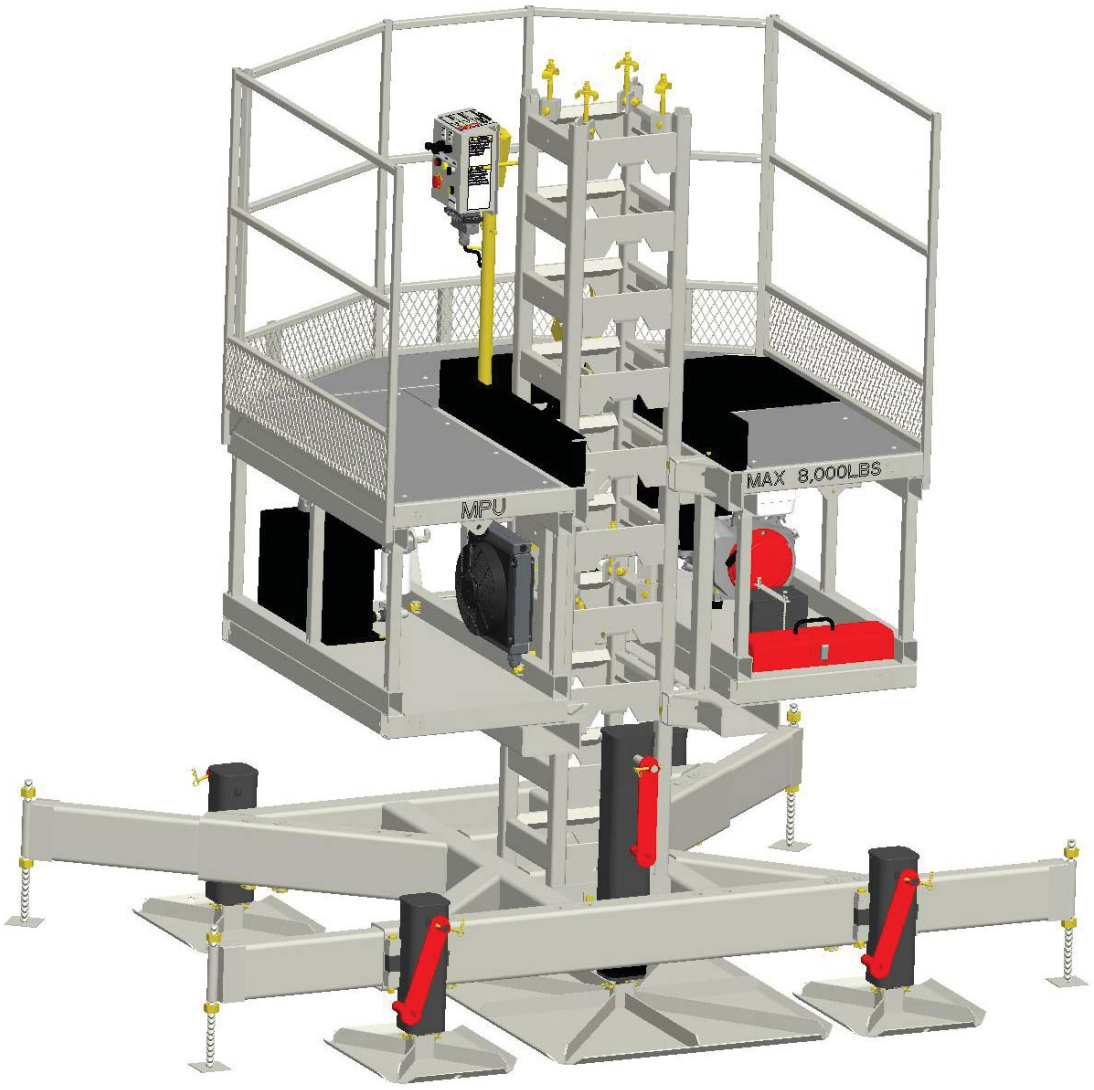
OPERATOR'S MANUAL

MPU



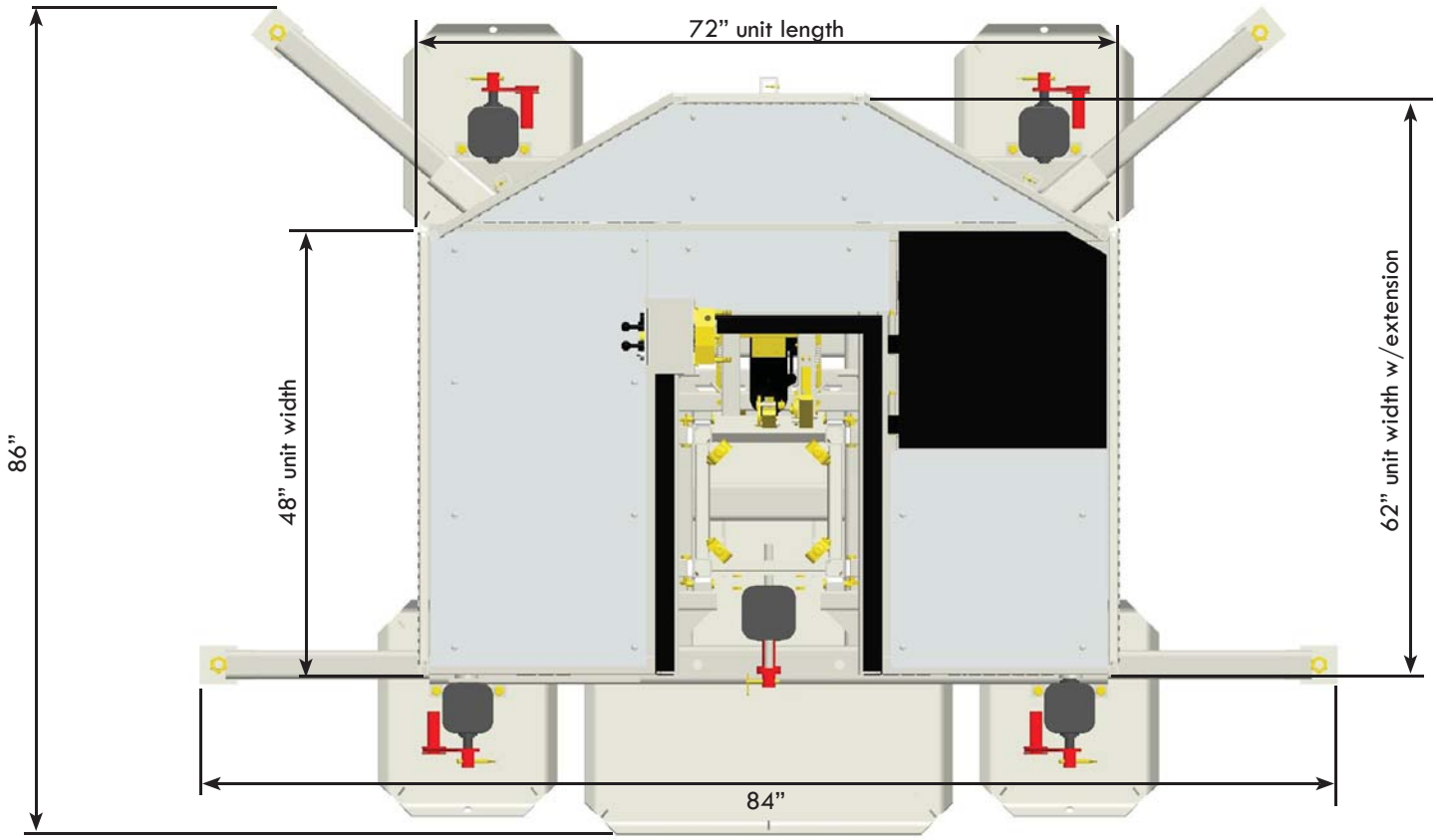
PREMIER
Scaffold Solutions

Quick Reference

Technical Specifications	
MPU	4’ wide x 6’ long
Transport dimensions	84” x 86” x 55” including tower shroud
Max operating load	8,000 lbs.
Maximum height	Up to 250’ without PREMIER’s authorization
Free standing	25’ with rear jacks extended
Travel speed	11’ per minute
Engine type	Honda 13.0 HP gasoline engine with electric starter, remote choke, locking throttle and ignition mounted on the operator station
Climbable tower	16” x 16” x 60”

Description	Weight in lbs
MPU	2,600
2’ Bridge with accessories	375
BB Bridge with accessories	400
4’ Bridge with accessories	450
2’ Guard Rail	25
4’ Guard Rail	35
End Guard Rail	38
Mason Guard Rail	35
5’ Outrigger	20
Tower	240
Pro Bar	10

Basic Dimensions



Operator’s Manual Revisions

Revisions of this manual are posted on our website: www.premierscaffoldsolutions.com

Congratulations!

You have made a solid investment in the MPU product and PREMIER Scaffold Solutions (PREMIER). The MPU will ensure safety on the jobsite and increase your overall performance. PREMIER looks forward to offering you the best customer support in the scaffold industry.

As advocates of a safe and prosperous work environment, PREMIER advises that you read and understand the information presented in this owners manual for the MPU. Additionally, the law requires that you be familiar and abide by ANSI/SIA A92.9-2011 standards for mast-climbing work platforms.

PREMIER encourages you to share this information with all personnel involved with the use and operation of your MPU(s). Failure to share this information could result in serious personal injury and/or equipment damage.

All federal and state safety and health standards must be followed, including OSHA 29 CFR 1926 subpart L (1926. 450 to 1926.454) for scaffolds.

PREMIER cannot be held responsible for users failing to comply with any and/or all federal, state, and local regulations. PREMIER reserves the right to make changes to the equipment or manual without notice. Further questions may be directed to PREMIER.

Acknowledgements:

This manual was produced by PREMIER Scaffold Solutions in 2015.

Created by:

PREMIER Scaffold Solutions Technical Staff

GENERAL INFORMATION

Model	40601001
Description	MPU
Serial number	_____
Purchase date	_____
Warranty expiration date	_____

WARRANTY & LIMITATIONS

PREMIER warrants new products to be free from defects in material and workmanship for a period of one (1) year, following the date of delivery to the first purchaser. PREMIER's obligation and liability under this warranty is expressly limited to repairing and/or replacing, at PREMIER's discretion, remanufactured or new parts which appear to PREMIER, upon inspection, to have been defective in material or workmanship. Such parts shall be provided at no cost to the user, F.O.B. PREMIER's facilities or other source at PREMIER's option.

PREMIER shall assume the cost to install any repaired or replacement part provided under this warranty to the extent established by the applicable service policy in effect at the time of delivery. The cost of any such work will only be paid by PREMIER if a written authorization has been granted prior to commencement of work.

This warranty does not apply to component parts or accessories of the products not manufactured by PREMIER, and as such, carries the warranty of the manufacturer thereof, or to normal maintenance (such as engine tune up) or to normal maintenance parts. PREMIER makes no other warranty, expressed or implied, and makes no warranty of merchantability or fitness for any particular purpose.

PREMIER's obligation under this warranty shall not include duty, taxes or any other charges whatsoever, or any liability for direct, indirect, incidental or consequential damage or delay. Products or parts for which a warranty claim is made must be returned prepaid by sender to the designated location. Any improper use, including operation after discovery of defective or worn parts, shall void this warranty. Improper use also includes operation beyond rated operating loads, substitution of parts not approved by PREMIER, including anchors, or any alteration, modification or repair by others, and shall automatically void this warranty.

The above warranty may not be altered without the written authorization of PREMIER.

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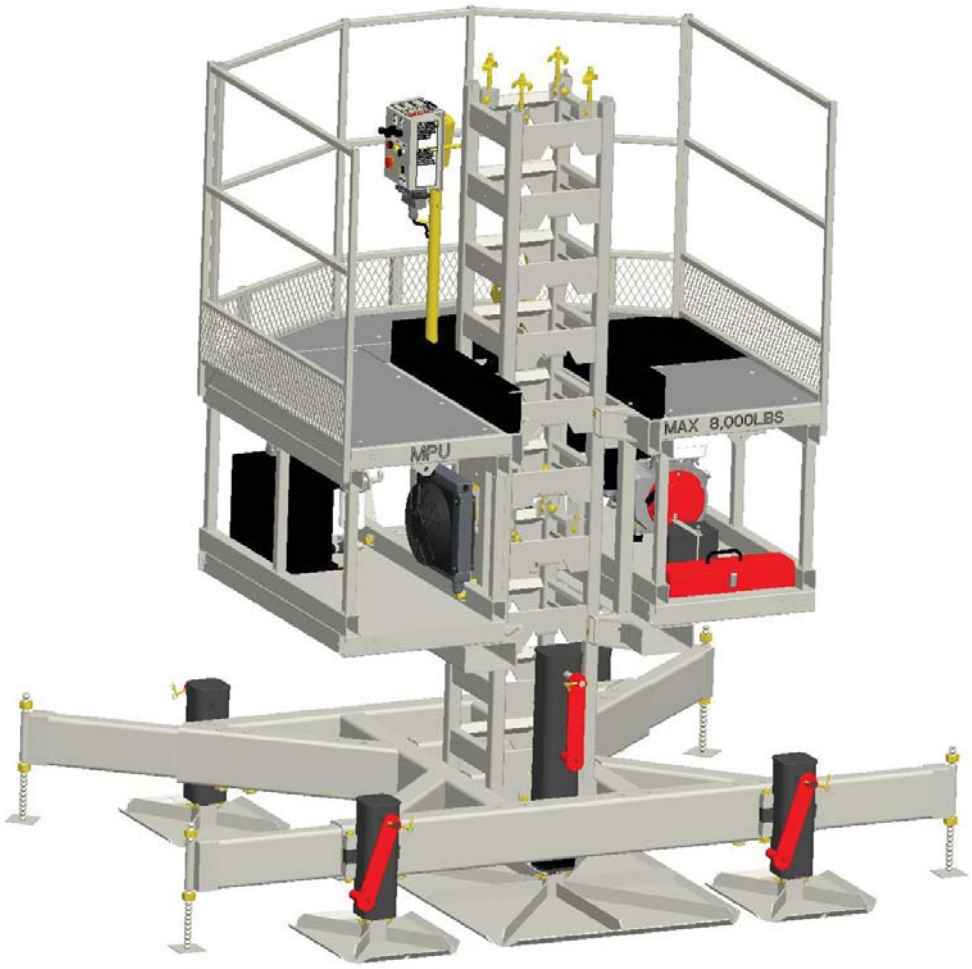
CHAPTER 1
INTRODUCTION

- Safety Instructions
- Identification Plate
- Overview
- Technical Specifications
- Troubleshooting
- Daily/Weekly Inspection Sheet
- Monthly/Yearly Inspection Sheet



SAFETY INSTRUCTIONS

Safety Comes First!

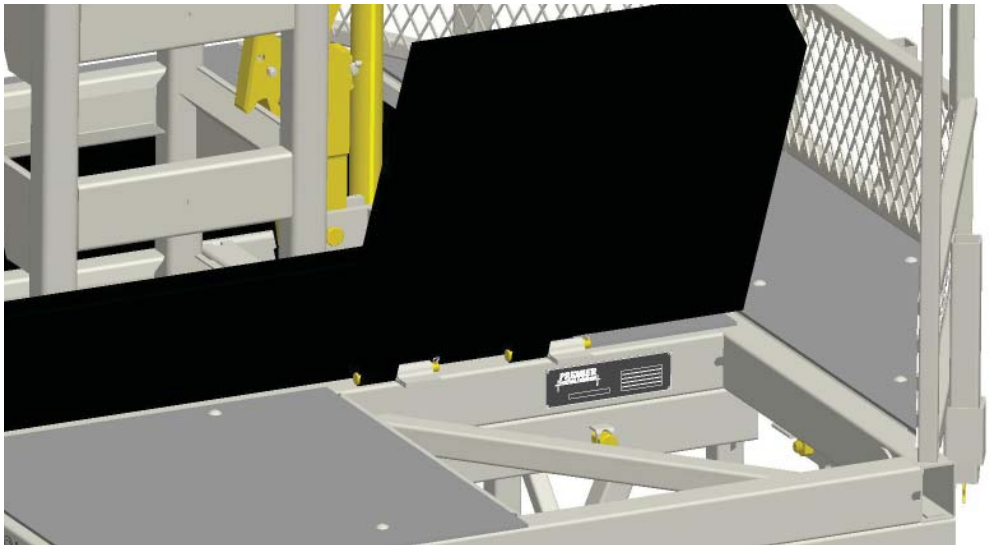
For your personal safety, always have a competent person and back-up competent person assemble, operate, disassemble and move the MPU.

Performance and Safety Rules:

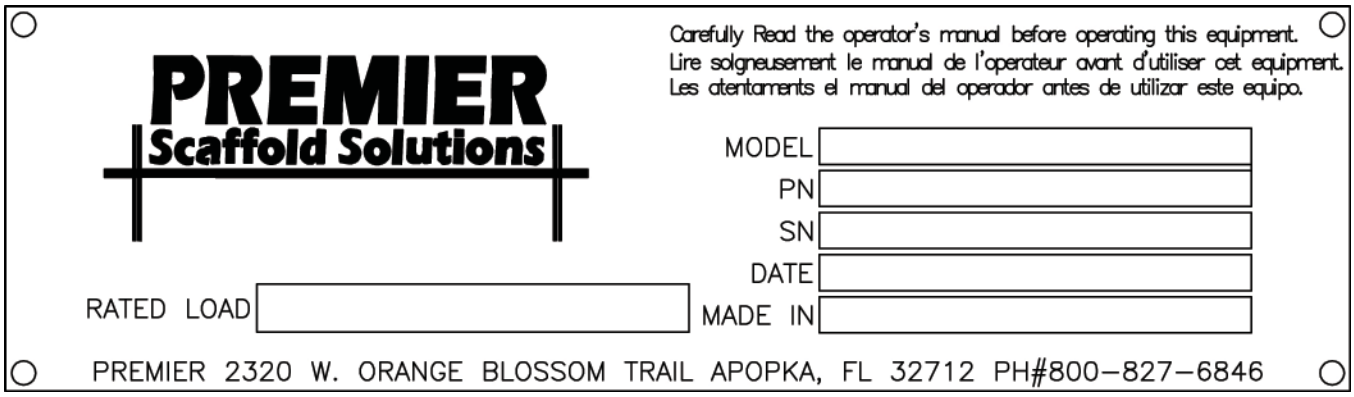
1. Prepare a plan showing how the MPU(s), bridges, extensions and hoists will be positioned near structures or walls to be erected. On long walls, separate MPUs to allow for flexibility. Position MPUs to provide proper anchoring points for towers.
2. Establish distance between the MPU and the structure or wall, taking into account the length of the plank outriggers, as well as curvatures, balconies, columns, trees, telephone wires, electrical lines or anything else that could be in the way.
3. Refer to regulations governing distances between the MPUs and all utilities (under or above ground and existing or planned). For clarification and directions, contact job site management.
4. For your personal safety, make sure the ground or support surface capacity meets with the static load charts herein. Soil compacting, cribbing or shoring can increase bearing capacity. Contact a licensed engineer for assistance.
5. On difficult jobs, never modify the MPU or substitute factory parts. This could adversely affect safety, performance and void the warranty. In addition, this could lead to serious injury.
6. Rely on a licensed engineer to help on special jobs and to approve plans if required in your area.
7. Maintain correct equipment and parts inventory on the job site to work efficiently. Keep equipment in good condition and refer to the maintenance checklist.
8. After installation, mark the “off-limit” areas of the MPU using fencing, barriers and warning tape, and note the emergency phone numbers (fire and police) for quick reference. Have an emergency evacuation plan ready to execute in case of need.
9. Never load the bridges or MPUs beyond their rated load. Overloading may cause MPUs to bind and bridges to fail, causing serious injury or death.
10. Contact your distributor or factory for service, repair or technical advice. Refer to equipment type and serial numbers when calling.
11. Use the appropriate fall protection equipment when climbing/descending the tower, modifying planking, or working with the hoist.
12. Always wear required safety equipment when working on the MPU.

IDENTIFICATION PLATE

The identification plate is located above the engine, in the power pack area.



