
Hoisting Rings		*	*	*
Concrete Ballast (8 Plates)				*
Concrete Ballast (10 Plates)			*	

Available Accessories	Part ID:	Original #65033	Pro #65043	Multi-Plus #65044	Sentinel #65042
Aluminum Decking (2 Plates)	65031	*			
Materials Box	65040	*		*	
Rolled Goods Rack	65038	* (a)		* (a)	
Hoisting Rings	65032	*			
Sentinel Coverersion Kit (8 Plates)	65047	*			
Multi-Plus Conversion Kit (10 Plates)	65046	*			
Rolled Goods Post	65030	*		*	
Quick-Brake	65046	*	*	*	*
Towing Clevis	65029	* (b)	* (b)	* (b)	* (b)
SRL Tray (3 Slotted)	40619	*	*	*	*

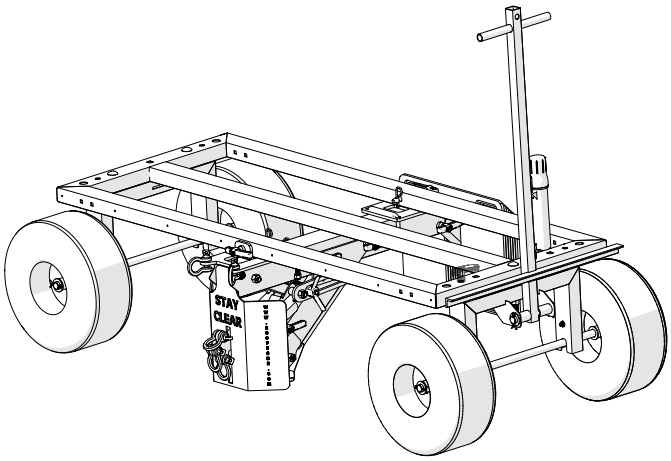
Notes: (a) - 2 Rolled Goods Racks needed if used without the Materials Box
(b) - The Towing Clevis can not be used with the Quick-Brake

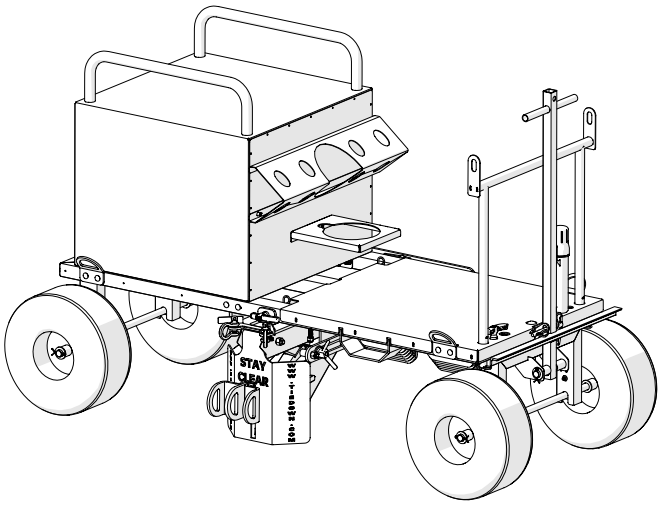
Penetrator Recommended Surfaces:

Gypsum Deck, Modified Bitumen Membranes, Built-up Roofing (BUR) Membrane, Modified PVC Membranes, Thermoplastic Polyolefin (TPO) Membranes, Polyisocyanurate (ISO), Expanded Polystyrene (EPS), EPDM Roofing Membranes, Ballasted EPDM Membrane, Hardboard, Flat Surfaces to slopes up to 1:12, Metal Deck (20 ga. And 22 ga. ONLY), Dens Deck & Plywood.

Multi-Plus and Sentinel Recommended Surfaces:

Concrete (with the required ballast plates and spike engagement tube removed). The spike engagement tube can be reinstalled and the Penetrator can then be used with all surfaces listed above.





Applications

When set up properly the Penetrator allows for three workers to be tied off for fall arrest using the specially designed fall arrest connection mechanism with three individual attachment points. An additional two workers can be tied-off for fall restraint at the specified attachment points.

The Penetrator in conjunction with the Roof Zone cart may be used as an anchor point in a complete mobile fall protection system. The Penetrator with cart allows both worker mobility and fall protection. See www.osha.gov for all regulations and standards.

Fall Restraint System – A fall restraint system (FRS) prevents the user from falling. The system is comprised of a body harness along with an anchorage, connectors and other equipment. The components typically include a lanyard and also may include a lifeline and other devices. The Penetrator can be used as an anchorage in a fall restraint system for up to two workers.

Personal Fall Arrest System – A personal fall arrest system (PFAS) arrests a fall after a fall incident has occurred. The system is comprised of an anchor point, connecting device, body harness, connectors, and a body harness and must include a deceleration system, or suitable combinations. Note that a PFAS does NOT prevent a fall from occurring. The Penetrator can be used as an anchorage in a PFAS for up to three workers. A Personal Fall Arrest System must meet the following OSHA requirements:

- Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;
- Be rigged (lifeline plus deceleration device) so that an employee can neither free-fall more than 6 feet (1.8 meters) nor contact any lower level;
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to OSHA 3.5 feet (1.07 meters); and 4 ft. per ANSI 359.
- Have sufficient strength to withstand twice the potential impact energy of an employee free-falling a distance of 6 feet (1.8 meters) or the free-fall distance permitted by the system, whichever is less.

Anchorage — An anchorage is a secure point of attachment for lifelines, lanyards, or deceleration devices. The Penetrator is a mobile anchorage.

Penetrator Use - For use on low slope surfaces only.

Applications: Surfaces

Recommended Surfaces:

- ✔ Gypsum Deck
- ✔ Built-up Roofing (BUR) Membrane
- ✔ Thermoplastic Polyolefin (TPO) Membranes
- ✔ Expanded Polystyrene (EPS)
- ✔ Ballasted EPDM Membrane
- ✔ Flat Surfaces to slopes up to 1:12.
- ✔ Dens Deck
- ✔ Modified Bitumen Membranes
- ✔ Modified PVC Membranes
- ✔ Polyisocyanurate (ISO)
- ✔ EPDM Roofing Membranes
- ✔ Hardboard
- ✔ Metal Deck (20 ga. And 22 ga. ONLY)
- ✔ Plywood

Do Not Use on the Following Surfaces:

- ✖ Concrete
- ✖ Snow
- ✖ Tectum Deck
- ✖ Metal Deck less than 22 ga. Or over 20 ga. (Structural Deck)
- ✖ Loose laid material not part of a complete finished system.
- ✖ Ice

Roofing Load Requirements

Before the Penetrator and cart are hoisted to any roofing deck the user MUST VERIFY THAT THE DECK CAN ACCOMMODATE THE LOAD REQUIREMENTS.

Verify that the surface that the Penetrator will be used on is capable of supporting both the unit and personnel using it. Inspect that the entire area to determine if the working surfaces have the strength and to support users safely.

CAPACITY: The Penetrator Mobile Fall Protection System is designed for a maximum of three persons for fall arrest and two for fall restraint with a combined weight (clothing, tools) of no more than 310 lbs. per person. No more than five persons may be connected to the Penetrator at any time.

