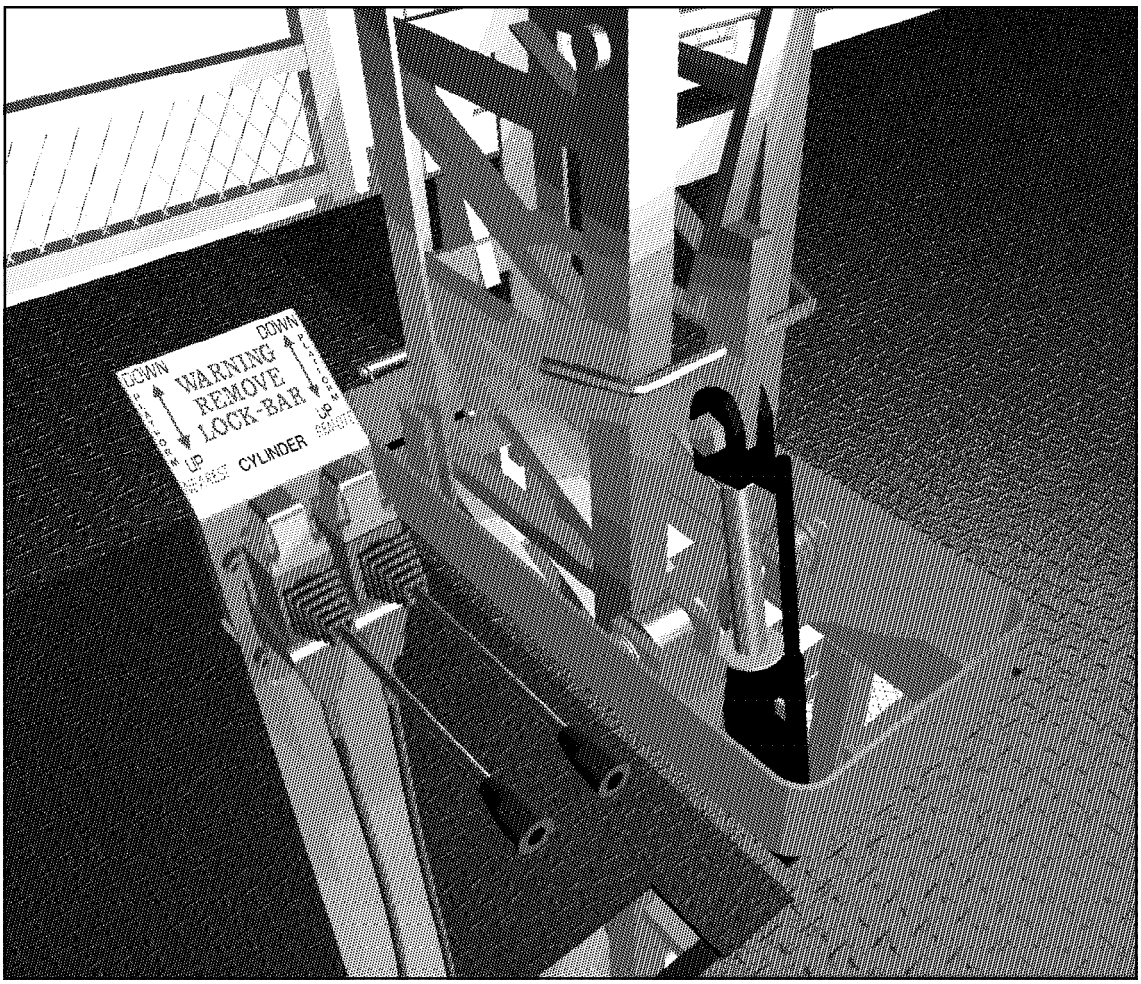
AVANT-GARDE ENGINEERING (1994) INC.

HYDRO MOBILE
WORK PLATFORM

OPERATING INSTRUCTIONS



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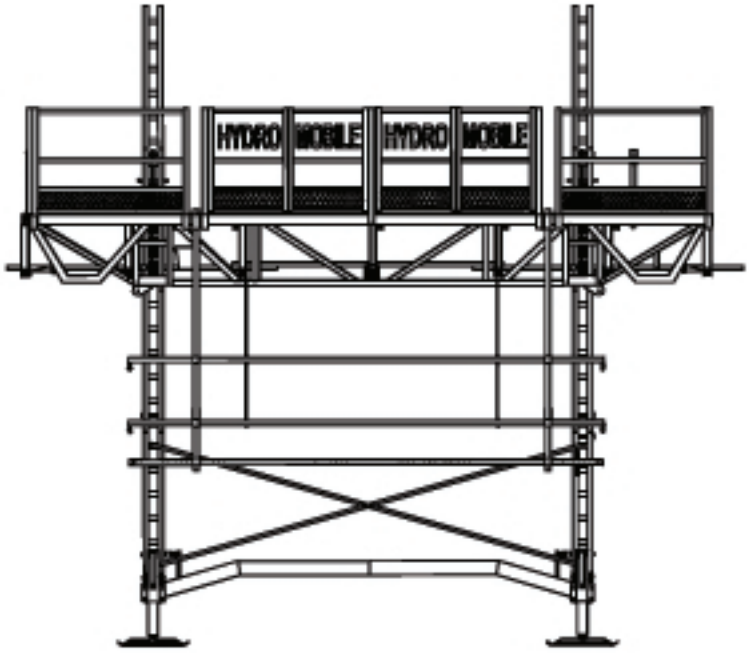
AVANT- GARDE ENGINEERING



INTRODUCTION

DEAR OWNER,

Thank you for buying a Hydro Mobile Scaffolding system. Your new scaffolding system is carefully designed and manufactured to give you superior results and dependable service, if properly operated and maintained. Avant-Garde Engineering is vitally concerned about the safety and well being of its customers. It is the policy of the company to sell quality products that will provide the optimum safety for the users of its products under normal usage. This company is committed to a goal of safe products in a hazard-free environment and, to reach this goal ***we strongly advise our customers to view the technical video, and read the operator's Manual and ANSI/SIA A92.9-1993 STANDARDS FOR MAST-CLIMBING WORK PLATFORMS.***

Please ***carefully*** read this Manual and listen to the Hydro Mobile Technical Video.
They discribe how to safely and easily assemble, operate and maintain your scaffolding system. ***Be sure that you and any other operator read carefully and follow the recommended safety and operating procedures. Failure to do so could result in personal injury or property damage.***
In addition, all Federal Safety & Health Standards must be followed, including Osha 29CFR1926subpart L scaffolds (1926.450 to 1926.454) for Scaffolds.

Avant-Garde Engineering 1994 Inc. can not be held responsible for the user failing to comply with all Federal State & Local Regulations.
Should you ave any questions or problems, please contact our local authorized distributor or Avant-Garde Engineering

Sincerely,

Acknowledgments

This manual was produced by Avant-Garde Engineering.
On QuarkXPress 4.04 for Windows.
Drawings were performed usingMechanical Desktop 3.0

Do not operate or work on the Hydro Mobile work platform unless you have read and understand the instructions and warnings shown in this operator's manual.

AVANT-GARDE ENGINEERING (1994) INC
125, DE L'INDUSTRIE, L'ASSOMPTION, QUÉBEC, CANADA, J5W 2T9
TEL.: 888-484-9376 / FAX.: (450) 589-8102

1-888-40-HYDRO (1-888-484-9376)

WARRANTY AND LIMITATION

Avant-Garde Engineering (1994) Inc., hereinafter referred to as Avant-Garde, warrants new products to be free from defects in material or workmanship for a period of one year, after date of delivery to the first user, or a maximum of eighteen months after date of delivery to the authorized distributor:

Avant-Garde's obligation and liability under this warranty is expressly limited to repairing or replacing with re-manufactured or new, at Avant-Garde's option, any parts which appear to Avant-Garde upon inspection to have been defective in material or workmanship. Such parts shall be provided at no cost to the user, F.O.B. Avant-Garde's parts facility, or other source at Avant-Garde's option.

Avant-Garde shall pay, to the extent established by it in its applicable service policy in effect at the time of delivery, the cost to install any repaired or replacement part provided under this warranty. The cost of any such work will only be paid by Avant-Garde if a written authorization has been granted prior to it's beginning.

This warranty shall not apply to component parts or accessories of products not manufactured by Avant-Garde and which carry the warranty of the manufacturer thereof or to normal maintenance (such as engine tune-up) or to normal maintenance parts, AVANT-GARDE MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

AVANT-GARDE's obligation under such warranty shall not include duty, taxes or any other charge whatsoever, or any liability for direct, indirect, incidental or consequential damage or delay. If requested by AVANT-GARDE, products or parts for which a warranty claim is made are to be returned, transportation prepaid 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 capacity, substitution of parts approved by AVANT-GARDE, including anchors, or any alteration, modification or repair by others in such manner as in AVANT-GARDE's judgment affects the Product materially and adversely, shall void this warranty.

NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY, UNLESS CHANGE IS MADE IN WRITING AND SIGNED BY AN OFFICER OF AVANT-GARDE AT ITS HOME OFFICE.

Jean G. Robillard, Eng.
President

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Chapter 2 **Motorized units**
Chapter 3 **Wall ties**
Chapter 4 **Bridges**
Chapter 5 **Extensions**
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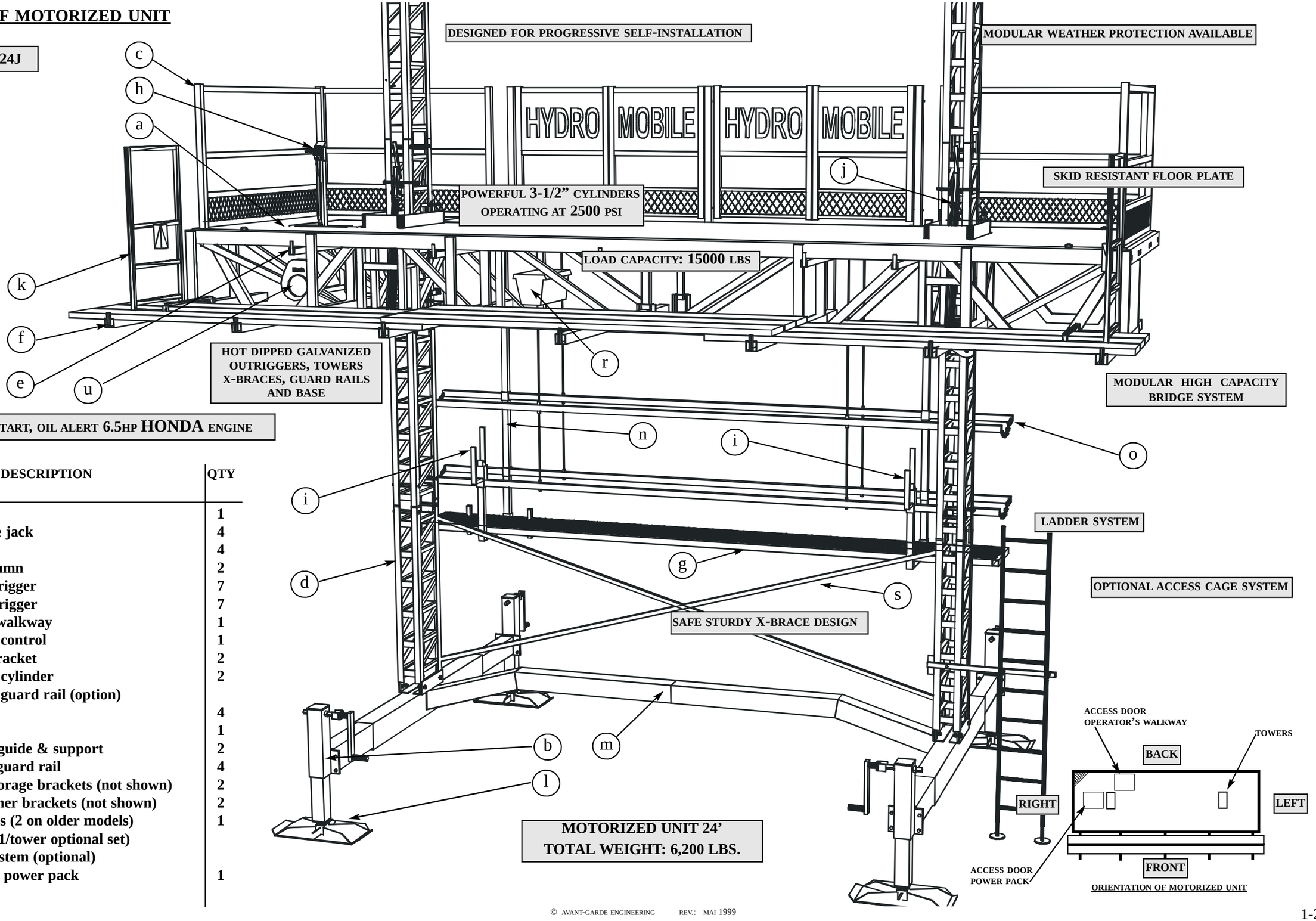
Chapter 7 **Insulator's brackets**
Chapter 8 **Front / rear wheel assemblies**
Chapter 9 **Capacities and weight**
Chapter 10 **Maintenance / trouble shooting**

OVERVIEW OF MOTORIZED UNIT

MODEL MU724J



DESCRIPTION	QTY
a- Platform	1
b- Adjustable jack	4
c- Guard rail	4
d- Tower column	2
e- Upper outrigger	7
f- Lower outrigger	7
g- Operator walkway	1
h- Hydraulic control	1
i- X-brace bracket	2
j- Hydraulic cylinder	2
k- Plank end guard rail (option)	
l- Mud sill	4
m- Base	1
n- Lowering guide & support	2
o- Walkway guard rail	4
p- Wall tie storage brackets (not shown)	2
q- Wall fastener brackets (not shown)	2
r- Tools boxes (2 on older models)	1
s- X-braces (1/tower optional set)	
t- Ladder System (optional)	
u- Hydraulic power pack	1

OVERVIEW OF MOTORISED UNIT

MODEL MU712W

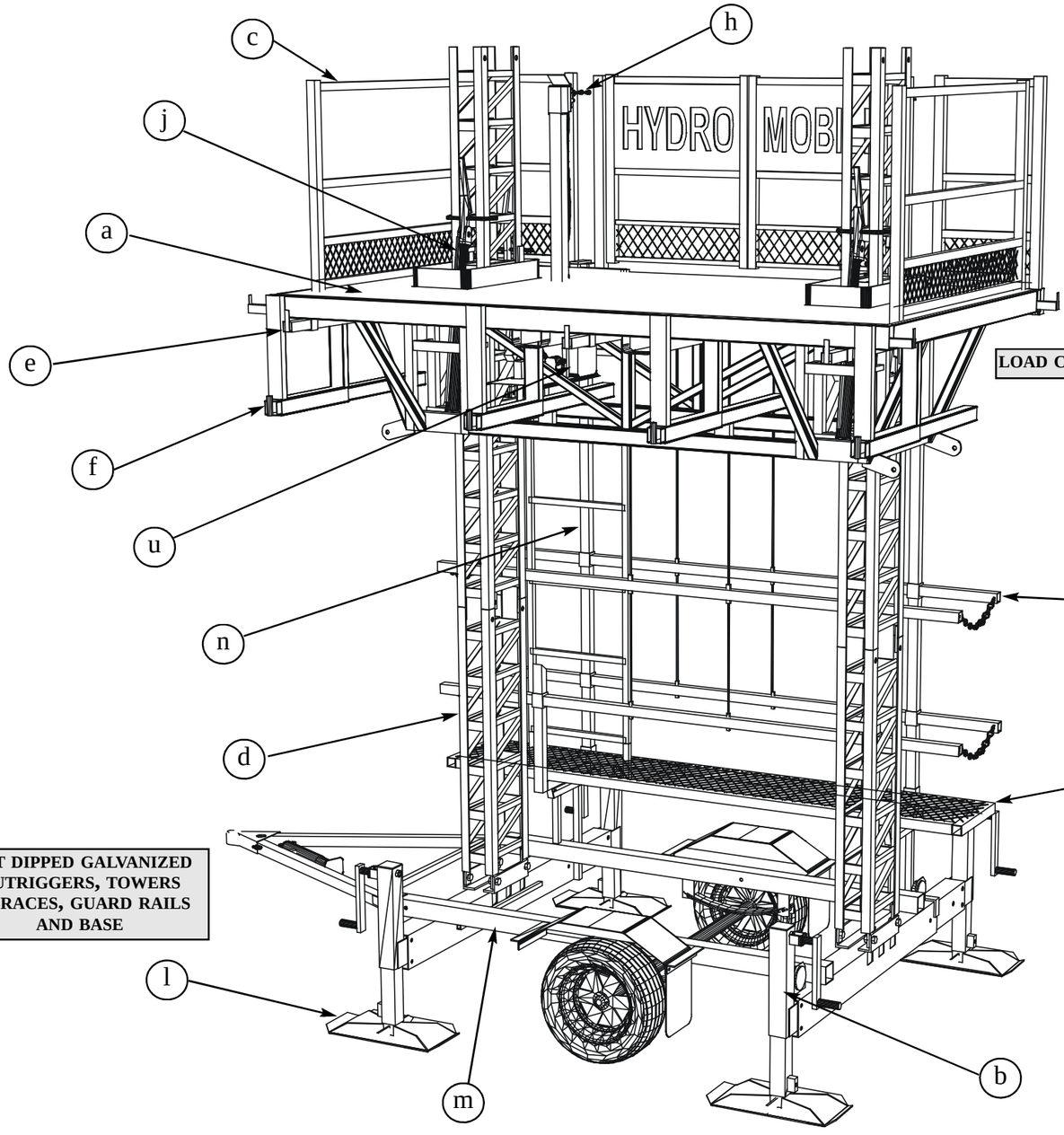
DESIGNED FOR PROGRESSIVE SELF-INSTALLATION

MODULAR WEATHER PROTECTION AVAILABLE FOR BOTH LOW AND HIGH RISE

POWERFUL 3-1/2" CYLINDERS OPERATING AT 2500 PSI

ELECTRIC START, OIL ALERT 6.5HP HONDA ENGINE

DESCRIPTION	QTY
a- Platform	1
b- Adjustable jack	4
c- Guard rail	4
d- Tower column	2
e- Upper outrigger	7
f- Lower outrigger	4
g- Operator walkway	1
h- Hydraulic control	1
i- X-brace bracket (not shown)	2
j- Hydraulic cylinder	2
k- Plank end guard rail (option) (not shown)	
l- Mud sill	4
m- Base	1
n- Lowering guide & support	2
o- Walkway guard rail	4
p- Wall tie storage brackets (not shown)	2
q- Wall fastener brackets (not shown)	2
r- Tools boxes (2 on older models)(not shown)	1
s- X-braces (1/tower optional set)(not shown)	
t- Ladder System (optional)	
u- Hydraulic power pack	1



SKID RESISTANT FLOOR PLATE

MODULAR HIGH CAPACITY BRIDGE SYSTEM

LOAD CAPACITY: 15000 LBS

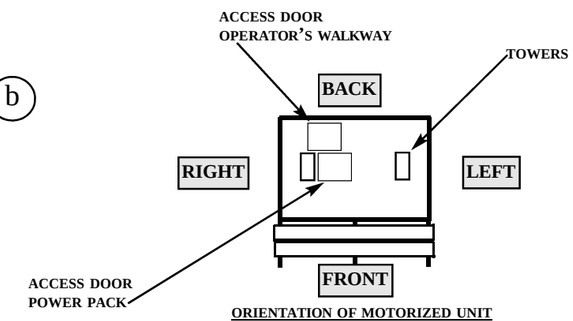
LADDER SYSTEM

OPTIONAL ACCESS CAGE SYSTEM

SAFE STURDY X-BRACE DESIGN

HOT DIPPED GALVANIZED OUTRIGGERS, TOWERS X-BRACES, GUARD RAILS AND BASE

MOTORIZED UNIT 12'
TOTAL WEIGHT: 4600 LBS.



ORIENTATION OF MOTORIZED UNIT

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CHAPTER 1

BASIC FEATURES

A - OVERVIEW OF MOTORIZED UNIT

B - PRELIMINARY RULES

C - IDENTIFICATION OF HOOKS

D- POSITION OF HOOKS ON TOWER COLUMNS

B - PRELIMINARY RULES

INSTALLATION OF SCAFFOLDING

The installation, dismantling, moving, and modification of this system must be done under the supervision of a "Competent Person"* *see page 2-6***. Only employees selected by the competent person shall perform such activities. The competent person must be on site and direct the work.**

1 - CHECK the capacity of the ground at the site, ensure compliance with *Tables 2-10 page 2-4 and 2-13 page 2-5*.

2- PREPARE a plan/layout of how motorized unit(s) will be placed, along with extension(s) and bridge(s) assembled according to the length of wall(s) of the building to be erected.

NOTE: SOME SAFETY ADMINISTRATIONS REQUIRE THAT SUCH A PLAN/LAYOUT BE PREPARED BY A LICENSED ENGINEER. CONTACT AVANT-GARDE ENGINEERING IF REQUIRED.

3 - TAKE NOTE of any element that might interfere with mounting the scaffolding, e.g. ELECTRICAL OR TELEPHONE WIRES, CABLES, TREES, ETC. and make necessary arrangements. Refer to ANSI/SIA A92.9 or your local regulations.

4 - AFTER INSTALLATION, mark "off-limit" areas on site (e.g. snow fencing, barriers, warning tape, signs, etc.)

5 - ESTABLISH the distance between the structure and the platform based on MAXIMUM adjustment of outriggers to 5 ft. taking into account curvatures that must be made around such obstacles as balconies, columns, etc.

6 - ALLOW FOR sufficient supplies of all parts required to mount the scaffolding (towers, anchors, adjustable wall mounts, fasteners, X-braces, etc.).

7 - CHECK type of structure (wood, concrete, steel) on which you will be working in order to determine what type and how anchors will be installed.

8 - NOTE the exact address or location of the site as well as emergency phone numbers. This information should remain available on site as well as at the contractor's office for immediate reference.

9 - NOTE serial numbers of equipment on site, in case you need assistance from our authorized distributor.