Identification Plate



Model: _____

PN: _____

SN: _____

Date: _____

Made In: _____

Rated Load: _____

Sold To: _____

Sold Date: _____

OVERVIEW

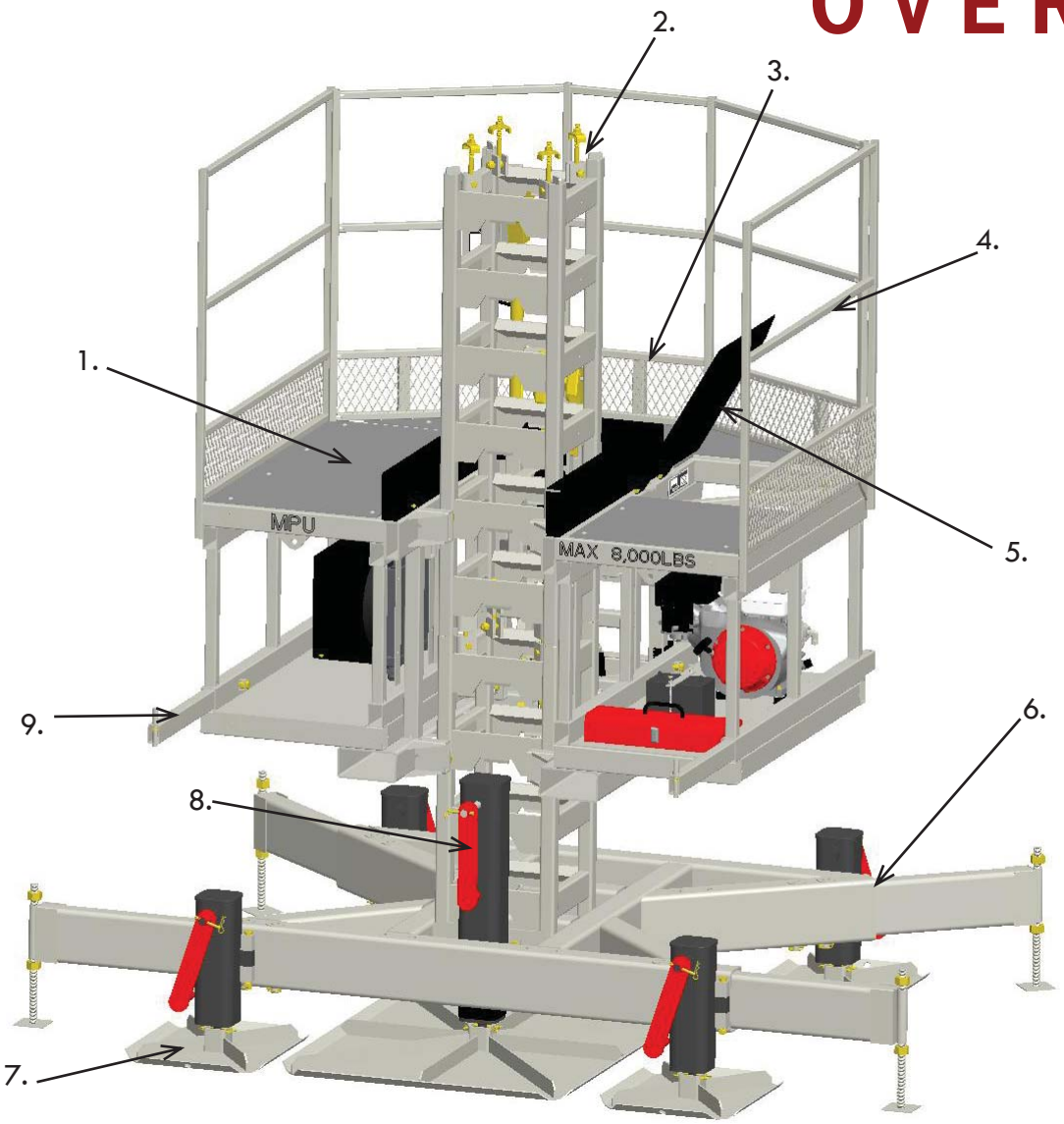


Diagram No.	Part No.	Qty.	Description
1	40601002	1	Power Unit Deck
2	72409017	1	16” x 16” x 5’ Tower
3	40601063	1	Unit Extension
4	40606430	2	End Guard Rail
5	40601065	1	Engine Access Door
6	40602001	1	Base
7	40602020	4	Support Jack
8	72402071	1	Tower Jack
9	40606001	2	5’ Outrigger

TECHNICAL
SPECIFICATIONS

MPU	
MPU work area	4’ wide x 6’ long
Transport dimensions	81” x 121” x 55” including tower shroud
Rated operating load	8,000 lbs.
Maximum height	Up to 250’ without PREMIER’s authorization
Free standing	25’ with rear jacks extended
MPU weight	2,600 lbs.
Travel speed	11’ per minute
Engine type	Honda 13.0 HP gasoline engine with electric starter, remote choke, locking throttle and ignition mounted on the operator station
Climbable tower	16” x 16” x 60”; 240 lbs. per tower

TROUBLESHOOTING

Problem	Potential Cause	Solution
The engine does not start	Oil is low	Refill or change oil
	Gas valve is in the “OFF” position	Open gas valve (located on the side of the carburetor under the air filter) and restart
	Dirty air filter	Replace air filter and restart
The engine stalls	Allow engine to reach operating temperature	Run 5-15 minutes in winter
	Choke may be stuck	Free or release choke
The MPU does not rise	Locking bar is in place Note: Yellow light at the operator station should be “ON”	Remove locking bars
	Load is not evenly distributed	Distribute load evenly
	Rated load exceeded	Remove excess material and balance or distribute remaining load, then raise the MPU.

MAINTENANCE

Daily Maintenance	Date	Operator
Check and maintain perimeter boundaries		
Check for stable ground condition where MPU is positioned		
Level base (clean excess mortar from stabilizer beam before leveling)		
Level towers (clean excess mortar from towers before leveling)		
Clean off excess mortar from MPU and accessories		
Check and clear walkway		
Check guard rails and doors for proper installation/operation		
Check gasoline level		
Check engine oil level; refill as required (see Honda owner's manual)		
Remove mortar and broken masonry from critical components (rollers, cylinders, hooks and springs)		
Check safety hook spring (lubricate with PB blaster penetrant or WD40 equivalent)		
Check free movement of safety dog underneath MPU (grease if needed)		
Check condition of cylinder hook, cylinder hook pin and lowering cam; repair or replace as required		
Ensure wall ties are safely secure		
Check that planking is properly placed, overlapped and secure; check mason guard rail		
Check and secure outriggers		
Check bearing bridge overlap and chains		
Weekly Maintenance	**Date**	**Operator**
Perform **Daily Maintenance** as well as the following requirements:		
Check for leaks and wear of hydraulic hoses, cylinders, valves and manifold connections		
Check hydraulic oil; (oil should be at the top of the dipstick) refill with ATF Dextron III		
Check rollers for wear replace if required		
Check structure for damage or distortion caused by overload conditions		
Check cylinder for leaks		
Check tower bolts for tightness		
Check tower bolt washers and replace if bent		
Check engine oil and air filters		

MAINTENANCE

Monthly Maintenance	Date	Operator
Perform **Weekly Maintenance** as well as the following requirements:		
Visually inspect structure for damage, bends, tears and cracks		
Structural repairs must be performed by an authorized distributor		
Clean up and grease safety dogs at pivots		
Clean outriggers; check for damage; replace as required		
Check outrigger bolts; plank stop pin; replace as required		
Check locking bar and limit switch; clean, adjust or repair as required		
Verify that all bridges have (4) Pro Bars, (8) Pro Bar Pins and (8) Pro Bar Clips		
Adjust lowering cams to move freely but not too loose		
Check all hook and safety dog connection bolts		
Check roller wear; replace as necessary		
Check main jack bolts; torque 1/2" Grd 8 bolts to 115 ft. lbs.; replace as required		
Check support jack bolts; torque 1/2" Grd 8 bolts to 115 ft. lbs.; replace as required		
Yearly Maintenance	**Date**	**Operator**
Perform **Monthly Maintenance** as well as the following requirements:		
Visually inspect structure for damage, bends, tears and cracks. Structural repairs must be performed by an authorized distributor.		
Contact PREMIER to evaluate structural damage		
Check decking bolts; tighten and/or replace as required		
Check and adjust hydraulic pressure to 2,800 PSI on relief valves		
Change hydraulic oil		
Change engine oil and filter as per Honda manual (minimum once per year)		
Check battery voltage (12 volts) recharge or replace if required		
Check safety dog wear groove to ensure it isn't flush. If flush, replace.		

CHAPTER 2
TRANSPORTATION

- General Information
- Transportation Options

GENERAL
INFORMATION

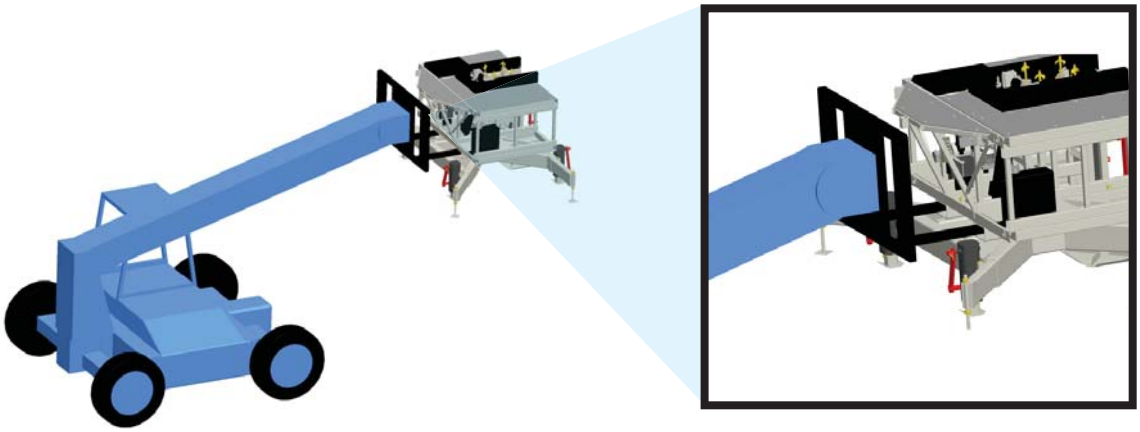
Before Moving the MPU

1. Ensure the lock bar is securely in place.
2. All outriggers must be in the closed position and securely locked in place.
3. The gasoline valve on the Honda engine must be in the “OFF” position whenever the unit is transported or not in use.
4. Remove all guard rails and components which can interfere with chains or slings.

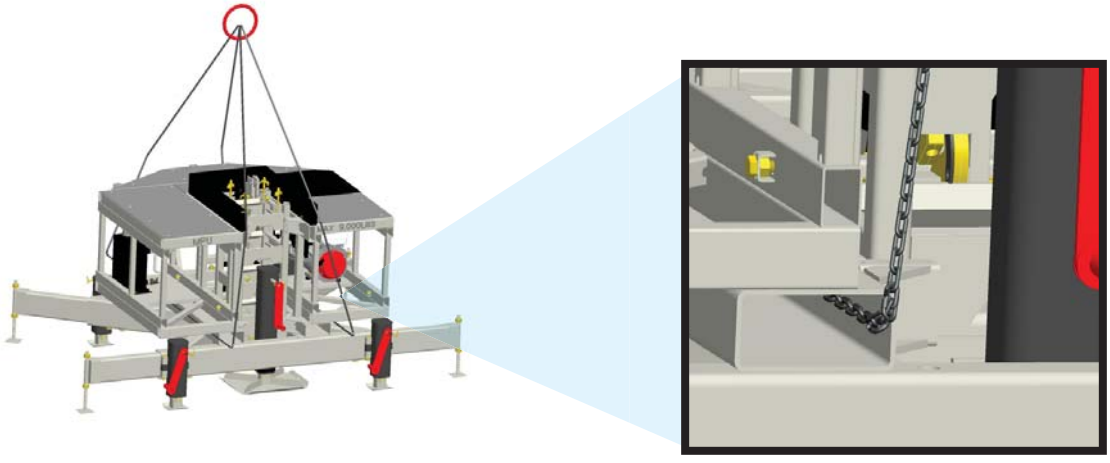
Handling/Loading Equipment

Pick points for safe handling of the equipment.

Fork Pockets



Chains / Sling



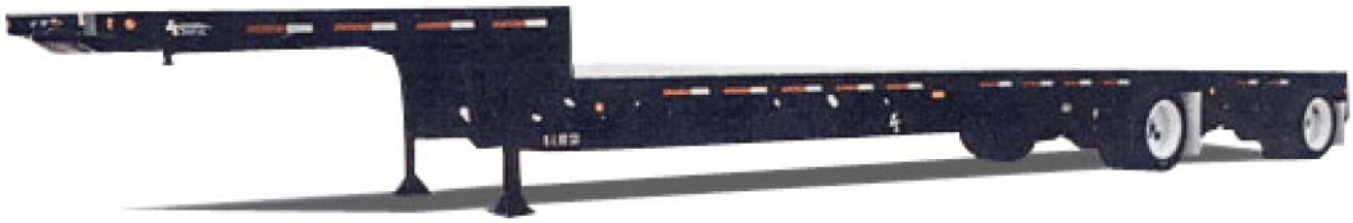
TRANSPORTATION OPTIONS

1. A semi with a flat bed trailer
2. A semi with a drop deck trailer
3. A pick-up with a standard trailer, or 5th wheel trailer

Never attempt to lift more than one unit at a time; never attempt to stack more than two units high.

Flat Bed

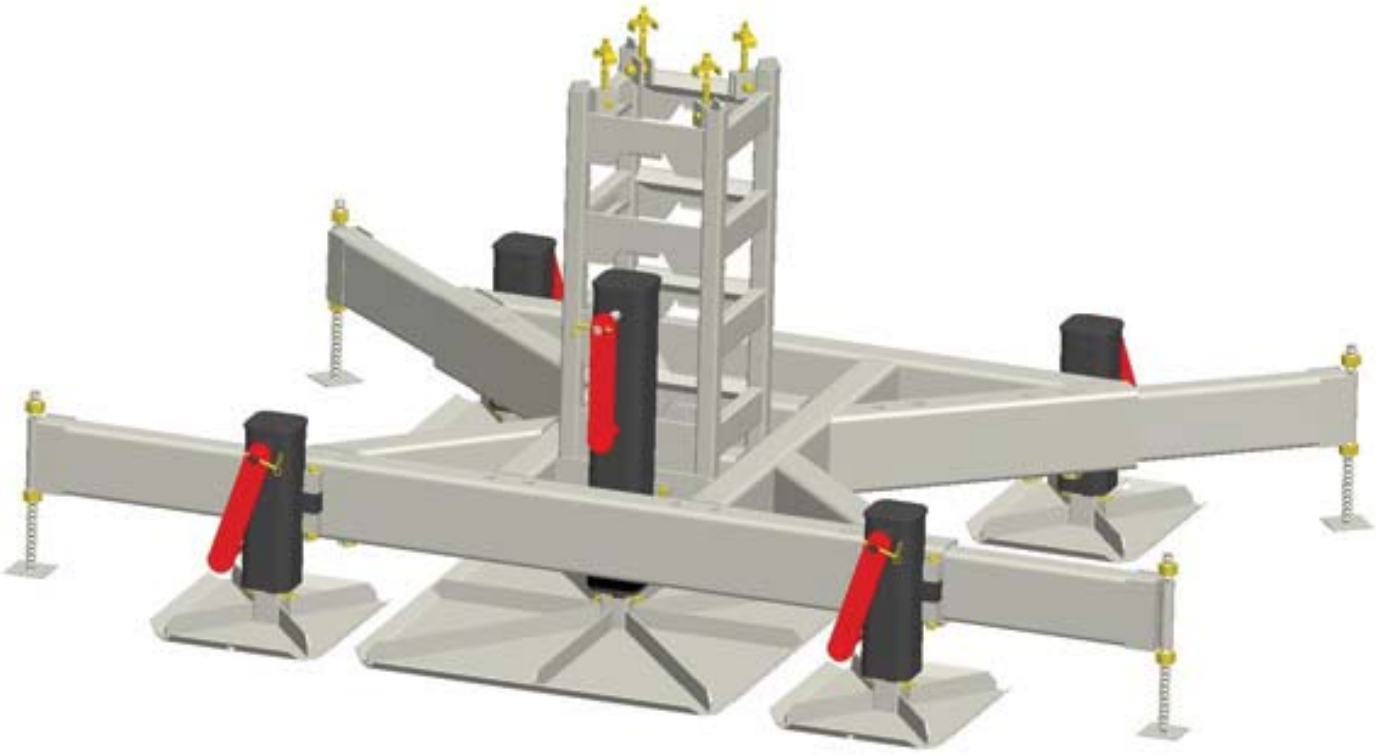
Drop Deck



5th Wheel

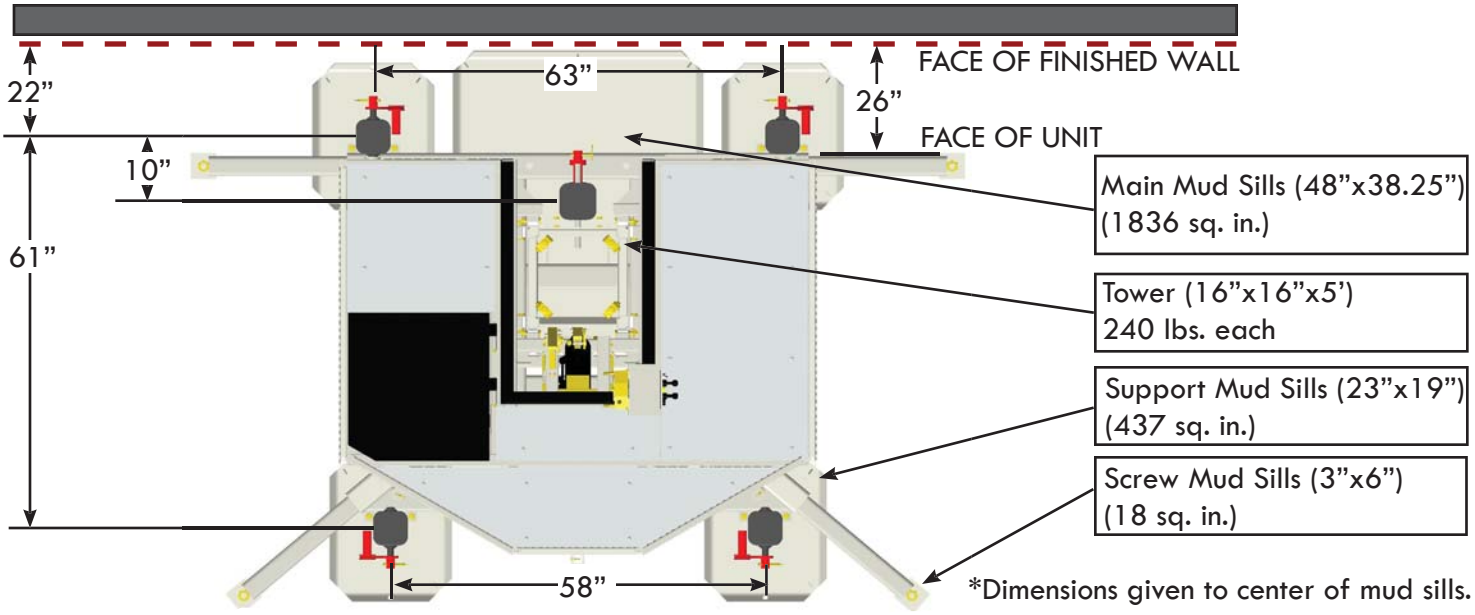
CHAPTER 3
POSITIONING & LEVELING

- Static Load Chart
- Positioning/Leveling



STATIC
LOAD CHART

The illustration below shows how the MPU weight of 2,600 lbs. and operating load of 8,000 lbs. are transferred to the ground through the four load bearing mud sills. The total square inches of all four mud sills is 1,908 sq. in. (see figure below for individual mud sill sizes).



Mud Sill Load Distribution is as Follows:

All calculations use the MPU weight of 2,600 lbs. and a load of 8,000 lbs. = 10,600 lbs. Note: Unbalance conditions occur primarily in the free standing set up (25’). Above 25’ the towers are tied to a structure and the load is transferred primarily through the towers to the front mud sills.

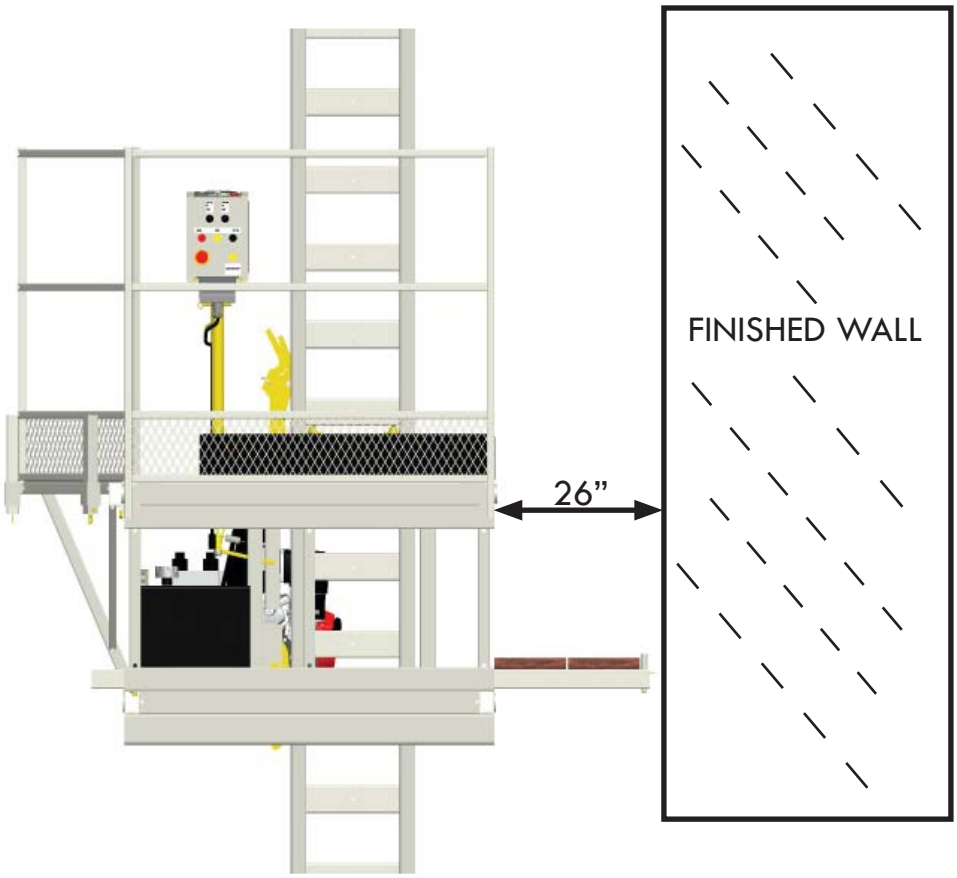
For example:

- Add .131 lbs./sq. in. to the mud sill, where a 5’ tower is added.
- Main mud sills start at 2.59 lbs./sq. in. + .131 lbs./sq. in. = 2.721 lbs./sq. in.