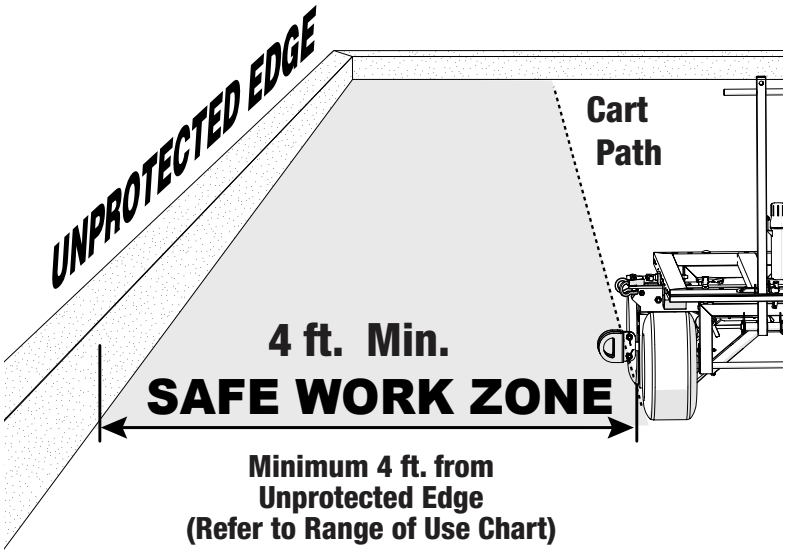
IMPORTANT: DO NOT start work for which fall protection is required until the Penetrator and corresponding FRS or PFAS have been completely installed. Do NOT disable any part of the FRS or PFAS, including the Penetrator unit, or reposition the unit, until work for which fall protection is required has ceased.

Placement/Repositioning of the Penetrator Safety Cart

The attachment tie-off anchor shackles must be pointed toward the leading edge and the cart is set to travel parallel to the unprotected edge or leading edge.

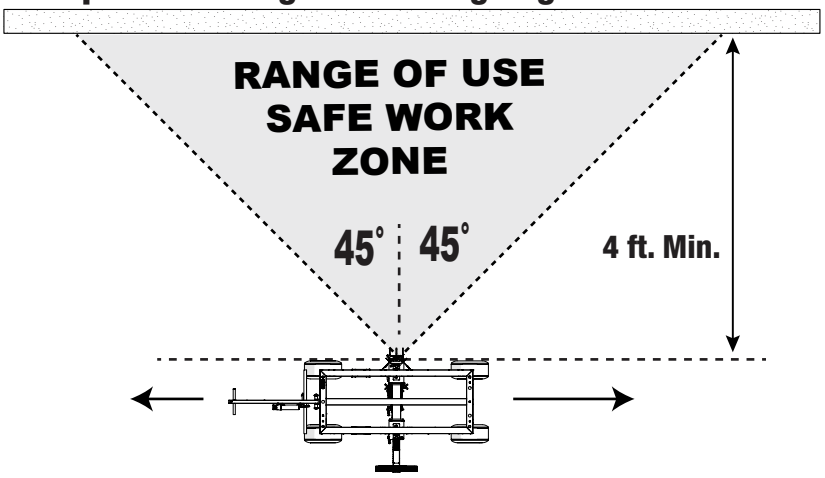
Position the Penetrator such that the front guard plate is between 4 feet from the leading edge, and in line with the center of the area to be worked.

IMPORTANT: When repositioning the Penetrator Cart, active fall restraint is maintained by a maximum length of five feet less than the distance of the cart to the leading edge. Once repositioned, the tow handle must be in the down position in order to lock the wheels and the steering locking pin must be inserted into the steering mechanism (shown on next page).



Placement/Repositioning of the Penetrator Safety Cart

Unprotected Edge or Leading Edge - 30 ft. Max.



Prior to Positioning the Penetrator:
Verify that the surface is capable of supporting the Penetrator, ballast weights, cart, and all personnel using it.

During Repositioning the Penetrator:
Active fall restraint is maintained by a maximum length of five feet less than the distance of the cart to the leading edge.

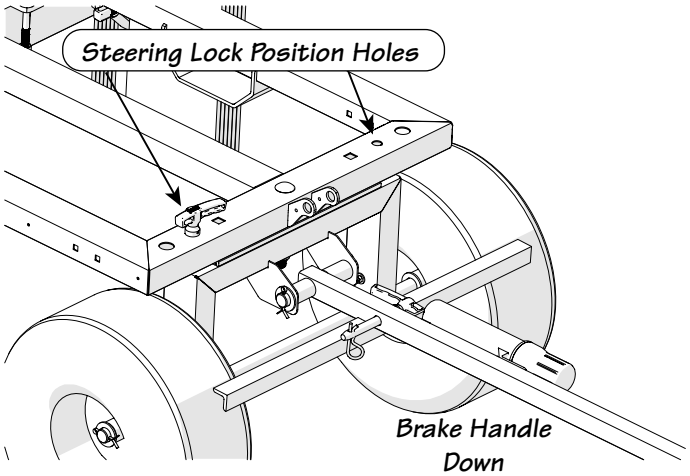
Range of Use Chart

Distance to Leading Edge	Maximum Range of Use
4 ft.	8 ft.
5 ft.	10 ft.
6 ft.	12 ft.
7 ft.	14 ft.
8 ft.	16 ft.
9 ft.	18 ft.
10 ft.	20 ft.
11 ft.	22 ft.
12 ft.	24 ft.
13 ft.	26 ft.
14 ft.	28 ft.
15 ft.	30 ft.

After 15 ft. Max. Range No Greater than 30 ft.

Setting the Ballast Slide and Weights

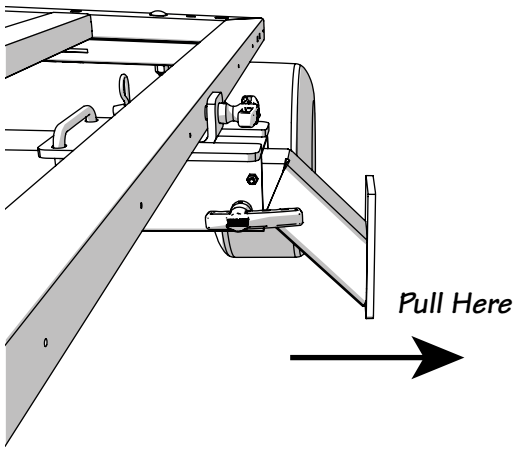
Make sure the handle/tire brake mechanism is in the down position and the brake stop rests firmly against the front tires. Place the Pull Pin into the front axle fork through the appropriate hole located on either side of the cart by aligning with the roof cart frame tube with the front axle fork. This will prevent the cart from turning.



DO NOT use the Penetrator Roofing Cart without the ballast slide extended and all ballast weights applied. Once the location for the operation of the Penetrator has been determined, the ballast slide must be adjusted to the proper operational length.

Setting the Ballast Slide and Weights

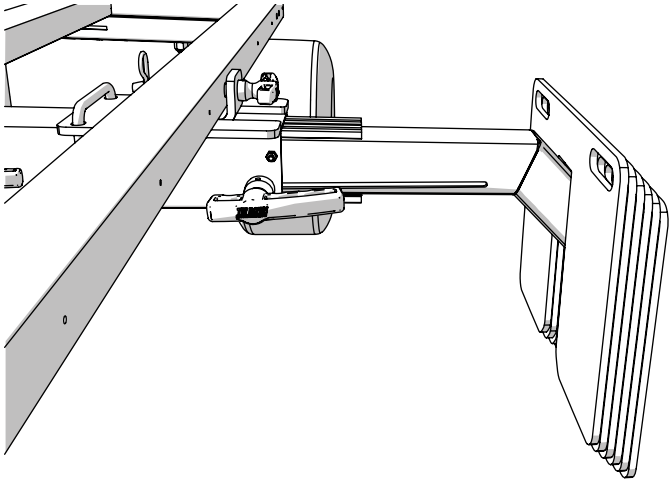
DO NOT use the Penetrator Roofing Cart without the ballast slide extended and all ballast weights applied.
Once the location for the operation of the Penetrator has been determined, the ballast slide must be adjusted to the proper operational length.