10- PLACE warning lines around perimeter of scaffold

11- NEVER substitutes parts for original factory

12- MAKE SURE clearances from electrical lines are to be in accordance with Osha 29CFR1926.451(f)(6) and ANSI 92.9

D - SUMMARY OF EQUIPMENT:

MOTORIZED UNIT MU712W:

Dimensions:	7 ft. x 12 ft.
Weight:	4 500 lb.
Speed of raising/lowering:	36 in./min.
Capacity:	15 000 lb.
Engine:	Honda GX270

MOTORIZED UNIT MU724J:

Dimensions:	7 ft. x 24 ft.
Weight:	6 200 lb.
Speed of raising/lowering:	36 in./min.
Capacity:	15 000 lb.
Engine:	Honda GX270

BRIDGE 2 FT.:

Dimensions:	7 ft. x 29 in.
Weight:	500 lb. with guard rails
Capacity:	*voir Chapter 9*

BRIDGE 6 FT.:

Dimensions:	7 ft. x 6 ft.
Weight:	1 100 lb. with guard rails and bridge yoke
Capacity:	*voir Chapter 9*

BRIDGE 10 FT.:

Dimensions:	7 ft. x 10 ft.
Weight:	1 600 lb. with guard rails and bridge yoke
Capacity:	*voir Chapter 9*

BRIDGE 14 FT.:

Dimensions:	7 ft. x 14 ft.
Weight:	2 100 lb. with guard rails and bridge yoke
Capacity:	*voir Chapter 9*

BRIDGE 18 FT.:

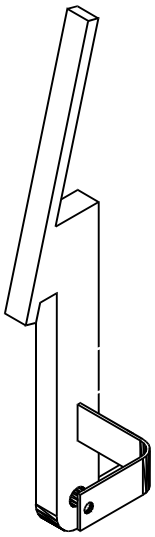
Dimensions:	7 ft. x 18 ft.
Weight:	2 600 lb. with guard rails and bridge yoke
Capacity:	*voir Chapter 9*

BRIDGE 20 FT.:

Dimensions:	7 ft. x 20 ft.
Weight:	2 850 lb. with guard rails
Capacity:	*voir Chapter 9*

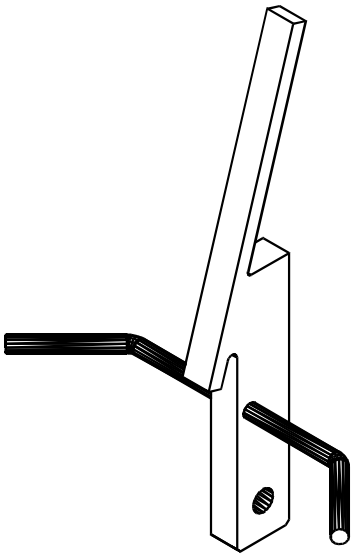
C - IDENTIFICATION OF HOOKS

There are three (3) different hooks on each tower column:



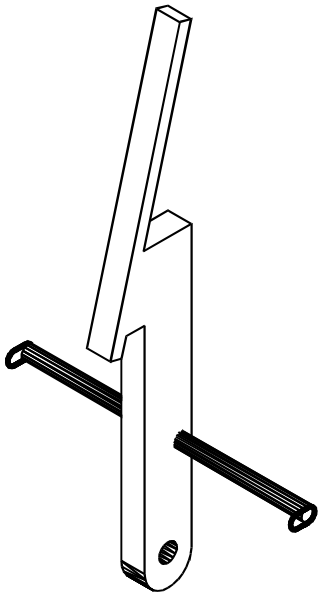
BACK-UP SAFETY HOOK (C)

Figure 1.3



CYLINDER HOOK (B)

Figure 1.4



MAIN SAFETY HOOK (G)

Figure 1.5

D - POSITION OF HOOKS ON TOWER COLUMN

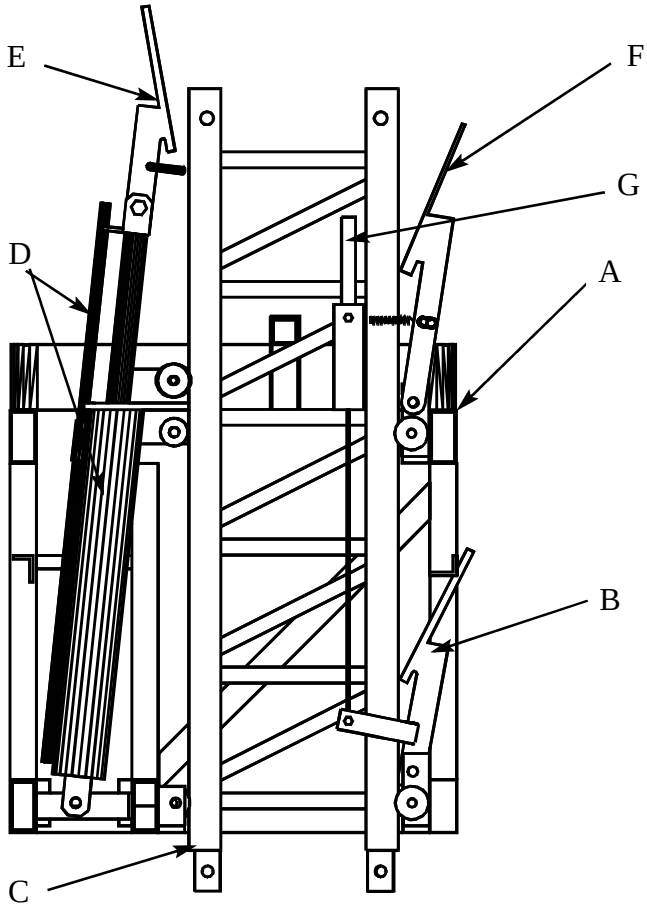


Figure 1.6

A - Platform
B - Back-up safety hook
C - Tower column
D - Hydraulic cylinder
E - Cylinder hook
F - Main safety hook

CAUTION:
Check condition of all hooks daily.

DANGER:
-If damaged, replace hooks with new ones.
None replacement could lead to fatal injuries.

CHAPTER 2

MOTORIZED UNIT

M O T O R I Z E D U N I T

A - POSITIONNING & LEVELLING

B - ENGINE CONTROL INSTRUCTIONS

C - RAISING THE PLATFORM

D - LOWERING THE PLATFORM

E - TOWER INSTALLATION / REMOVAL

F - X-BRACE INSTALLATION / REMOVAL

G - OPERATOR'S WALKWAY

A - POSITIONNING & LEVELLING

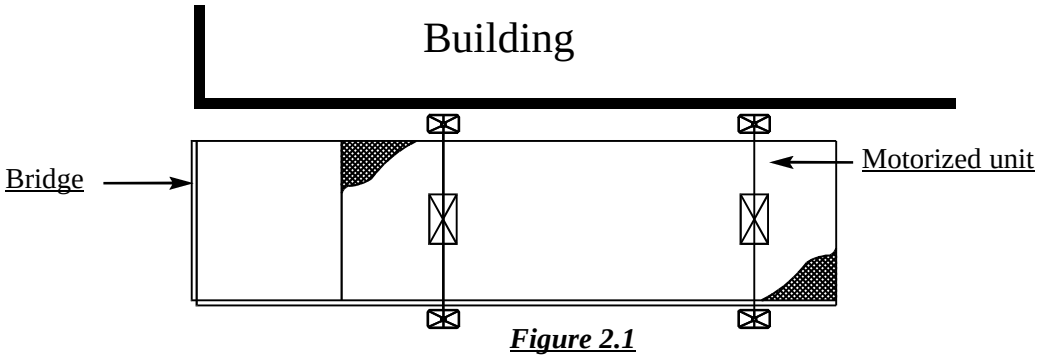


Figure 2.1

1 - In reference to the plan/layout drawing or having otherwise established position of motorised unit, **DETERMINE** where mud sill (support blocks) need to be positioned.

2 - **MAKE SURE** ground is fairly level and clear of debris.

3 - **STAKE** position of mud sills, remembering center to center distances.

Distance from finished wall “D”should be:
number of planks times 10 in. plus 6 in. to 8 in. play.

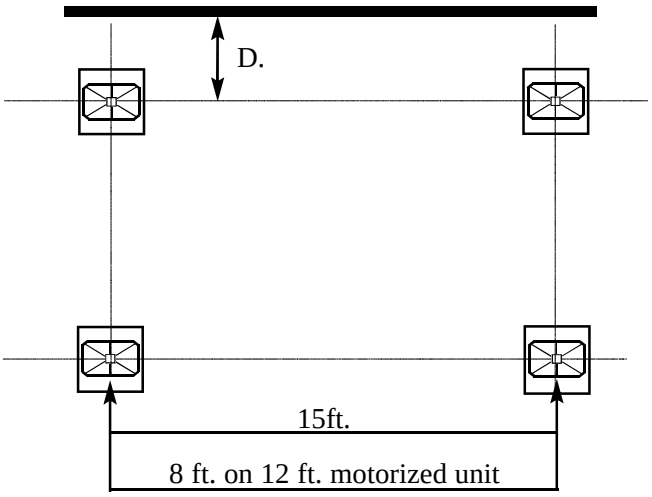


Figure 2.2

Note: It is recommended that gap be kept to a minimum of 6 in. to offset normal leaning, caused by front loading.

4 - **SET** first unit in place, using a lift truck, crane or wheels in using optional wheel sets . In the later case, support blocks may have to be positioned after unit is in place.

CAUTION

Make sure that the soil is level before installing support blocks.

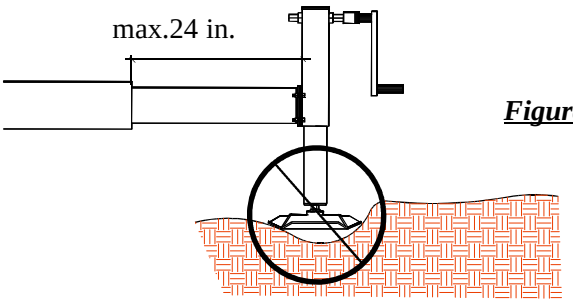


Figure 2.3

NOTE

The first step of levelling can be done with the installation of several support blocks or planks.

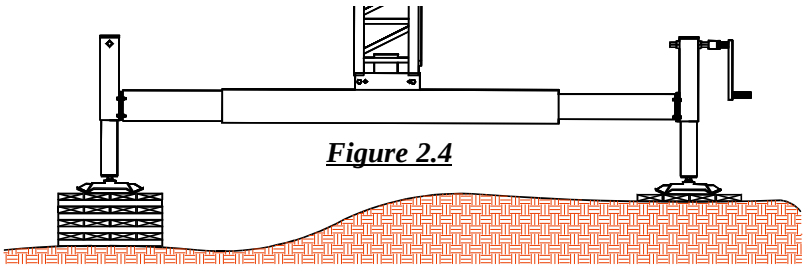


Figure 2.4

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A - POSITIONNING & LEVELLING, CONT'D

CAUTION

Although base is able of enduring some distortion, diagonally opposed ends should not differ in height by more than 2 inches (H1- H2 < = 2 in.)

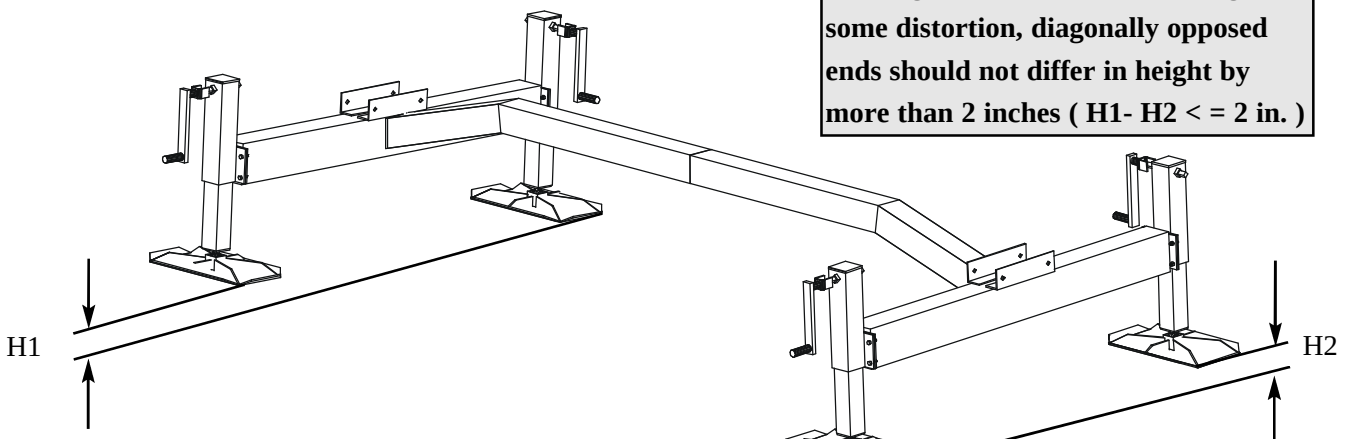
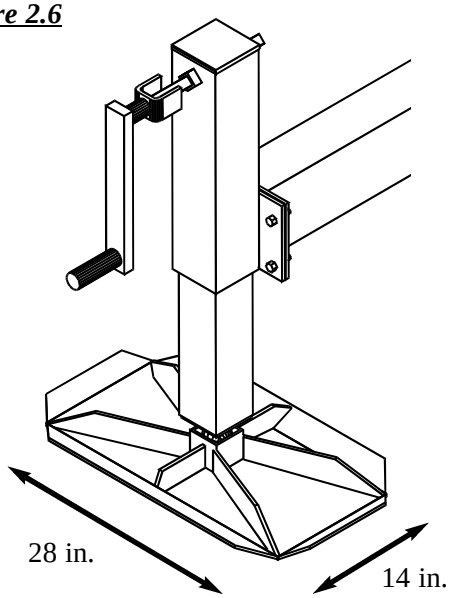


Figure 2.5

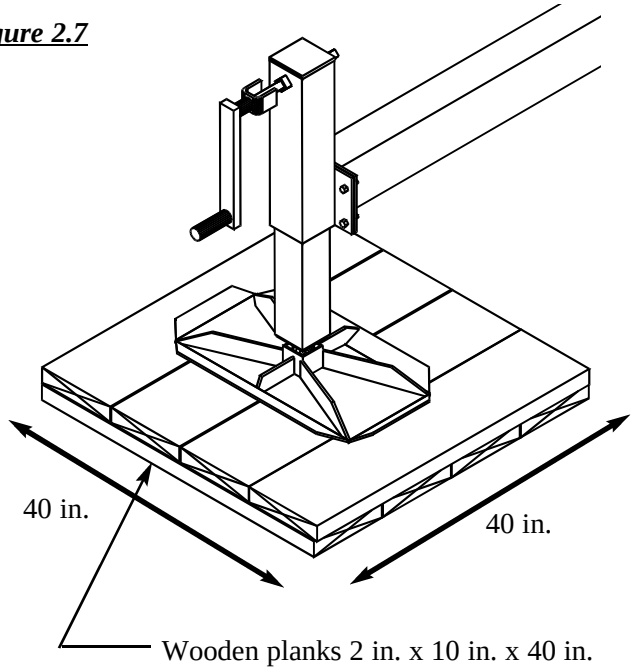
H1-H2< 2 in.

Figure 2.6



Mud sill dimentions: 14 in. x 28 in.
Contact surface 2.7 sq.ft.

Figure 2.7



Should the soil bearing capacities be inferior to the values on *Table 2.10 page 2-4* for MU724J or *Table 2.13 page 2-5* for MU712W, cribbing can be used to increase the bearing surface. ex.: cribbing 40 in. x 40 in. as shown, reduces the pressure by 4

In case of doubt, soil testing should be conducted

A - POSITIONNING & LEVELLING, CONT'D

12 FT. UNIT

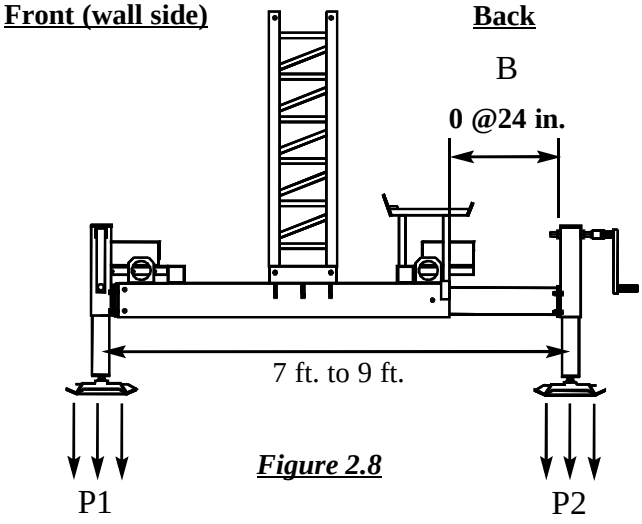


Figure 2.8

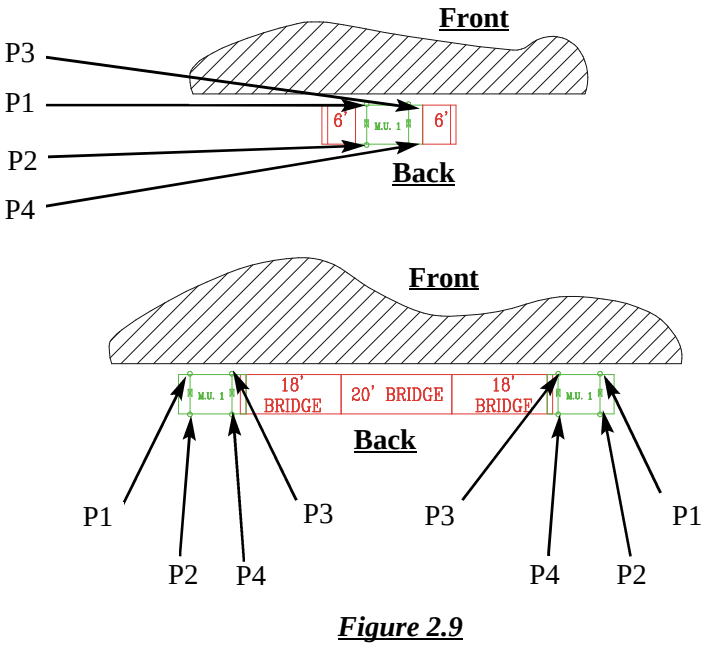


Figure 2.9

Bearing capacity for MU712W

	HEIGHT INSTALLATION	OUTRIGGER OPENED		BEARING CAPACITY REQUIRED (lbs/ft²)					
				24 ft. SETUP		80 ft. SETUP			
	feet	A (in.)	B (in.)	P1=P3	P2=P4	P1	P2	P3	P4
TREE STANDING	25	0	0	2744	997	1920	698	3567	1296
	25	0	24	2961	780	2072	546	3849	1014
INSTALLATION WITH WALL TIES	50	0	0	1982	2413	1387	1689	2576	3137
	75	0	0	2131	2595	1492	1816	2770	3373
	100	0	0	2280	2777	1596	1944	2964	3609
	150	0	0	2578	3140	1805	2198	3352	4082
	200	0	0	2877	3503	2014	2452	3740	4554

Table 2.10

Note bearing capacities indicated on ***Table 2.10*** have been calculated for worst case scenario as shown on ***Figure 2.9*** for both a 24 ft. and a 80 ft. set-up. Should you need to calculate bearing capacities lesser than a 24 ft. or 80 ft. set-up, please refer to ***Table 2.10***.

ex.: MU712W + 36 ft. + MU712W
with wall ties @ 60 ft. height
P1 = 1 492 lb./ft²
P2 = 1 816 lb./ft²
P3 = 2 770 lb./ft²
P4 = 3 373 lb./ft²

Calculation is base on the size of mud sill (foot pad).

NOTE:

1) Bearing capacity for 24 ft. setup (6 ft. bridge + M.U. + 6 ft. bridge).
2) Bearing capacity for 80 ft. setup (M.U. + 18 ft. + 20 ft. + 18 ft. + M.U.)
3) Use cribbing under the towers for jobs 150 ft. and higher.
4) For all installation with wall ties, close all the outriggers.

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A - POSITIONNING & LEVELLING, CONT'D

24 FT. UNIT

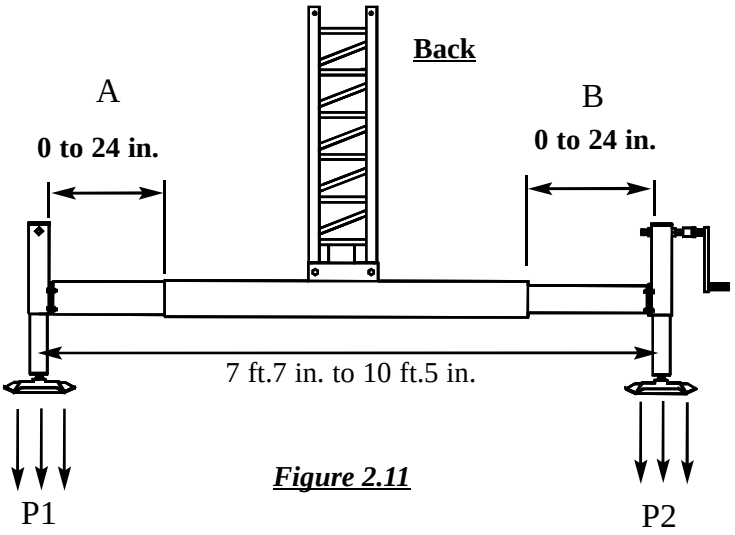


Figure 2.11

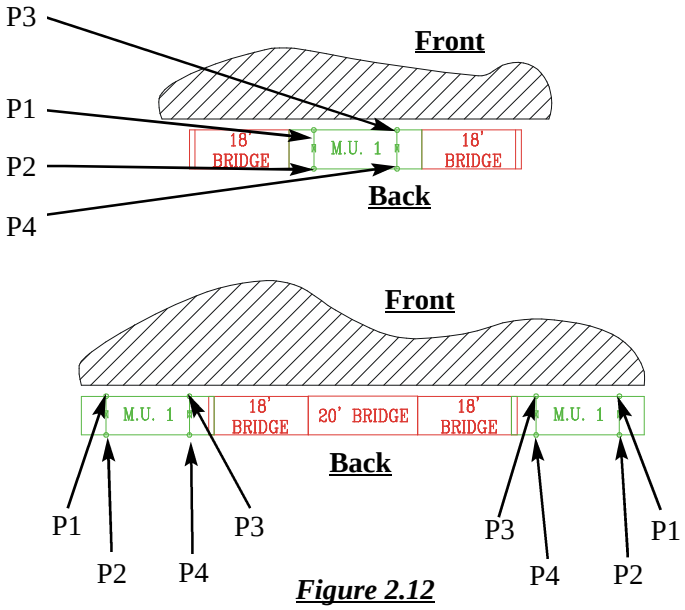


Figure 2.12

Bearing capacity for MU724J

	HEIGHT INSTALLATION	OUTRIGGER OPENED		BEARING CAPACITY REQUIRED (lb/pi²)					
				60 ft. SETUP		104 ft. SETUP			
	feet	A (in.)	B (in.)	P1=P3	P2=P4	P1	P2	P3	P4
FREE STANDING	33	24	0	2534	1391	1774	974	3295	1809
	33	17	17	2864	1062	2005	743	3724	1380
	33	0	24	3350	576	2345	403	4355	748
INSTALLATION WITH WALL TIES	50	0	0	2226	2363	1558	1654	2893	3072
	75	0	0	2386	2534	1670	1774	3102	3294
	100	0	0	2547	2705	1783	1893	3311	3516
	150	0	0	2869	3046	2008	2132	3729	3960
	200	0	0	3190	3388	2233	2371	4147	4404

Table 2.13

Note bearing capacities indicated on ***Table 2.13*** have been calculated for worst case scenario as shown on ***Figure 2.12*** for both a 60 ft. and a 104 ft. set-up. Should you need to calculate bearing capacities lesser than a 60 ft. or 104 ft. set-up, please refer to ***Table 2.13***.

ex.: MU724J + 36 ft. + MU724J
with wall ties @ 60 ft. height
P1 = 1 492 lb./ft²
P2 = 1 816 lb./ft²
P3 = 2 770 lb./ft²
P4 = 3 373 lb./ft²

Calculation is base on the size of mud sill (foot pad).

NOTE:

1) Bearing capacity for 60 ft. setup (18 ft. + M.U. + 18 ft.).
2) Bearing capacity for 104 ft. setup (M.U. + 18 ft. + 20 ft. + 18 ft. + M.U.).
3) Use cribbing under the towers for jobs 150 ft. and higher.
4) For free-standing jobs, open the front outriggers as far as possible.
5) For all installation with wall ties, close all the outriggers.