Set Up Height (ft.)	Weight Total (lbs.)	Weight Main Mud Sills (lbs.)	Pressure Main Mud Sills (lbs./sq. in.)	Weight Support Mud Sills, (lbs.)	Pressure Support Mud Sills (lbs./sq. in.)	Weight Screw Mud Sills (lbs.)	Pressure Screw Mud Sills (lbs./sq. in.)
25 (free standing)	11,560	5,202	2.83	1,387	3.17	347	19.27
25 (with ties)	11,560	11,560	6.30	n/a	n/a	n/a	n/a
50	12,760	12,760	6.95	n/a	n/a	n/a	n/a
90	14,680	14,680	8.00	n/a	n/a	n/a	n/a
130	16,600	16,600	9.04	n/a	n/a	n/a	n/a
170	18,520	18,520	10.09	n/a	n/a	n/a	n/a
210	20,440	20,440	11.13	n/a	n/a	n/a	n/a
250	22,360	22,360	12.18	n/a	n/a	n/a	n/a

POSITIONING/LEVELING

1. Determine the location of the mud sills on the MPU in relation to the wall.
2. Ensure the ground is firm and stable before positioning the MPU. Refer to the static load chart on page 14 to assist with this.
3. Level and clean the area under the mud sills to an even compact surface.
4. If your set up will be free standing (under 25'), pull the support jacks out as far as possible. If your set up will be tied to the wall (higher than 25'), keep the support jacks retracted.
5. If your set up is higher than 250', you will need authorization and support from PREMIER.
6. Use a forklift or crane to place the MPU into position.
7. PREMIER recommends that you lower the main and support jacks 4" before setting the MPU into place.
8. Set the face of the MPU in place, parallel 26" from the finished wall. This allows for a two plank set up. See graphic below.
9. Level the MPU base using the adjustable jacks. Use a level on the front of the tower to check for plumb.



Face of the unit is 26" from the face of the finished wall.

CHAPTER 4
SETTING UP THE MPU

- Guard Rail & Outriggers
- Tower Installation

GUARD RAIL & OUTRIGGERS

General Warnings for Planks

Plank overlap is subject to rules and regulations and must be closely followed. Planks **should** exceed the last outrigger; PREMIER recommends a 12" overlap. Never stand on any unsupported plank and ensure all open ends are securely blocked off.

Outriggers

The MPU offers ergonomically and safe work options with the lower outrigger planks being used for standing while the top outrigger planks, or the MPU itself, being used for materials. In turn, the risk of back injury is minimized while production increases.

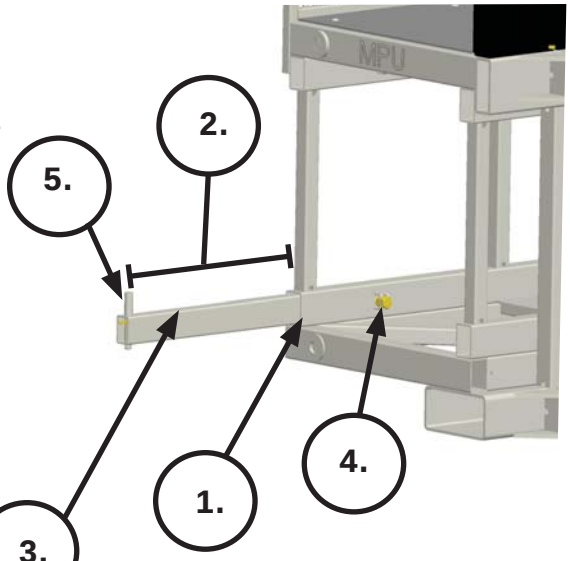
PREMIER offers a standard outrigger: 5'. Other outrigger lengths are also available for special applications, contact PREMIER's technical team for assistance.

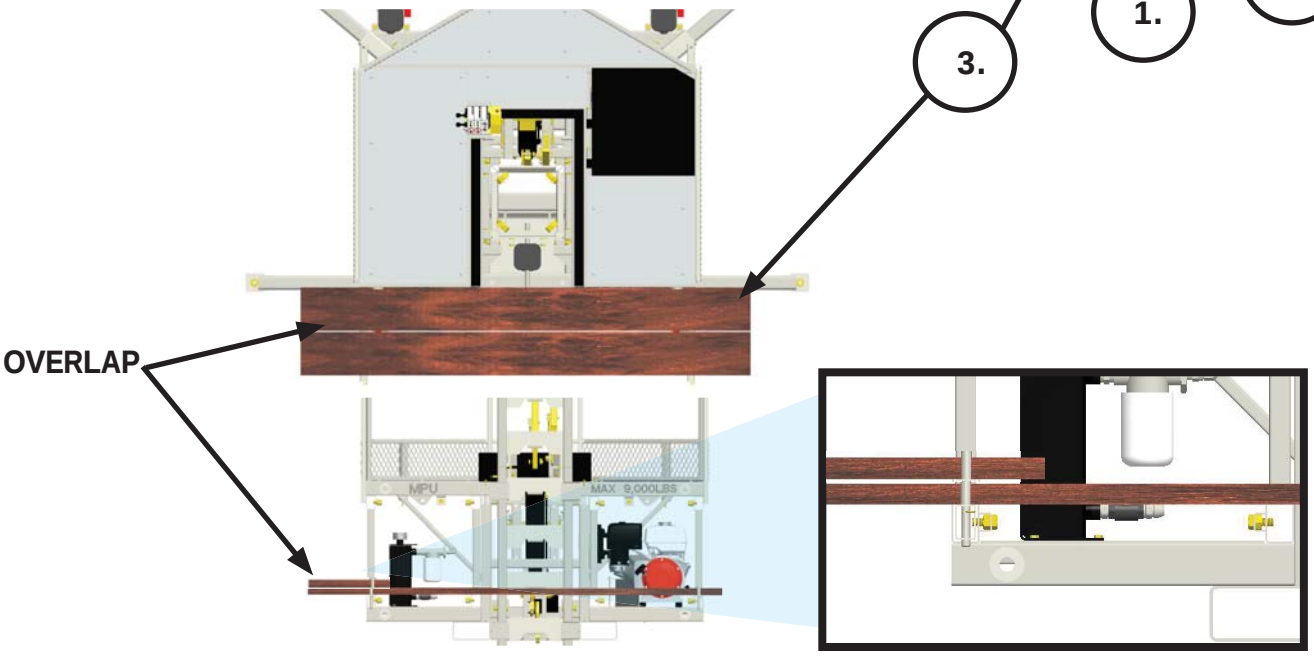
Outriggers offer a plank layout which will not interfere with the wall tie systems.

Overlapping planks in front of the towers allow for easy movement of planks while the MPU is moving.

1. Slide the outrigger into its pocket or support tube.
2. Adjust to a desired length.
3. Working planks should cover most of the length of the outriggers - from the structure to the plank stop pins.
4. Tighten the 5/8" bolts located on the side of the support tubes, using a 15/16" wrench.
5. Make sure there is a plank stop pin on the end of each outrigger. Secure with a hitch pin.

When sliding an outrigger out, leave at least 2' inside the pockets for stability and support.





GUARD RAIL & OUTRIGGERS

Installing the Guard Rail

PREMIER offers 4 types of guard rails to provide for a safe, efficient and approved work area on the MPU.

1. Standard 2', 4' guard rail
2. End guard rail
3. Mason guard rail
4. Outrigger guard rail adaptor

Standard 2', 4' Guard Rail

- The standard 4' guard rail is the most commonly used and fits most positions on the unit, bridges and extensions.
- The 2' guard rail works on the 2' & 3' bridge.

End Guard Rail

- Can be placed on the end of a unit or any bridge.

GUARD RAIL & OUTRIGGERS

Mason Guard Rail

- Use the mason guard rail to block ends of the set up when working on planks.
- Install the mason guard rail over all working planks at each end of the set up. Planks **should** exceed the mason guard rail by 6”.
- Secure in place with at least two nails.

Outrigger/Guard Rail Adaptor

The outrigger guard rail adaptor is used when the mason walk board area is exposed to large openings in the building face or exceeds the end of the wall.

- The guard rail adaptor is placed inside of the outrigger.
- It is locked in place with the plank stop pin.
- Any standard guard rail can be placed on the hooks.

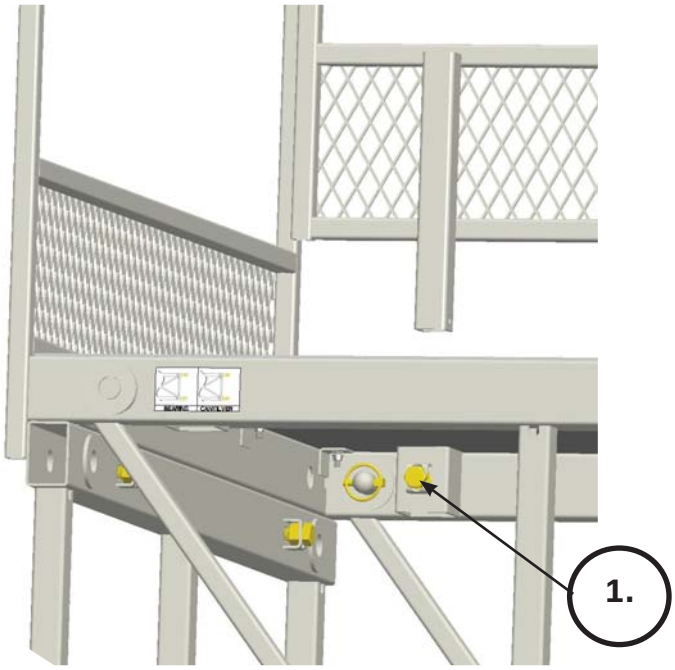
GUARD RAIL & OUTRIGGERS

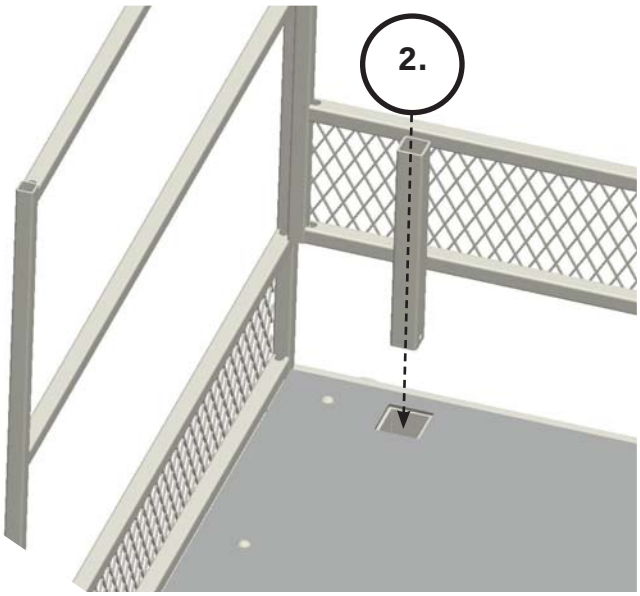
Securing the Guard Rail

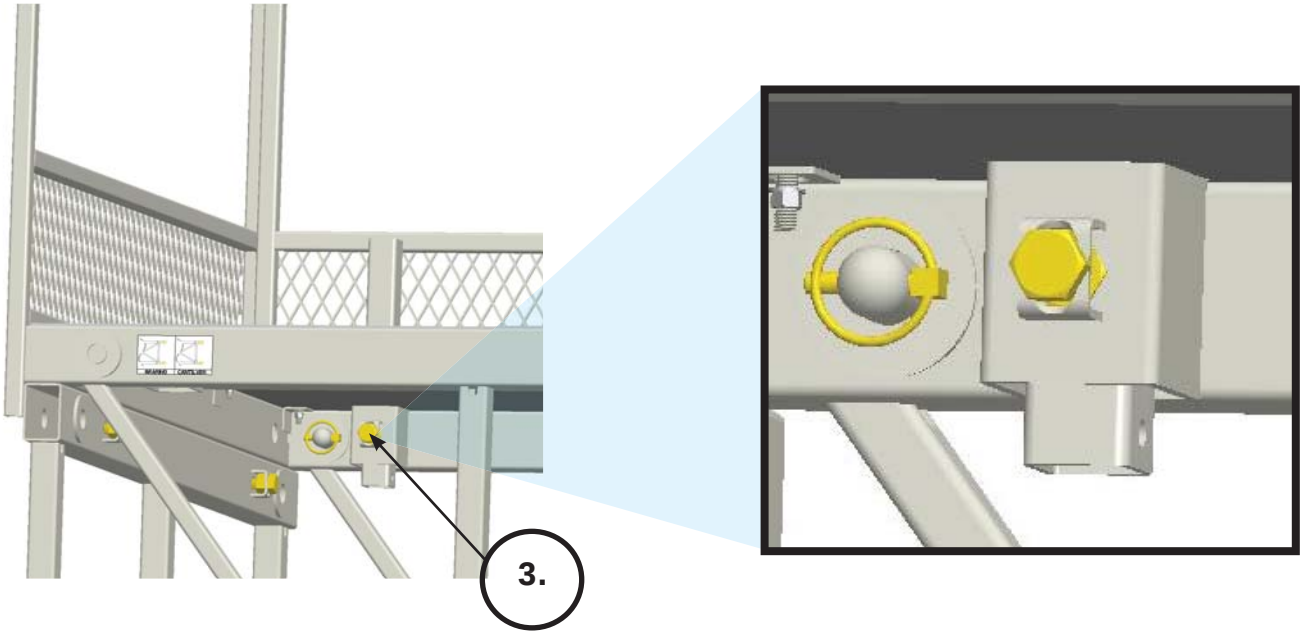
Each guard rail has two clevis pins to secue them in place.

To install and secure:

1. Loosen screw before installation.
2. Place post into pocket.
3. Tighten screw to secure.



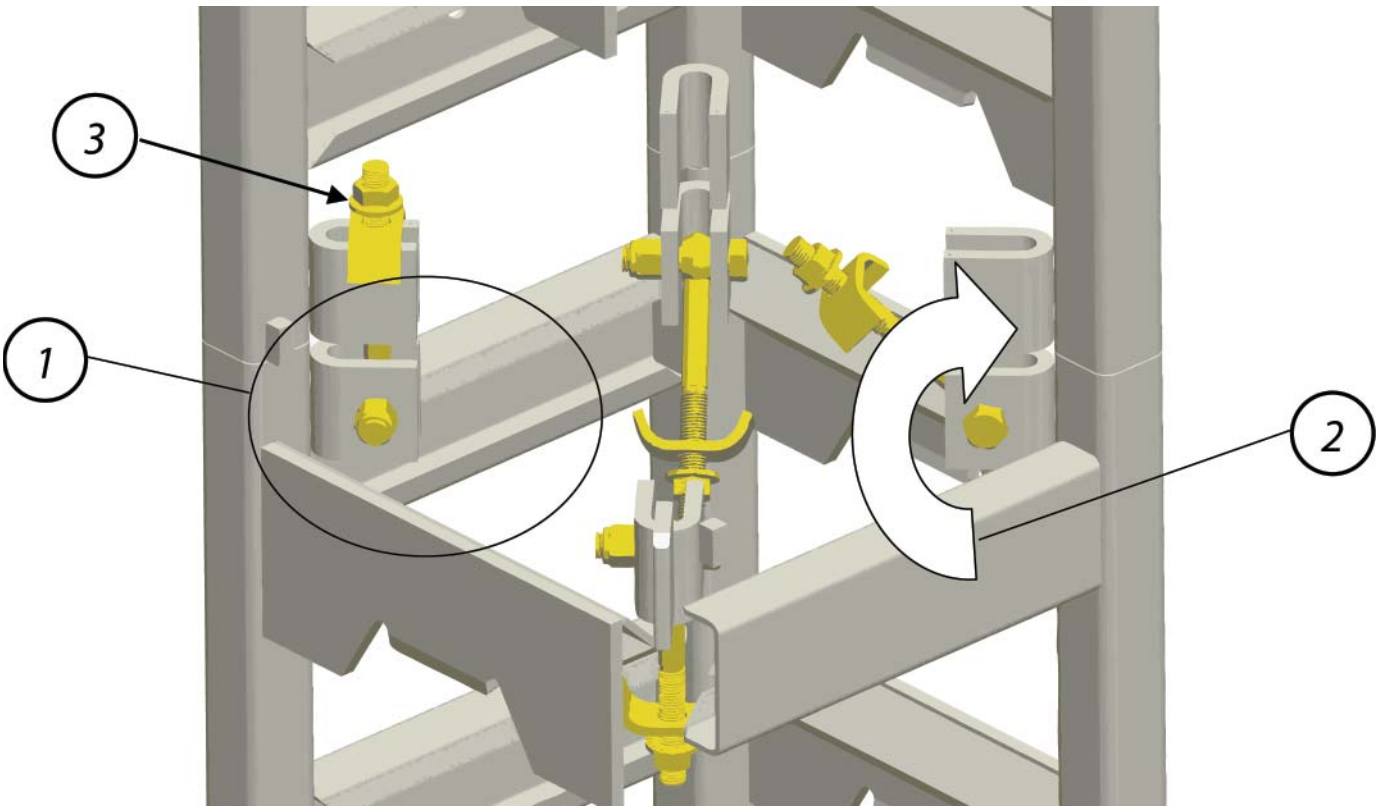




TOWER INSTALLATION

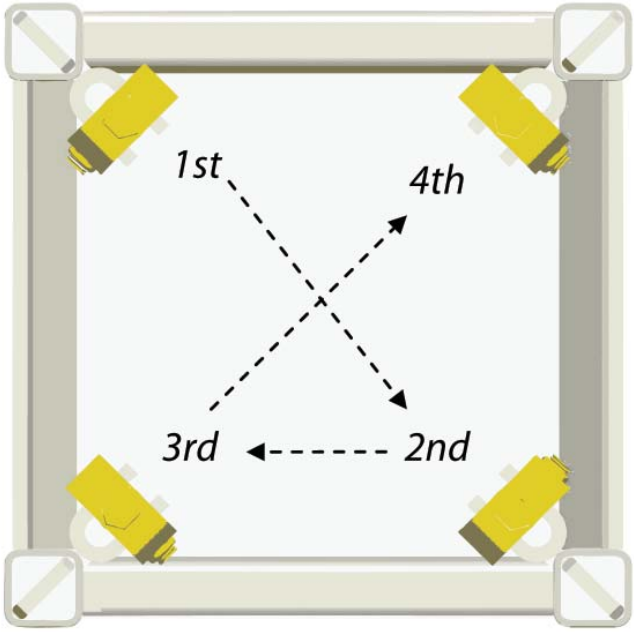
Tower Installation Procedures

1. Install each 5' tower, making sure rungs line up with subsequent tower.
2. Slide the 5/8 x 6 1/2" toggle bolt, washer and nut onto the connecting lug and hand tighten.
3. Torque all toggle bolts to 120 ft lbs in a diagonal pattern from corner to corner.
4. Raise the MPU, repeat steps 1, 2 and 3.
5. Maintain plumb condition throughout the tower installation process.



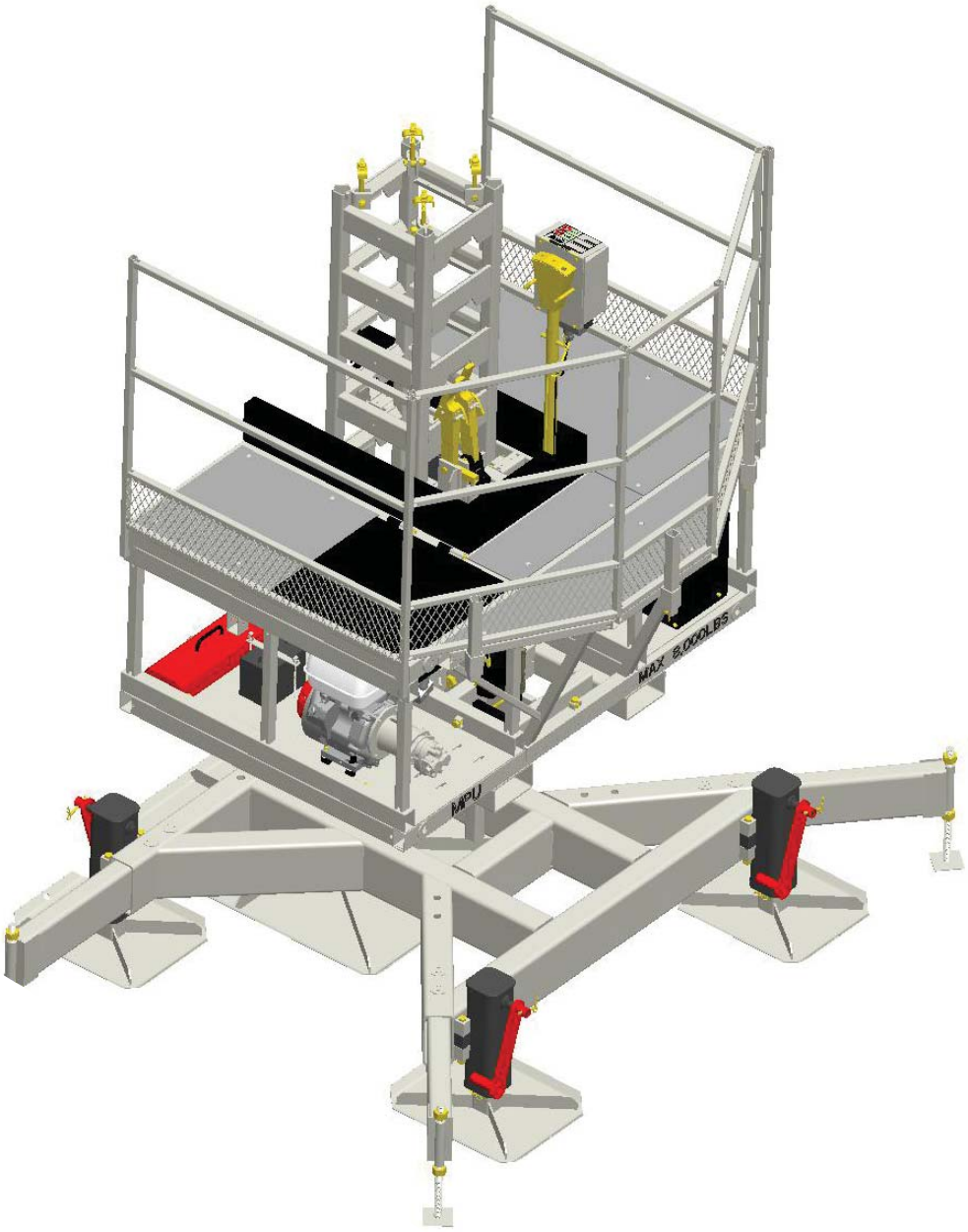
Tower Removal & Transport

1. To remove one tower, loosen the toggle bolt assembly and disengage from connecting lug on all 4 corners.
2. Place the removed tower near the doorway.
3. Store towers on a flat surface away from construction traffic.