Step 1
Hold on the bottom of the ballast arm and pull outward.

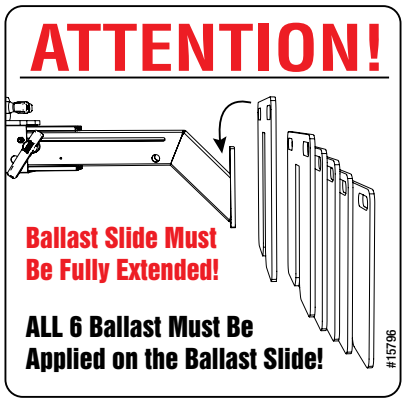
Step 2
Continue pulling until the ballast arm stops.

If ever needed, the ballast arm can be fully removed by pulling out the pull pin.



Step 3
Carefully place the ballast weights one at a time. Be carefully when placing the ballast, each weight has the potential of being a Pitch Point.

DO NOT USE THE PENETRATOR WITHOUT THE BALLAST SLIDE ARM EXTENDED AND THE BALLAST WEIGHTS APPLIED.



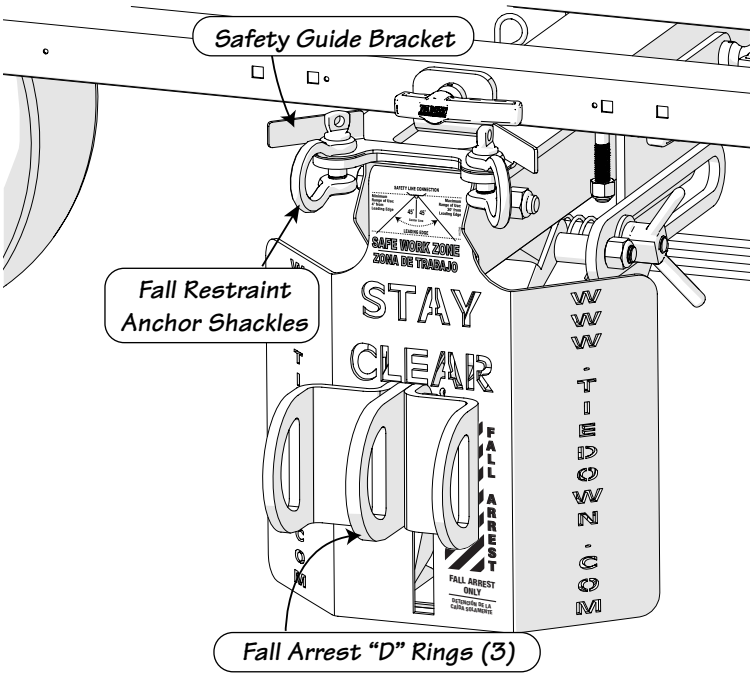
Connecting to the Penetrator Safety Cart

DO NOT hook Personal Fall Arrest System (PFAS) to any point except a Fall Arrest or Fall Restraint Tie-off Anchor Shackle

When making connections, only use double-locking snap hooks and double-locking carabiners with this equipment. Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure that all connectors are fully closed and locked.

The Fall Restraint Tie-Off Shackles
Two Fall Restraint Anchor Shackles are installed on the top side of the Penetrator where labeled. The Fall Restraint Anchor Shackles DO NOT arrest falls . The user must insure that the Fall Restraint worker is personally equipped with lanyards, harnesses, safety lines, etc., when working in conjunction with potential fall arrest workers.
Do Not allow the fall restraint user to work close to any roof edge.

FALL ARREST TIE-OFF Shackles
The three Fall Arrest Tie Off shackles are located on the lower side of the Penetrator, in front of the stay clear guard as labeled. The user must insure that the lanyards and harness are properly attached.



IMPORTANT: Confirm all screw pins on all five anchor shackles are fully inserted prior to attachment of Fall Restraint or Fall Arrest lines.

IMPORTANT: DO NOT allow workers to cross paths (cross lines) at anytime! Fall Restraint/Fall Arrest lines must never cross over each other. Crossed lines will cause the unit to not function as intended. Failure to maintain clear lines may cause a accident or death.

Before Using the Penetrator

OSHA requires that before operating the system there must be an inspection for damaged equipment.

1 Check for loose, bent or damaged parts, including the three penetrating spikes.
2 Check welded components for distortion, cracks, or other damage.
3 Check Tie-off shackles for distortion or damage and confirm that they are properly tightened.
4 Check retaining slide bars for rusting and/or wear before each use.
5 All labels must be present and fully legible. (Copies of all labels are attached at the back of this section for accurate inspection.)
6 Check for all pull pins that they are fully inserted and the safety cotter pin clips are attached to each pull pin.

IMPORTANT: BEFORE USING THIS UNIT, A RESCUE PLAN MUST BE ADOPTED.

OSHA requires employers to provide a quick rescue of employees in the event of a fall or employers shall assure that employees are able to rescue themselves. It is impossible to guarantee that an employee can rescue himself because he may be unconscious or injured as a cause or result of the fall. Therefore, a procedure involving rescuers must be adopted.

Consult with your roofing distributor/supplier for fall rescue equipment.

DO NOT OPERATE DAMAGED EQUIPMENT. DO NOT OPERATE EQUIPMENT THAT HAS BEEN MODIFIED.
(Please use the Inspection and Maintenance Log contained within the instructions manual)

Maintenance and Care

- ✔ Inspect Penetrator before and after each use.
- ✔ Keep wheels free from roofing debris. Any asphalt or adhesives on the tires can cause the wheel brake to function improperly.
- ✔ Regularly inspect for damaged or missing parts and do not place the Penetrator into service until all missing and or damaged parts have been replaced.
- ✔ Store the Penetrator in a place protected from weather and where only authorized employees have access.
- ✔ Maintain finish to prevent corrosion.

General Safety Precautions

- USE COMMON SENSE! Most accidents can be avoided by using common sense and concentrating on the job at hand. Look around and confirm a safe distance from the roof edge is being maintained.
- The Penetrator should not be used by persons whose ability or alertness is impaired by fatigue, intoxicating beverages, illegal or prescription drugs, or any other physical cause that exposes the user or others to injury.
- Always wear proper safety attire.
- Keep hands and feet clear of moving parts. DO NOT stick hands or fingers in the equipment when workers are attached to the Penetrator.
- Do not operate the equipment near electrical power lines. **ELECTRICITY KILLS!**
- Do not allow passengers to ride on safety cart.
- Allow handle to drop and set brake when not in use. Insert the Pull Pin into the axle fork in order to prevent unwanted turning of the roof cart.
- Ensure that all areas directly underneath, and in front of the cart, are clear and free of debris.
- Do not use on roofs with ice or snow.
- Only use the unit on a surface or roof composition for which it has been tested.
- Do not set unit atop unfastened materials. Materials may slide if not mechanically attached to the roof.
- Depending on added weight loaded on the Roof Cart / Penetrator unit (including all materials) additional workers may be required to safely move the unit. Always use caution when moving the unit.