A - POSITIONNING & LEVELLING, CONT'D

-Should the soil bearing capacities be inferior to the values in *Table 2.10 or Table 2.13*, cribbing can be used to increase the bearing surface.

-Installation should be done under the supervision of a competent person, respecting all federal, state, and local regulations.

-Before installing the motorized unit, determine where the mud sills or support blocks will rest. The ground under them needs to be levelled and clear of debris.

-Stake the footpad positions, mindful of center-to-center distances.You can compensate for differences in the ground level by simply adjusting the implement jack on optional base units, or by stacking several support blocks under standard base unit. (*see figure 2.4 page 2-2).* Unstable objects and objects of inadequate bearing capacity are not to be used.

-Keep the gap to a minimum of 6 inches to offset normal leaning caused by front loading. Refer to 29CFR1926.454 (B) (3) for the maximum allowable distance between the wall an the edge of work area.

-If the soil bearing capacity is lacking, you can crib with planks or support blocks. (*see figure 2.7 page 2-3)*

-Make sure to limit base distortion to a maximum of 2 inches. (*see figure 2.5 page 2-3)*

-Cribbing under tower column is **recommended** for jobs 150 feet and higher.

****-Competent person is defined as 1-One capable of identifying existing and predictable hazards.***
2-Having the authority to take prompt corrective action.
3-Being knowledgeable and trained on the installation of this system.
4-Being thoroughly knowledgeable with this Operator's Manual.

-You are now ready to position and level the motorized unit using a lift truck, optional wheel set or crane.

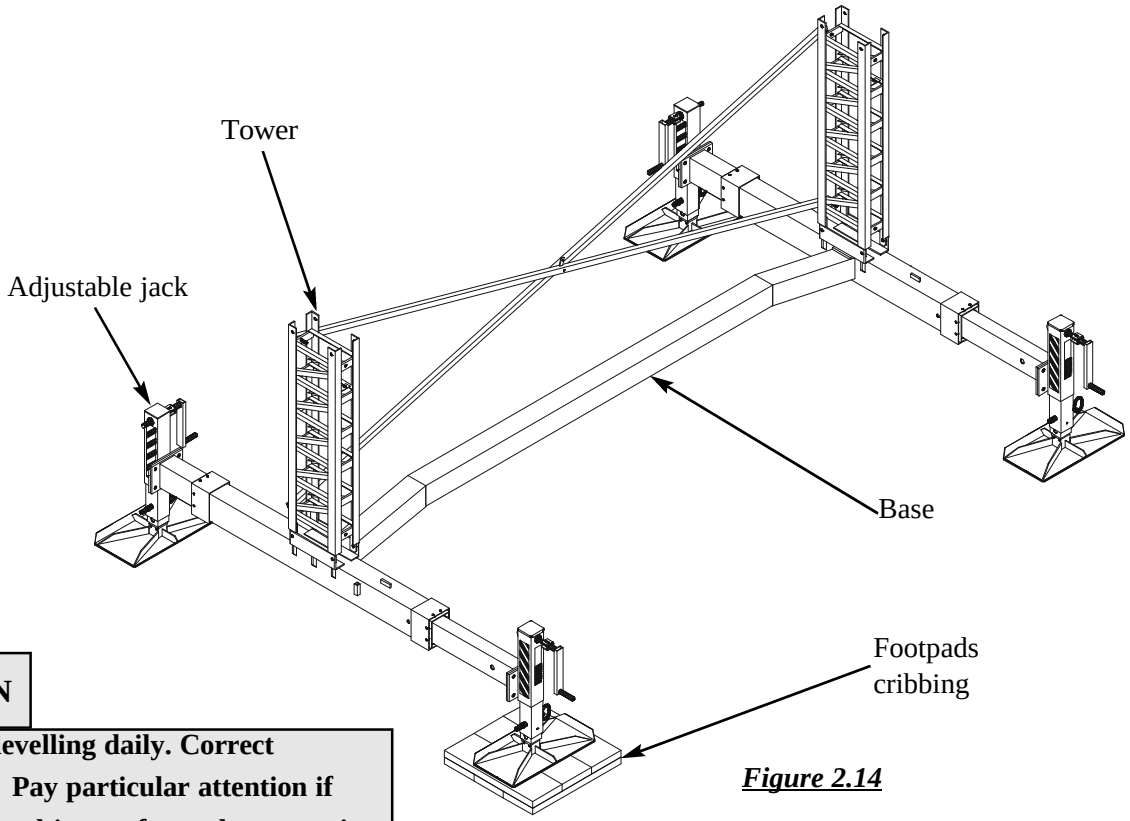


Figure 2.14

CAUTION

Check base levelling daily. Correct if necessary. Pay particular attention if site has been subject to frost, thaw or rain.

B -ENGINE CONTROL INSTRUCTIONS

MOTOR SPECIFICATIONS:

- Honda GX-160 / GX-200
- 5.5 HP / 6.5 HP at 3600 RPM
- Electric start, oil alert
- Refer to HONDA USER MANUAL for specific information

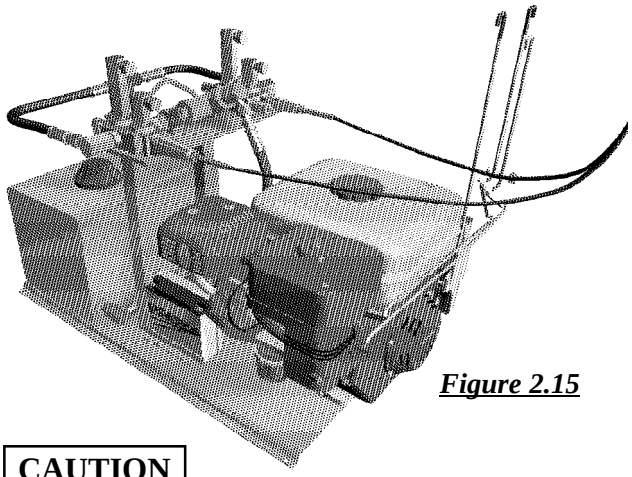


Figure 2.15

CAUTION

Check hoses and fittings for oil leaks...

INSTALLATION OF HYDRAULIC CONTROL BLOC AND ENGINE

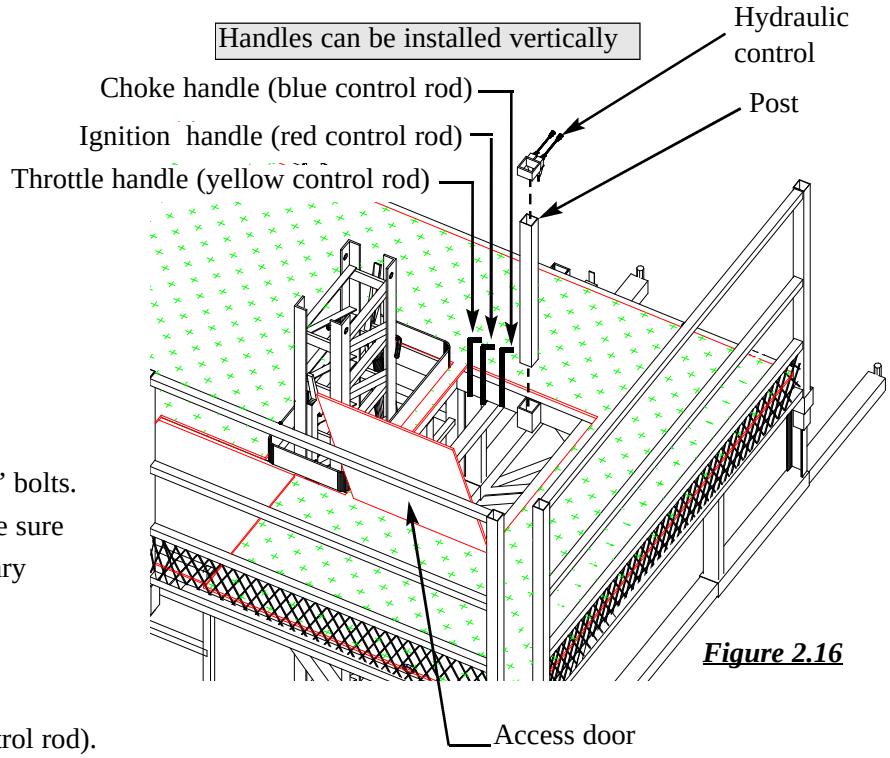


Figure 2.16

STARTING PROCEDURE:

1 - Open motor access door.

2 - Pick up control post from storage position and install in socket provided.

3 - Install hydraulic control block on top of post.

4 - Secure in place, using two 15/16” bolts.

5 - Check hydraulic oil level to make sure it is 3/4 full. Replenish if necessary using type iso 32.

6 - Check and top up gasoline level.

7 - Pull out **choke handle** (blue control rod).

8 - Release pump pressure by moving both lever up and down before starting.

9 - Pull out **throttle handle** (yellow control rod).

Note: Make sure not to exercise excessive force on handles, as this may bend throttle stop on engine, causing engine speed to pulse.

10 - Pull **ignition handle** (red control rod) to activate ignition and engage starter. Use same handle to cut off engine.

11 - Release as soon as motor is running.(max. 15 seconds)

12 - Release choke handle after a few seconds.

13 - Adjust engine speed by moving throttle rod up or down.

NOTE

Cutting engine using choke handle will drain the battery.

C - RAISING THE PLATFORM

PROCEDURE:

1 - While engine is running, check for leaks on hoses and connections.

2 - Each cylinder has its own control valve to allow for operation flexibility.

DO NOT FORGET: REMOVE THE LOCKING BAR

3 - Leave back-up safety hook engaged (back-up safety hook lever horizontal)

4 - Raise both control levers. Hydraulic cylinders will extend simultaneously (*See figure 2.17 page 2-9*).

5 - If one cylinder reaches end position (fully extended) before the other, release its corresponding control lever. Operate other until engine is forced to slow down.

6 - Lower both control levers, hydraulic cylinders will retract, bringing cylinder hook to latch on tower rungs (*See figure 2.18 page 2-9*)

7 - **Make sure main safety hook is properly engaged to tower rung. If not, release and reposition manually.**

8 - Continue holding control levers down, until platform raises and until main safety hook latches on tower rung.

Note: Platform may be raised to the next rung only (10 in. rise) or by two rungs (20 in. rise).

9 - Depending on loading conditions, it may be necessary to operate control levers independently to level motorized unit.

10 - Repeat **steps 4** through **9,** until desired height is reached.

IMPORTANT: It is recommended to leave platform hanging from both safety hook and hydraulic hook, levelling platform to a comfortable position. This practice provides additional safety.

CAUTION

Throughout any raising operation, keep LEVERS FOR BACK UP SAFETY HOOK on each tower column in the HORIZONTAL or "LATCHED" position.

C - RAISING THE PLATFORM

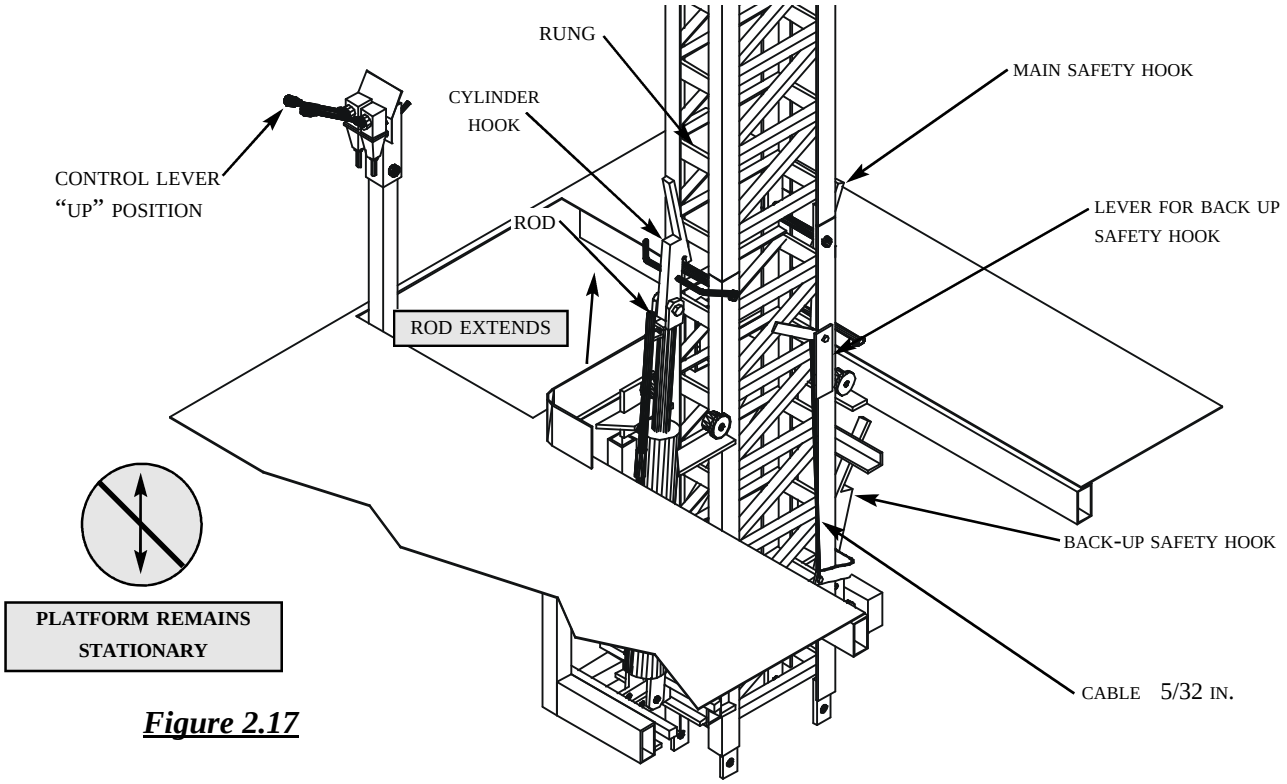


Figure 2.17

EXTENSION PHASE: The rod extends upwards and the hook slips over one or max.(2) rungs. Meanwhile the platform is supported by main safety hook and remains stationary. (STEP 4)

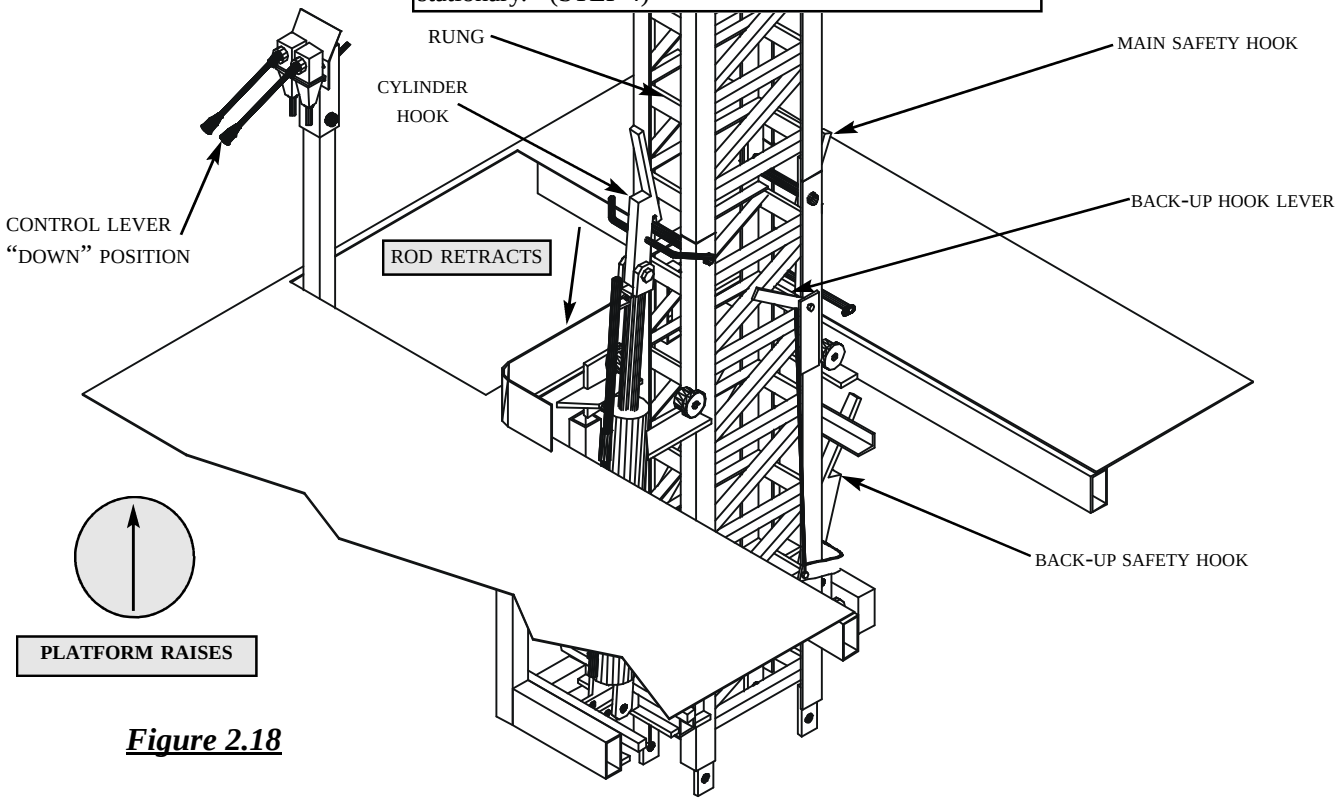


Figure 2.18

RAISING PHASE: The rod retracts, which catches onto tower rung. (STEP 6). As cylinder closes further, platform is raised up one or two rungs. (STEP 8)

C - RAISING THE PLATFORM, CONT'D

CAUTION

Before any initial operation, do not forget to remove both transport locking bars linking the platform to the base.

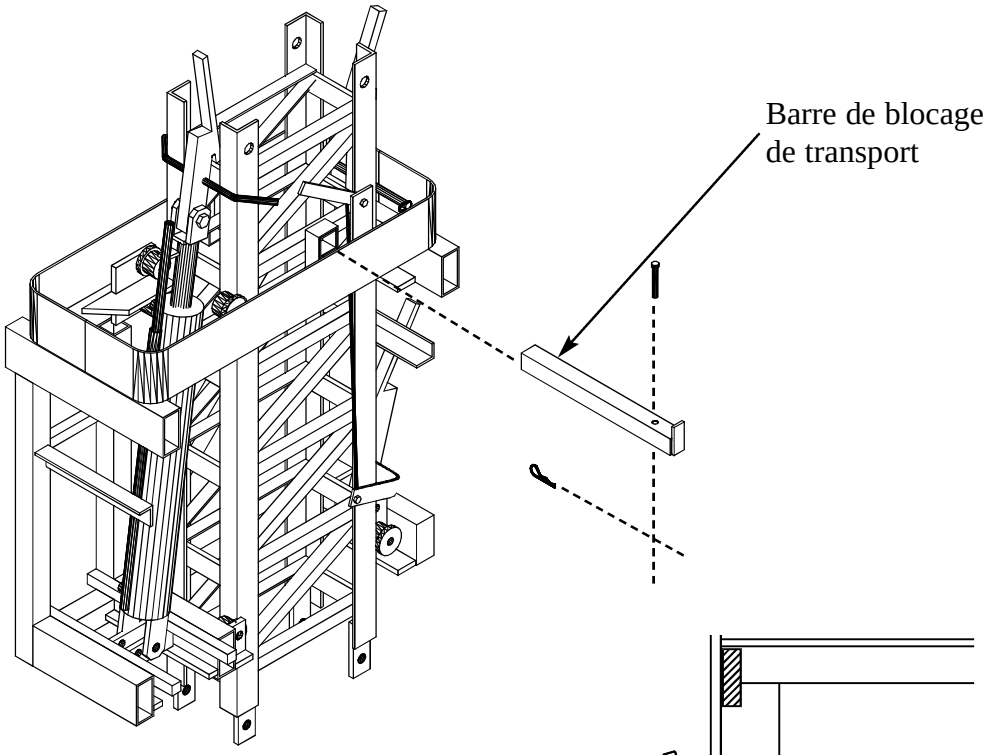


Figure 2.19

DANGER

At each upward or downward step, <u>inspect closely</u> to ensure that the (2) main safety hooks and the (2) cylinder hooks are <u>firmly and correctly</u> attached to each tower.

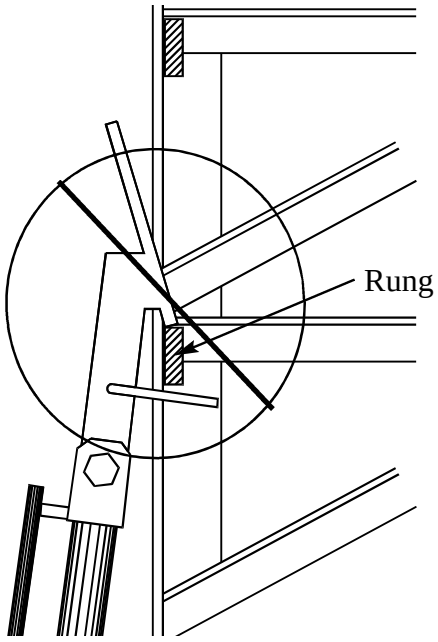


Figure 2.20

D - LOWERING THE PLATFORM

PROCEDURE:

1 - Start engine and set RPM to its maximum.

2 - Push both control levers down to free **both** safety hooks and **both** back-up safety hooks.

Note: If back-up safety hook levers offer a resistance, lift unit more to completely free back-up safety hook.

Failure to comply to this procedure will bend the back-up safety hook arm, may prevent it from latching or allow partial latching only.

THIS CAN BE VERY HAZARDOUS !

3 - Slide one lowering plate between each tower and main safety hook.

4 - Raise control levers to lower platform.

5 - Once past the lowering plates, main safety hooks will engage and latch again.

6 - Extend both cylinders to max. (engine RPM will drop).

7 - Move lowering plates to opposite sides of towers between each cylinder hook and tower.

8 - Move both control levers down, cylinders will close, passing by two tower rungs.

WARNING

When two or more motorized units are connected with bearing bridges, it is critical to control lowering of both units to ensure that proper bridge overlap is maintained at all times. Refer to chapter 4 on bridges for overlap specifications.