CHAPTER 5
OPERATOR INSTRUCTIONS

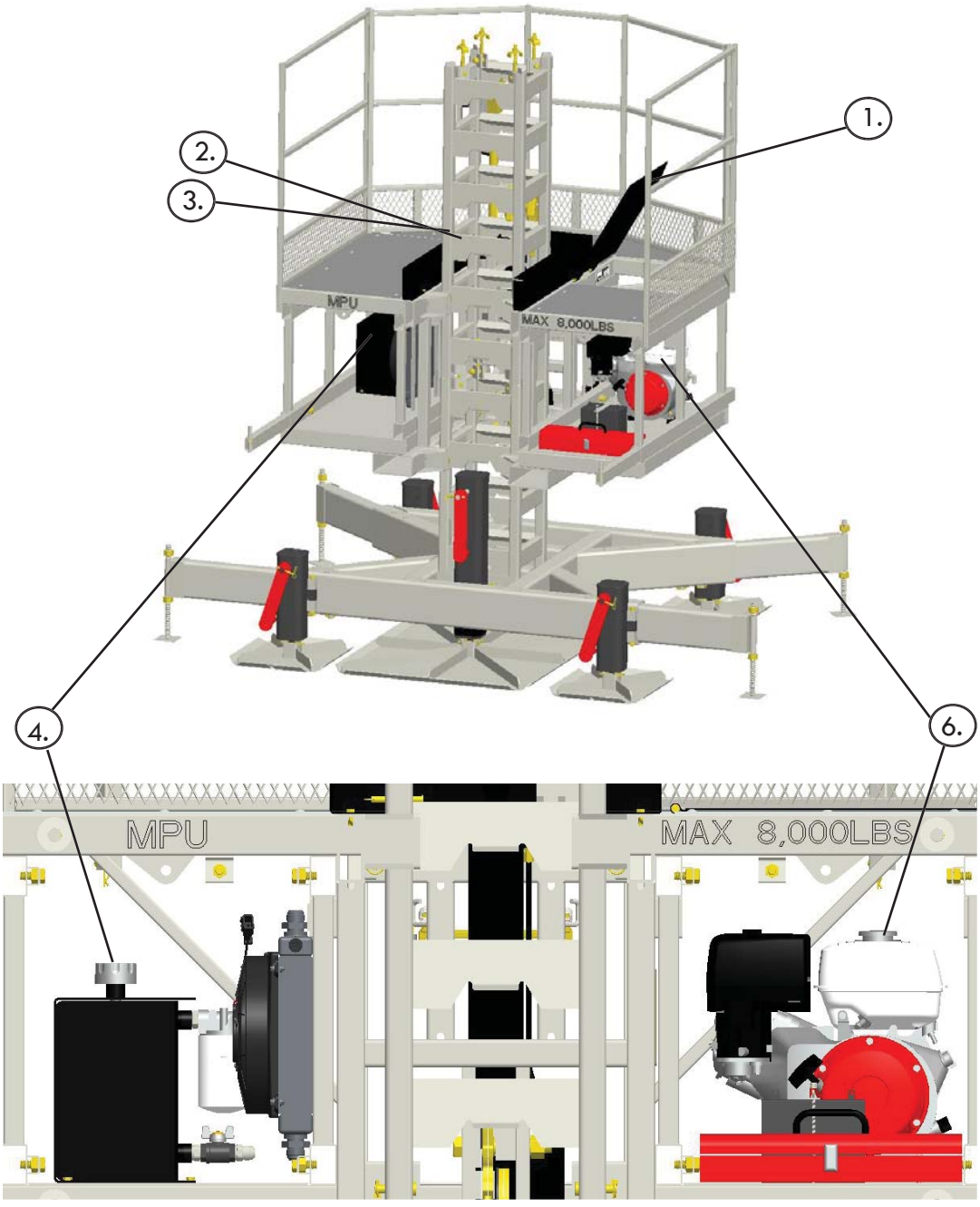
- Starting & Stopping the Engine
- Raising & Lowering the MPU
- Loading the MPU



STARTING & STOPPING THE ENGINE

Starting & Stopping the Engine

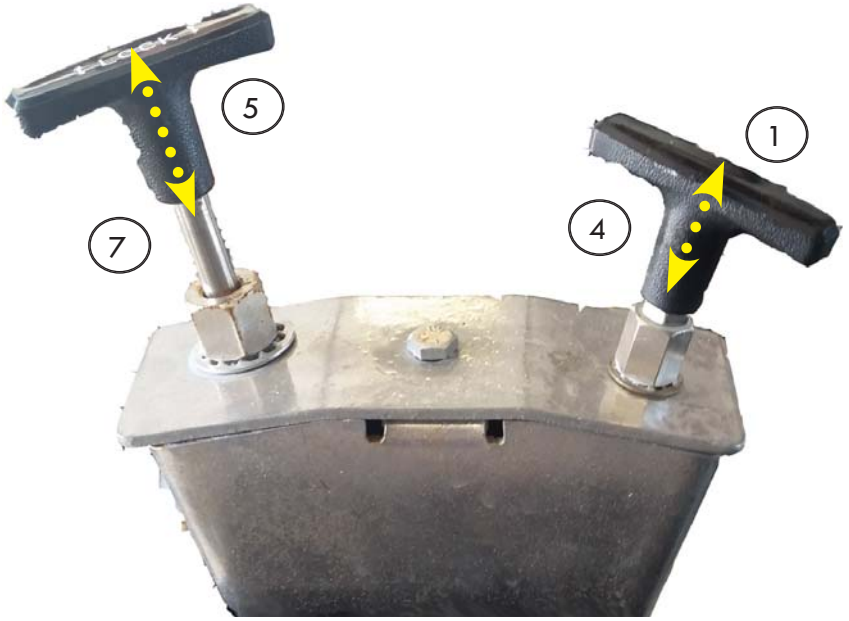
1. Open the power pack access doors.
2. Remove the locking pin from operator's station post.
3. Raise the operator's station post to the vertical position and replace the locking pin.
4. Check hydraulic fluid level with the dipstick located in the breather cap. **Ensure the tank is at least 3/4 full.**
5. If additional fluid is required fill with ATF Dextron III.
6. Fill the gas tank and check the oil.



STARTING & STOPPING THE ENGINE

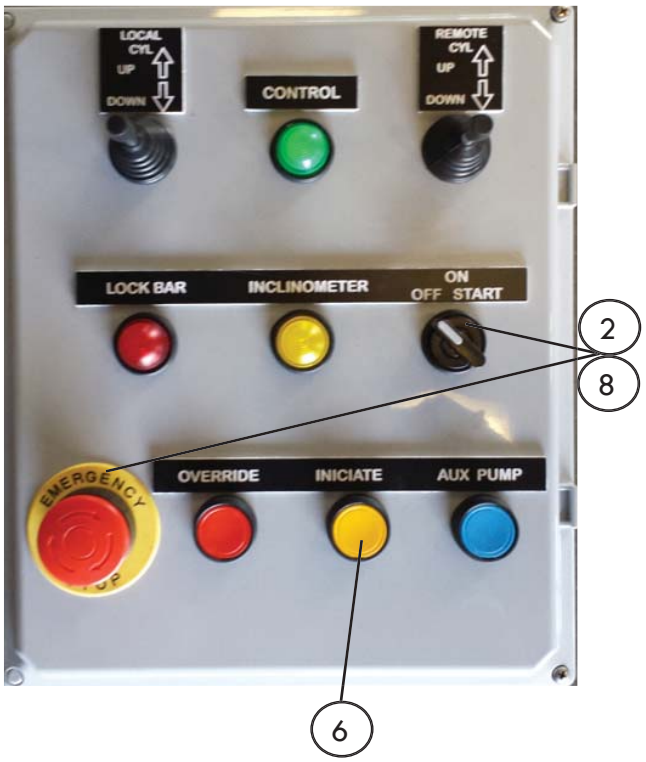
Starting the Engine

1. Pull the choke.
2. Turn switch to start the engine.
   *E Stop must be released first.
3. Allow the engine to warm up.
4. Release the choke.
5. Slowly pull the throttle to bring the engine operating speed and twist the handle clockwise to lock it in position.
6. Press initiate button.
   *In linked mode the initiate button indicates which contol box is controlling both machines.



Stopping the Engine

7. Twist the throttle counter-clockwise to unlock it; push down on the handle to reduce the engine speed to idle.
8. Allow the engine to idle for at least 30 seconds.
9. Shut off the engine, making sure the key switch is in the “OFF” position. Also engage the Emergency Stop.

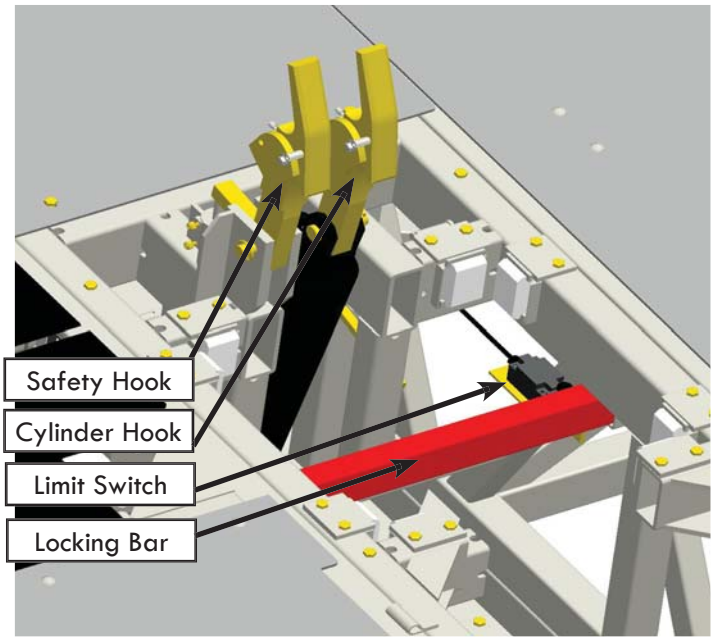


RAISING & LOWERING
THE MPU

Important Information

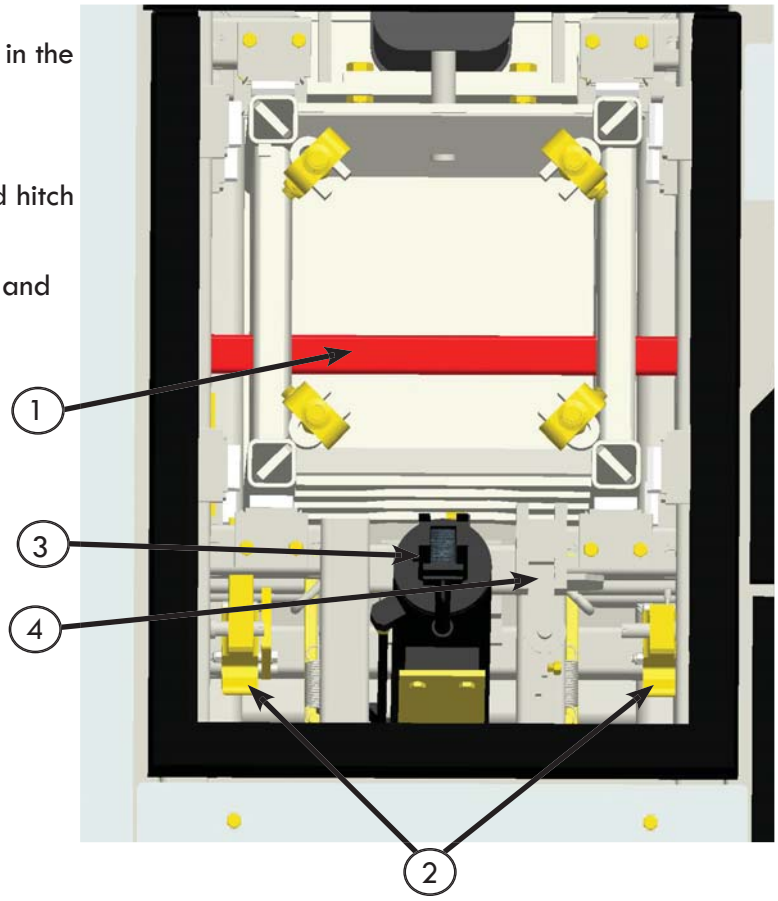
The MPU is equipped with a limit switch at the locking bar. The limit switch will disable the "joysticks" to prevent potential damage to the MPU.

NOTE: The yellow warning light on the operator station will be turned "ON" when the limit switch disables the "joysticks". Remove locking bar to enable "joysticks" again.



Preparation

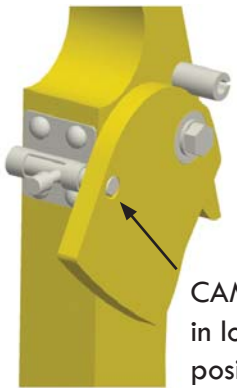
1. Remove the locking bar on the tower, locking it in the open position.
2. Remove hooks from storage posts.
3. Install cylinder hook onto cylinder using pin and hitch pin clip.
4. Install safety hook onto MPU bracket using pin and hitch pin clip.



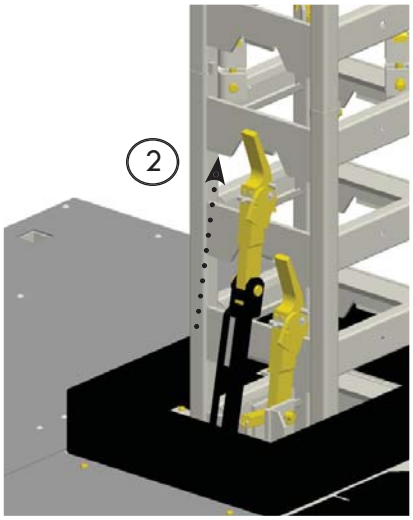
RAISING & LOWERING
THE MPU

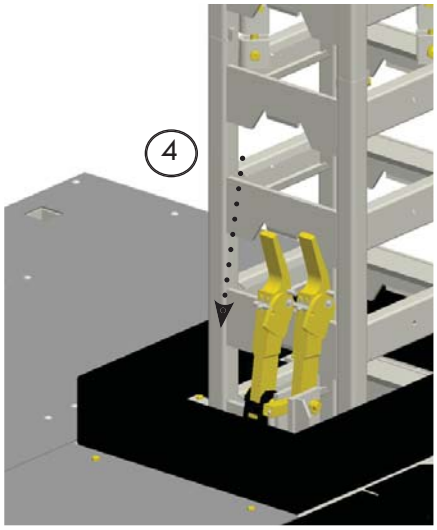
Raising the MPU

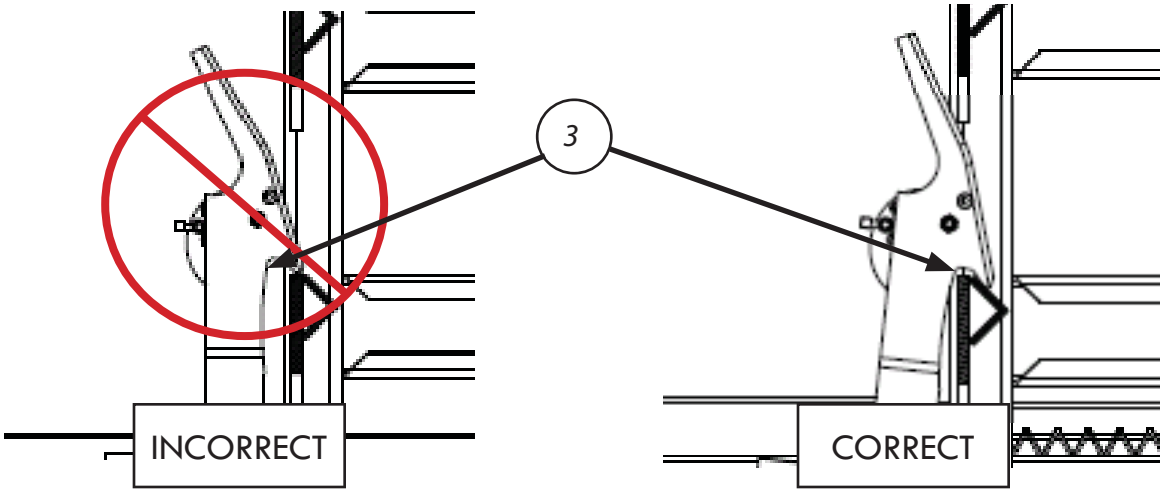
1. Using the locking device, lock the lowering cams on both the cylinder hook and the safety hook.
2. With engine running at full RPM, push the "joystick" "DOWN", to extend the cylinder.
3. When the cylinder is fully extended and the hook has moved slightly past the second tower rung, release the "joystick". At this point the hook has snapped forward into the tower and is positioned to engage the rung and raise the MPU. Visually verify that the cylinder hook is engaged in the appropriate rung.
4. Pull the "joystick" "UP" causing cylinder to retract and hook to latch onto the tower rung thereby raising the MPU to a desired location, the lift can range from 10" to 20".
5. Repeat steps 2, 3 and 4 to continue raising the MPU.
6. Add towers and wall ties when required. Refer to tower and tie installation instructions.



CAM is in locked position (1)



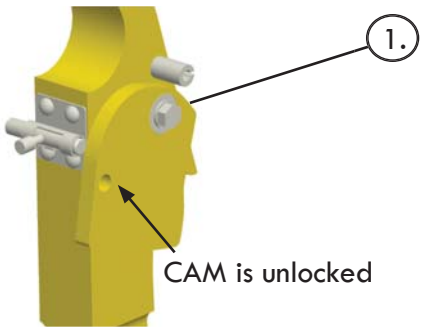


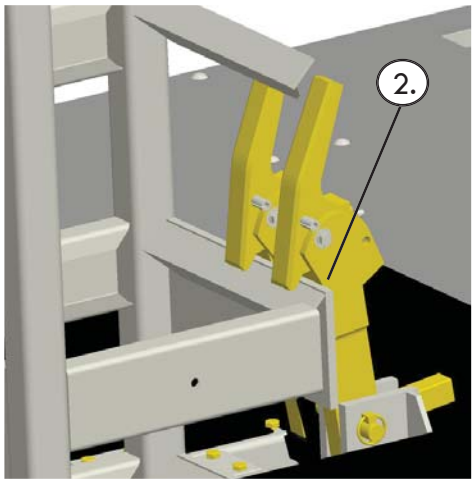


RAISING & LOWERING
THE MPU

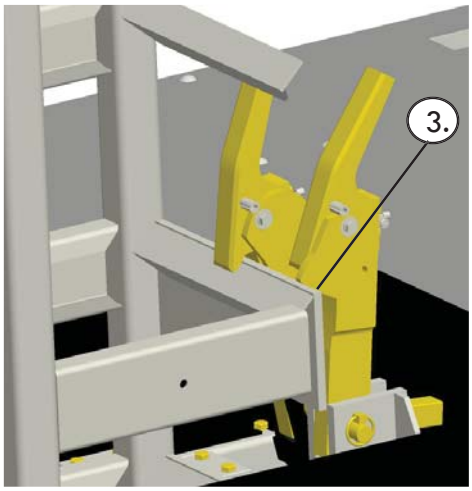
Lowering the MPU

1. Using the locking device, unlock the lowering cams on both the cylinder hook and the safety hook.



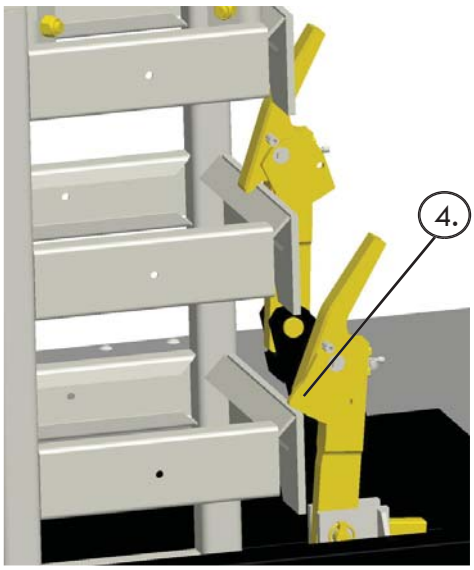


2. With the engine running at full RPM and the cylinder hook and safety hook side by side on the same rung in the retracted position. Pull the “joystick” “UP” to raise the MPU, allowing the safety hook cam to pivot toward the tower. When the cylinder bottoms out in the retracted position, release the “joystick”.