Hoisting Safety Precautions

- When hoisting by crane, a spreader bar must be used.
- Loads may slip, if the Penetrator is not hoisted properly, this could result in injury or death.
- Do not use with damaged slings or chains.
- Utilize appropriate rigging gear for overhead lifting.
- Utilize rigging gear within the industry standards and the manufacturer's recommendations.
- Conduct regular inspection and maintenance of the rigging gear.
- DO NOT hook to the fall arrest or fall restrain shackle safety line connectors when lifting the cart.
- Do Not lift Penetrator Cart with materials on the cart when hoisting.

Procedure for Handling the Penetrator After a Fall

Before rescuing a fallen employee, check that the Penetrator is secure.
It is highly recommended that any rescuer be tied off in a FRS before attempting to aid in a rescue. The number of rescuers allowed to tie off to the Penetrator is 3 (three) minus the number of fallen workers. Up to 2 (two) additional rescuers may tie off to the Penetrator utilizing the two fall restraint tie-off shackles marked for FRS.
Prior to disengaging the Penetrator after deployment as the result of an fall incident, make certain that the rescue procedure has been successfully completed.

Procedure for Reseting the Penetrator After a Fall

Prior to disengaging the Penetrator after deployment as the result of an fall incident, make certain that the rescue procedure has been successfully completed.

The three penetrating spikes will be somewhat buried into the roof after activation.

Follow these steps to reset the Penetrator Device:

1. Remove the ballast weights.

2. Using at least two people, rotate the entire roofing cart while sliding it backward from the engagement point. Once the spikes are clear of the engagement area, it is safe to slowly lower the roofing cart.

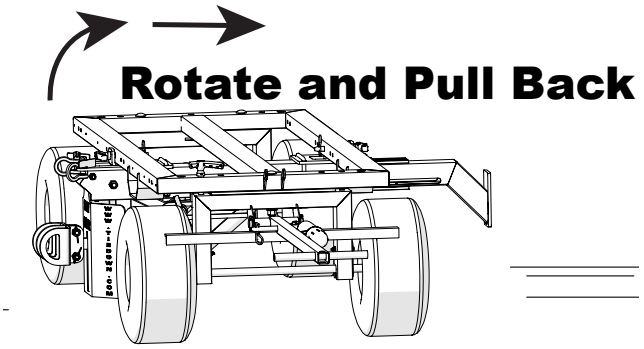
3. Loosen the Wing Nuts on each side of the Spike engagement tube.

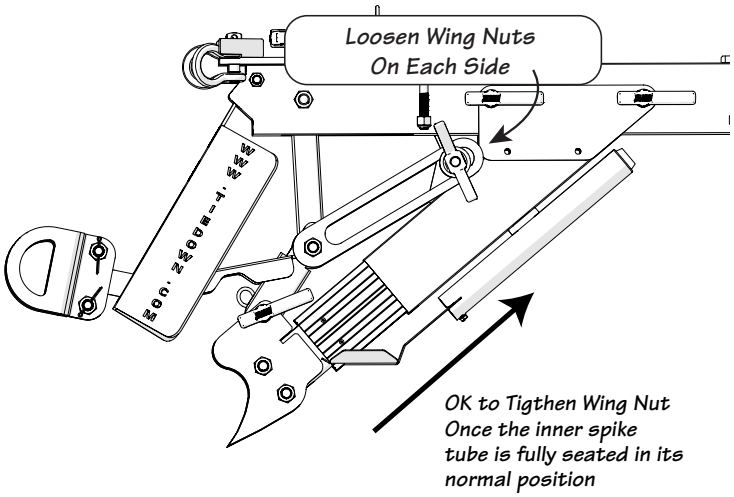
4. Standing behind the Penetrator, reach down through the roofing cart, and grasp the upper front sides of the outer spikes. Pull upward on the inner spike tube, as you pull up the front guard plate and other components will reset to their original positions.

5. Continue pulling up the inner spike tube until it stops. When the inner spike tube is fully inserted into the outer engagement tube, firmly tension the two large wing nuts on both retaining slide bars until fully seated against the threaded slide bolt. (See illustration right).

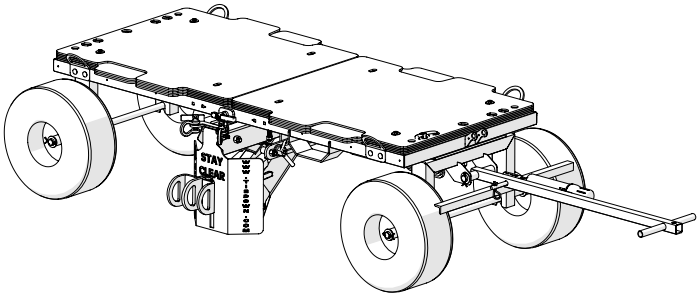
Always use caution when disengaging the outer engagement tube as well as reinserting the inner engagement tube as these areas can become pinch points and cause bodily injury.

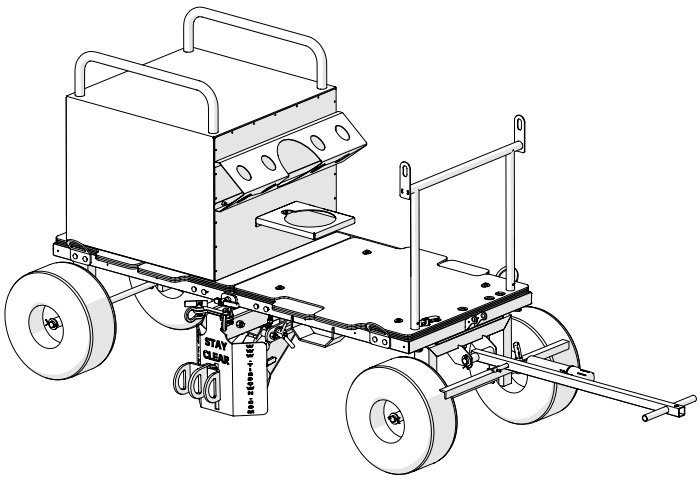
Do not reuse the Penetrator after incident until fully inspected and any damaged parts have been replaced and recertification and inspection has been performed.
See inspection check list on back cover.





Penetrator Multi-Plus and Sentinel Operations





Applications

The Multi-Plus and Sentinel Penetrators may be used as an anchor point in a complete mobile fall protection system. The Penetrator with cart allows both worker mobility and fall protection. See www.osha.gov for all regulations and standards.

Fall Restraint System – A fall restraint system (FRS) prevents the user from falling. The system is comprised of a body harness along with an anchorage, connectors and other equipment. The components typically include a lanyard and also may include a lifeline and other devices. The Concrete Penetrator can be used as an anchorage in a fall restraint system for up to two workers.

Personal Fall Arrest System
WHEN USED ON CONCRETE, THE PENETRATOR SYSTEM CAN NOT BE USED AS A FALL ARREST SYSTEM! THE PENETRATOR INNER SPIKE ENGAGEMENT TUBE MUST BE REMOVED AND THE CART MUST BE INSTALLED WITH 10 CONCRETE BALLAST PLATES OR 8 CONCRETE BALLAST PLATES WITH THE MATERIALS BOX INSTALLED.

Personal Fall Arrest System OPTION:
The Multi-Plus and Sentinel Penetrator cart can be used on other acceptable roofing surfaces, providing the roof can safely support the full cart weight with or without the concrete ballast plates. If your concrete system is used on non-concrete surfaces please refer to the Penetrator Safety Instructions.