D - LOWERING THE PLATFORM

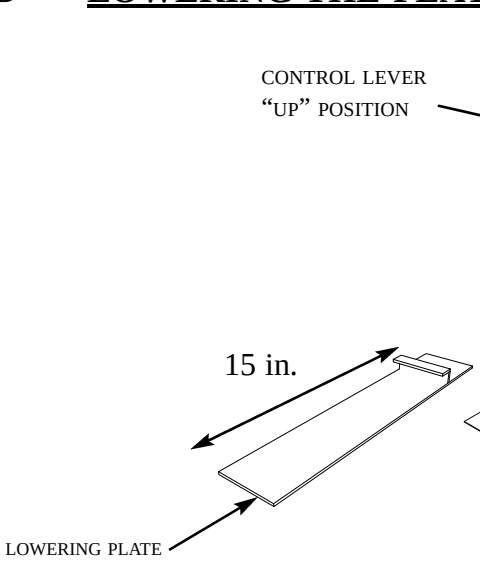


Figure 2.21

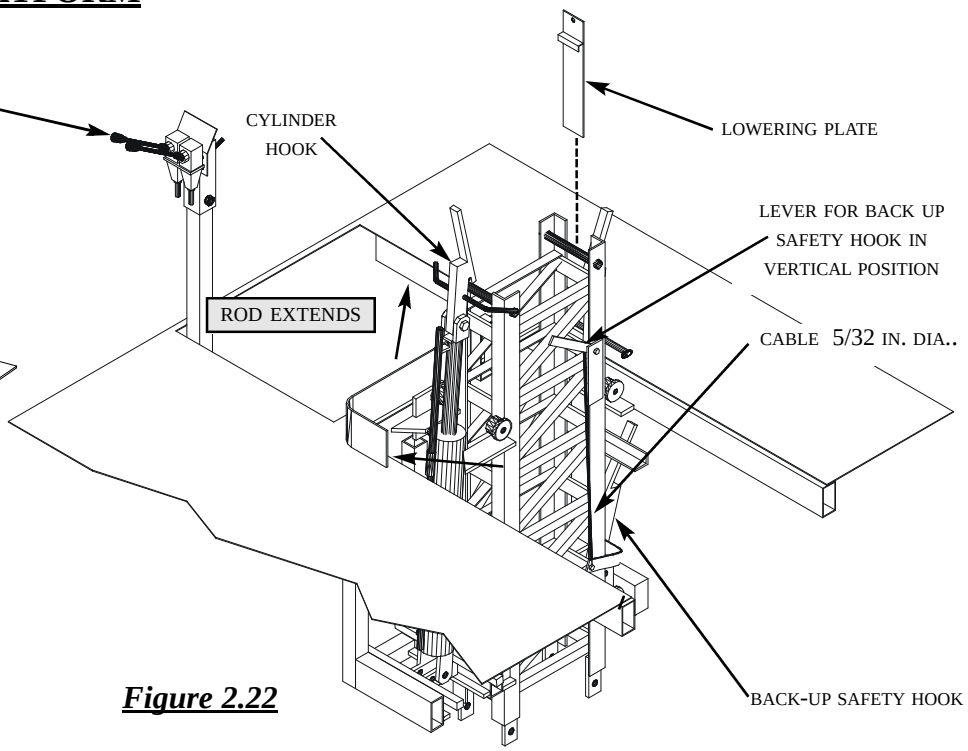
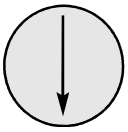


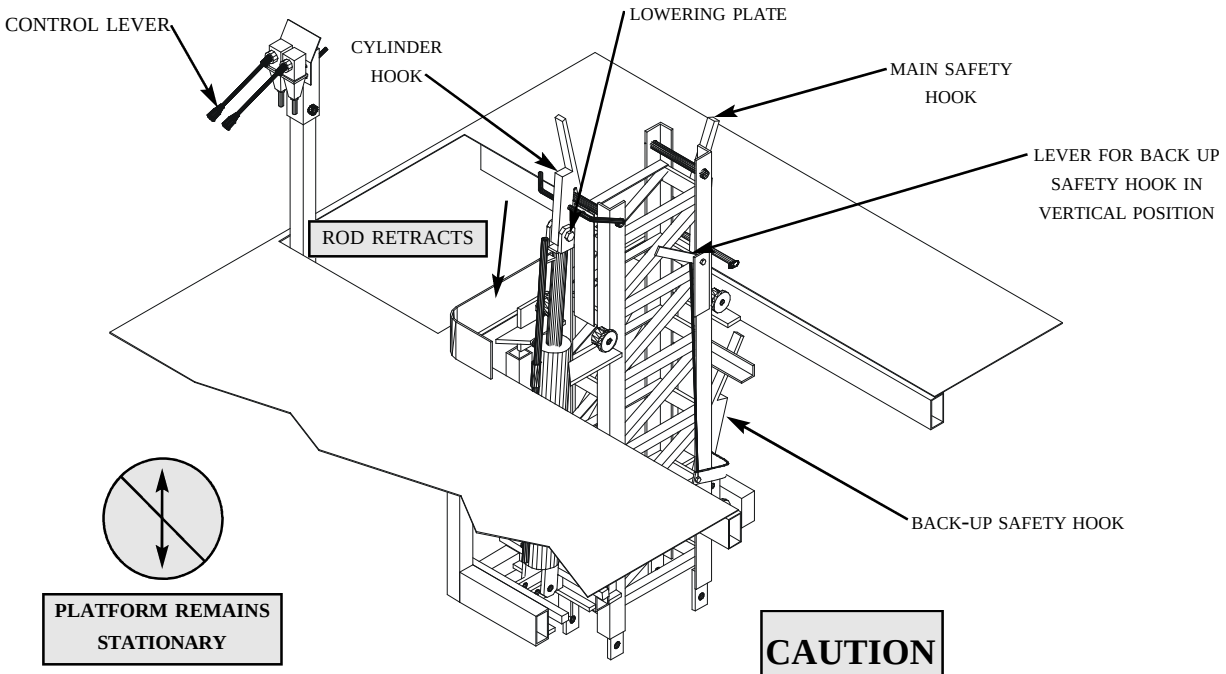
Figure 2.22



PLATFORM LOWERS

LOWERING PLATE ON MAIN SAFETY HOOK

Plate is inserted between main safety hook and tower, cylinder rod extends, platform lowers.



PLATFORM REMAINS STATIONARY

Figure 2.23

LOWERING PLATE ON CYLINDER HOOK

Plate is positioned between cylinder hook and tower, cylinder closes, platform is stationary.

CAUTION

Throughout the lowering process, keep back-up safety hook levers in the vertical, disengaged position check proper position of each back-up safety hook. Always disengage before proceeding with lowering operation.

E - TOWERS
INSTALLATION/REMOVAL

INSTALLATION:

1 - Upon raising the unit, the top of towers will eventually have been reached.

2 - At this point, it will be necessary to install additional towers.

3 - With welded tabs pointing downward, insert additional tower over and into top portion of already installed tower section.

Note: Current tower releases are provided with X-brace mounting holes on both sides, thus eliminating the need for specific tower orientation.

4 - Rock tower to one side or the other, to allow pin holes to line up.

5 - Insert clevis pin, making sure spring pin holes remain vertical. If not, rotate pin ounce inserted.

6 - Install spring pins on side facing the hydraulic controls. Waved portion of spring pin should face center of tower to prevent damage to rollers.

7 - Use only approved clevis pin

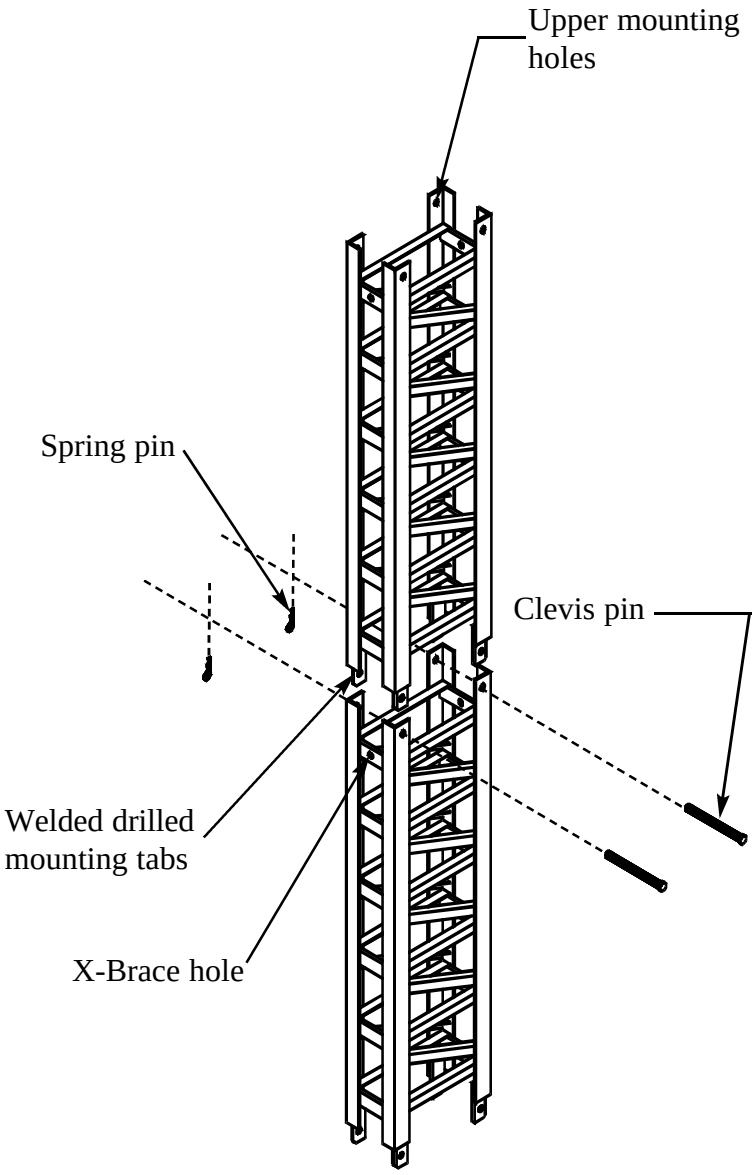


Figure 2.24

DANGER

Before raising, always ensure that each additional tower is fastened with clevis and pins. Serious or fatal injuries may be caused by unfastened towers.

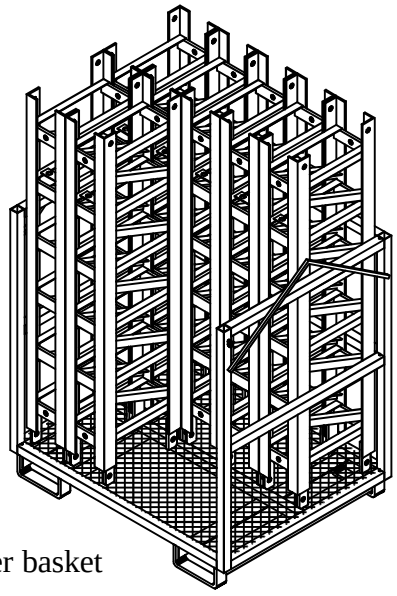
E - TOWERS
INSTALLATION/REMOVAL

REMOVAL:

1 - Upon lowering the unit, a complete section will be passed.

2 - Remove tower while taking care to replace clevis pin and spring pin in their storage strip.

3 - Replace towers in tower baskets or lay them on the platform horizontally. Leaving them in a vertical position can be hazardous to nearby workers.



Tower basket

Figure 2.25

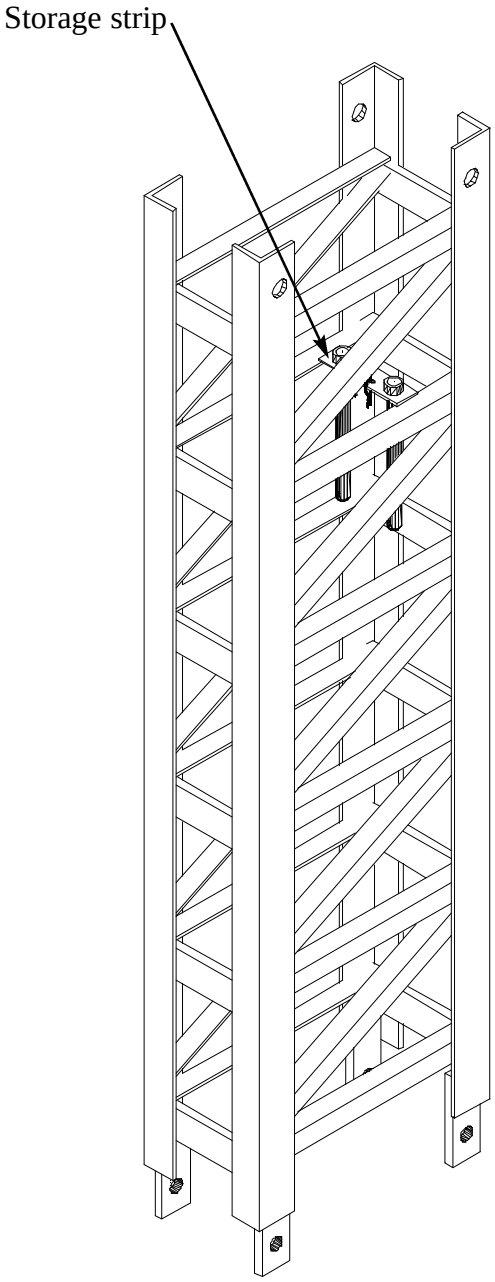


Figure 2.26

F - X-BRACES INSTALLATION/REMOVAL

X-BRACES INSTALLATION:

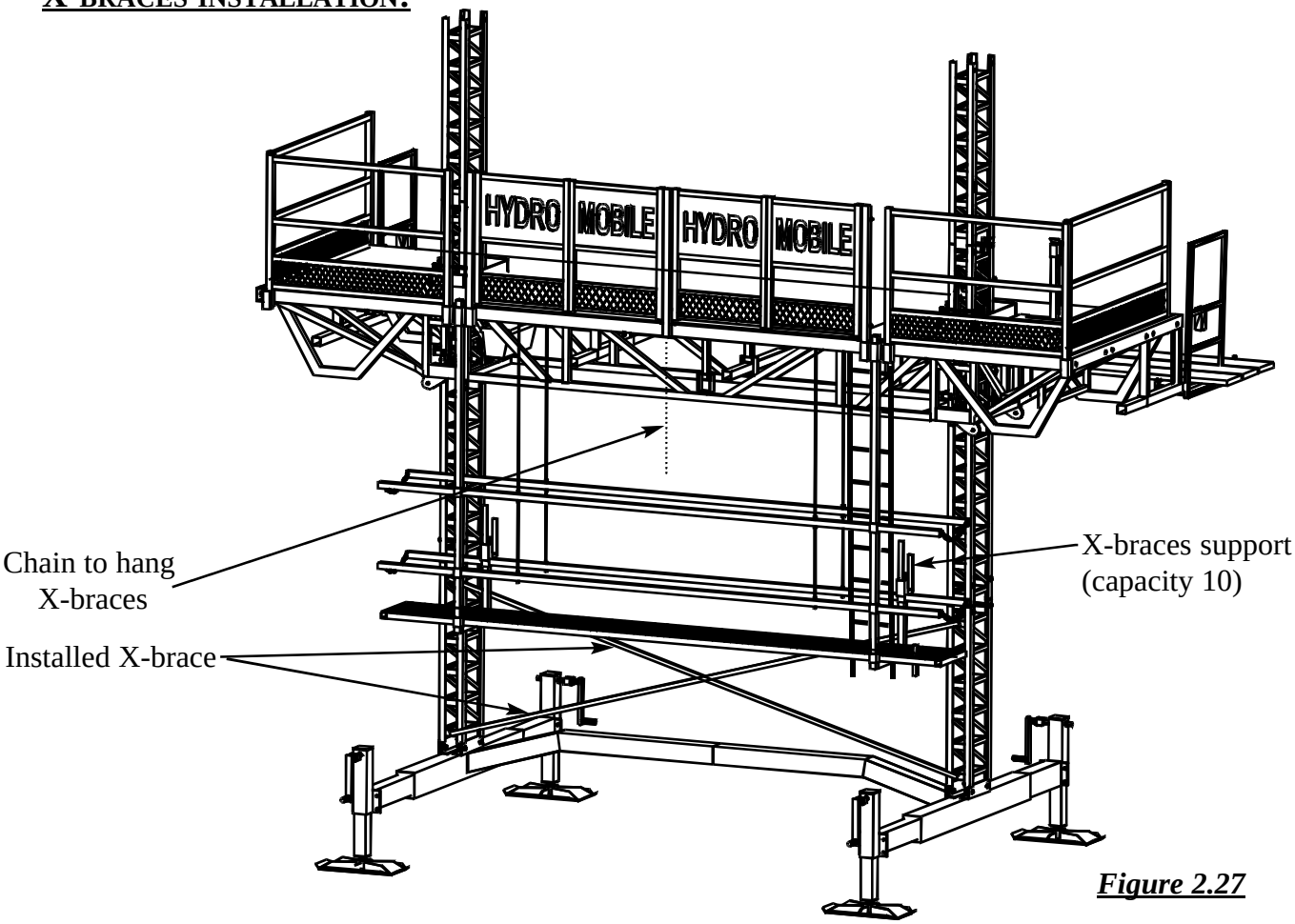


Figure 2.27

FOREWORD:

X-braces provides your motorized units with stability. It is mandatory that X-Brace be installed on each set of towers.

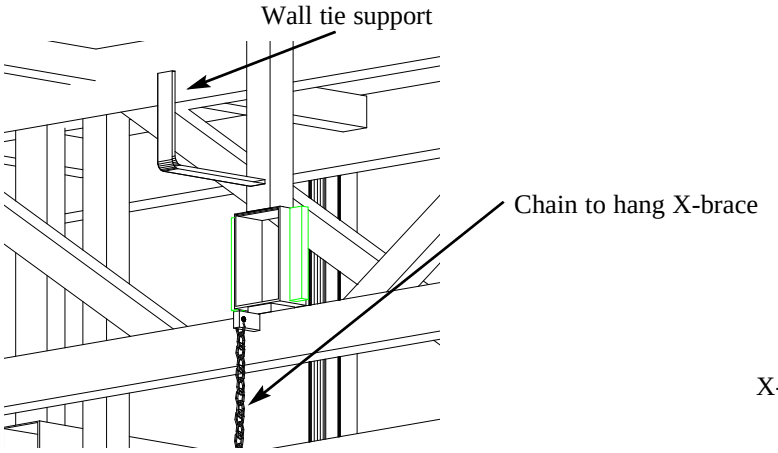


Figure 2.28

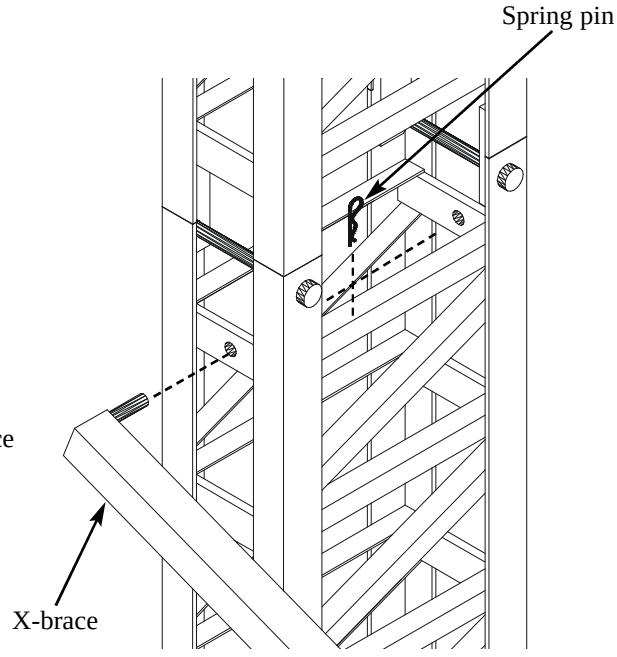


Figure 2.29

F - X-BRACES, INSTALLATION/REMOVAL, CONT'D

INSTALLATION PROCEDURE:

1 - Before raising unit, make sure a supply of X-braces has been stored in brace supports and/or supplementory X-Brace support racks

2 - When the main safety hook reaches the red band of a tower, it is time to install an X-brace.

3 - Hang X-brace from chain provided in centre of unit, using spring, which will provide temporary support.

4 - Make sure platform is hanging from hydraulic hooks (i.e. lifted slightly above the safety hooks). This will allow better mobility of platform and easier installation of X-brace.

5 - Insert bottom X-brace pins into each tower, beginning with the one furthest away from the hydraulic control. Lock in place with spring pins.

Note: Spring pins are conveniently located on special storage strips inside each tower (*see Figure 2.26 page 2-14*).

6 - Insert top x-brace pins one at a time. Lock in place with spring pins. If x-brace pins don't line up with holes in towers, operate hydraulic system, on **one side only, up or down over a short travel distance.** This should bring X-brace end pins to line up with tower holes, (*see figure 2.30, 2.31, 2.32 page 2-17).*

7 - For cantilevered 60 ft setup, we recommand installing an extra X-Brace on the front of the first tower set.

REMOVAL PROCEDURE:

1 - Before lowering the unit, wall ties immediately below platform and x-braces must be removed.

2 - When the main safety hook reaches the red band of a tower, it is time to remove an x-brace.

3 - Remove spring pins and remove x-brace by hanging it from chain provided in center of unit, using spring, which will provide temporary support.

4 - Replace x-braces in brace support rack or additional X-Brace support racks. Do not store x-braces on the operator's walkway. Keep this area clear for travel and work.

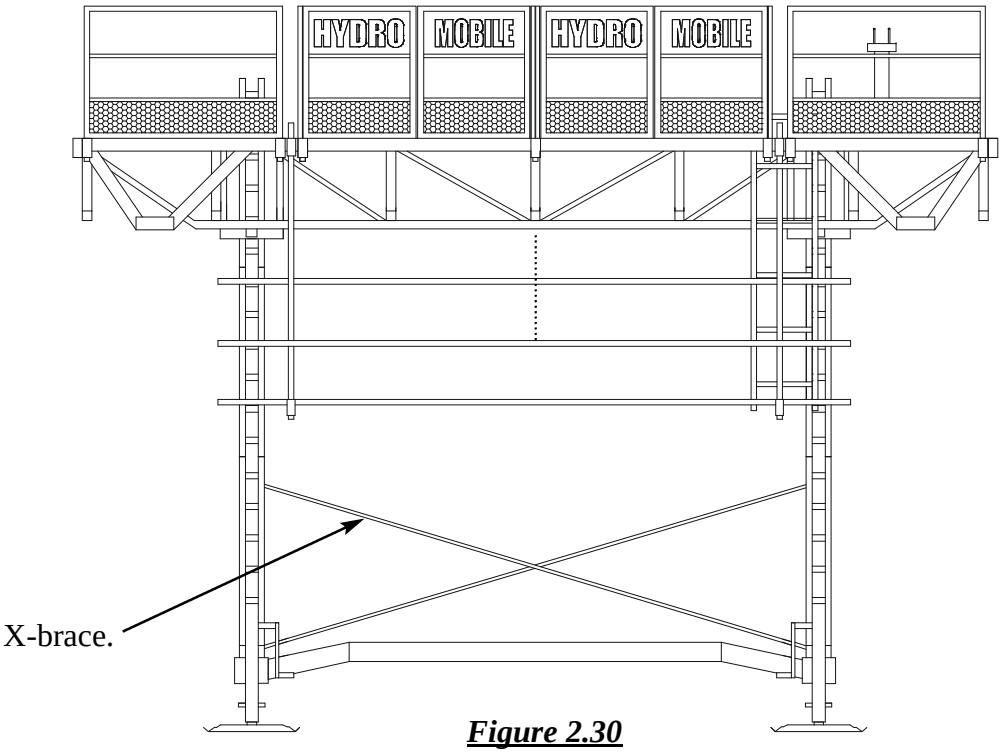


Figure 2.30

To line up the last X-Brace pin with hole in the tower, move the motorized unit Up or Down over a short travel distance.