3. Visually verify the safety hook cam is high enough to pivot freely and push the hook away from the tower as it rides past the rungs while lowering the MPU.

4. Push the “joystick” “DOWN”, and the cam will cause the safety hook to ride past one or two rungs (10” or 20”) until the desired position or full extension is reached. At this point the engine may slow down; release the “joystick”, note that the safety hook has ridden slightly past the last rung.

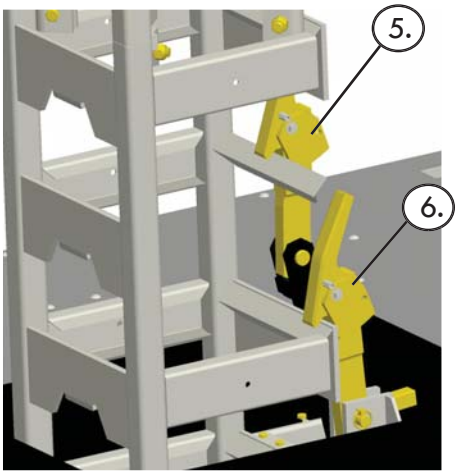


RAISING & LOWERING
THE MPU

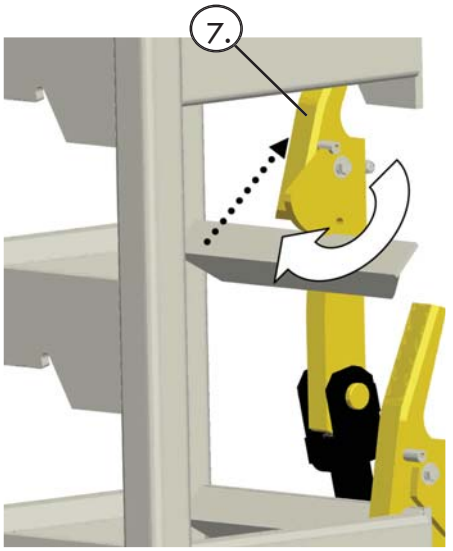
Lowering

5. Pull the “joystick” “UP” and raise the safety hook just enough for it to engage the nearest tower rung.

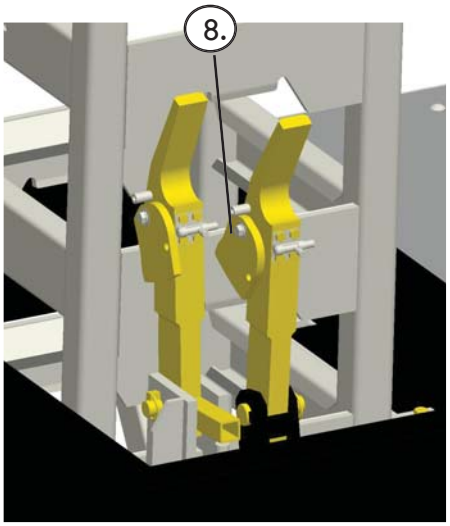
6. Visually verify that the safety hook is latched on the tower.



7. Push the “joystick” “DOWN until the cylinder hook is fully extended and the cam pivots toward the tower, note the engine may slow down; release the “joystick”.

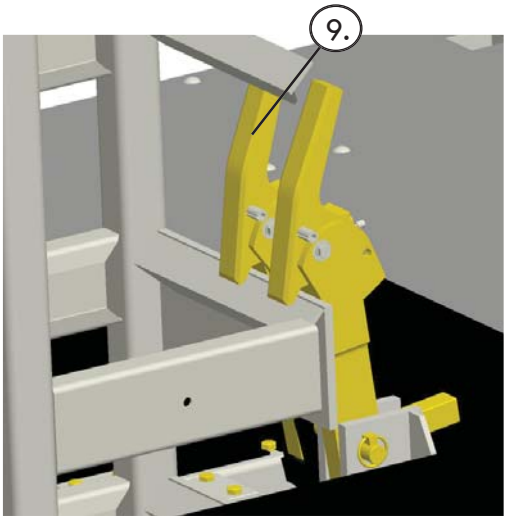


8. Pull the “joystick” “UP” and the cam will cause the cylinder hook to ride past one or two rungs (10” or 20”) until the desired position or full retraction is reached, the engine may slow down; release the “joystick”. At this point cylinder hook is resting on the face of the rung and must move up to the latched position.



RAISING & LOWERING
THE MPU

Lowering



9. Push the “joystick” “DOWN” extending the cylinder hook up just enough to allow it to engage and latch onto the nearest rung. At this point the cylinder hook and safety hook are side-by-side on the same rung in the retracted position.

10. Repeat steps 2 through 9 to continue lowering the MPU.

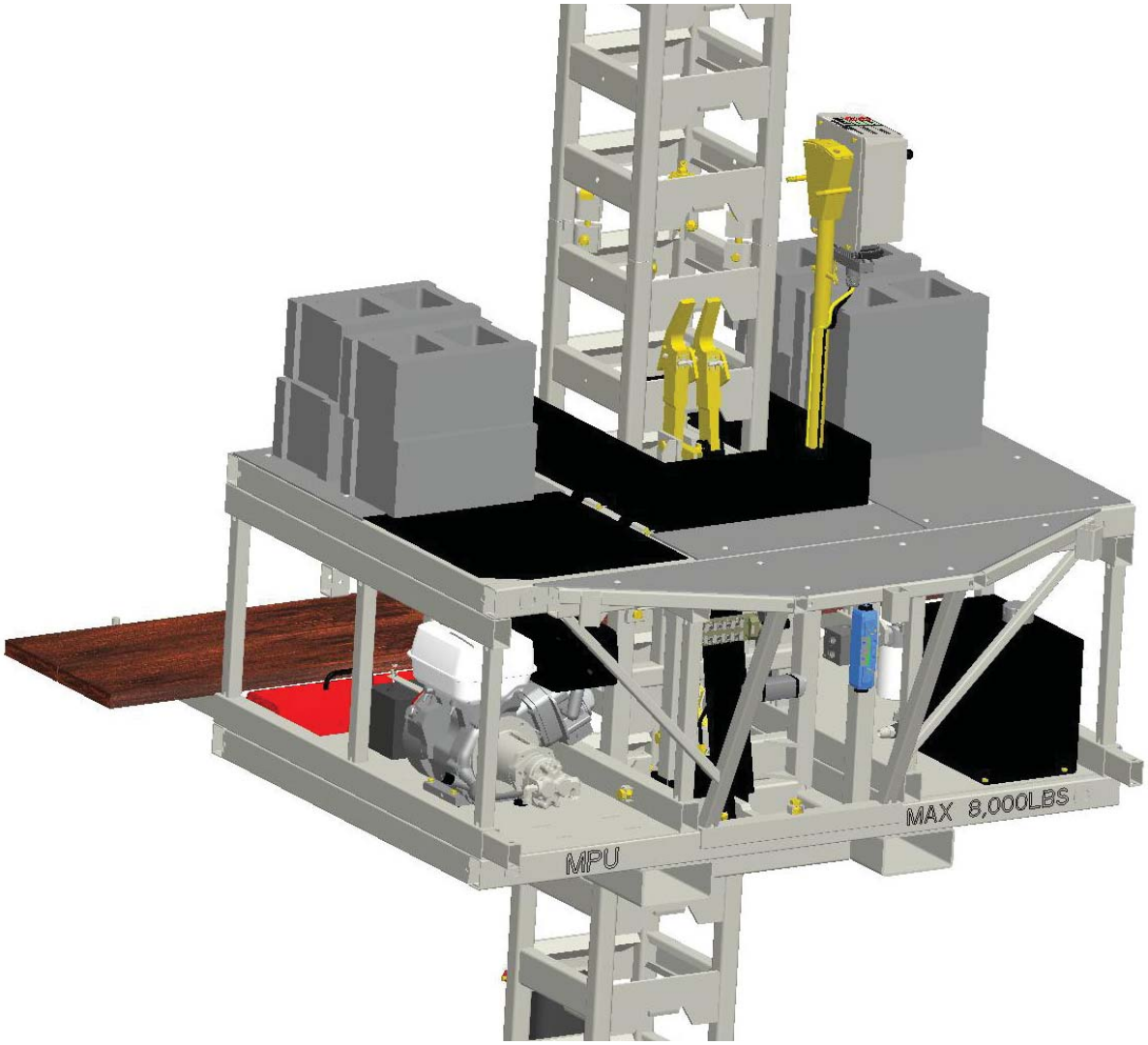
Warning

To pass wall ties, slide planks away from the front of the tower. The use of fall protection equipment is mandatory when doing this work. Also, use of shorter planks in front of tower will facilitate this work.

LOADING
THE MPU

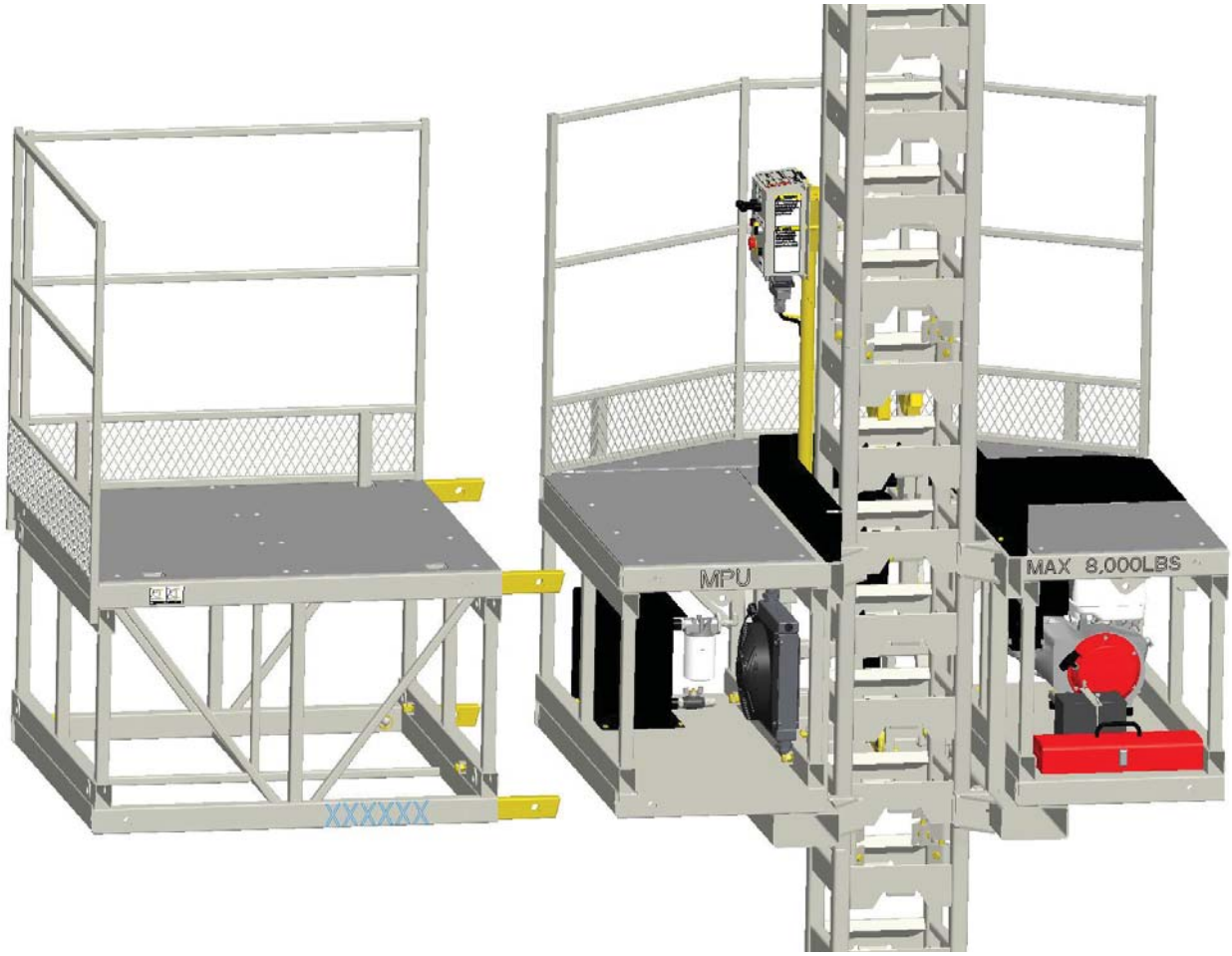
To fully appreciate the MPU, loads must be distributed evenly over the entire MPU. Keep materials towards the front of the unit and bridges to allow for passage along the backside of the MPU. This minimizes torque on the towers and provides a safe passage for workers and brick carts.

Refer to bridge section of this manual for bridge and extension load charts for guidance. The first material load should be placed near the center of the unit, close to the tower. The next loads should be placed alternatively, left and right, ensuring loads remain balanced.



CHAPTER 6
BRIDGES & EXTENSIONS

- Bridges
- Applications
- Connecting
- Bearing Bridge
- Cantilever Bridge
- Extension Bridge
- Linked Bridge
- Bearing Mode Load Chart
- Cantilever Mode Load Chart
- Extension Mode Load Chart
- Linked Mode Load Chart



BRIDGES

2' BRIDGE	
DIMENSIONS	4' X 2'
WEIGHT	375 lbs w/standard accessories
GUARD RAILS	One 2' Standard guard rail
PRO BARS	Four on one end only (2 top) (2 Bottom)
PRO BAR PINS & CLIPS	8 - located on both sides of the bridge
OUTRIGGERS	One 5' (Bottom)

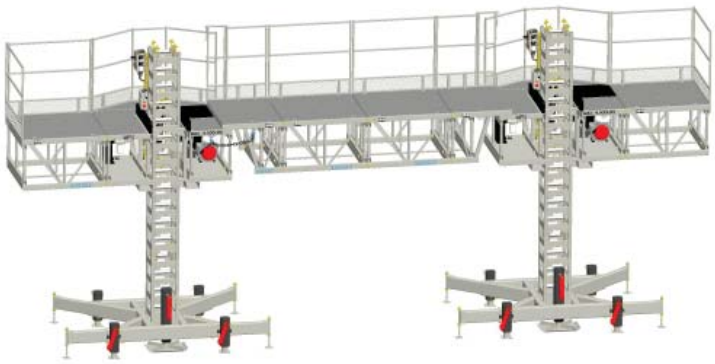
BEARING BRIDGE	
DIMENSIONS	4' x 3'
WEIGHT	400 lbs w/standard accessories
GUARD RAILS	2' guard rail & hanging guard rail
PRO BARS	Four on one end only (2 top) (2 Bottom)
PRO BAR PINS & CLIPS	4 - located on one side of the bridge
OUTRIGGERS	One 5' (Bottom)
ATTACHMENTS	Two bearing bridge chains, inclinometer

4' BRIDGE	
DIMENSIONS	4' x 4'
WEIGHT	450 lbs w/standard accessories
GUARD RAILS	One - 4' Standard guard rail
PRO BARS	Four on one end only (2 top) (2 Bottom)
PRO BAR PINS & CLIPS	8 - located on both sides of the bridge
OUTRIGGERS	One 5' (Bottom)

APPLICATIONS

Bearing Mode

Bearing bridges are preassembled and positioned between two MPUs. Any combination of 2'or 4' bridges, with a bearing bridge at each end, can be used for a bearing bridge. The maximum bearing bridge length is 50'.

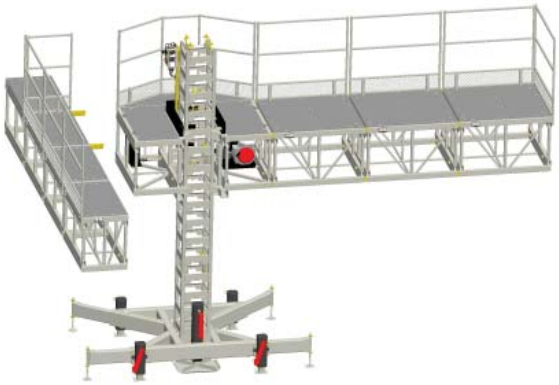


Cantilever Mode

Cantilever bridges are directly connected to the MPU using the Pro Bar System. Any combination of 2', 3', or 4' bridges can be used for a cantilever set up. The maximum cantilever length is 20' on each side of the MPU.

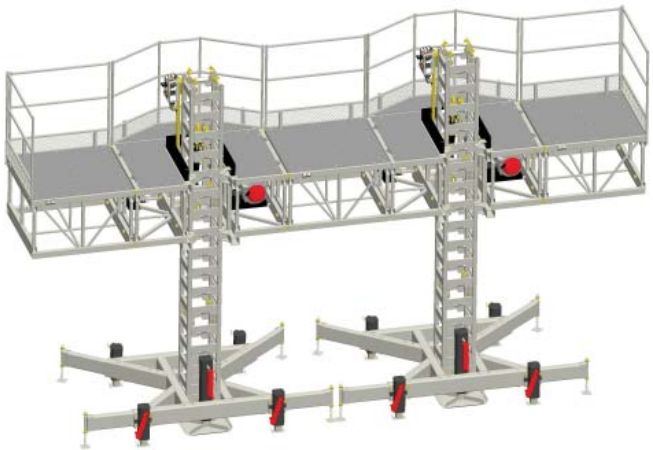
Extension Mode

Extension bridges are created by alternatively placing 2' Bridges to the end, front or back of the MPU.



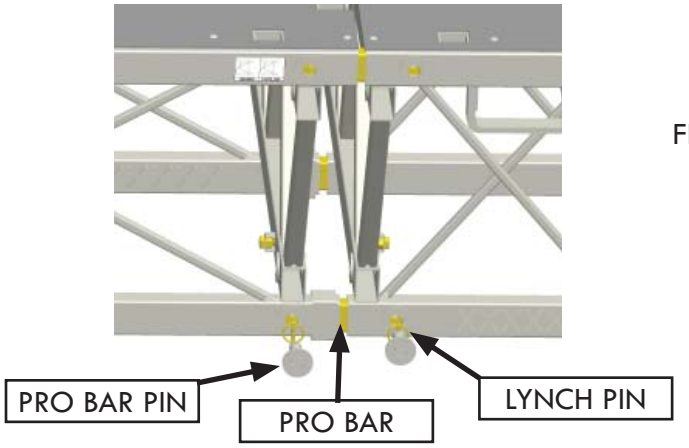
Linked Mode

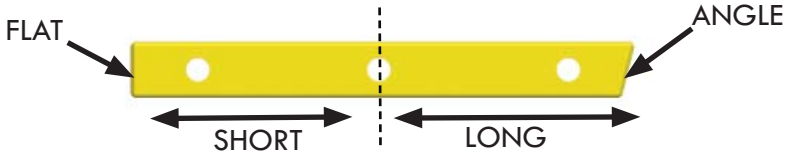
Linked units are rigidly connected by bridges and operated from one control box by linking the controls. There is a 16' maximum linked bridge allowing for a 52' unit.



CONNECTING

The Pro Bar System consists of a Pro Bar, Pro Bar Pin and Lynch Pin Clip and is used to connect most of PREMIER'S components and accessories. Pro Bars are stored only in one end of any of the bridges, (2 Top) and (2 Bottom), and are held in place with the Pro Bar Pins and Lynch Pin Clips.

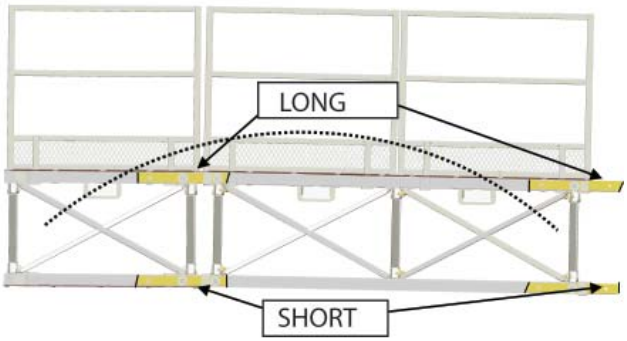




How the Pro Bar Works

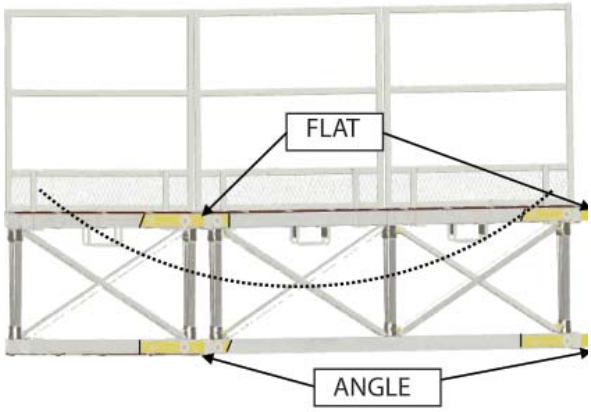
NOTE: Only two holes are used at any given time. The **CENTER** hole is **ALWAYS** used.

Bearing Bridge



1. The object of the bearing bridge is to create an arch or crown in the bridge assembly.
2. This is accomplished by using the center hole and the angled side of the pro bar in the top pockets of the bridge, creating a larger gap between bridges at the top.
3. Using the center hole and the flat side on the bottom pockets of the bridge will create a smaller gap between bridges at the bottom.
4. This causes the middle of the bridge to be higher than the MPU, but will return to a flat condition as material is loaded.