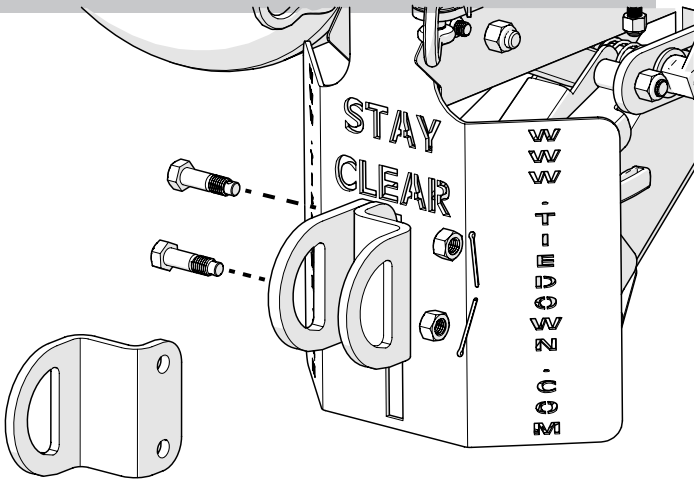
Anchorage — An anchorage is a secure point of attachment for lifelines, lanyards, or deceleration devices.
The Penetrator is a mobile anchorage.

Penetrator Use - For use on low slope surfaces only.

Penetrator Device Set Up for Concrete

⚠ WARNING ⚠

THE SET UP PROCEDURE FOR CONCRETE REMOVES THE PENETRATOR SPIKES AND CAN NOT USED ON ANY SURFACE OTHER THAN CONCRETE!

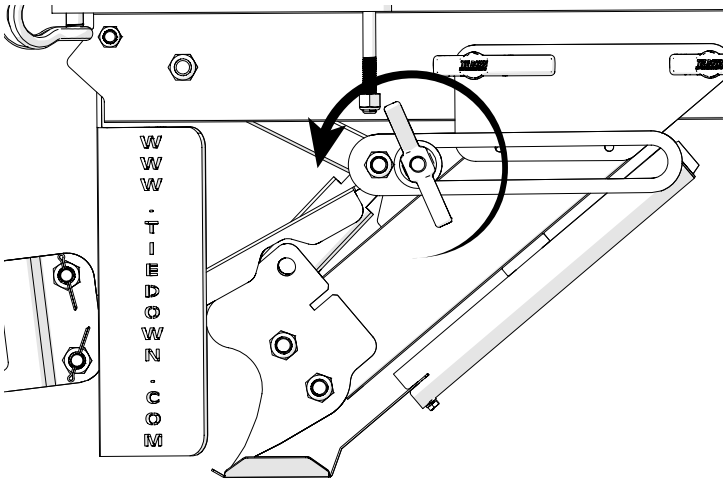


BEFORE ATTACHING ANY FALL RESTRAINT CONNECTIONS, THE SPIKE ENGAGEMENT TUBE MUST BE REMOVED WHEN USED ON CONCRETE.

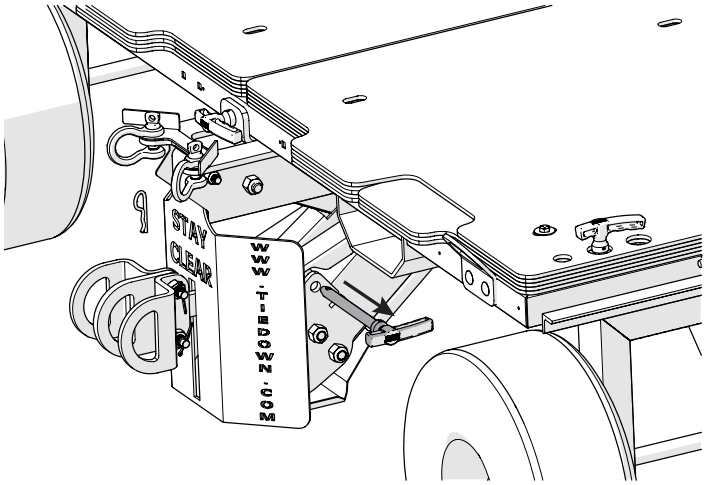
NOTE:
ONLY FOUR CONNECTIONS CAN BE USED ON THE PENETRATOR DEVICE. TWO TIE OFF SHACKLES ON THE FALL ARREST AND TWO ON THE FALL RESTRAINT.

How to set up for concrete surfaces:

1. Remove the safety pin from both bolts. Remove the hex nuts and bolts. Remove one D-ring bracket. Reattach the nut & bolt and secure with a new safety pin. Store D-ring bracket in a safe location. You will want to replace the D-ring connection when used on non concrete surfaces.



2. Turn the large wing nut to counter clockwise 1/2 to 1 full turn.

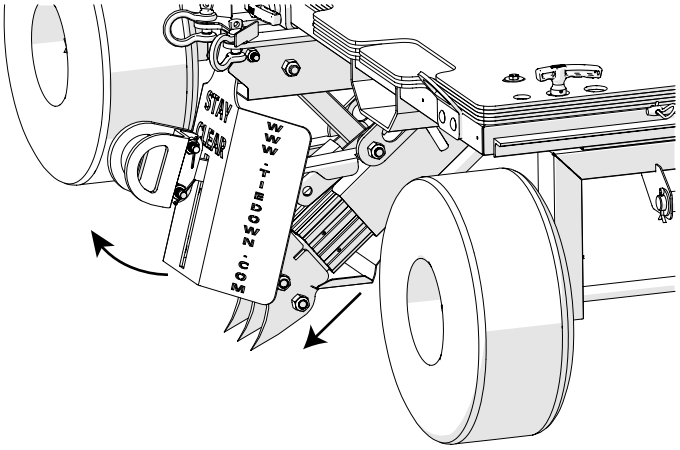


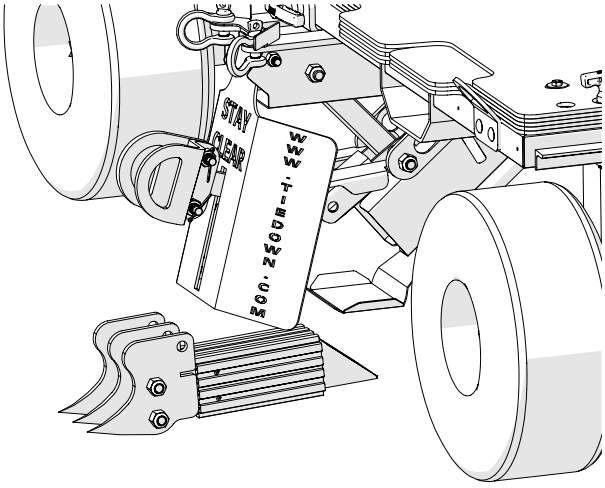
3. Remove the black pull pin located just above the spike plates. This will release the spike tube.

IMPORTANT:
BEFORE REMOVING THE SPIKE TUBE, THE OPERATOR MUST WEAR HEAVY DUTY GLOVES. THE SPIKES ARE VERY SHARP AND EXTREMELY DANGEROUS.