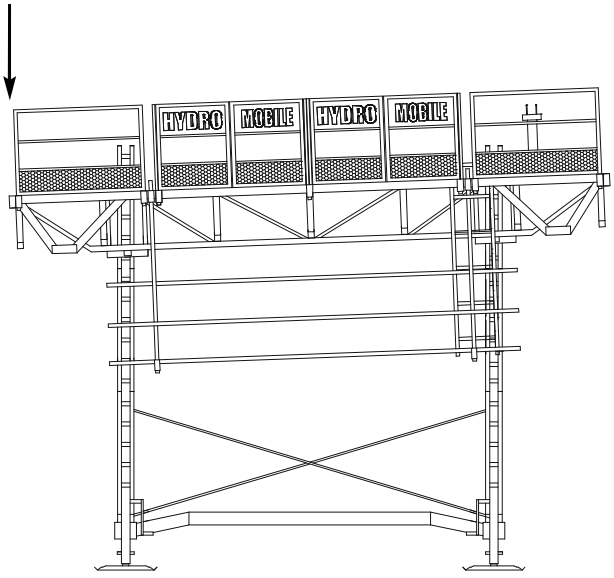


Figure 2.31

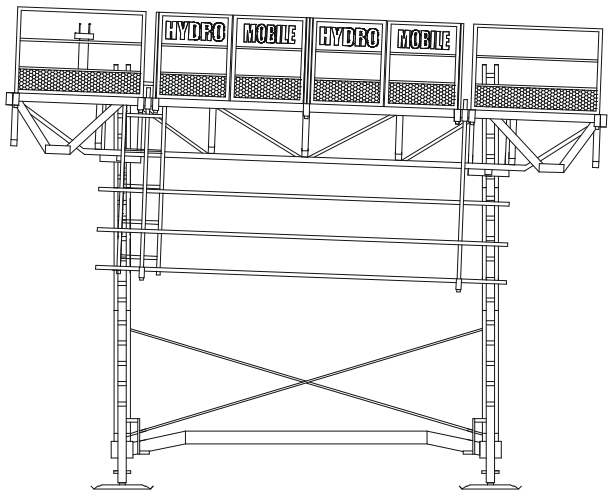


Figure 2.32

G - OPERATOR'S WALKWAY (12 FT./24 FT. UNITS)

DESCRIPTION:

The operator walkway is a lower mounted, ladder accessible narrow platform, held in place by structural tubing. It's purpose is to allow for the convenient and safe installation of X -braces, tower fasteners and wall ties.

An access door is provided at the motor end of the motorized unit.

X-braces are conveniently stored in removable brackets mounted on the inside end of the walkway lowering guide/supports.

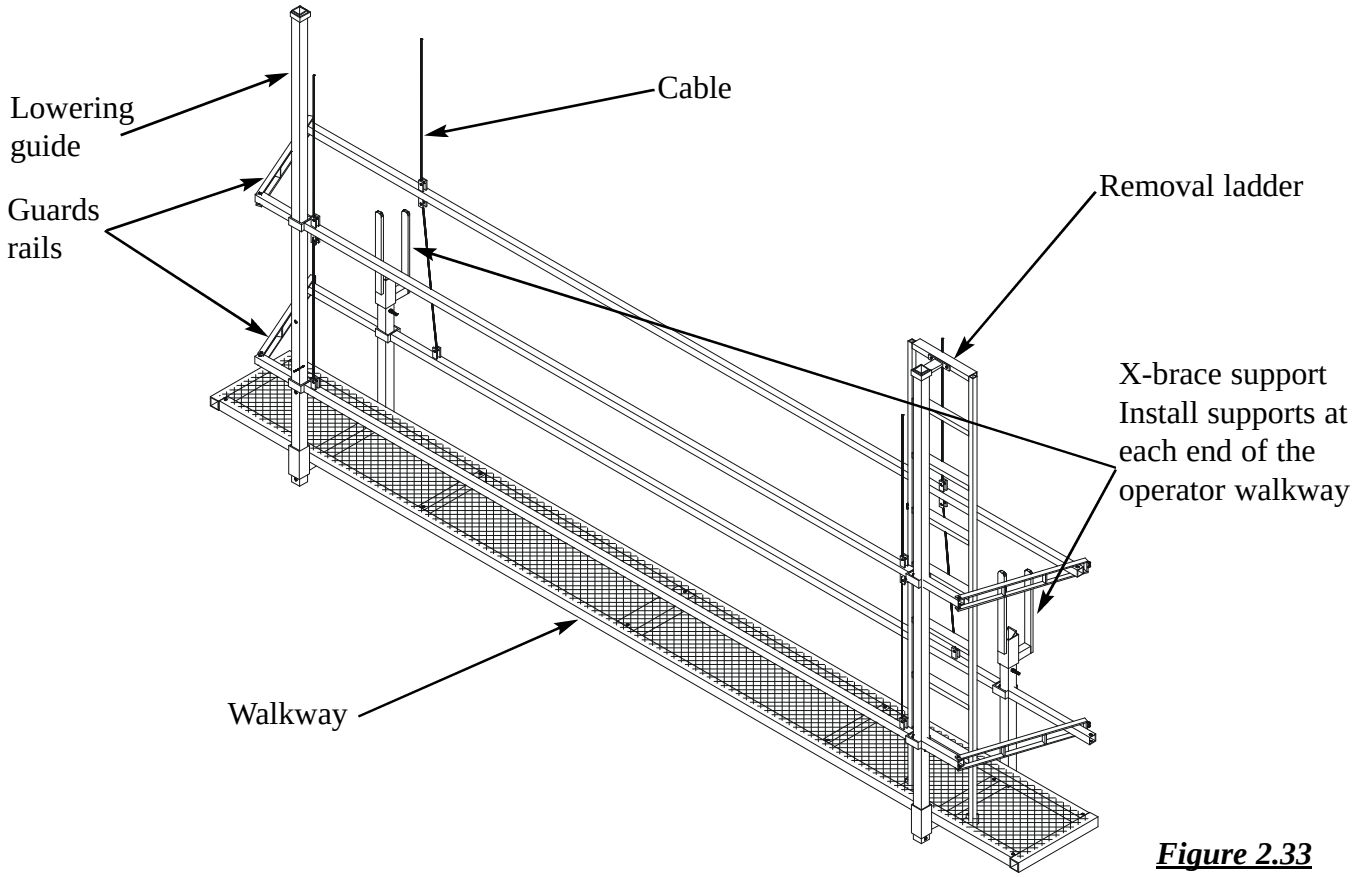


Figure 2.33

WALKWAY MAXIMUM CAPACITY

1500 LB. INCLUDING MEN

CAUTION

When unit has been lowered to last X-brace, remove all X-braces , as well as X-brace supports. Failure to do so will result in damage to x-brace supports, walkway structure and main unit floor plate. (on the 24 ft. motorized unit only)

CHAPTER 3

WALL TIES

ANCHORS AND WALL MOUNTS

A - OVERVIEW OF WALL TIES

B - WALL TIE SCHEDULE

C - ANCHORS

D - ADJUSTABLE WALL MOUNT

A - OVERVIEW

DESCRIPTION:

Depending on the nature of the job to be performed, the height to be reached and the ground conditions, it may be necessary to use wall ties.

In general, the more stable the platform, the less there is a risk of fall or injury. Furthermore, a stable solid work environment usually favors higher productivities and efficiencies.

When wall ties are required, it is advisable to establish prior to first installation, the length, type and quantity of wall ties, which will be used.

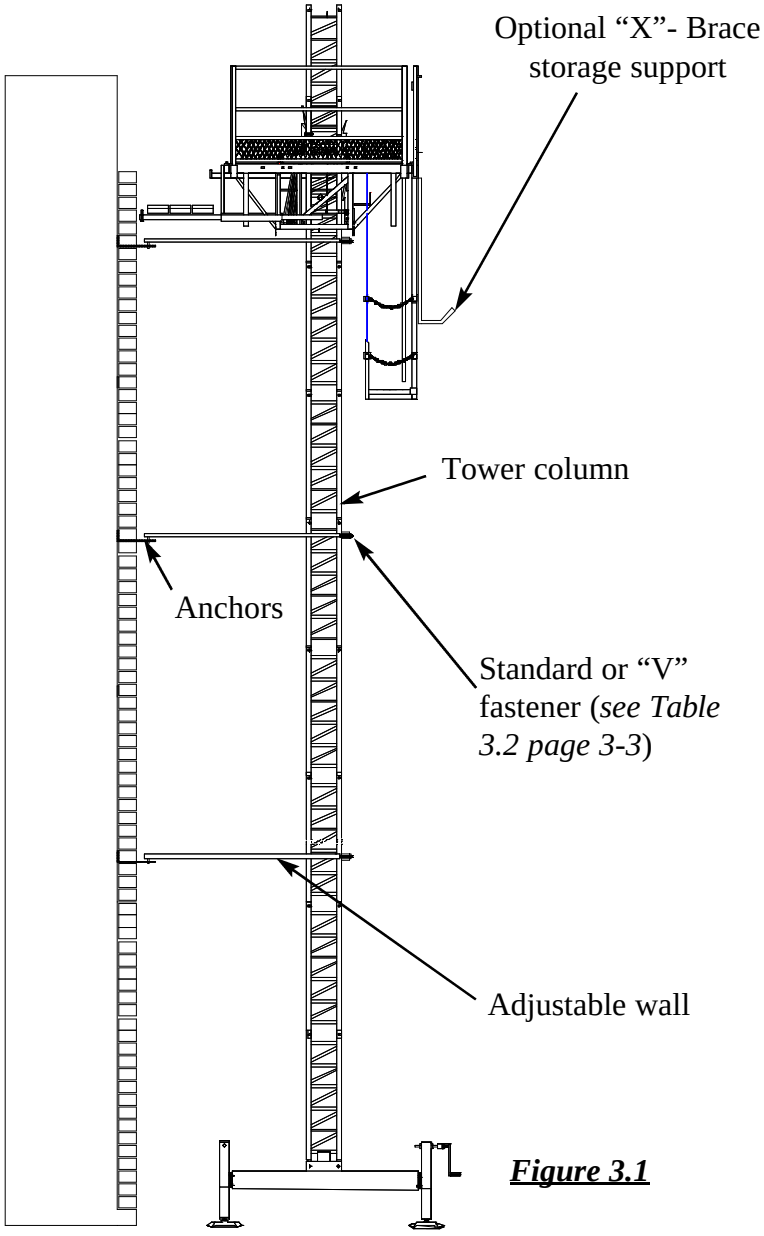


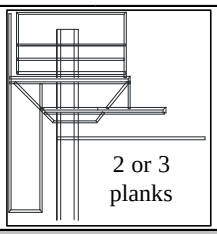
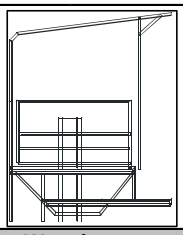
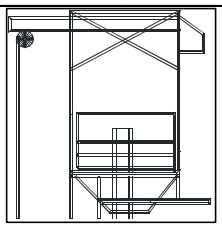
Figure 3.1

CAUTION

THERE CAN NEVER BE TOO MANY TIES !!!

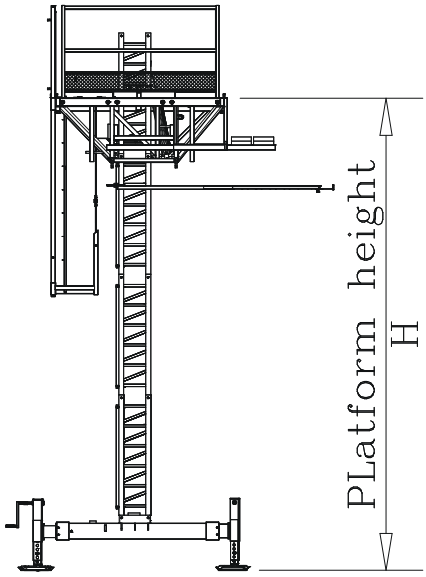
B - WALL TIES SCHEDULE, MU712W AND MU724J

You must combine standard (S) and V fastener (V) columns to get it right.

Platform Height H	 2 or 3 planks						1 - 4 or 5 planks 2 - Forward extension 3 - Corner setup 4 - Monorail system	
	Standard setup		**Weather protection**		**Hoist**			
	standard fastener	**"V" fastener**	**standard fastener**	**"V" fastener**	**standard fastener**	**"V" fastener**	**standard fastener**	**"V" fastener**
0 - 33 ft.	Free standing	Free standing		10 ft. 20 ft.	10 ft. 20 ft.			15 ft.
33 ft. - 50 ft.	20 ft.	40 ft.		10 ft. 20 ft. 30 ft. 40 ft.	10 ft. 30 ft.	20 ft. 40 ft.	30 ft.	15 ft. 45 ft.
50 ft. - 80 ft.	20 ft. 60 ft.	40 ft.		10 ft. - 20 ft. 30 ft. - 40 ft. 50 ft. - 60 ft. 70 ft.	10 ft. 30 ft. 50 ft. 70 ft.	20 ft. 40 ft. 60 ft.	30 ft. 60 ft.	15 ft. 45 ft. 75 ft.
80 ft. - over	every 10 ft.	every 40 ft.		every 10 ft.	every 10 ft.	every 20 ft.	20 ft. 30 ft. 50 ft. 60 ft.	10 ft. 40 ft. 70 ft.

S= STANDARD FASTENER (1 WALL MOUNT)
V= V-FASTENER (2 WALL MOUNTS)

Table 3.2



WARNING

- Forward extension and hoist should not be used on same motorized unit.
- 60 ft. setup should be tied with "V" fastener first for better stability.

NOTE:

Maximum height free standing for 12 ft. motorized unit is 25 ft.

C - ANCHORS

GENERAL VIEW OF THE INSTALLATION:

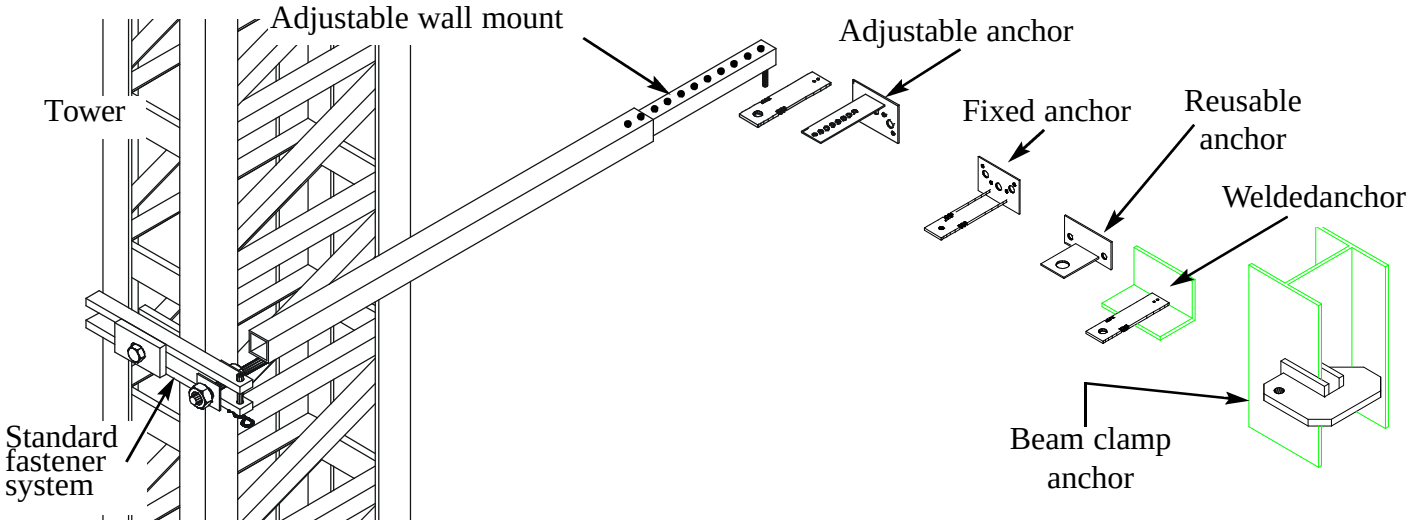


Figure 3.3

INSTALLATION PROCEDURE:

1 - While unit is climbing and as job progresses, install wall anchors as per wall ties schedule.

2 - Consult *table 3.2 page 3-3* for the schedule.

3 - Refer to *Figure 3.3* to select suitable type of anchors to be used

4 - Anchor length is determined as per instructions on *page 3-5*

CAUTION

Anchors must be capable of tensile or compression strength of 3000 lb.

C - ANCHORS, CONT'D

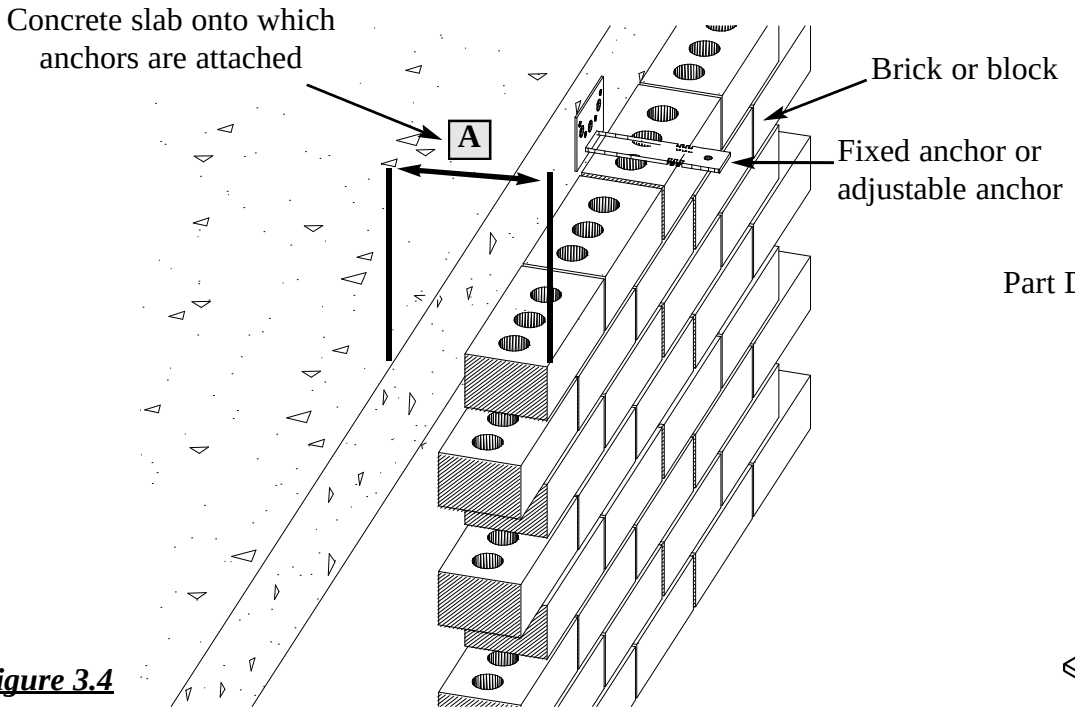


Figure 3.4

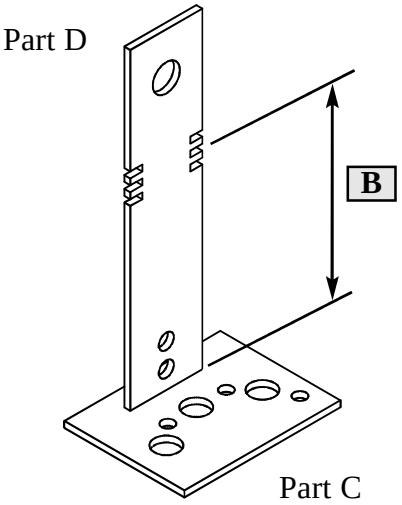


Figure 3.5

PROCEDURE:

1 - Measure distance from edge of slab to face of brick. **Distance A.**

2 - " **A** " allows the selection of the right anchor.

3 - This distance " **A** " should be approximately equal to distance **B**, which is measured from part **C** base plate to center notch of anchor bar, part **D.**

4 - For adjustable anchors, adjust pins so that notch distance **B** equals **A**.

5 - The above does not apply to reusable anchors.

FINAL STEP WHEN LOWERING MOTORIZED UNIT:

After adjustable wall mounts have been removed and stored under the platform, break off part (b) at mortar joint, using pliers.

Cover all marks left by anchors with mortar if end of anchors prottrude from motar joint, grind off.

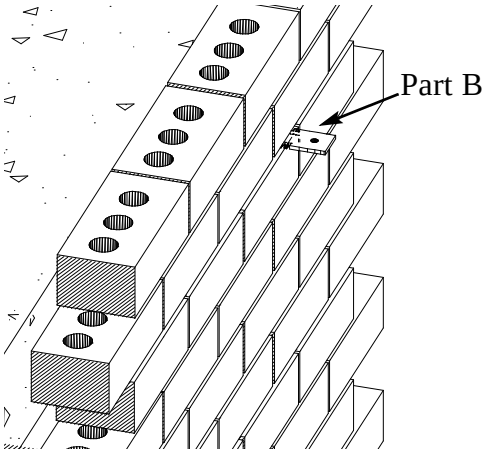


Figure 3.6

D - ADJUSTABLE WALL MOUNTS

STANDARD FASTENERS:

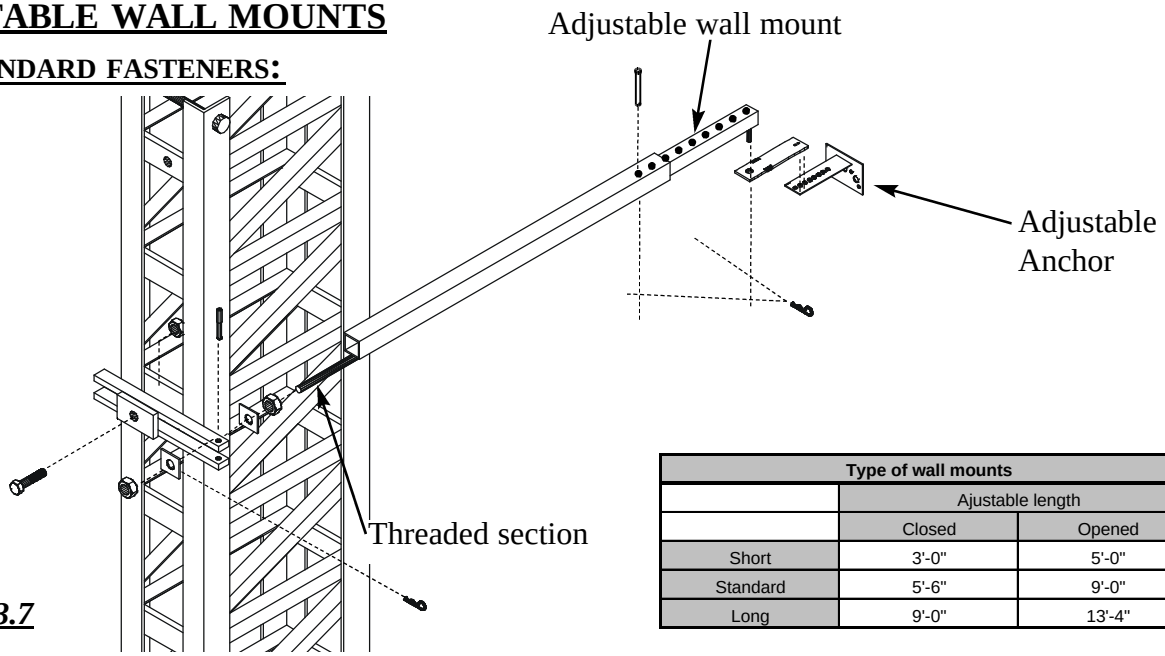


Figure 3.7

Type of wall mounts		
	Ajustable length	
	Closed	Opened
Short	3'-0"	5'-0"
Standard	5'-6"	9'-0"
Long	9'-0"	13'-4"

Table 3.8

INSTALLATION PROCEDURE:

1 - As the unit climbs up, the platform will move further away from wall ties previously installed.

2 - Climb down to the operator's platform, so that fasteners and wall mounts can be installed in place.

3 - Apply fastener to tower, so that height matches that of anchors and wall.