Cantilever Bridge



1. The object of the cantilever bridge is to slightly elevate the end of each bridge with every connection.
2. This is accomplished by using the center hole and the flat side of the pro bar on the top pockets of the bridge, creating a smaller gap between bridges at the top.
3. Using the center hole and the angle side of the pro bar on the bottom pockets of the bridge will create a larger gap between the bridges at the bottom.
4. This causes the end of the cantilever bridge to be higher than the MPU and will return to a flat condition as material is loaded.

BEARING BRIDGE

NEVER place hands or arms between bridges when connecting bridges.

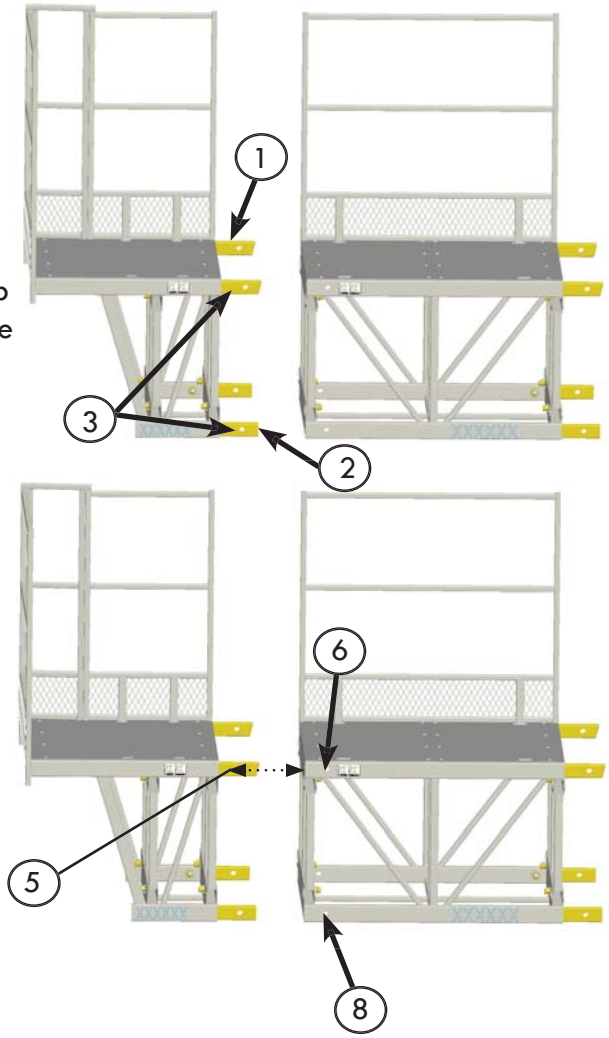
- The maximum bearing bridge length is 50'.

Procedures

*PREMIER recommends that you assemble the bridges from left to right. Assembling bearing bridges this way, will ensure the installer knows that the angled end of the Pro Bar is inside the bridge on the right side. When disassembling the bearing bridge disassemble from left to right as well. This makes for easier disassembly at the end of the job.

Building a Bearing Bridge

1. Insert the flat side of the pro bar all the way into the top pockets of the bridge and secure the "center hole" of the pro bar in place with the pro bar pins.
2. Insert the angle side of the pro bar all the way into the bottom pockets of the bridge and secure the "center hole" of the pro bar in place with the pro bar pins.
3. This will leave the angle side of the pro bar exposed at the top and the flat side of the pro bar exposed at the bottom with one hole visible.
4. Using slings through the frame, suspend the bridge from a fork lift or crane. Maneuver the bridge so the Pro Bars slide into the pockets.
5. Adjust the bridge until the Pro Bar hole lines up with the **top** holes of the first bridge.
6. Insert Pro Bar pins through the bridge and Pro Bar holes securing them with lynch pins.
7. Using a forklift or crane, adjust the end of the bridge up or down until the bottom connection holes align.
8. Insert Pro Bar pins through the bridge and Pro Bar holes securing them with lynch pins.



BEARING BRIDGE

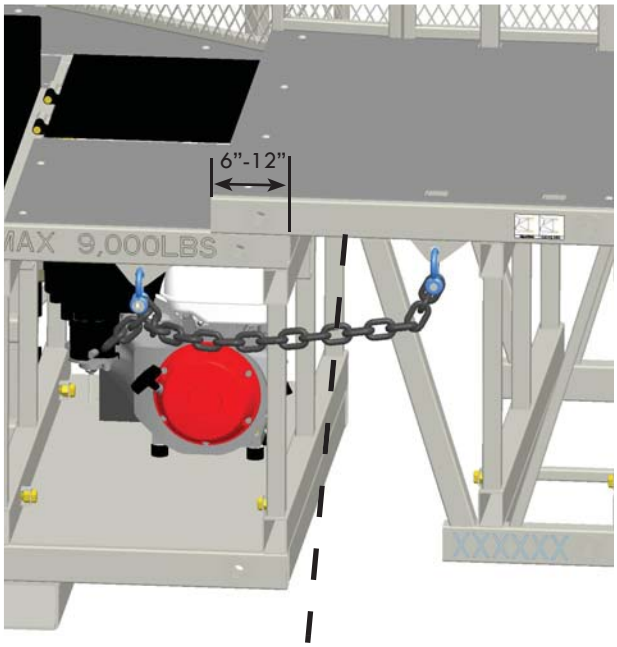
Positioning/Attaching the Bearing Bridge

Position the two (2) MPUs so each end of the bearing bridge overlaps onto the MPUs, from 6” minimum to 12” maximum.

Attaching Bearing Bridges

The bearing bridge includes two (2) chains for attaching to the MPU.

1. Secure the chain to the MPU using the clevis.
2. Adjust the length of the chain using the clevis, leaving approximately 1 link of slack.
3. Plug in inclinometer into junction box. Port #3 should be the only available option.



JUNCTION BOX
NEAR CYLINDER

INCLINOMETER
ON BRIDGE

CANTILEVER BRIDGE

NEVER place hands or arms between bridges when connecting bridges.

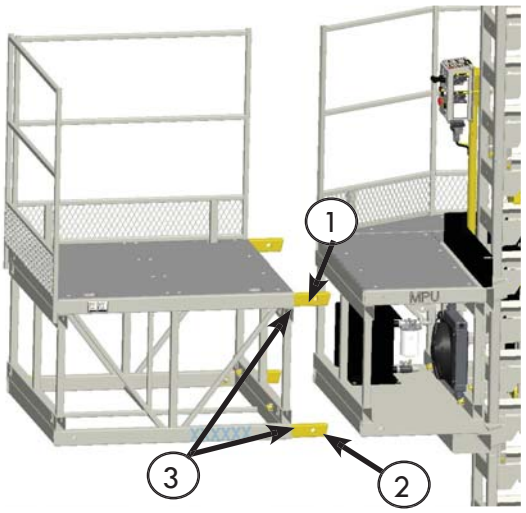
- The maximum cantilever length is 12' on each side of the MPU.
- It is possible to install 12' of bridge in cantilever mode on one end of the MPU before installing the same on the opposite end.

Procedures

*PREMIER recommends that you assemble the bridges from left to right. Assembling cantilever bridges this way, will ensure the installer knows that the flat end of the Pro Bar is inside the bridge on the right side. When disassembling the bearing bridge disassemble from left to right as well. This makes for easier disassembly at the end of the job.

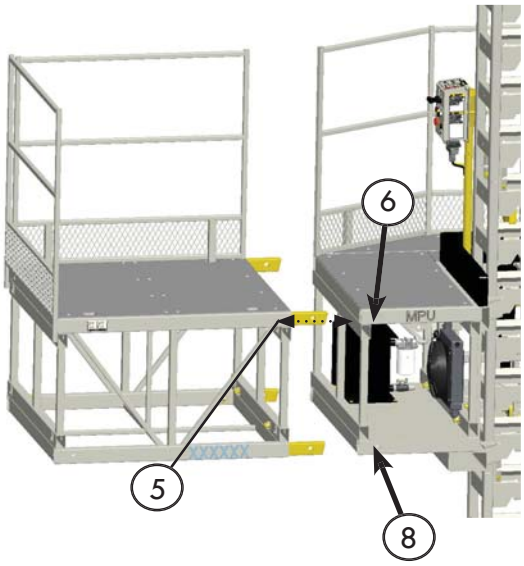
Building the Cantilever Bridge

1. Insert the angle side of the pro bar all the way into the top pockets of the bridge and secure the "center hole" of the pro bar in place with the pro bar pins.
2. Insert the flat side of the pro bar all the way into the bottom pockets of the bridge and secure the "center hole" of the pro bar in place with the pro bar pins.
3. This will leave the flat side of the pro bar exposed at the top and the angle side of the pro bar exposed at the bottom with one hole visible.



Attaching to a MPU or Bridge

4. Using slings through the frame, suspend the bridge from a fork lift or crane. Maneuver the bridge so the Pro Bars slide into the pockets.
5. Adjust the bridge until the Pro Bar hole lines up with the **top** holes of the MPU or bridge.
6. Insert Pro Bar pins through the bridge and Pro Bar holes securing them with lynch pins.
7. Using a forklift or crane, adjust the end of the bridge up or down until the bottom connection holes align.
8. Insert Pro Bar pins through the bridge and Pro Bar holes securing them with lynch pins.



EXTENSION BRIDGE

Extension bridges are created by alternatively placing 2' Bridges as follows:

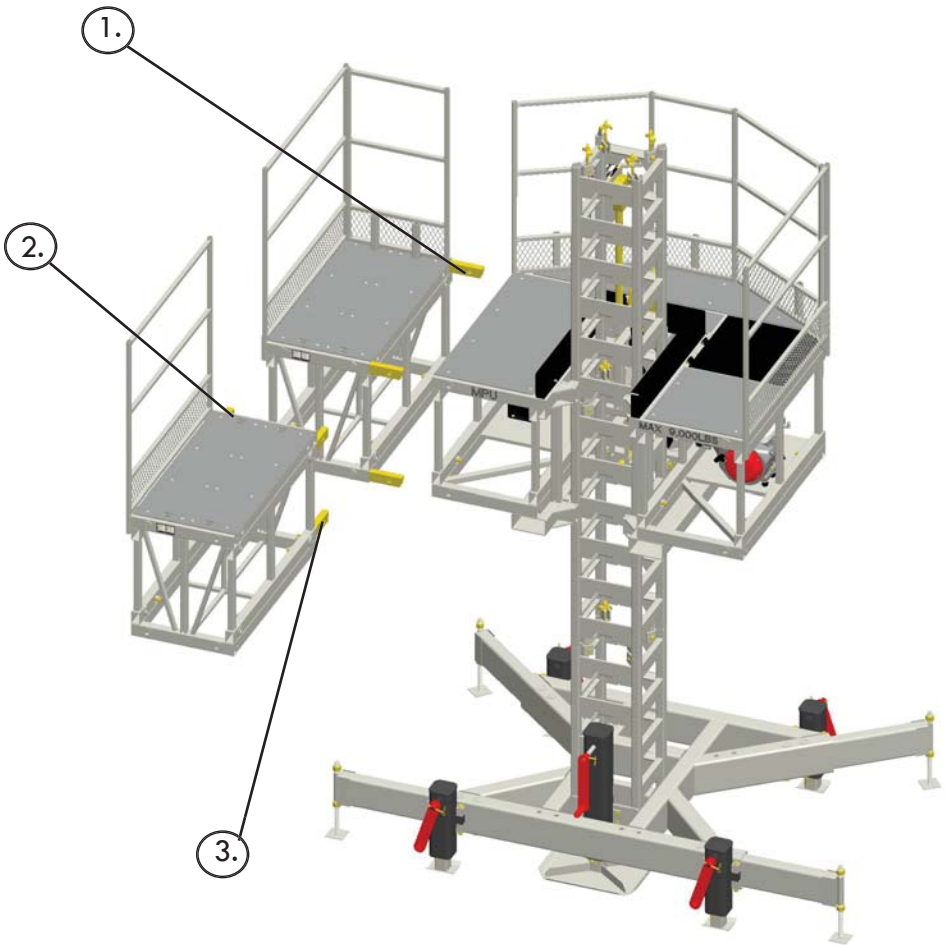
Assembly

NEVER place hands or arms between bridges when connecting bridges.

A) Extending from the end of the MPU:

1. Attach a 4' bridge to the end of a MPU. (See cantilever section)
2. Install two (2) Pro bars into the top outrigger pockets, using the angle side in first, and pin the center hole leaving the flat side exposed with 1 hole visible.
3. Install two (2) Pro bars into the bottom outrigger pockets, using the flat side in first, and pin the center hole leaving the angle side exposed with 1 hole visible.

Continue to assemble the extension bridges as described until the maximum (2) forward extension and (1) for counter balance at the rear are assembled.



LINKED BRIDGE

Linked units are created by rigidly attaching units and bridges as follows:

CONTACT PREMIER SCAFFOLD SOLUTIONS BEFORE BUILDING A LINKED UNIT.

Assembly

NEVER place hands or arms between bridges when connecting bridges.

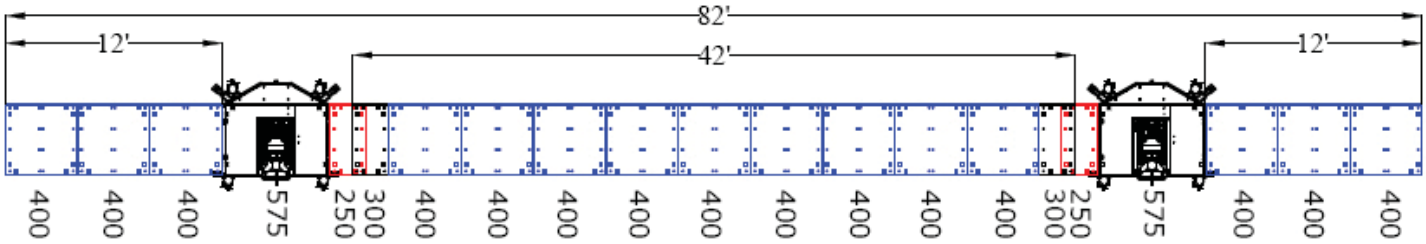
1. Insert the angle side of the pro bar all the way into the top & bottom pockets of the bridge and secure the "center hole" of the pro bar in place with the pro bar pins.
2. Using slings through the frame, suspend the bridge from a fork lift or crane. Maneuver the bridge so the Pro Bars slide into the pockets.
3. Adjust the bridge until the Pro Bar hole lines up with the **top** holes of the MPU or bridge.
4. Insert Pro Bar pins through the bridge and Pro Bar holes securing them with lynch pins.
5. Using a forklift or crane, adjust the end of the bridge up or down until the bottom connection holes align.
6. Insert Pro Bar pins through the bridge and Pro Bar holes securing them with lynch pins.
7. Repeat steps 2-8 to connect up to 16' of bridge and another MPU.
8. Connect control boxs with linking cord.
9. Use flow meter to control hydraulic flow of both engines.

FLOW METER

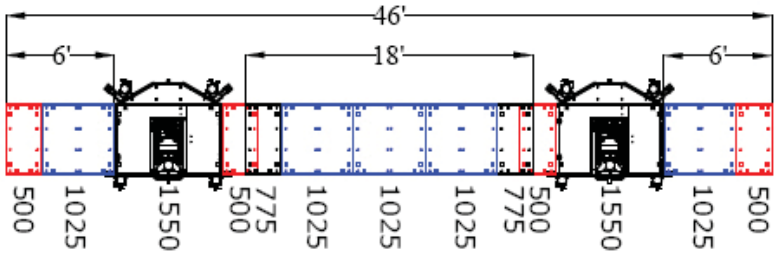
BEARING MODE LOAD CHART

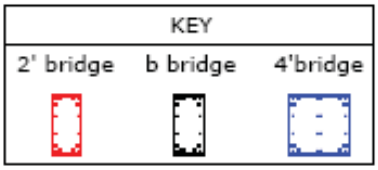
Examples of typical setups. Weight in pounds and rounded down for added safety.

Ex. #1



Ex. #2





Load Calculation:

To calculate the load rating on your setup, use the following calculation. Note: your setup may be different and load ratings will change based on configuration being used.

((Max. unit load - bridge weight)/total linear feet) x bridge length = Load Rating

Using Example #2, the load rating will be calculated as follows:

Step 1: Calculate the max. unit load. In example #2 there is 2 power units, so the max. unit load will be 2 x 8,000 totaling 16,000.

Step 2: Calculate the total bridge weight. Example #2 has (4) 2' bridges, (2) bearing bridges, (5) 4' bridges.

2' bridge: 4 x 375 = 1,500

B bridge: 2 x 350 = 700

4' bridge: 5 x 400 = 2,000

Total Bridge Weight = 4,200

Step 3: Calculate the length of the setup. Total linear feet in example #2 is 46.

Now plug this information into the formula above.

((Max. unit load (16,000) - bridge weight (4,200) / total linear feet (46)) x bridge length = load rating

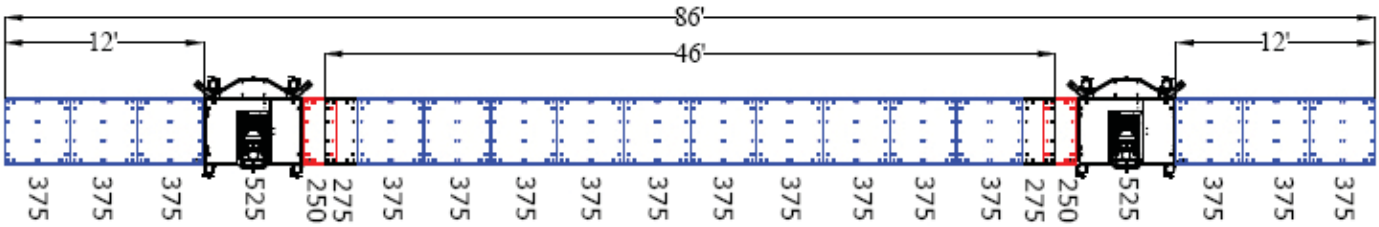
Subtract 16,000-4,200=11,800. Divide 11,800 by 46 = 256.52

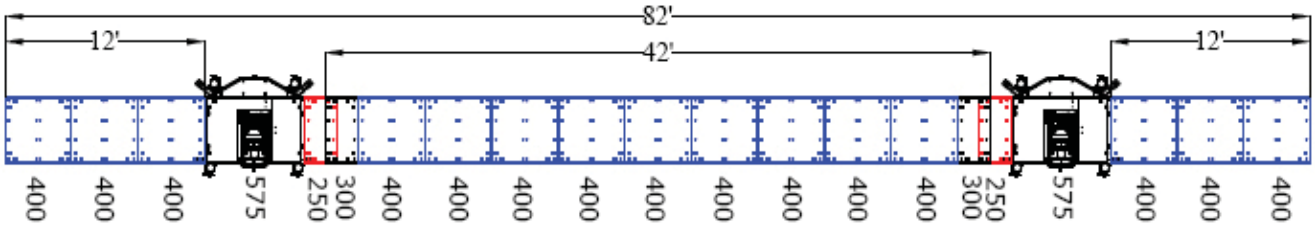
Now take 256.52 and multiply by a bridge length to figure a section load rating.

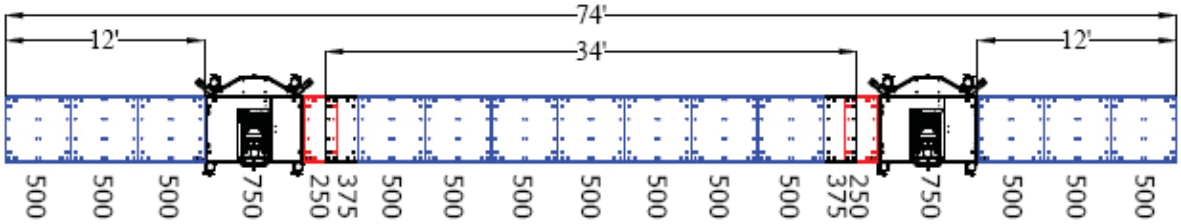
4 x 256.52 = 1,026.08

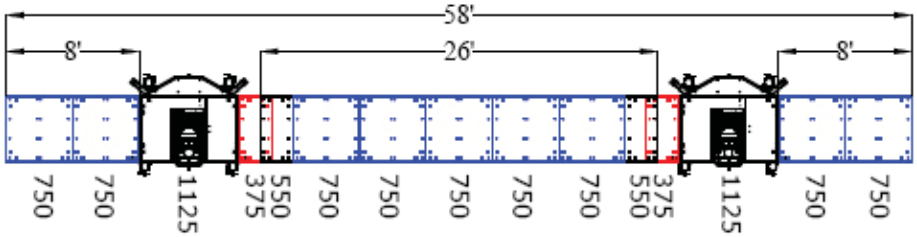
BEARING MODE LOAD CHART

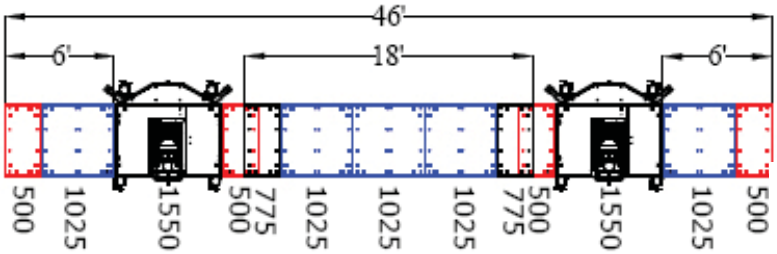
Examples of typical setups. Weight in pounds and rounded down for added safety. Distribute loads evenly.