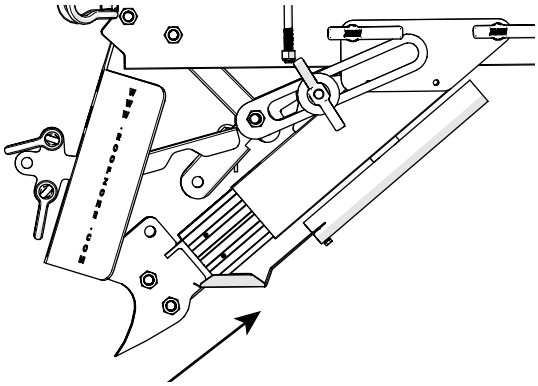
4. Lift up the front safety plate. The spike engagement tube should slide out, it may be pulled out. Be very careful handling the spike tube, the spikes are very sharp and dangerous.

5. Store the shackle and the spike tube in a safe and secure location. For future use the Penetrator can be converted back to non-concrete surfaces.

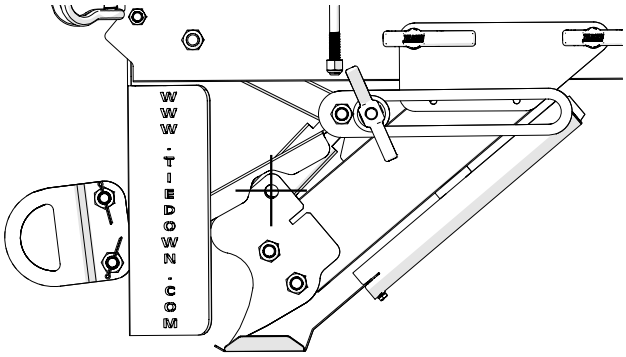




Reinstalling the Spike Engagement Tube



1. Lift up the front safety plate. Slide the spike engagement tube into the outer spike tube. **ATTENTION: THE SPIKES ARE VERY SHARP AND EXTREMELY DANGEROUS** work with heavy duty gloves. Slide the spike tube upward until it stops.



2. As the safety plate lowers down to the normal position, the Penetrator short link and long link will align with the spike plates. It may be necessary to slide the spike engagement tube up or down a little to align the links with the spike plates. Once all three are aligned, insert the spike pull pin.

Applications: Surfaces

Recommended Surfaces:

- ✔ Concrete
- ✔ Gypsum Deck
- ✔ Modified Bitumen Membranes
- ✔ Built-up Roofing (BUR) Membrane
- ✔ Modified PVC Membranes
- ✔ Thermoplastic Polyolefin (TPO) Membranes
- ✔ Polyisocyanurate (ISO)
- ✔ Expanded Polystyrene (EPS)
- ✔ EPDM Roofing Membranes
- ✔ Ballasted EPDM Membrane
- ✔ Hardboard
- ✔ Flat Surfaces to slopes up to 1:12.
- ✔ Metal Deck (20 ga. And 22 ga. ONLY)
- ✔ Dens Deck
- ✔ Plywood

Do Not Use on the Following Surfaces:

- ✖ Ice
- ✖ Snow
- ✖ Tectum Deck
- ✖ Metal Deck less than 22 ga. Or over 20 ga. (Structural Deck)
- ✖ Loose laid material not part of a complete finished system.

Roofing Load Requirements

Before the Penetrator and cart are hoisted to any roofing deck the user MUST VERIFY THAT THE DECK CAN ACCOMMODATE THE LOAD REQUIREMENTS.

Verify that the surface that the Penetrator will be used on is capable of supporting both the unit and personnel using it. Inspect that the entire area to determine if the working surfaces have the strength and to support users safely.

CAPACITY: The Penetrator Mobile Fall Protection System is designed for a maximum of three persons for fall arrest and two for fall restraint with a combined weight (clothing, tools) of no more than 310 lbs. per person. No more than five persons may be connected to the Penetrator at any time.

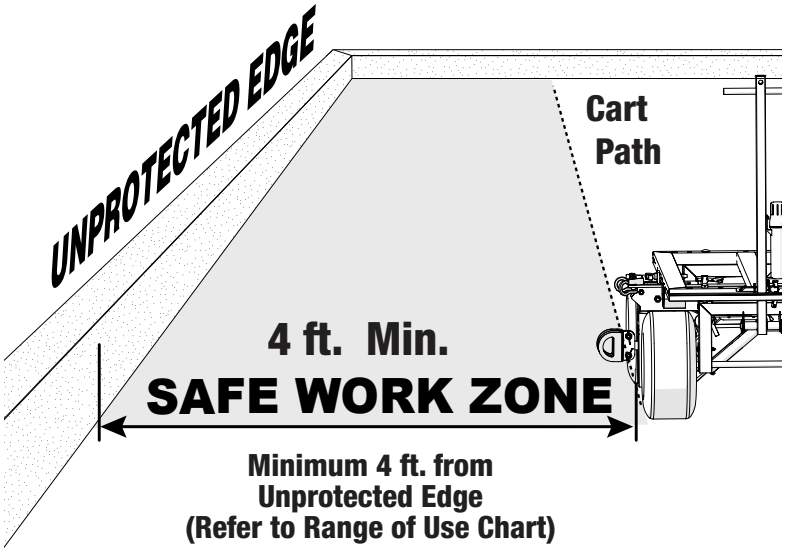
IMPORTANT: DO NOT start work for which fall protection is required until the Penetrator and corresponding FRS or PFAS have been completely installed. Do NOT disable any part of the FRS or PFAS, including the Penetrator unit, or reposition the unit, until work for which fall protection is required has ceased.

Placement/Repositioning of the Penetrator Safety Cart

The attachment tie-off anchor shackles must be pointed toward the leading edge and the cart is set to travel parallel to the unprotected edge or leading edge.

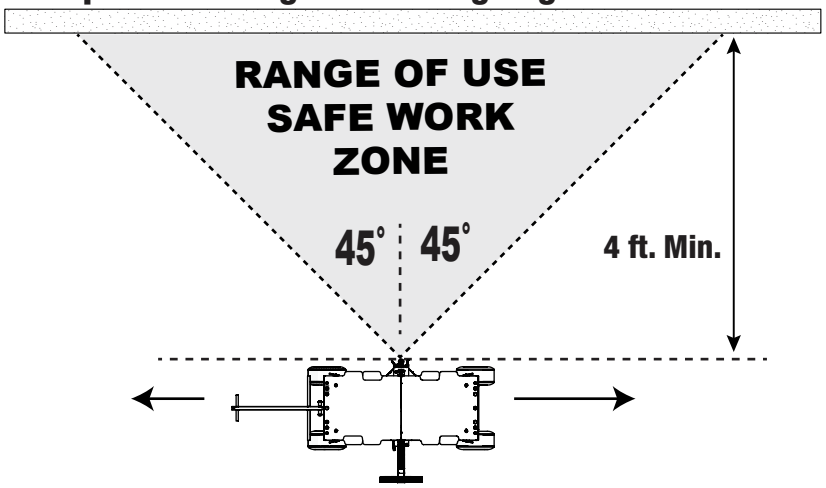
Position the Penetrator such that the front guard plate is between 4 feet from the leading edge, and in line with the center of the area to be worked.

IMPORTANT: When repositioning the Penetrator Cart, active fall restraint is maintained by a maximum length of five feet less than the distance of the cart to the leading edge. Once repositioned, the tow handle must be in the down position in order to lock the wheels and the steering locking pin must be inserted into the steering mechanism (see next page).



Placement/Repositioning of the Penetrator Safety Cart

Unprotected Edge or Leading Edge - 30 ft. Max.