NOTE:

Most bolts and threaded rods are 5/8 NC for convenience. Wrench size is: 15/16 in.

4 - Loosen back plate, turn vertically, apply fastener to back of tower away from wall.

5 - Rotate back plate 90^{o} so that it catches behind tower main verticals.

6 - Tighten bolt securely.

7 - Preadjust length of wall mount using clevis pin and spring pin to lock it in desired position. When working on flat face buildings. all wall mount can be preajusted to save time.

NOTE: before installing wall mount, ensure that platform is hanging on the cylinder hook.

8 - Insert wall mount (pin end down) to anchor. It is suggested the mason, from his working position above, lend a hand for this operation. The mason should also insert safety pin.

9 - Remove clevis pin from standard fastener, slide in wall mount, making sure one flat washer is on each side of fastener.

10 - Insert clevis and spring pins.

11 - Adjust the wall mount threaded section, using a spirit level to ensure that each tower is perfectly vertical. IF INCORRECT, move both nuts in or out, until each tower is perfectly plumb.

NOTE:

If the towers are difficult to plumb, verify loading on platform. It may be necessary to move some material from the front to the back of the platform.

D - ADJUSTABLE WALL MOUNTS

" V " FASTENERS

On higher work, or non-standard set ups increased stability is required.
"V" fasteners are to be used as per schedule, *see Table 3.2 page 3-3.*

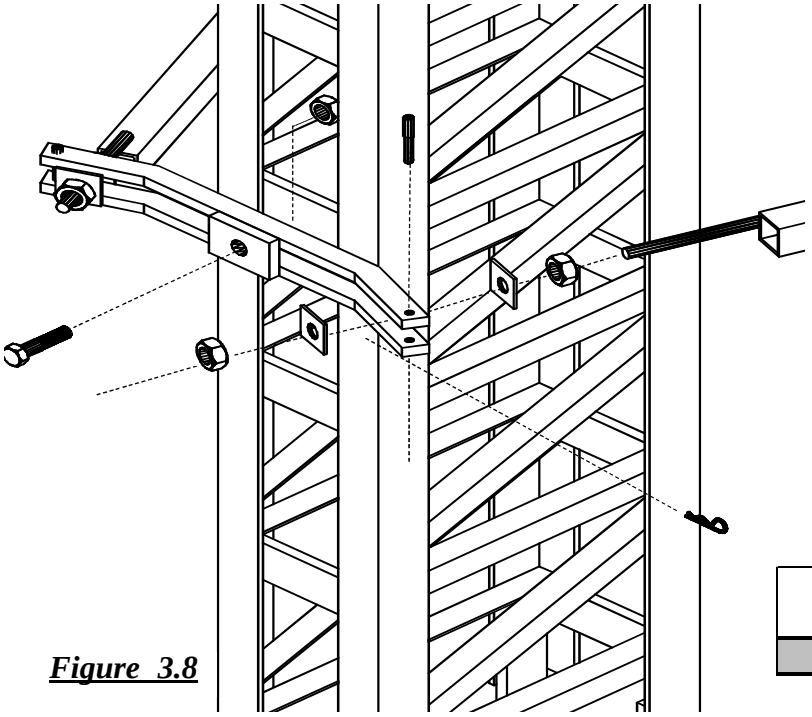


Figure 3.8

Type of wall mounts		
	Ajustable length	
	Closed	Opened
Short	3 ft. 0 in.	5 ft. 0 in.
Standard	5 ft. 6 in.	9 ft. 0 in.
Long	9 ft. 0 in.	13 ft. 4 in.

Table 3.10

NOTE

"V" fasteners ensure lateral stability

	X_1			
	2 planks	4 planks	6 planks	8 planks
X_2	27 in.	36 in.	44 in.	53 in.

Table 3.9

INSTALLATION PROCEDURE:

1 - At these levels, anchors will have been preset to obtain a minimum 40^o angle between wall ties.

Note: To figure out the distance between the anchors *see table 3.9*

2 - "V" fasteners have two slot openings and clevis pins, one on each side, one on each side.

3 - For installation of "V" fasteners use same procedure as standard fastener except use 2 wall mounts per "V" fastener

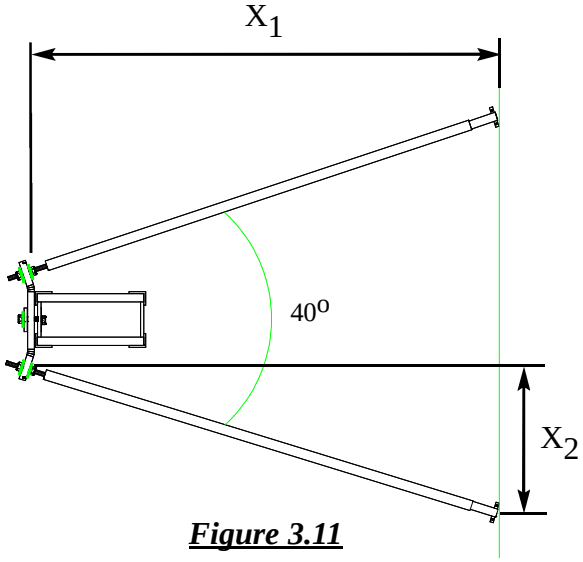


Figure 3.11

CAUTION

Using a spirit level, always check whether towers are vertical when installing adjustable wall mounts in "V" fasteners.

CHAPTER 4

BRIDGES

BRIDGES

A - BEARING BRIDGES

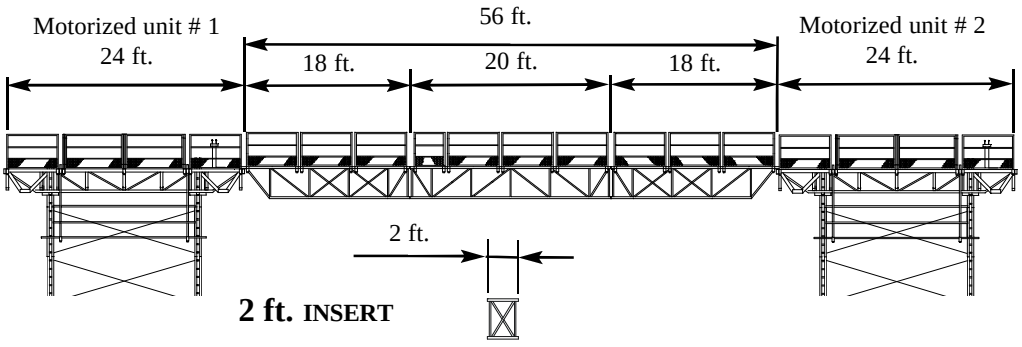
B - CANTILEVER BRIDGES

A - BEARING BRIDGES

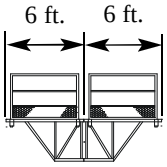
1 - DESCRIPTION:

A bearing bridge is an assembly of (6, 10, 14 and 18 ft.) half-bridge sections pinned and|or bolted together. It is also possible to insert 2 ft. or 20 ft. square end modules between half-bridge sections. Half sections do not require being of same length.

2 - HALF-BRIDGE ASSEMBLY ALTERNATIVES:

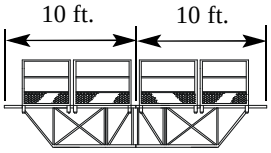


2 ft. INSERT

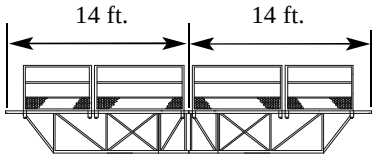


12 ft. BRIDGE

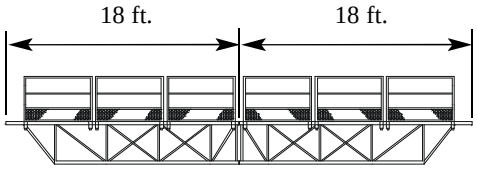
Square end 2 ft. and 20 ft. sections can be inserted between any half-bridge assembly.Also a 2 ft. insert can be installed at the end of the motorized unit.



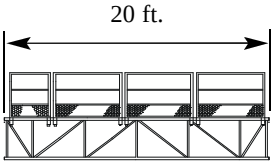
20 ft. BRIDGE



28 ft. BRIDGE



36 ft. BRIDGE



20 ft. INSERT

Figure 4.1

3 - DISTANCE REQUIRED BETWEEN (2) MOTORISED UNITS:

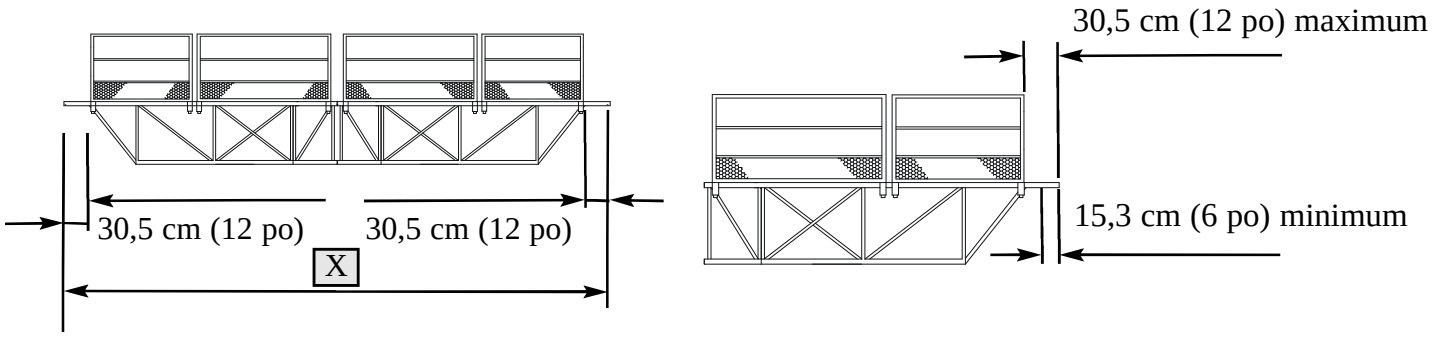


Figure 4.2

A = X - (9 in. x 2)
ex.: 36 ft.
18 ft. + 18 ft.

A = 217 in. x 2 - (9 in. x 2)
A = 416 in. +/- 3 in.

Bridge type	Real dimension
2 ft.	29 in.
6 ft.	72 in
10 ft.	121 in.
14 ft.	169 in.
18 ft.	217 in.
20 ft.	240 in.

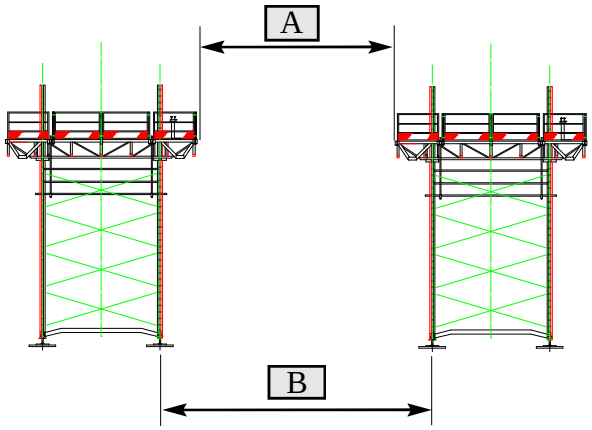


Figure 4.3

a = End to end distance between two motorised units.
b = Tower to tower center line distance.

MU712W
B = A + 48 in.

MU724L
B = A + 108 in.

4 - GUARD RAIL REQUIREMENT BASED ON BRIDGE LENGTH:

Guard rails					
Description	**24 in.**	**28 in.**	**36 in.**	**65 in.**	**79 in.**
2 ft. bridge insert	1				
6 ft. half section				1	1 for cantilever setup
10 ft. half section			1	1	1 for cantilever setup
14 ft. half section	1			2	1 for cantilever setup
18 ft. half section				3	1 for cantilever setup
20 ft. bridge insert			1	3	
12 ft. motorized unit		2		2	2 for MU712W setup
24 ft. motorized unit				4	2 for MU724J setup
16 ft. forward extension	2			1	2

Table 4.4

5 - INSTALLING BRIDGES AT AN ANGLE:

When bridges form an angle other than 180^{o} with units, retaining studs cannot be used. In such a case, chains have to be secured at both ends.

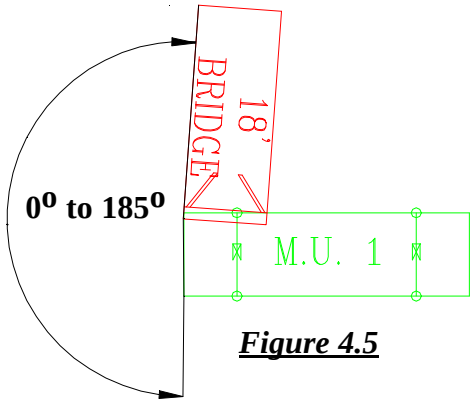


Figure 4.5

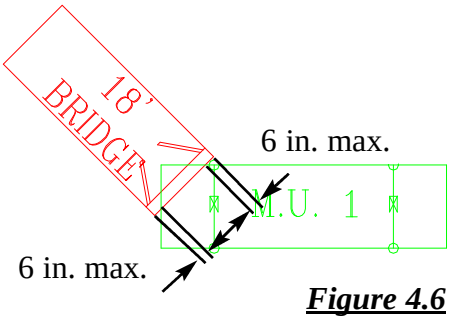


Figure 4.6

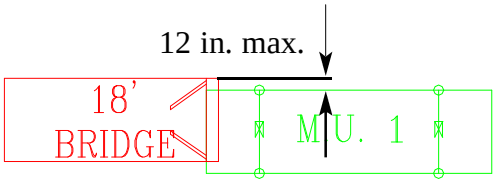


Figure 4.7

6 - MAXIMUM SLOPE OF BRIDGE:

WARNING

When raising or lowering motorized unit joined by bridges, make sure not to exceed maximum bridge slope of 8.33% or 1" per foot.

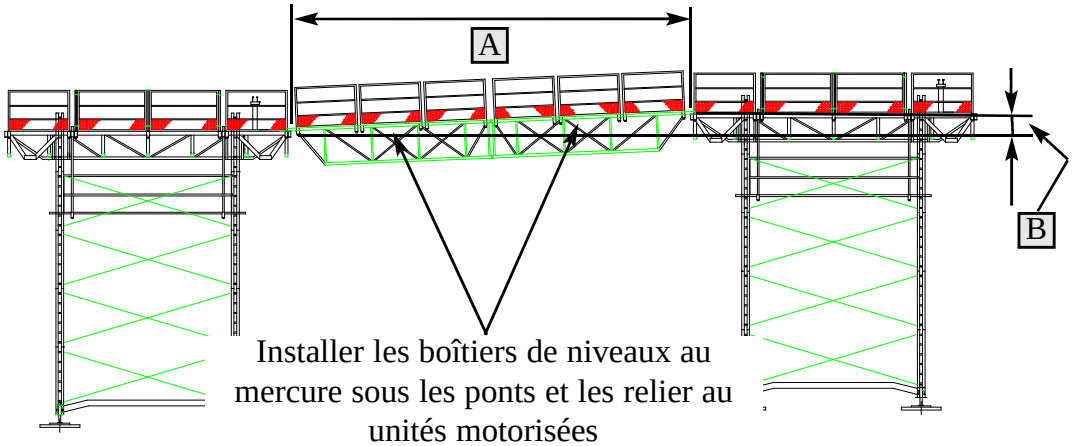


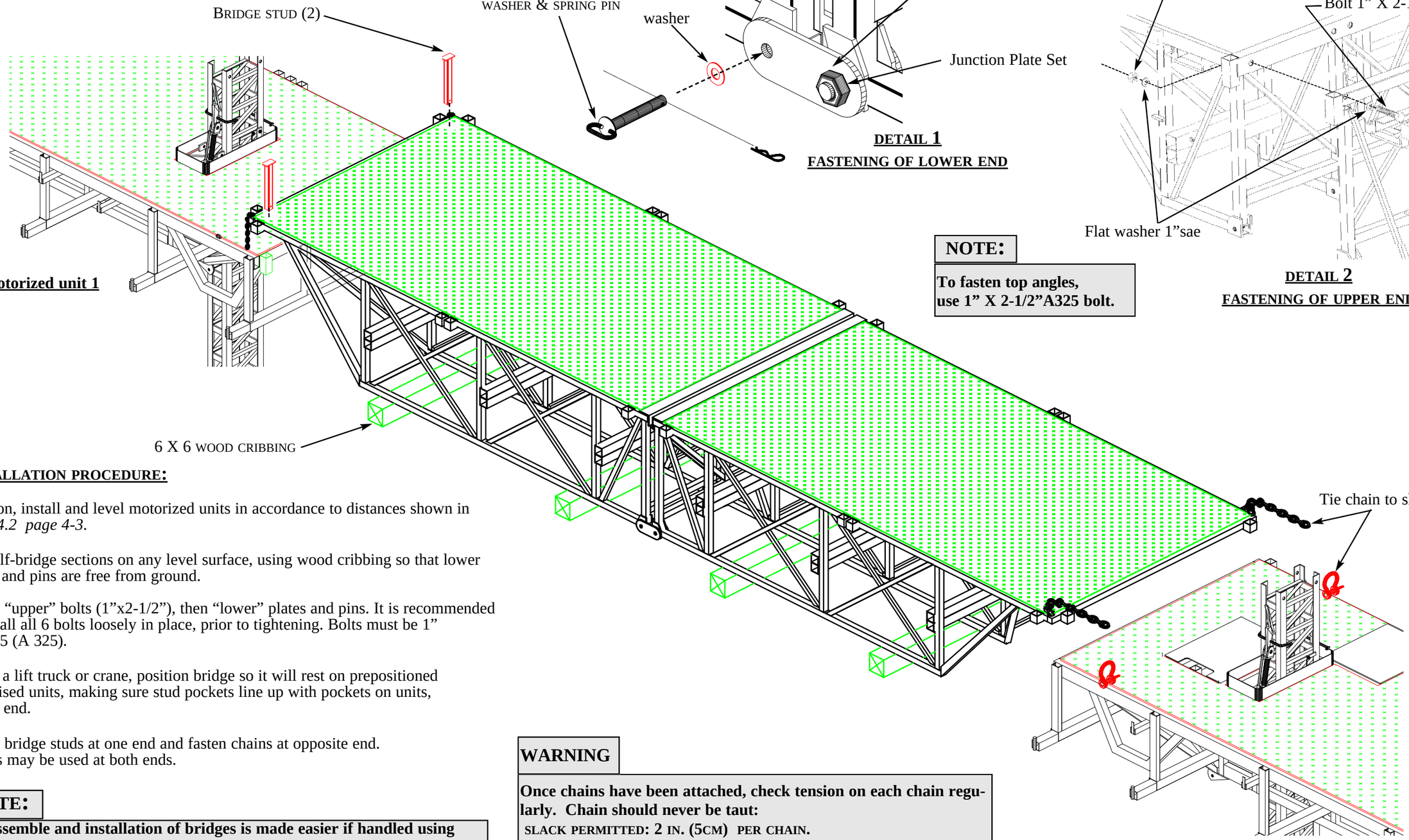
Figure 4.8

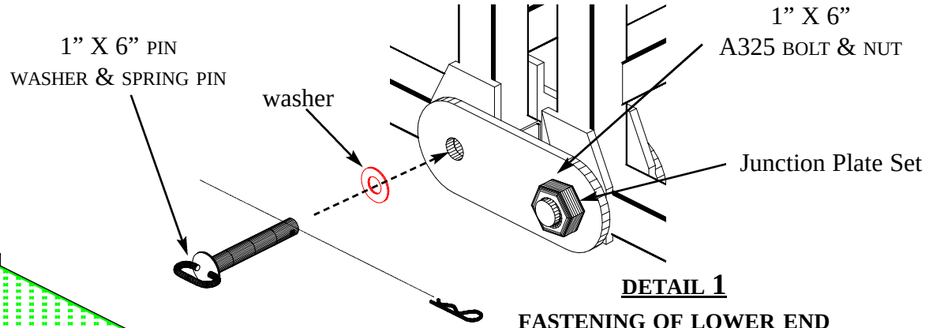
Distance A = *see page 4.3*

B max = A x $\frac{1 \text{ in.}}{12 \text{ in.}}$

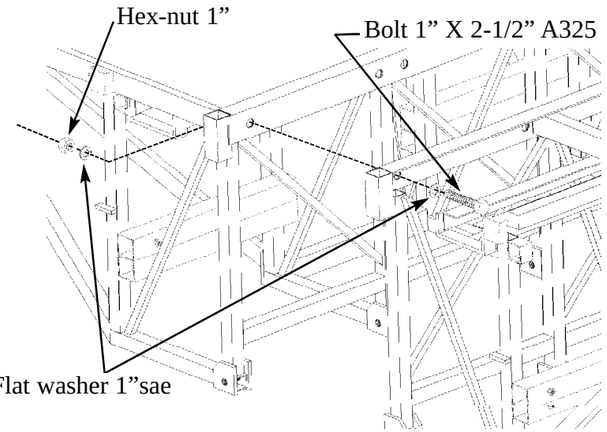
HELPFUL HINT: Height difference equals a maximum of one inch per foot of bridge length.

7 - INSTALLATION OF BEARING BRIDGE ASSEMBLY





DETAIL 1
FASTENING OF LOWER END



DETAIL 2
FASTENING OF UPPER END

NOTE:

To fasten top angles, use 1" X 2-1/2"A325 bolt.

INSTALLATION PROCEDURE:

1. Position, install and level motorized units in accordance to distances shown in *table 4.2 page 4-3.*
2. Set half-bridge sections on any level surface, using wood cribbing so that lower plates and pins are free from ground.
3. Install "upper" bolts (1"x2-1/2"), then "lower" plates and pins. It is recommended to install all 6 bolts loosely in place, prior to tightening. Bolts must be 1" grade 5 (A 325).
4. Using a lift truck or crane, position bridge so it will rest on prepositioned motorised units, making sure stud pockets line up with pockets on units, at one end.
5. Install bridge studs at one end and fasten chains at opposite end. Chains may be used at both ends.

NOTE:

Pre-assemble and installation of bridges is made easier if handled using slings, cables or chains by means of lift truck, beam truck or crane.

WARNING

Once chains have been attached, check tension on each chain regularly. Chain should never be taut:
SLACK PERMITTED: 2 IN. (5CM) PER CHAIN.
If chains are taut or more than 2 in. slack per chain, RE-CHECK COMPLETE LEVELLING OF EACH MOTORISED UNIT AS WELL AS MAXIMUM BRIDGE SLOPE 8.33% OR 1/12.

B - CANTILEVER BRIDGE:

1 - DESCRIPTION:

A cantilever bridge system is the assembly of one or two half-bridges at the end of a single motorised unit, using bolts. A bridge yoke must be used to transfer compression efforts of the bottom of the structure back to the motorised unit.