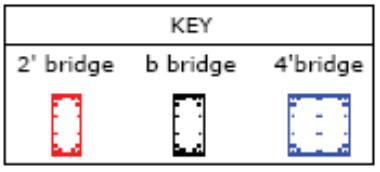








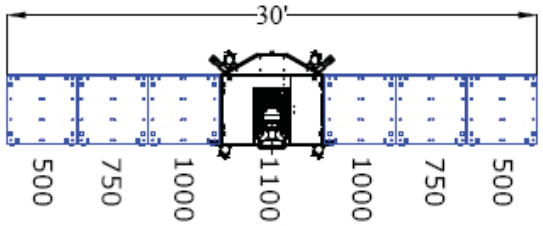




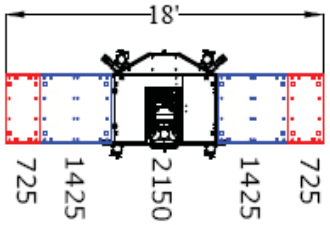
CANTILEVER MODE LOAD CHART

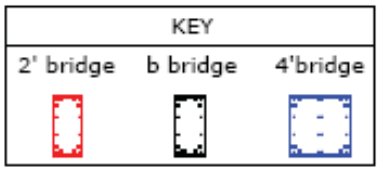
Examples of typical setups. Weight in pounds and rounded down for added safety.

Ex. #1



Ex. #2





Load Calculation:

To calculate the load rating on your setup, use the following calculation: Note: your setup may be different and load ratings will change based on configuration being used.

((Max. unit load - bridge weight)/total linear feet) x bridge length = Load Rating

Using Example #2, the load rating will be calculated as follows:

Step 1: Calculate the max. unit load. In example #2 there is 1 MPU, so the max. unit load will be 8,000.

Step 2: Calculate the total bridge weight. Example #2 has (2) 2' bridges, (0) bearing bridges, (2) 4' bridges.

2' bridge: 2*375 = 750

B bridge: 0*350 = 0

4' bridge: 2*400 = 800

Total Bridge Weight = 1,550

Step 3: Calculate the length of the setup. Total linear feet in example #2 is 18.

Now plug this information into the formula above.

((Max. unit load(8,000) - bridge weight(1,550) / total linear feet (18)) x bridge length = load rating

Subtract 8,000-1,550=6,450. Divide 6,450 by 18 = 358.33

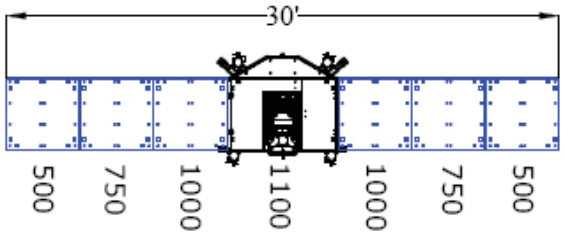
Now take 358.33 and multiply by a section length to figure a bridge load rating.

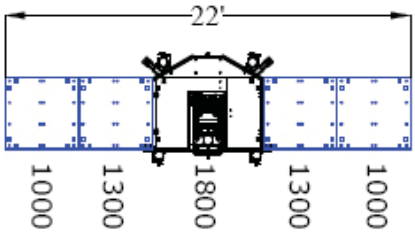
4 x 358.33 = 1,433.33

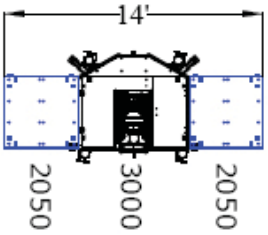
A 4' bridge in this example would have a load rating of 1,433.33.

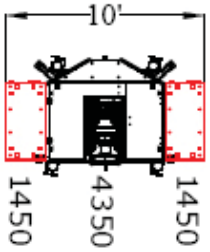
CANTILEVER MODE LOAD CHART

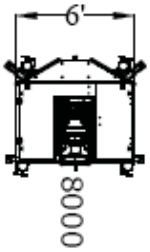
Examples of typical setups. Weight in pounds and rounded down for added safety.

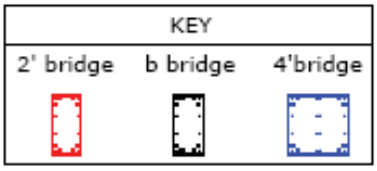








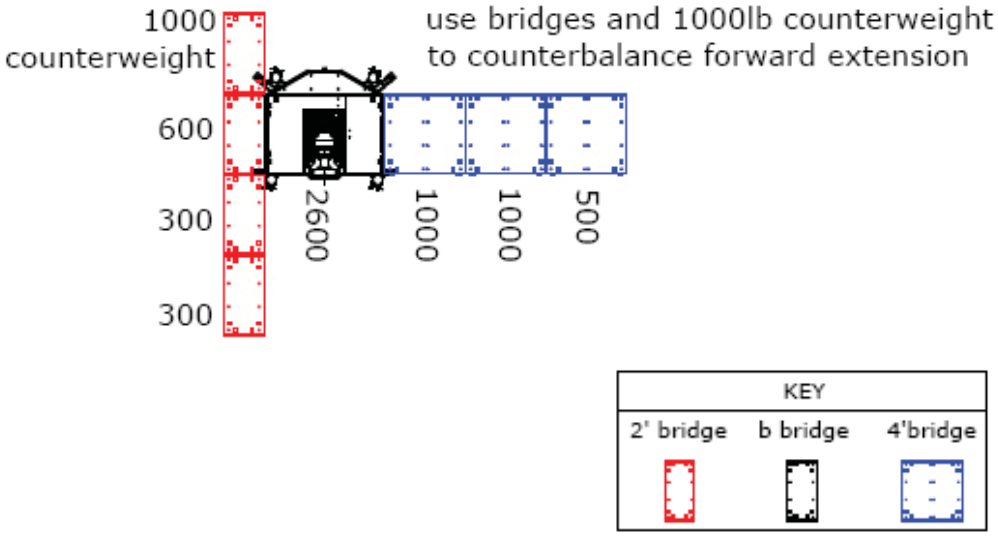




EXTENSION MODE
LOAD CHART

Examples of typical setups. Weight in pounds and rounded down for added safety.

Ex. #1



Load Calculation:

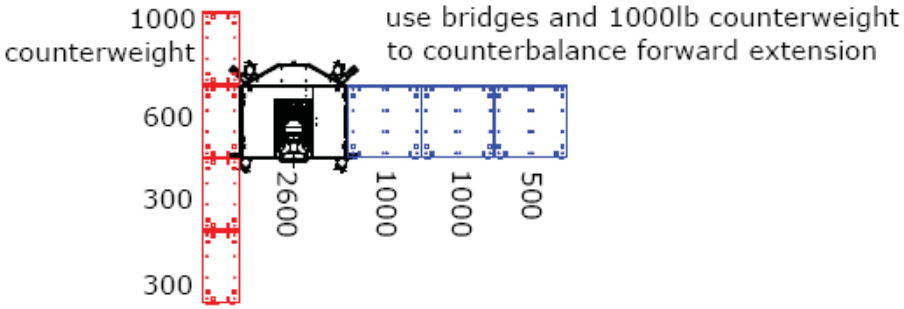
Use load ratings given in above examples. Forward extensions must be counterbalanced with cantilever or bearing bridges on opposite side.
Using example #1 the counterbalance will be calculated as follows.

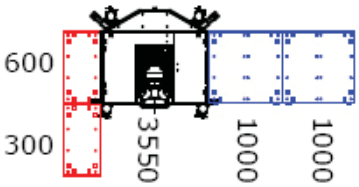
Step 1: calculate the total bridge weight. Example #1 has (4) 2' bridges, and 1,000 counterweight.
2' bridge: 4 x 375 = 1,500
counterweight = 1,000
load rating = 1,200 (sum of individual bridge load ratings, 300+300+600)
Total Extension Weight= 3,700

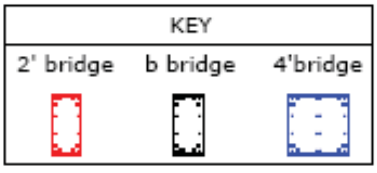
Step 3: Find counter balance. The counter balance will be made up of bridges and counterweights. This will vary depending on the available bridging options. In this example the maximum amount of bridging will be used. If less bridging is available the counterweight will need to increase by the amount of the bridge weight.
4' bridge: 3 x 400 = 1,200
load rating = 2,500 (sum of individual bridge load ratings, 1,000+1,000+500)
counterweight = 0
Total Counter Balance = 3,700

EXTENSION MODE
LOAD CHART

Examples of typical setups. Weight in pounds and rounded down for added safety.



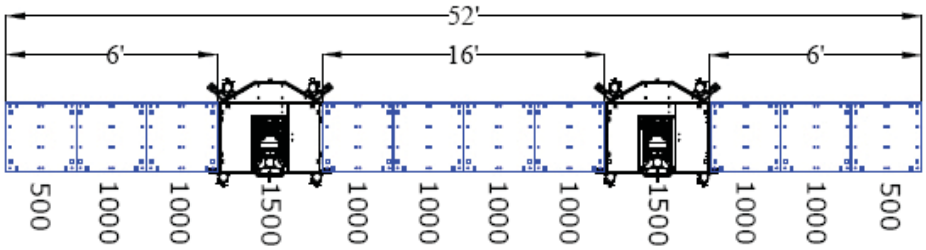




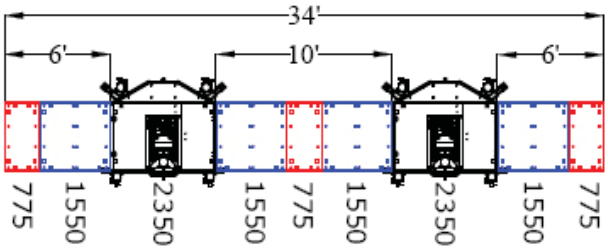
LINKED MODE LOAD CHART

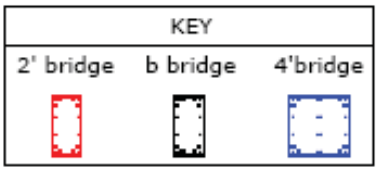
Examples of typical setups. Weight in pounds and rounded down for added safety.

Ex. #1



Ex. #2





Load Calculation:

To calculate the load rating on your setup, use the following calculation. Note: your setup may be different and load ratings will change based on configuration being used.

((Max. unit load - bridge weight)/total linear feet) x bridge length = Load Rating

Using Example #2, the load rating will be calculated as follows:

Step 1: Calculate the max. unit load. In example #2 there is 2 power units, so the max. unit load will be 2 x 8,000 totaling 16,000.

Step 2: Calculate the total bridge weight. Example #2 has (3) 2' bridges, (0) bearing bridges, (4) 4' bridges.

2' bridge: 3 x 375 = 1,125

B bridge: 0 x 350 = 0

4' bridge: 4 x 400 = 1,600

Total Bridge Weight = 2,725

Step 3: Calculate the length of the setup. Total linear feet in example #2 is 34.

Now plug this information into the formula above.

((Max. unit load (16,000) - bridge weight (2,725) / total linear feet (34)) x bridge length = load rating

Subtract 16,000-2,725=13,275. Divide 13,275 by 34 = 390.44

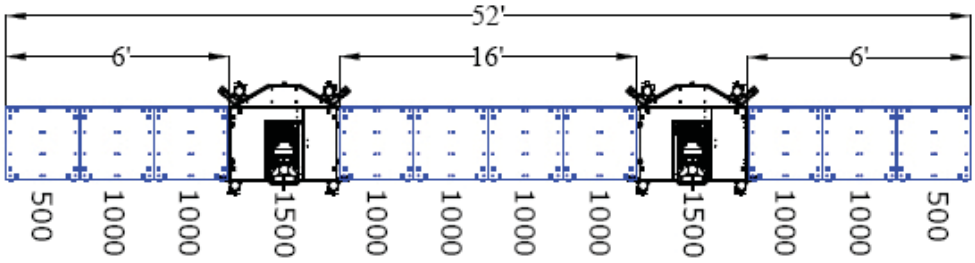
Now take 390.44 and multiply by a bridge length to figure a section load rating.

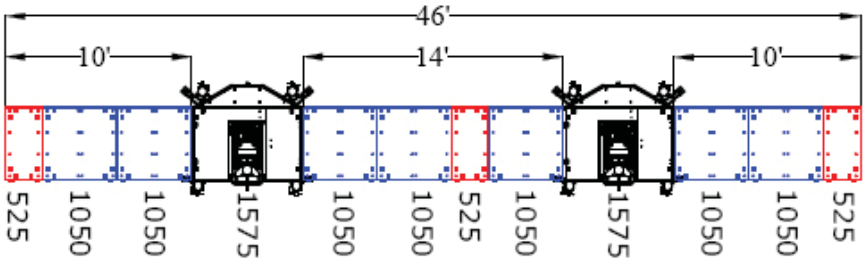
4 x 390.44 = 1,561.76

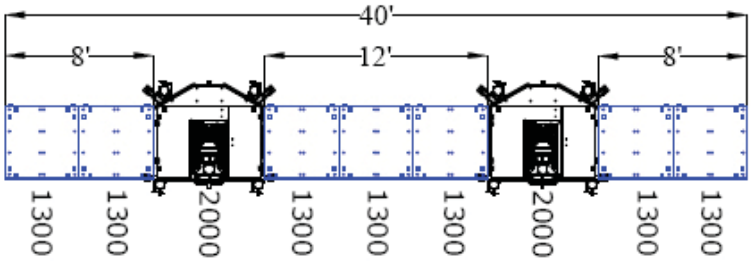
A 4' bridge in this example would have a load rating of 1,561.76.

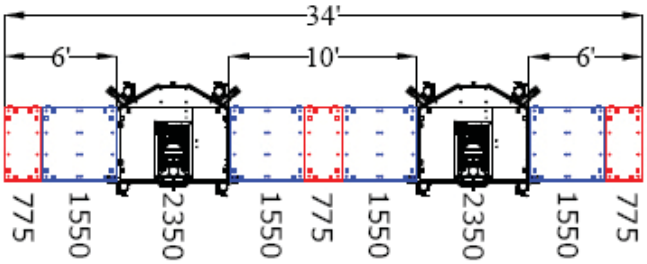
LINKED MODE
LOAD CHART

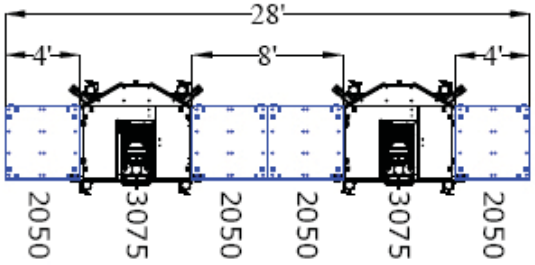
Examples of typical setups. Weight in pounds and rounded down for added safety.

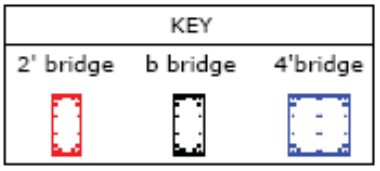






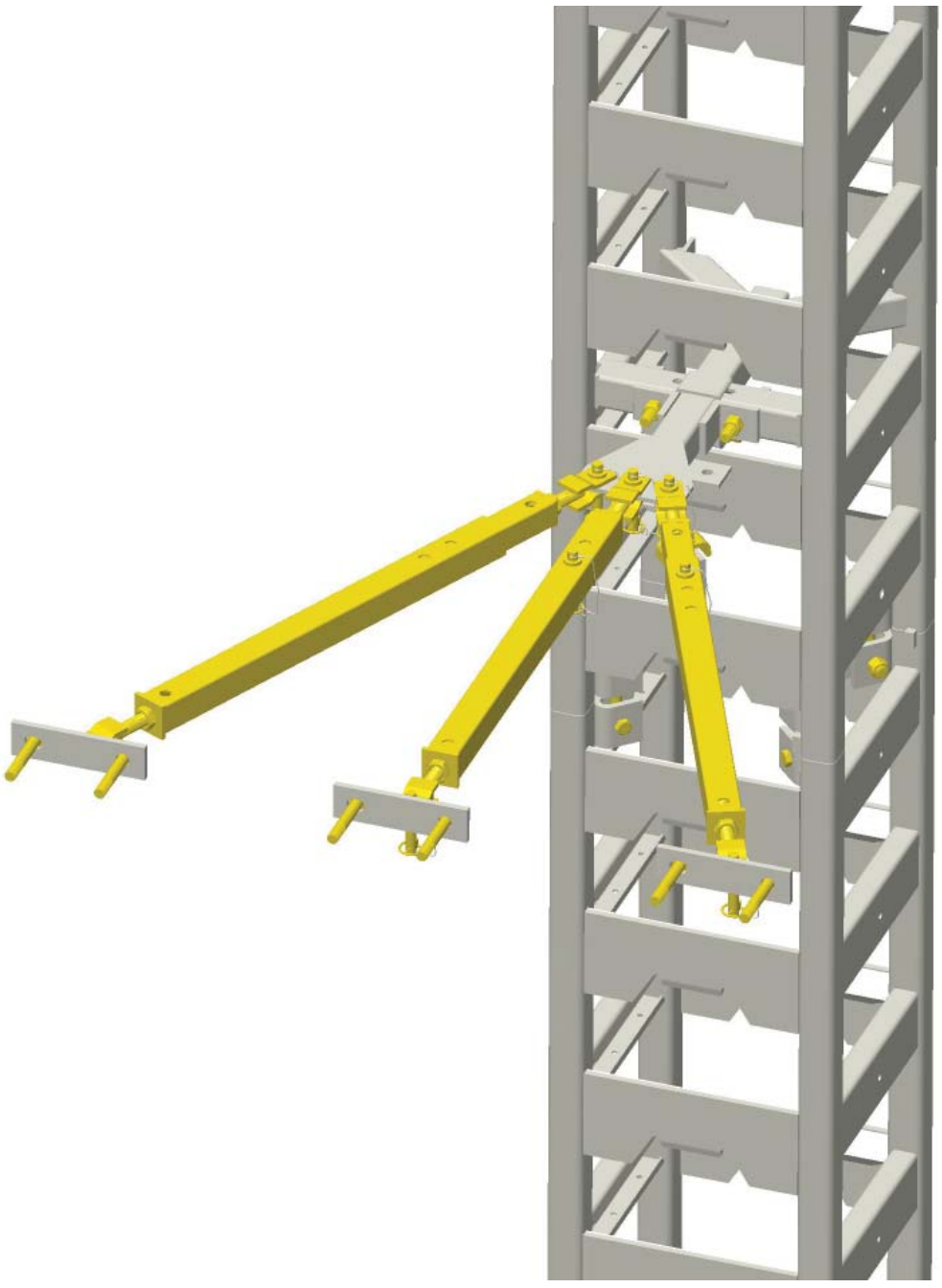




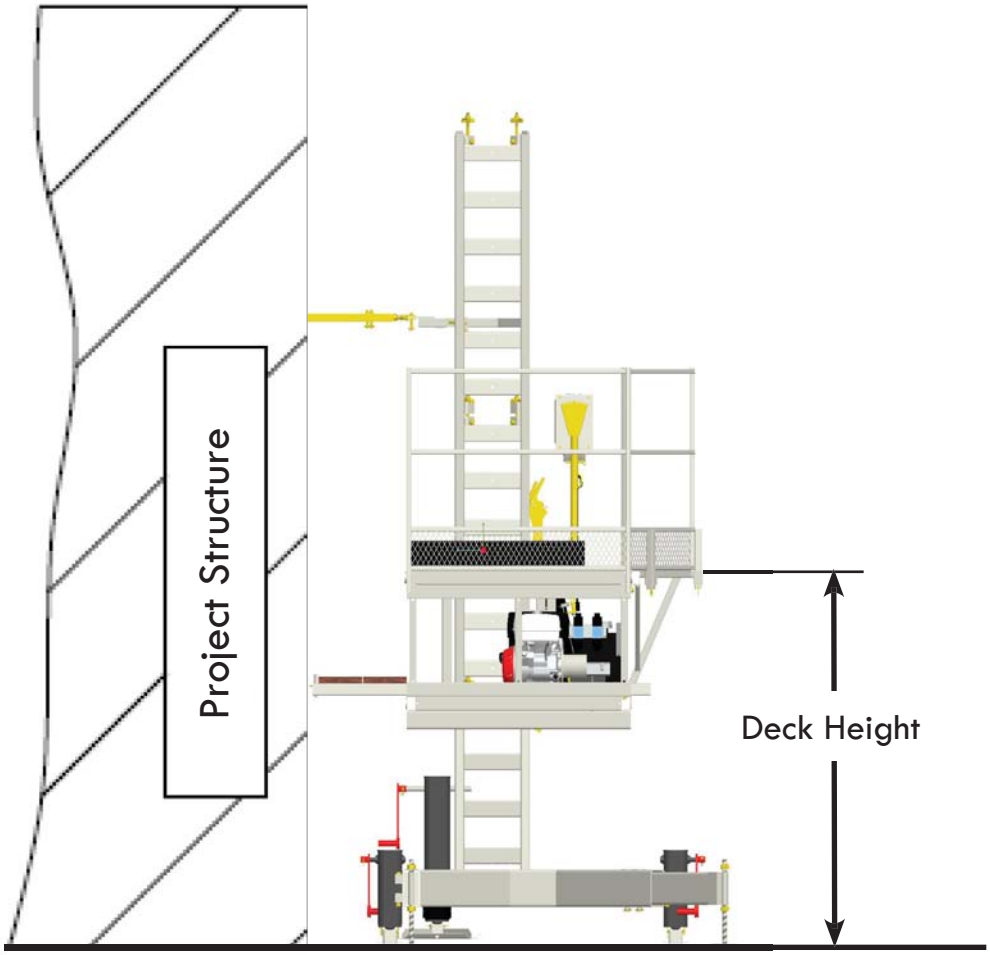


CHAPTER 7
TYING THE PLATFORM

- Wall Tie Schedule
- Wall Tie Installation Procedures
- Stiff Arm Extensions
- Floor Mounts
- Anchors

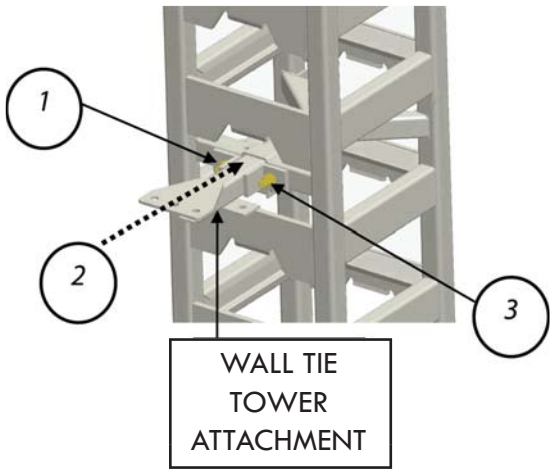


Wall Tie Schedule		
MPU Height	Standard set up (2 planks) Forward of the MPU	Set up with weather protection, forward extension or 4 planks
0-25’	Free Standing	Not Free Standing
26’-250”	Every 20’ (1)	Every 10’ (2)
(1) The wall tie can be 30’ if towers are pre installed to top of building. (2) The wall tie can be 20’ if towers are pre installed to top of building		
WARNING! Do not use the MPU when wind speed exceeds 35 miles/hour or when wind speed exceeds 20 miles/hour when using weather protection. During pre installation or dismante of wall ties all bridging must be disconnected.		