Prior to Positioning the Penetrator:
Verify that the surface is capable of supporting the Penetrator, ballast weights, cart, and all personnel using it.

During Repositioning the Penetrator:
Active fall restraint is maintained by a maximum length of five feet less than the distance of the cart to the leading edge.

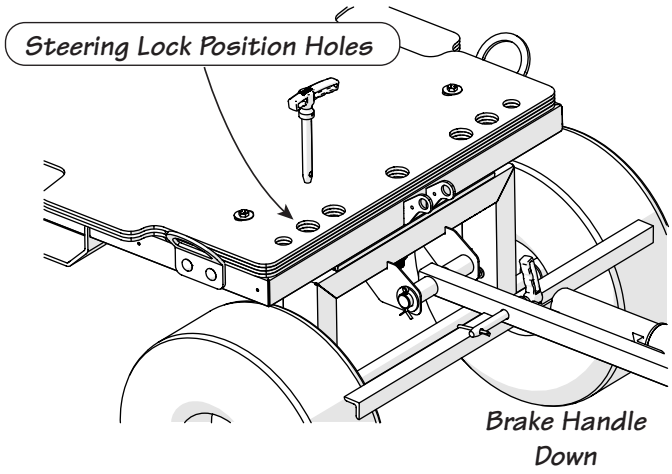
Range of Use Chart

Distance to Leading Edge	Maximum Range of Use
4 ft.	8 ft.
5 ft.	10 ft.
6 ft.	12 ft.
7 ft.	14 ft.
8 ft.	16 ft.
9 ft.	18 ft.
10 ft.	20 ft.
11 ft.	22 ft.
12 ft.	24 ft.
13 ft.	26 ft.
14 ft.	28 ft.
15 ft.	30 ft.

After 15 ft. Max. Range No Greater than 30 ft.

Setting the Ballast Slide and Weights

Make sure the handle/tire brake mechanism is in the down position and the brake stop rests firmly against the front tires. Place the Pull Pin into the front axle fork through the appropriate hole located on either side of the cart by aligning with the roof cart frame tube with the front axle fork. This will prevent the cart from turning.



IMPORTANT: When repositioning the Penetrator Cart, active fall restraint is maintained by a maximum length of five feet less than the distance of the cart to the leading edge. Once repositioned, the tow handle must be in the down position in order to lock the wheels and the steering locking pin must be inserted into the steering mechanism (see chart above).

DO NOT use the Penetrator Roofing Cart without the ballast slide extended and all ballast weights applied. Once the location for the operation of the Penetrator has been determined, the ballast slide must be adjusted to the proper operational length.

IMPORTANT: BEFORE USING THIS UNIT, A RESCUE PLAN MUST BE ADOPTED.

OSHA requires employers to provide a quick rescue of employees in the event of a fall or employers shall assure that employees are able to rescue themselves. It is impossible to guarantee that an employee can rescue himself because he may be unconscious or injured as a cause or result of the fall. Therefore, a procedure involving rescuers must be adopted.

Consult with your roofing distributor/supplier for fall rescue equipment.

DO NOT OPERATE DAMAGED EQUIPMENT. DO NOT OPERATE EQUIPMENT THAT HAS BEEN MODIFIED.
(Please use the Inspection and Maintenance Log contained within the instructions manual)

Maintenance and Care

- ✔ Inspect Penetrator before and after each use.
- ✔ Keep wheels free from roofing debris. Any asphalt or adhesives on the tires can cause the wheel brake to function improperly.
- ✔ Regularly inspect for damaged or missing parts and do not place the Penetrator into service until all missing and or damaged parts have been replaced.
- ✔ Store the Penetrator in a place protected from weather and where only authorized employees have access.
- ✔ Maintain finish to prevent corrosion.

General Safety Precautions

USE COMMON SENSE! Most accidents can be avoided by using common sense and concentrating on the job at hand. Look around and confirm a safe distance from the roof edge is being maintained.

The Penetrator should not be used by persons whose ability or alertness is impaired by fatigue, intoxicating beverages, illegal or prescription drugs, or any other physical cause that exposes the user or others to injury.

Always wear proper safety attire.

Keep hands and feet clear of moving parts. DO NOT stick hands or fingers in the equipment when workers are attached to the Penetrator.

Do not operate the equipment near electrical power lines. **ELECTRICITY KILLS!**

Do not allow passengers to ride on safety cart.

- ~ Allow handle to drop and set brake when not in use. Insert the Steering Lock Pin into the axle fork in order to prevent unwanted turning of the roof cart.
- ~ Ensure that all areas directly underneath, and in front of the cart, are clear and free of debris.
- ~ Do not use on roofs with ice or snow.
- ~ Only use the unit on a surface or roof composition for which it has been tested.
- ~ Do not set unit atop unfastened materials. Materials may slide if not mechanically attached to the roof.
- ~ Depending on added weight loaded on the Roof Cart / Penetrator unit (including all materials) additional workers may be required to safely move the unit. Always use caution when moving the unit.

Hoisting Safety Precautions

~ Loads may slip, if the Penetrator is not hoisted properly, this could result in injury or death.

~ Do not use with damaged slings or chains.

~ Utilize appropriate rigging gear for overhead lifting.

~ Utilize rigging gear within the industry standards and the manufacturer's recommendations.

~ Conduct regular inspection and maintenance of the rigging gear.

~ DO NOT hook to the fall arrest or fall restrain shackle safety line connectors when lifting the cart.

~ Do Not lift Penetrator Cart with materials on the cart when hoisting.

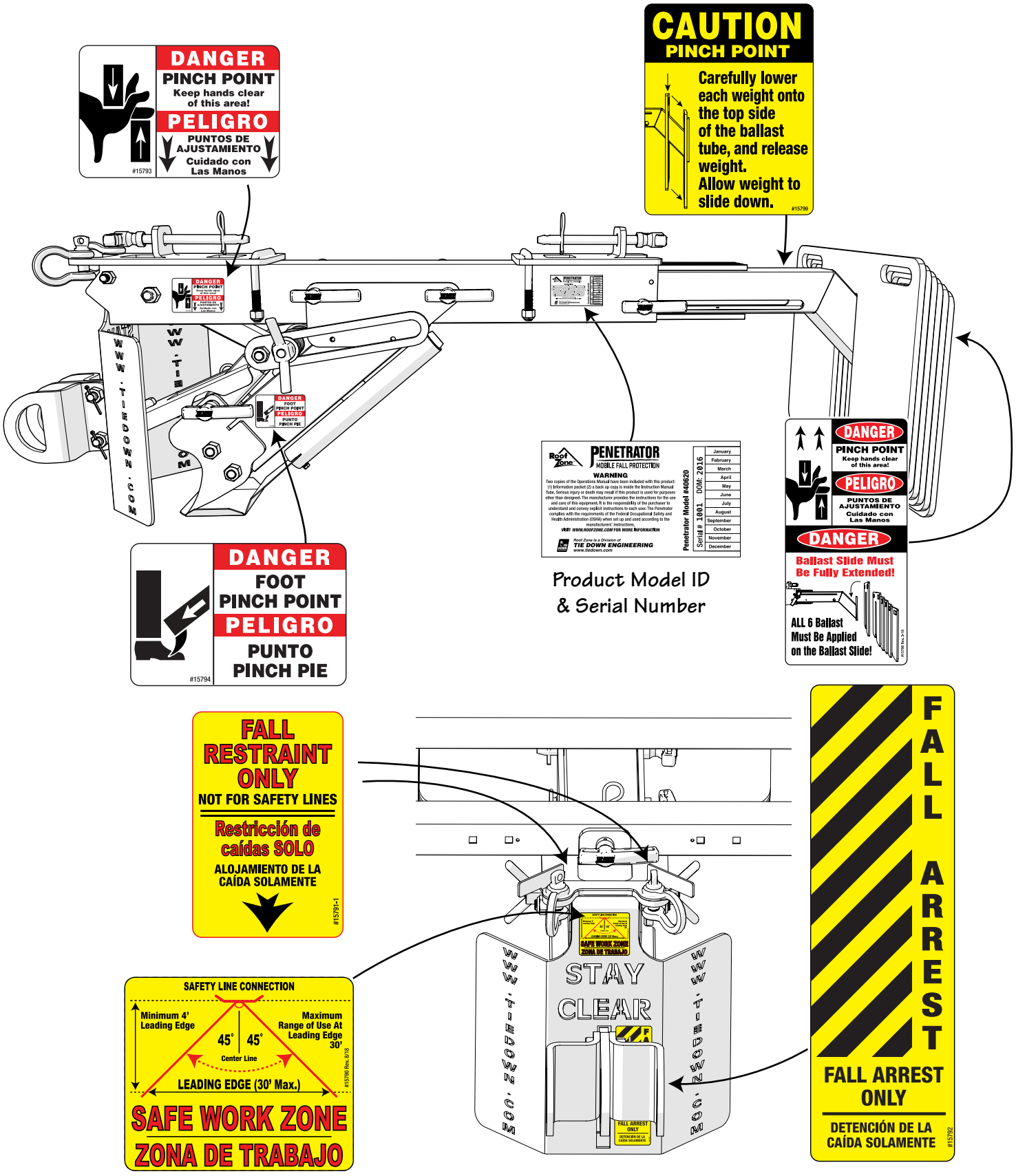
Procedure for Handling the Penetrator After a Fall