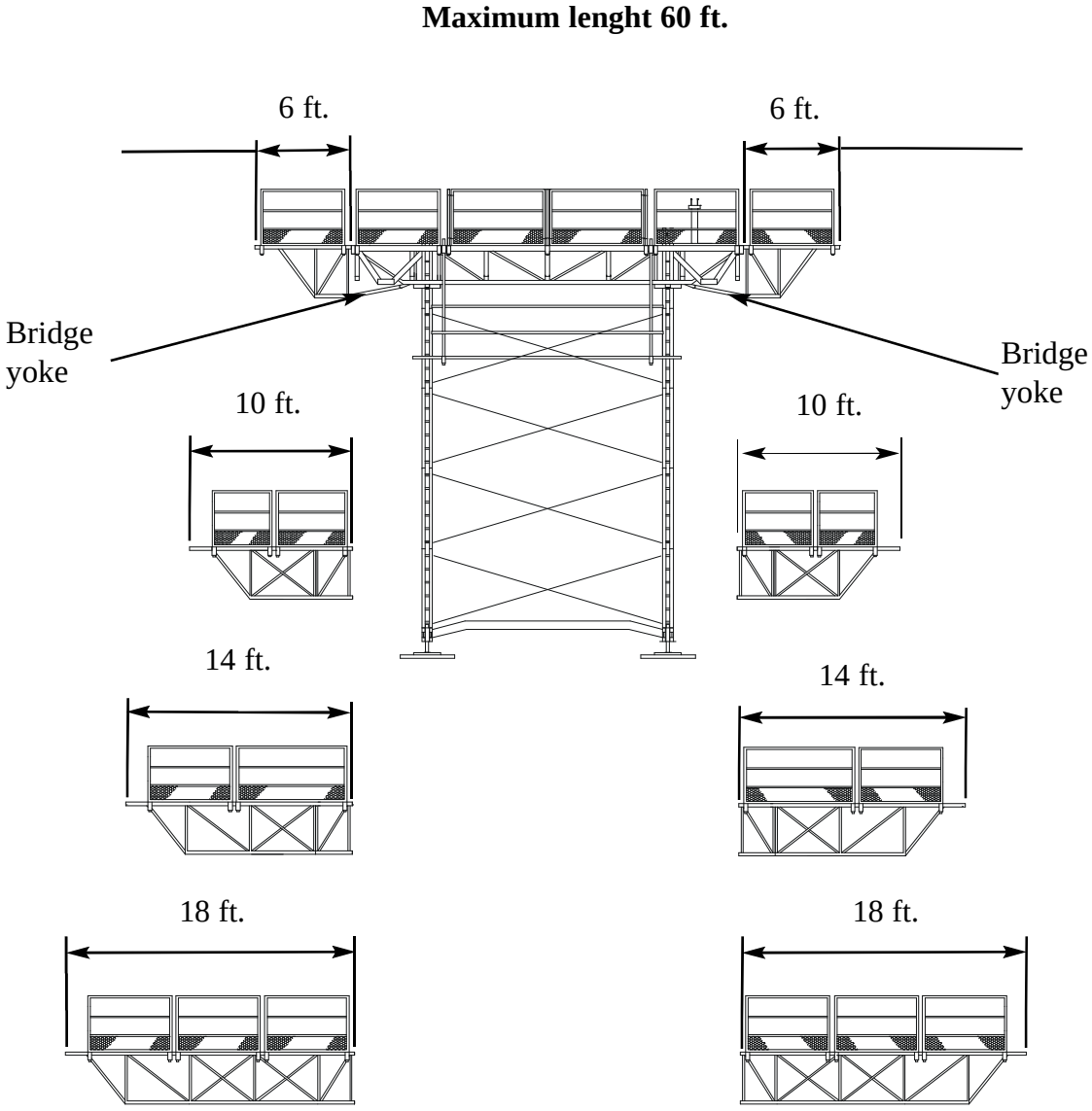


Figure 4.10

2 - INSTALLATION OF CANTILEVER BRIDGES:

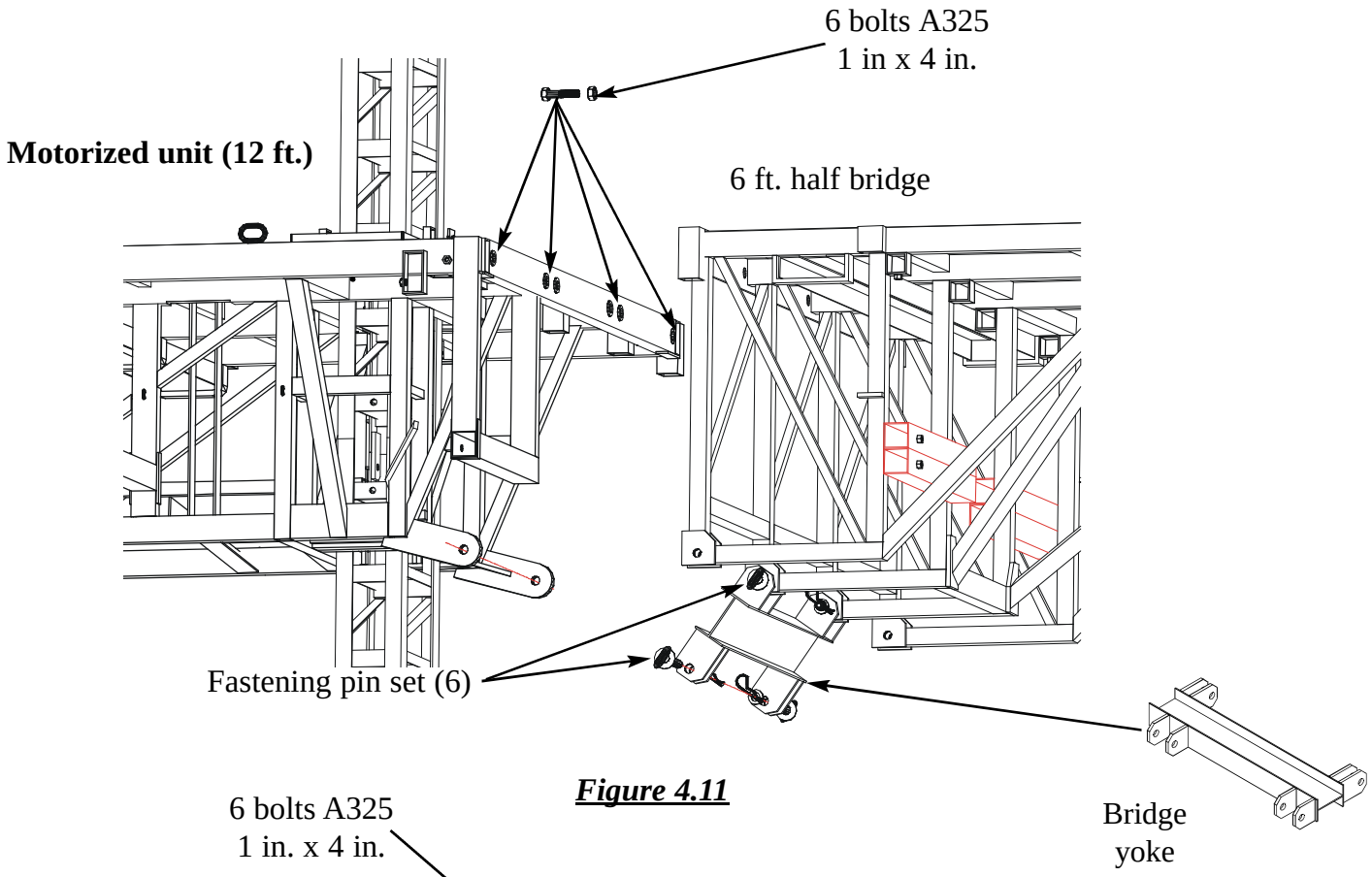


Figure 4.11

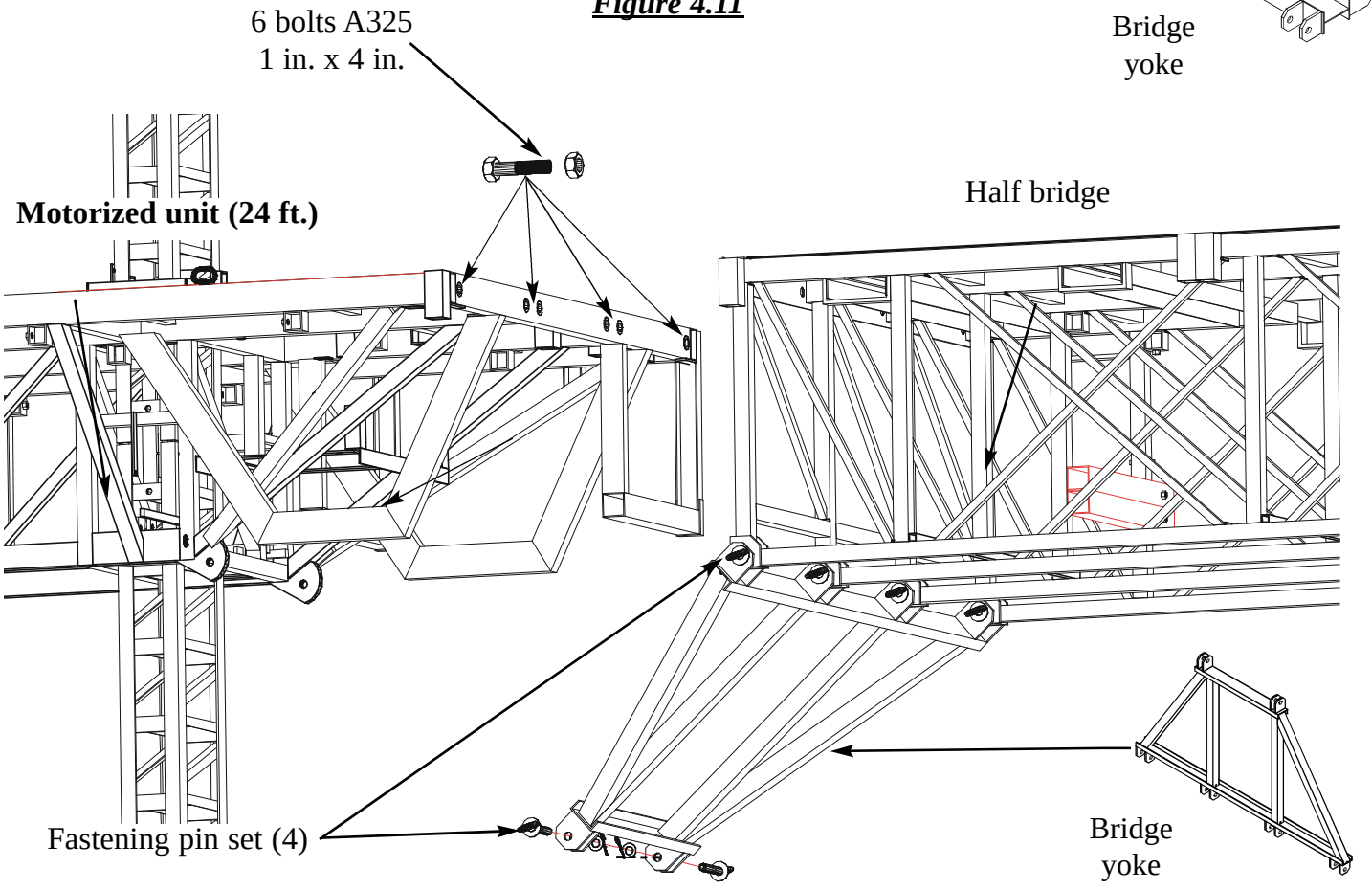


Figure 4.12

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Installation procedure:

1 - Position motorized unit to allow easy access. Raise to top of first tower.

2 - Use lift truck to position the half bridge or hang it from chains or slings.

3 - Install (6) upper fastening bolts using lock washers and nuts.
DO NOT TIGHTEN YET.

4 - Connect Bridge Yoke to half bridge, using (4) pins (2 on 12 ft. unit) as provided with yoke. 1 in. x 6 in. Bolts (A325) may be used instead of pins.

NOTE: The bridge yoke is non symetrical and the front marked "F" (MU724J only) must point the to the front of motorized unit (facing wall).

5 - Raise opposite end of yoke, line up with eyes underneath unit tower structure, insert pins (2), washers and spring pins. It may be necessary to move bridge lip up or down to ensure yoke and eyes line up.

NOTE: Cantilever bridge installation is made easier if bridge section is lifted, using slings, cables or chains by means of lift truck, boom truck or crane.

Use two or four slings, cables or chains so that sections remain horizontal, then:

6 - Attach yoke to bridge.

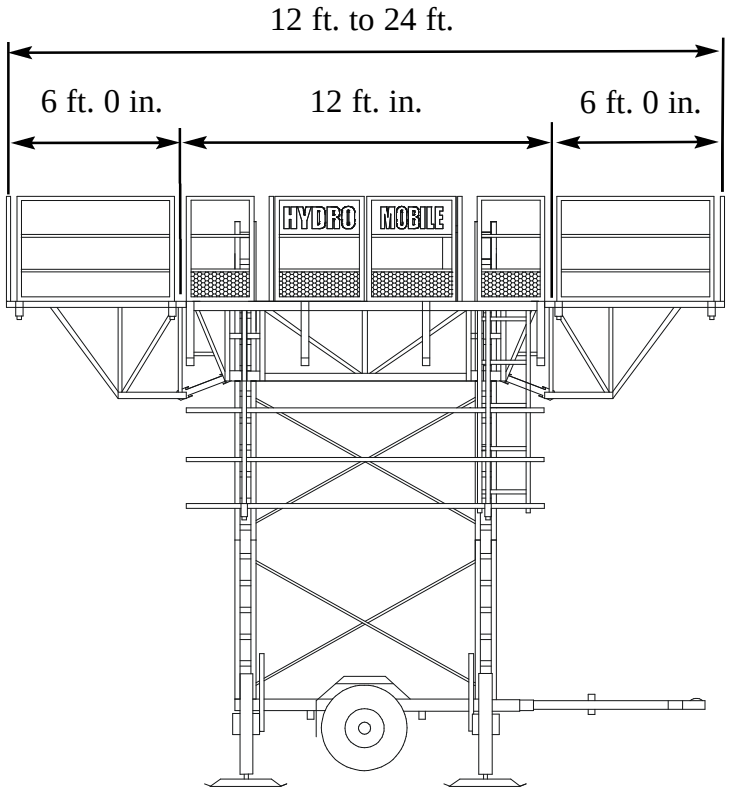
7 - Line up top mounting holes to corresponding holes on motorized unit.

8 - Pin yoke to motorized unit.

9 - Insert all six 1 in. x 4 in. upper bolts.

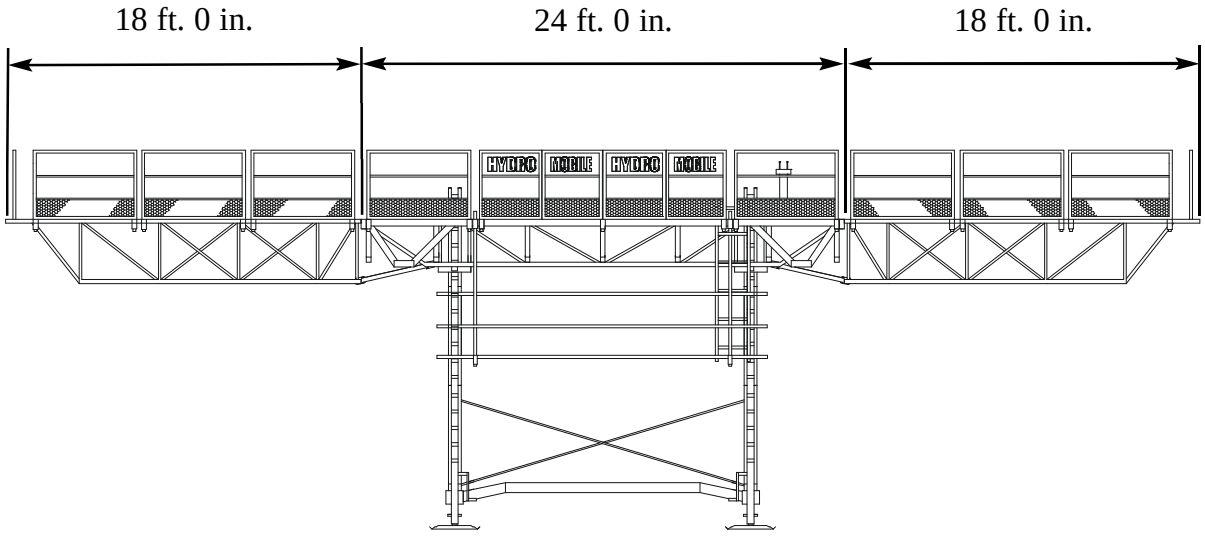
10-Tighten.

4 - STABILITY OF CANTILEVER BRIDGE ASSEMBLIES:



12 ft. motorized unit

Figure 4.13



24 ft. motorized unit

Figure 4.14

DANGER

For stability, both sides must be of the same lenght.
However, a single 6 ft. section can be used at one end or the other.

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6 - STABILITY OF CANTILEVER BRIDGE ASSEMBLIES, CONT'D

A - USING TWO OR MORE 12 FT. MOTORIZED UNITS:

DANGER

Never attach a bearing bridge to a cantilever bridge.

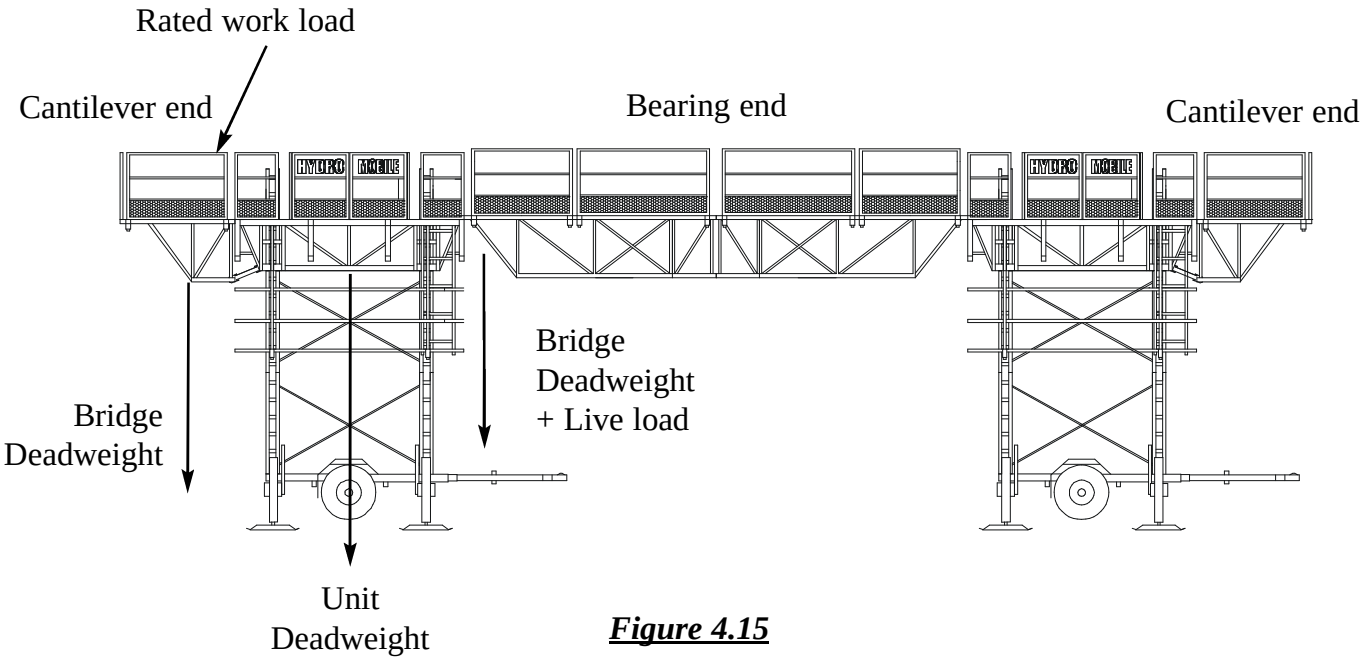

Figure 4.15

Bearing end / Canti. end	Nothing	Bridge 12 ft	Bridge 20 ft.	Bridge 28 ft.	Bridge 36 ft.	Bridge 48 ft.	Bridge 56 ft.
Nothing	ok	ok	ok	ok	ok	ok	ok
6 ft.	ok	ok	ok	ok	ok	ok	ok
10 ft.							
14 ft.							
18 ft.							

For other possibilities consult the manufacturer.

Figure 4.16

5 - STABILITY OF CANTILEVER BRIDGE ASSEMBLIES, CONT'D

A - USING TWO OR MORE 24 FT. MOTORIZED UNITS:

DANGER

Never attach a bearing bridge to a cantilever bridge.

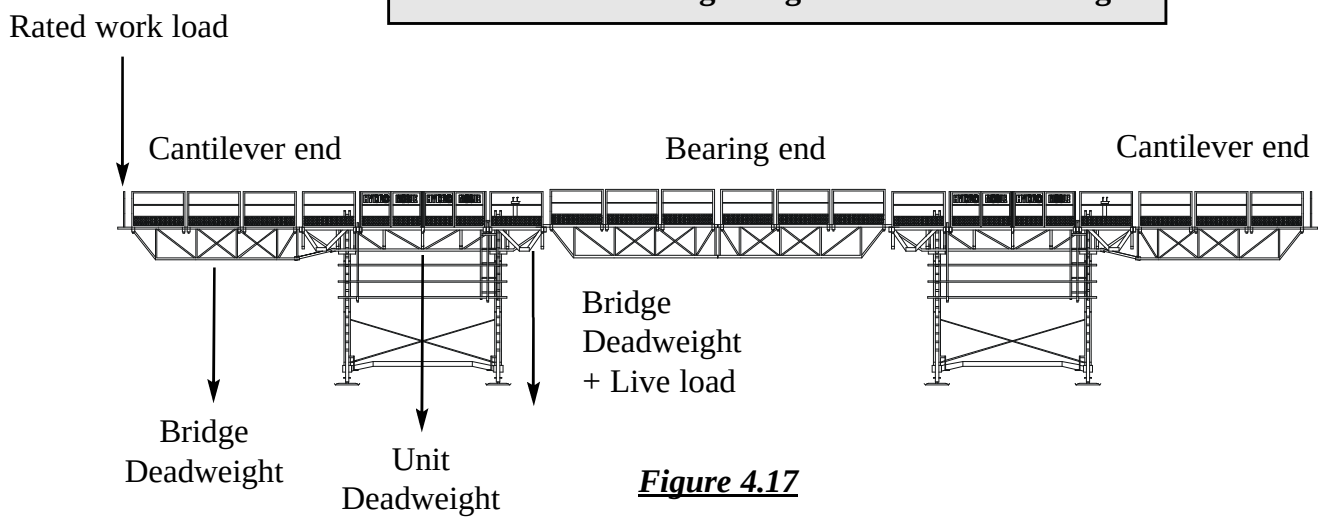

Figure 4.17

Bearing end / Canti. end	Nothing	Bridge 12 ft.	Bridge 20 ft.	Bridge 28 ft.	Bridge 36 ft.	Bridge 48 ft.	Bridge 56 ft.
Nothing	ok	ok	ok	ok	ok	ok	ok
6 ft.	ok	ok	ok	ok	ok	ok	ok
10 ft.		ok	ok	ok	ok	ok	ok
14 ft.				ok	ok	ok	ok
18 ft.					ok	ok	ok

For other possibilities consult the manufacturer.

Table 4.18

CHAPTER 5

EXTENSIONS

EXTENSIONS

A - FORWARD EXTENSIONS

B - BACK EXTENSIONS

A - FORWARD EXTENSIONS:

DESCRIPTION:

In many circumstances, there will be a need for a longer platform without being able to add in another motorised unit.

In the Bridge section of this manual, the use of Cantilever Bridge Sections is explained with specific references to symmetry, stability, versus the length of the cantilever wing.

Another way of augmenting platform reach is by making use of extensions.