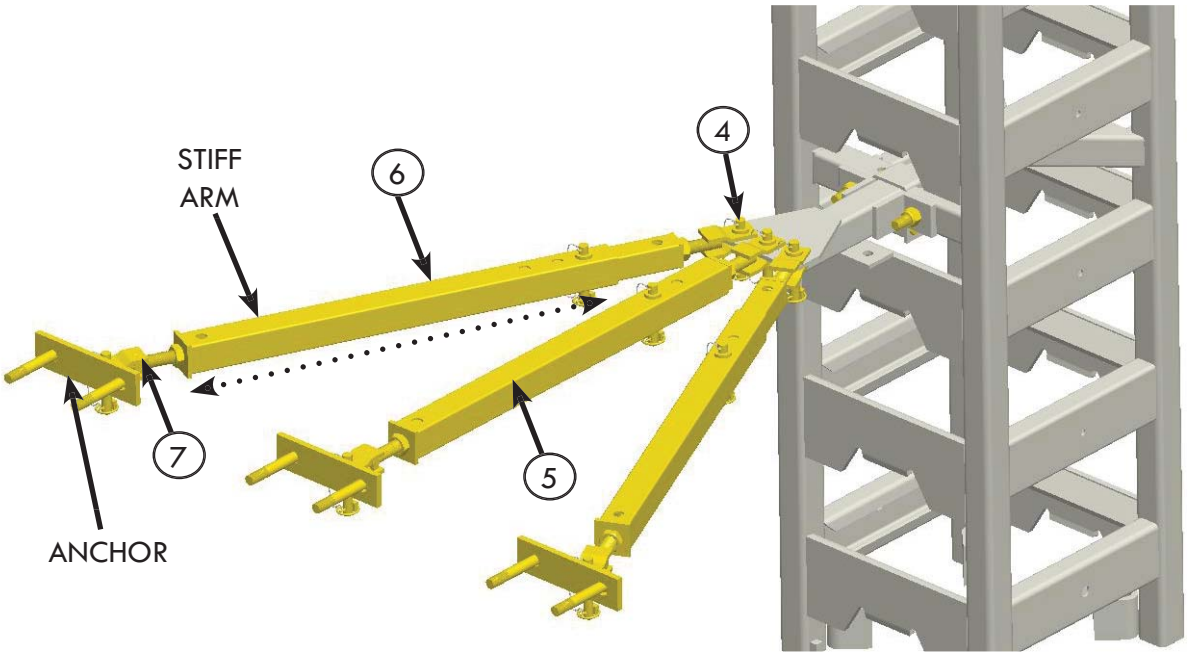


WALL TIE INSTALLATION PROCEDURES

1. Loosen bolts on the wall tie tower attachment. Separate the wall tie tower attachment. (This enables you to easily fit it into the tower).
2. Slide the wall tie tower attachment assembly into the tower diagonally, making sure to install the tower attachment as close as possible to the upper rung to avoid interference with feet while climbing the tower. (Reassemble the wall tie tower attachment).
3. Tighten the bolts on the wall tie tower attachment until the attachment holds the tower firmly.

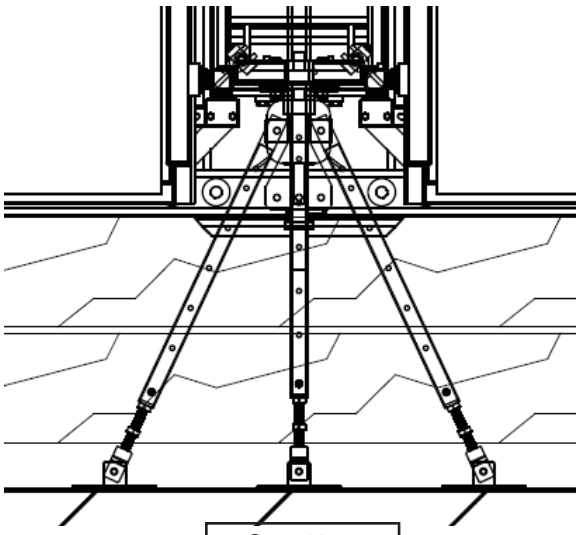


4. To attach the stiff arms to the wall tie tower attachment, use clevis pins and hitch pin clips.
5. Attach the straight stiff arm to the structure, ensuring proper distance between tower and the finished wall. This will also help with keeping towers plumb to the finished wall.
6. Attach next stiff arm to either side of the straight stiff arm to create a 25° angle. A stiff arm will be placed on both sides of the straight stiff arm.
7. Pin the stiff arms to the anchors and adjust the length using sliding tube and threaded rod/nuts until both towers are perfectly vertical on front (plumb) and side axis (parallel with other tower and straight).

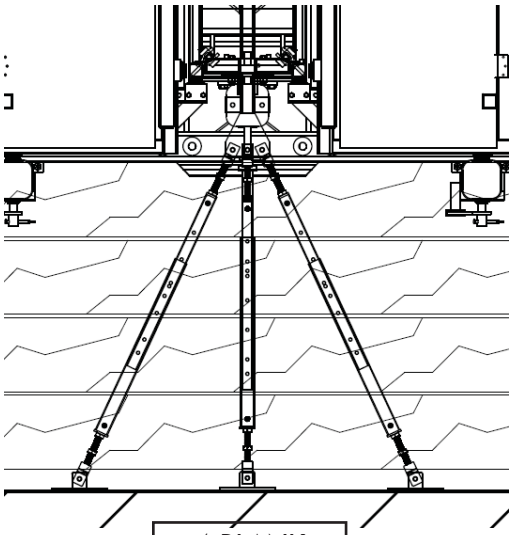


WALL TIE SETUPS

The typical male to female adjustable stiff arms can reach distances between 28” and 52”. For distances over 52” contact PREMIER.



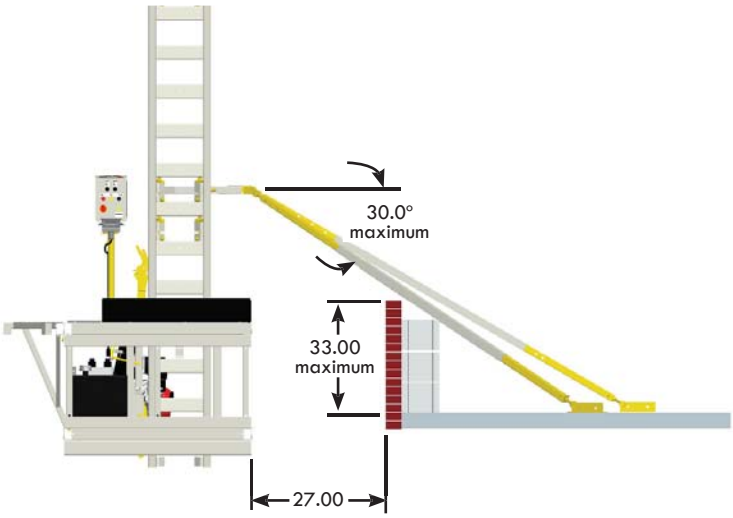
2 PLANK

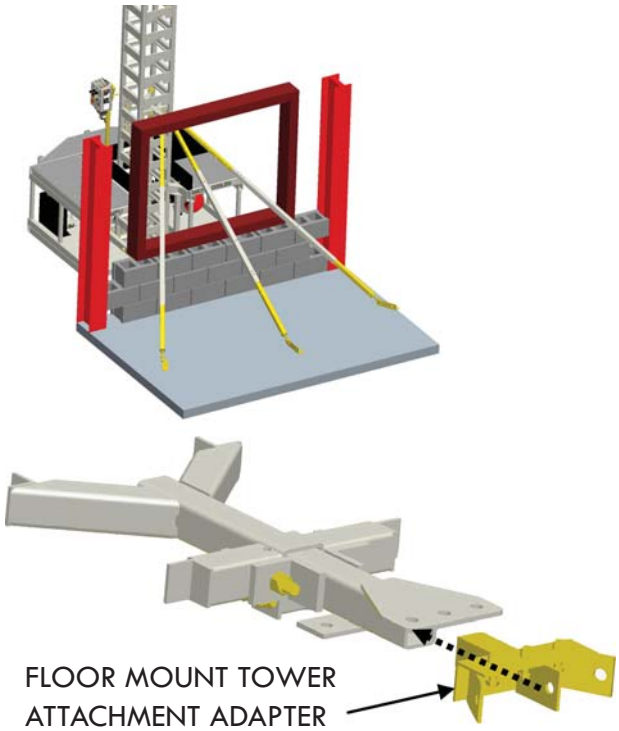


4 PLANK

Floor Mounts

Angle brackets may be required for installing stiff arms through window openings. Floor or wall type anchors will need to be used for this type of application with the floor mount tower bracket adapter. Also note that the maximum allowable angle between the floor and tower rungs is 30 degrees.

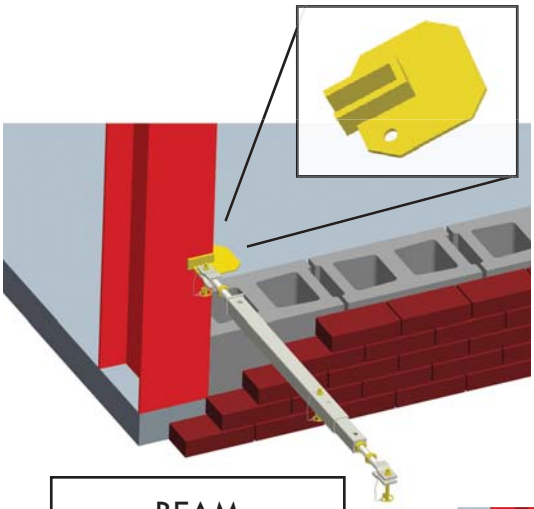




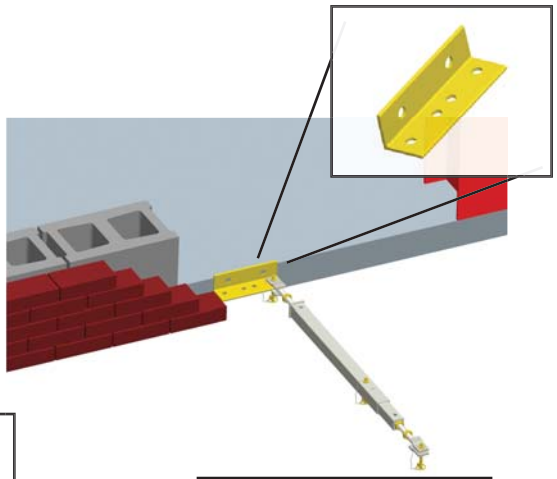
FLOOR MOUNT TOWER
ATTACHMENT ADAPTER

ANCHORS

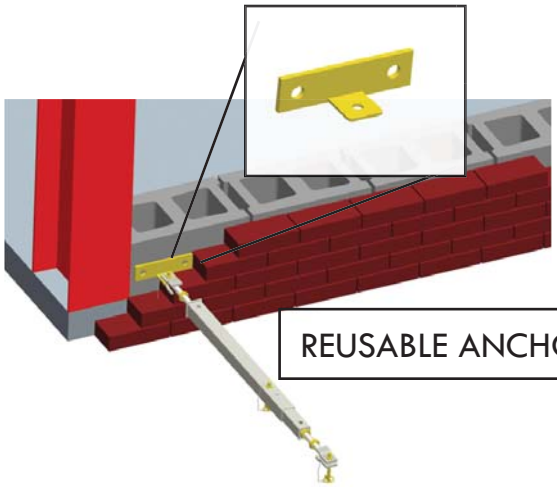
Before attaching towers to the building using the wall tie system, it will be necessary to install anchors to a solid building structure. Concrete slabs, columns, steel beams, relief angles and other structural members can be used provided that a 3,000 lb tension/compression and 1,000 lb shear force can be applied. Use 1/2" x 6" fasteners when tying the anchors to the building structure. There are 5 types of anchors you can use depending on the building structure.



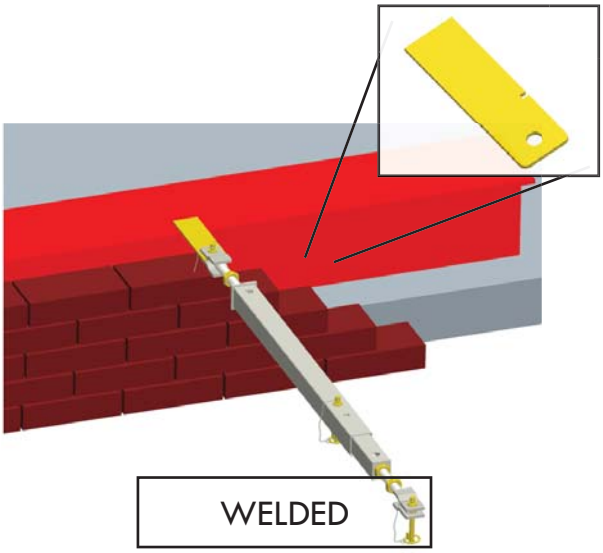
BEAM



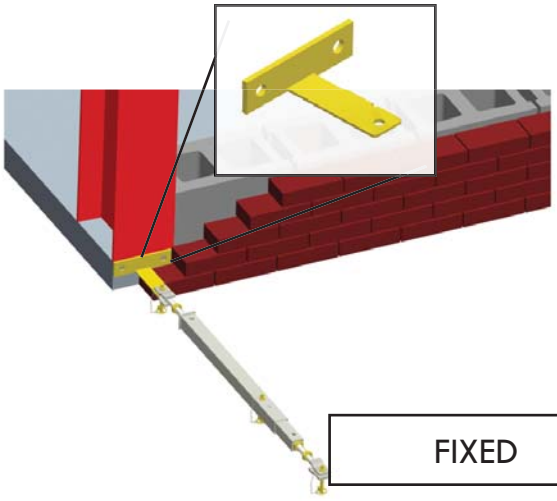
FLOOR OR WALL



REUSABLE ANCHOR



WELDED



FIXED

CHAPTER 8
CHECK LISTS

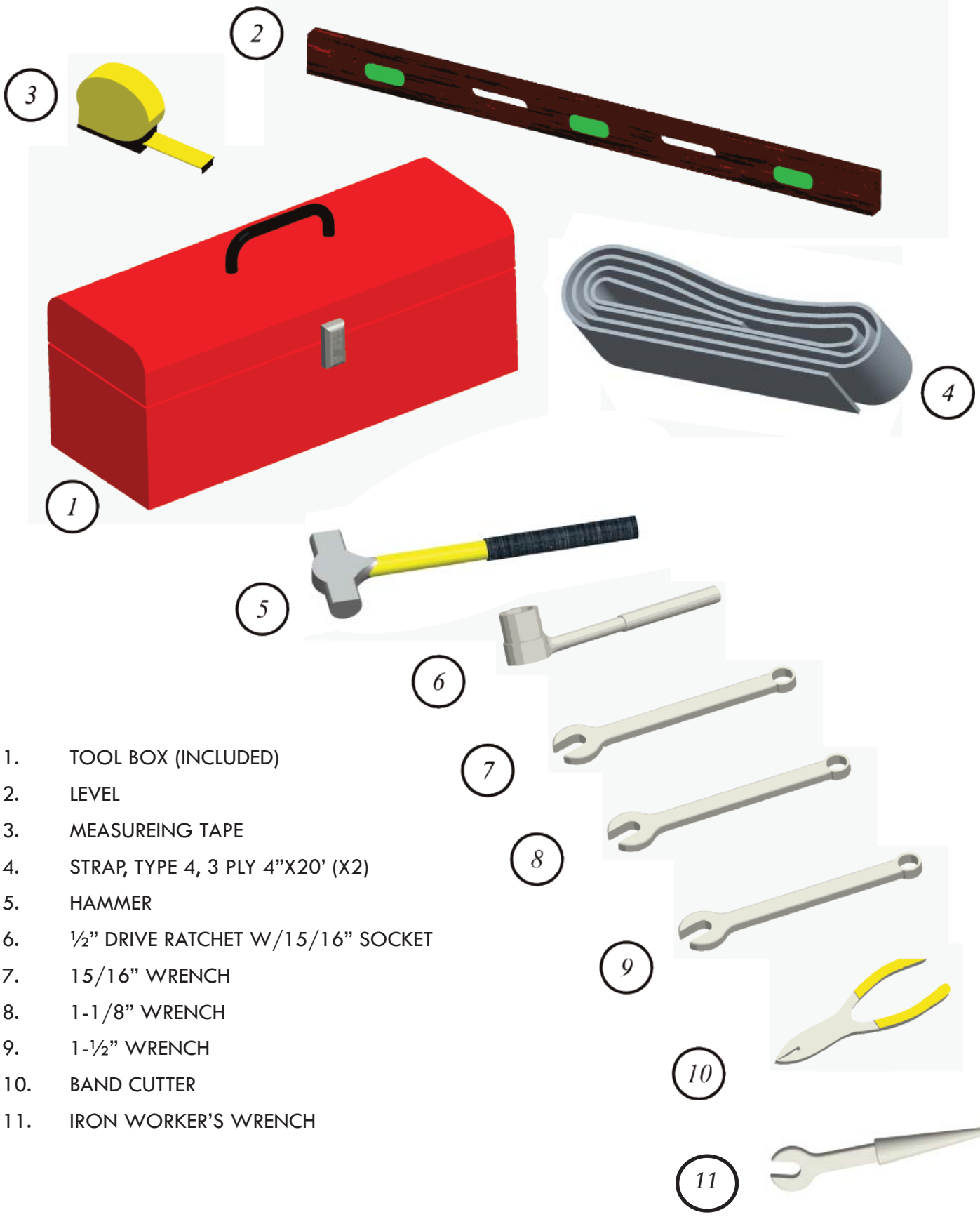
Job Equipment Check List

Miscellaneous		
	5’ Outrigger	
	Cross Box	
	Plank Safety Support	
	Mason Guard Rail	
	Outrigger/Guard Rail Adaptor	
	Weather Protection	

Wall Tie Accessories		
	Adjustable Anchor Male	
	Adjustable Anchor Female	
	Reusable Anchor	
	Welded Anchor	
	Fixed Anchor (3 to 12”)	
	Beam Clamp Anchor	
	Wall Tie Tower Attachment	
	Stiff Arm	
	Stiff Arm Extension	
	Angle Bracket	

Major Components		
	MPU	
	2’ Bridge	
	Bearing Bridge	
	4’ Bridge	
	Tower	

RECOMMENDED TOOLS



1. TOOL BOX (INCLUDED)
2. LEVEL
3. MEASUREING TAPE
4. STRAP, TYPE 4, 3 PLY 4”X20’ (X2)
5. HAMMER
6. ½” DRIVE RATCHET W/15/16” SOCKET
7. 15/16” WRENCH
8. 1-1/8” WRENCH
9. 1-½” WRENCH
10. BAND CUTTER
11. IRON WORKER’S WRENCH

LAYOUT
CHECK LIST

Requestor		Reference Number	
Date Requested		Status	
Date Required		Structure Plan	
Customer Name		Floor Plan	
Project Name		Elevation Plan	

Project Dimensions (Attach Drawing if Possible)		
Side	**Length**	**Height**
1		
2		
3		
4		
5		
6		

Equipment to be Used	
Side	**Equipment**
1	
2	
3	
4	
5	
6	

Notes	

NOTES

NOTES

NOTES

MAINTENANCE LOG

Maintenance	Date	Operator

MAINTENANCE LOG

Maintenance	Date	Operator

MPU

OPERATOR'S MANUAL