Before rescuing a fallen employee, check that the Penetrator is secure.

It is highly recommended that any rescuer be tied off in a FRS before attempting to aid in a rescue. The number of rescuers allowed to tie off to the Penetrator is 3 (three) minus the number of fallen workers. Up to 2 (two) additional rescuers may tie off to the Penetrator utilizing the two fall restraint tie-off shackles marked for FRS.

Prior to disengaging the Penetrator after deployment as the result of an fall incident, make certain that the rescue procedure has been successfully completed.

Warning and Product ID Labels



TIE DOWN Roofing Products Division
800-241-1806 • 404-344-0000 • www.tiedown.com

PENETRATOR FALL PROTECTION LIMITED WARRANTY

Tie Down Engineering (TIE DOWN) will repair or replace, free of charge, any part, or parts of the Penetrator Fall Protection Devices (PENETRATOR) that are defective in material or workmanship or both. The limited warranty is in effect for 90 days from date of purchase. Return the defective unit to the dealer or contact Tie Down direct at 800-241-1806, x1525.

This warranty does not apply to damage or loss caused by any or all of the following circumstances or conditions:

- Damage caused during assembly or installation.
- Parts, accessories, materials or components used with or replacing any PENETRATOR part not obtained from or approved in writing by TIE DOWN.
- Misapplication, misuse and failure to follow the directions or observe cautions and warnings on installation, operation, application, inspection or maintenance specified in any TIE DOWN quotation, acknowledgment, sales literature, specification sheet or installation instruction and service manual ("applicable literature").
- Use of product in any other application other than those described in TIE DOWN's product information materials.

If any TIE DOWN products are found upon TIE DOWN's examination to have been defective when supplied, TIE DOWN will either: credit the purchaser's account for the purchase price of the TIE DOWN product; replace the TIE DOWN product; or repair the product. TIE DOWN has sole discretion in choosing which option to provide. For this LIMITED WARRANTY to apply, TIE DOWN must receive notice of the alleged defect within 30 days of either the discovery of the alleged defect or the expiration of the warranty period, whichever is earlier. Any claim not made within this period shall conclusively be deemed waived.

If requested by TIE DOWN, purchaser shall return the alleged defective product to TIE DOWN for examination at purchasers expense. TIE DOWN will not pay for expenses incurred in returning a product to TIE DOWN without TIE DOWN's prior written authority. TIE DOWN shall not be liable for any other expenses purchaser incurs to remedy any defect. Purchasers waive subrogation on all claims under any insurance.

Limitation of Liability: It is expressly agreed that the liability of TIE DOWN is limited and TIE DOWN does not function as an insurer. THE REMEDIES SET FORTH IN THIS WARRANTY SHALL CONSTITUTE THE EXCLUSIVE REMEDIES AVAILABLE TO THE PURCHASER OR USER AND ARE IN LIEU OF ALL OTHER REMEDIES, EXPRESS OR IMPLIED. THE LIABILITY OF TIE DOWN, WHETHER IN CONTRACT, IN TORT, UNDER ANY WARRANTY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE OF THE PARTICULAR PRODUCT MANUFACTURED, SOLD OR SUPPLIED BY TIE DOWN.

To Obtain Technical Assistance: To enable TIE DOWN to respond to a request for assistance or evaluation of customer or user operating difficulty, please provide at a minimum the following information by calling 404-344-0000:

- Model number, serial number and all other data on the specific component which appears to be involved in the difficulty.
- The date and from whom you purchased your TIE DOWN product.
- State your difficulty, being sure to mention at least the following: Application, Environment, Working Surface, and Number of Workers.

THIS WARRANTY DOES NOT COVER NOR EXTEND TO INCIDENTAL OR CONSEQUENTIAL DAMAGE. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

No representative has authority to make any representation, promise or agreement except as stated in this Limited Warranty. TIE DOWN reserves the right to make design and other changes upon its products without any obligation to install the same on any previously sold or delivered products.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE DESCRIBED ABOVE. EFFECTIVE MAY 2017 THIS WARRANTY SUPERSEDES ALL PRIOR WARRANTIES, WRITTEN OR IMPLIED.

E1541; 10-24-17

TIE DOWN
MANUFACTURING INGENUITY

404-344-0000 • tiedown.com
605 Stonehill Drive SW, Atlanta, GA 30336

PENETRATOR
MOBILE FALL PROTECTION

Inspection Checklist and Maintenance Log

TIE DOWN SAFETY

Penetrator Model #_____ **Date of Purchase:** _____

Serial Number: _____ **Purchased From:** _____

Roofing Cart **Date:**								
Frame: Free of Rust?								
Frame: Welded Connections?								
Steering Locking Pin Available?								
Steering Handle/Brake Works?								
Axles/Wheels Rotate Properly?								
Overall Cart Parts?								

Penetrator Device **Date:**								
Frame: Free of Rust?								
Frame: Welded Connections?								
Mounting Pins (2)?								
Ballast Slide: Slides In and Out?								
Ballast Slide: Pin Available?								
Penetrator Spikes Free of Damage?								
All Ballast Weights Available (6)?								
Spike Guard Shield Present?								
Anchor Shackles and Pins Available (5)?								
Anchor Shackles and Pins Tightened?								
Retaining Slide Bar Clear of Any Obstructions?								
Wing Nut Tightened/Retaining Slide Bar?								
Inner/Outer Spike Tube Engaged? (If “Yes” DO NOT USE)								
Pull Pins (5) Secured with Safety Cotter Pin?								
Safety and Warning Labels Readable?								

Date **Corrective Action Taken:**