There are three types:

10 ft. extension set up extends 7 to 10 ft.

16 ft. extension set up extends 13 to 16 ft.

22 ft. extension set up extends 19 to 22 ft.

WARNING

Extensions are designed for the execution of work and not for loading of materials. Absolutely no point loading is allowed.

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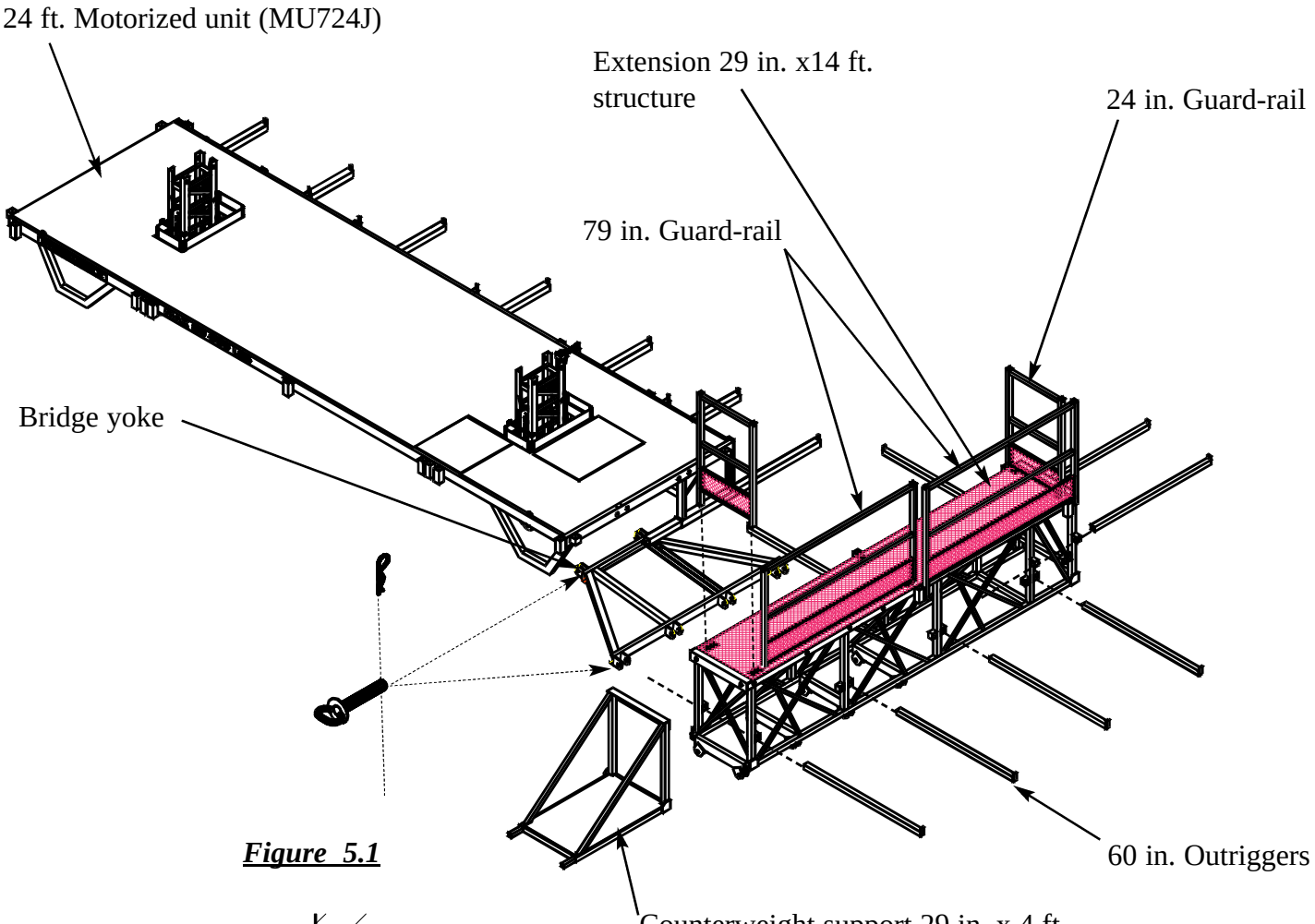

Figure 5.1

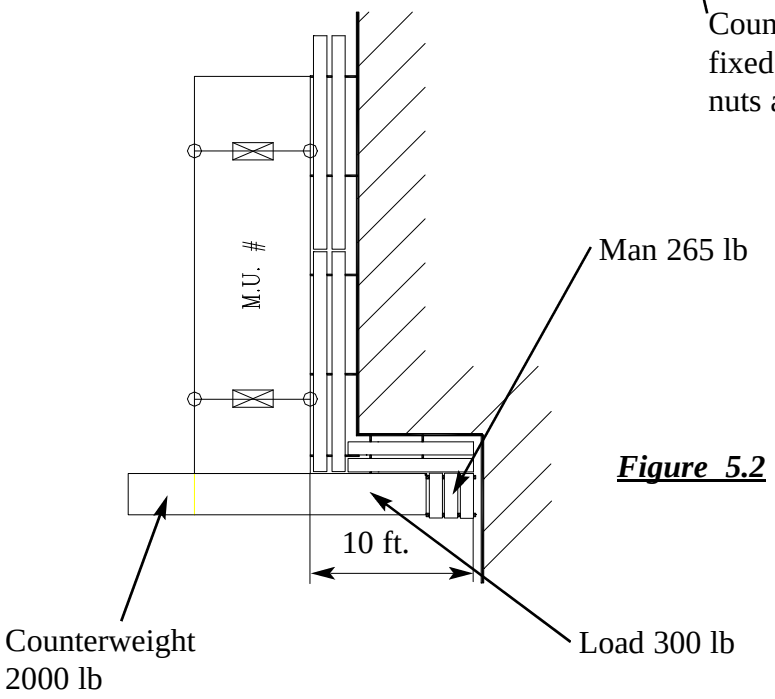

Figure 5.2

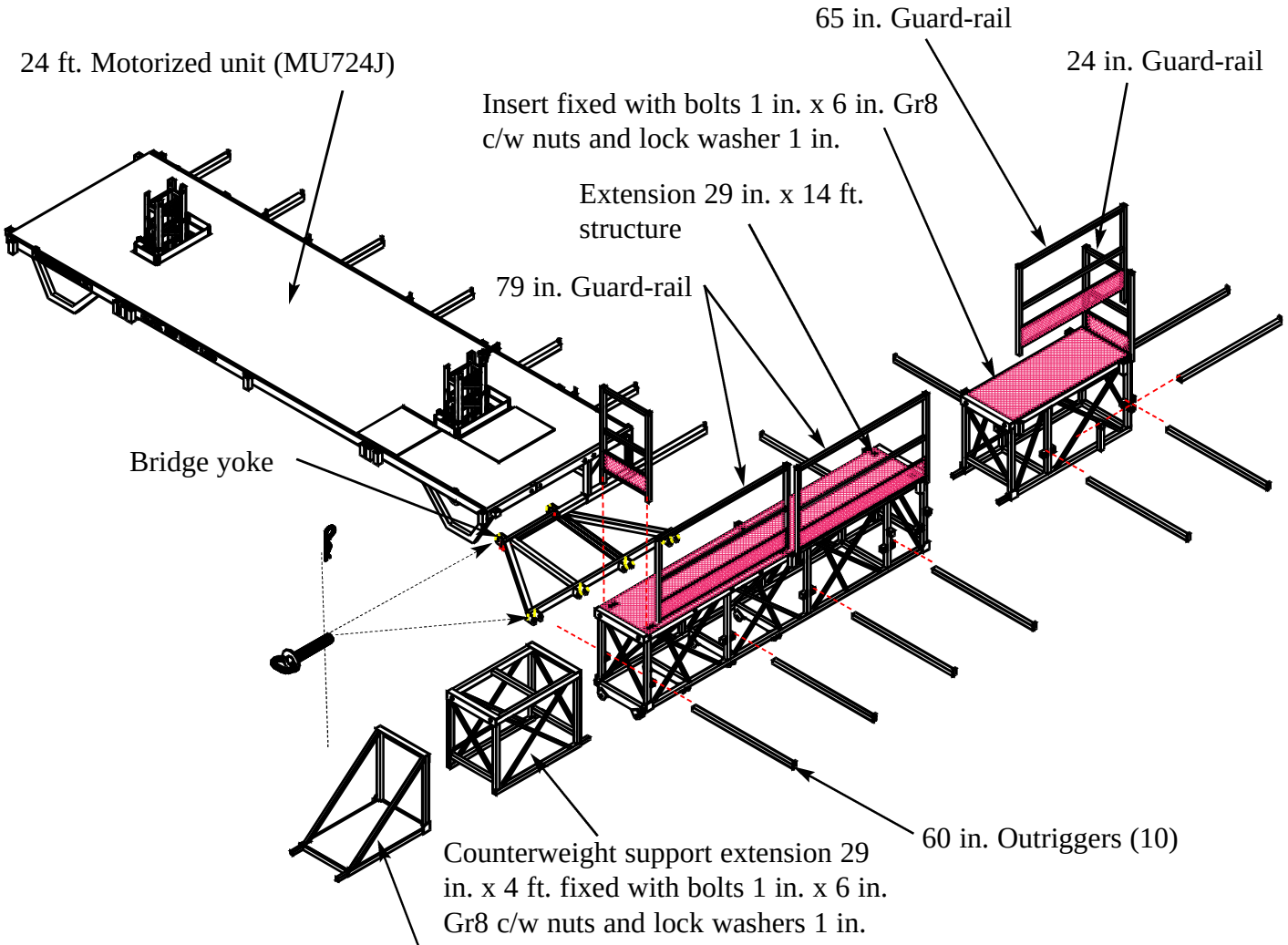

Figure 5.3

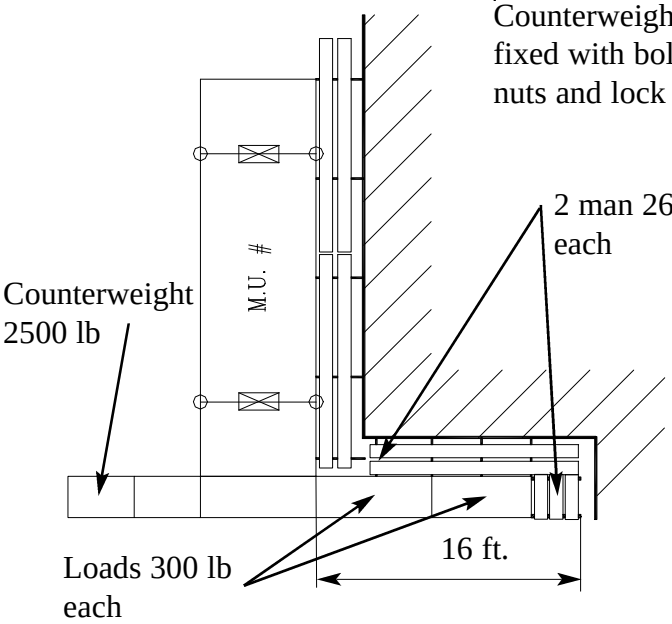

Figure 5.4

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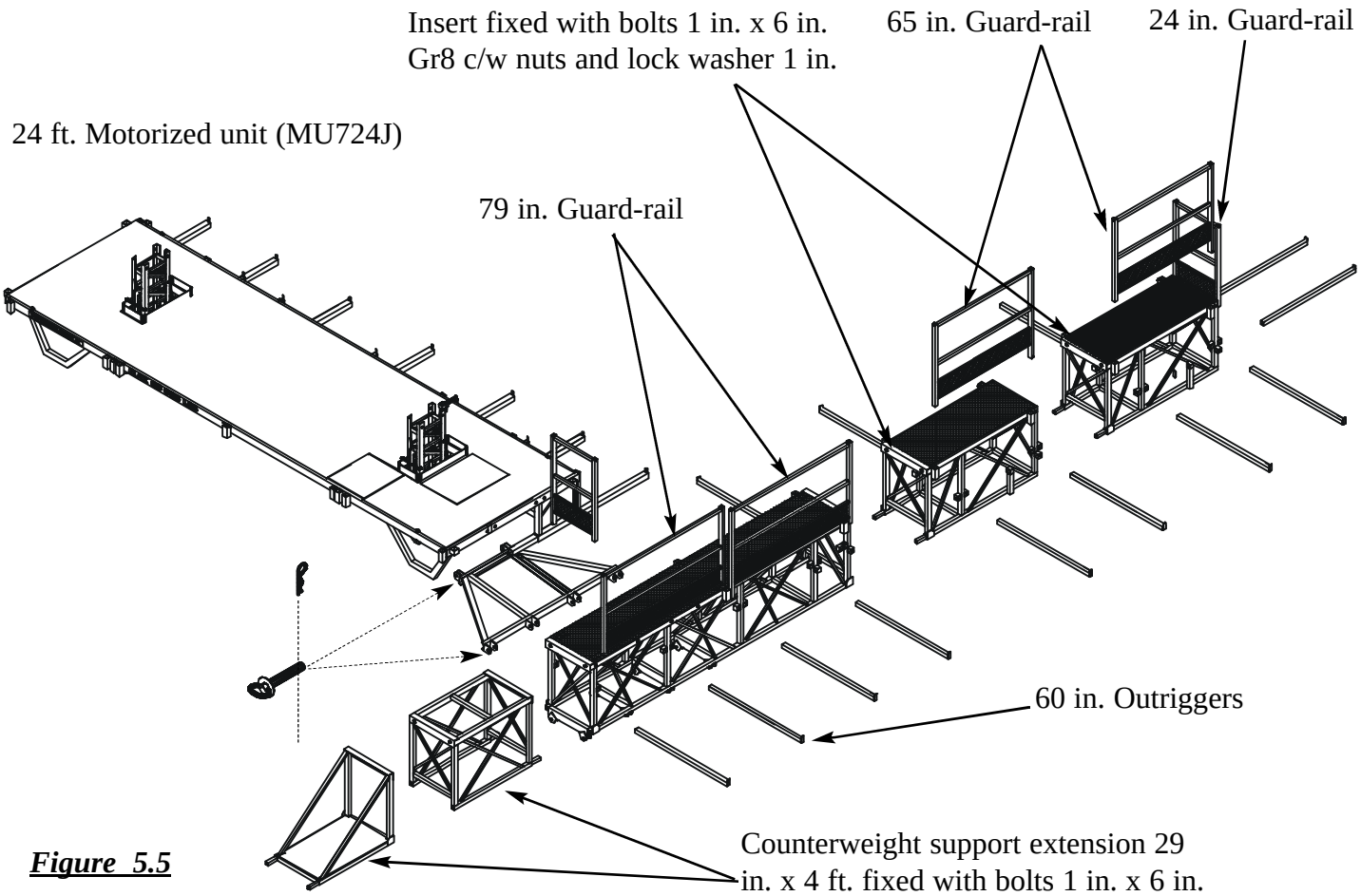

Figure 5.5

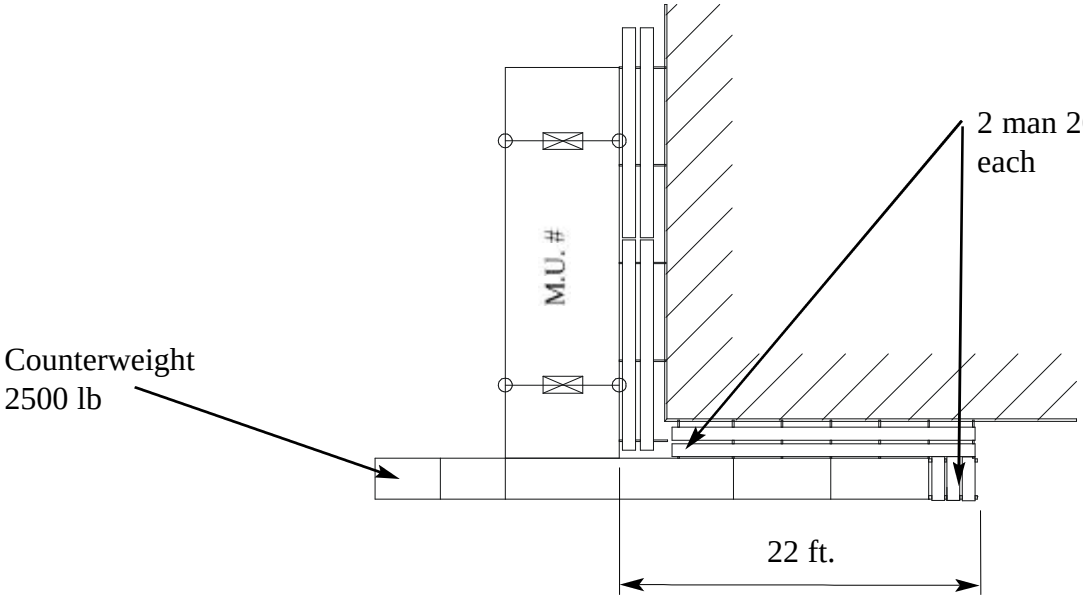

Figure 5.6

B - BACK EXTENSION

PROCEDURE:

1 - Under some work conditions, there may be a need for extra space behind the tower for handling materials or equipment. Furthermore, to access certain work areas, it may be necessary to use 4 or more mason's planks and stock more material on the front of the work platform. In these conditions , the platform may become "front heavy" and require that back extensions be used to stock counter weight material. The counter weight brick or block will therefore keep the work platform in balance. The back extension size is 8 ft. 6 in. x 2 ft. 3 in. and two (2) are installed on the back of the motorized unit (behind towers).

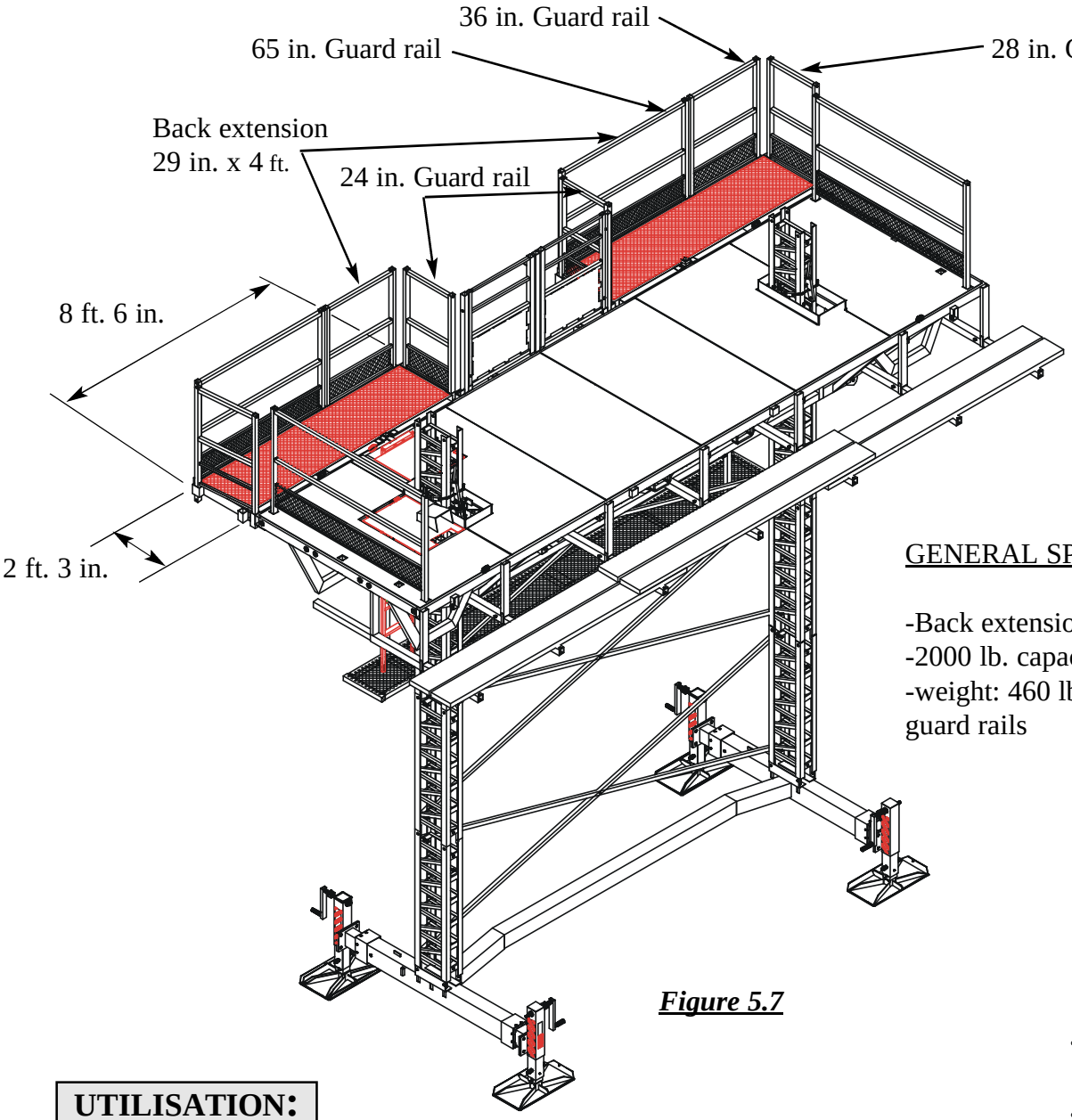

Figure 5.7

GENERAL SPECIFICATIONS

-Back extension (EX09-00)
-2000 lb. capacity/each
-weight: 460 lb. including guard rails

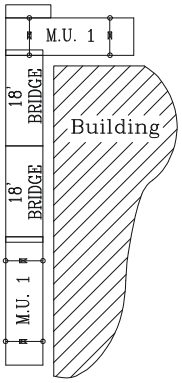

Figure 5.8

UTILISATION:

- setup with 6 planks and more
- inside corner *see figure 5.4*

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B - BACK EXTENSION, CONT'D

INSTALLATION PROCEDURE:

1 - Lift the back extension to the same height as the motorized unit using a lift truck or other handling equipment, making sure the 3 outrigger pockets are lined up with those of the motorized unit. **Note that the back extension can simply rest on the lift truck forks**.

2 - Loosen the bolts on the motorized unit pockets and place the back extension until it is flush with the motorized unit. There is no need to overlap.

3 - Slide outriggers all the way in on each side of the back extension. To provide room to slide the remaining center outrigger, have the lift truck operator lower the forks slowly. Slide the center outrigger in place and tighten the 3 bolts.

4 - Install the 4 guard rails. Repeat the procedure for the other side of the motorized unit.

WARNING

When using the back extensions to load counterweight materials, do not exceed 2000 lb on each side.

CHAPTER 6

ACCESSORIES

ACCESSORIES

A - OUTRIGGERS

B - PORTABLE OUTRIGGER SET

C - UNIVERSAL OUTRIGGER CROSS-BOXES

D - END BRACKETS

E - REAR BRACKETS

F - GUARD RAILS

G - DOORS

H - MASON GUARD RAILS

I - GUARD RAIL PLANK BRACKETS

J - FACE GUARD RAIL BRACKETS

K - TOWERS, LADDERS AND GUARD RAILS

L - HANDLING APPARATUS

M - LOCKING BARS

N - UTILITY BASKETS

O - CANTILEVER BRIDGE OUTRIGGER SUPPORTS

P - GUARD RAILS AND BRIDGE LOCK POCKETS

A - OUTRIGGERS

DESCRIPTION:

Two levels of outriggers are provided; for men **(lower level)** and materials **(top level)**.

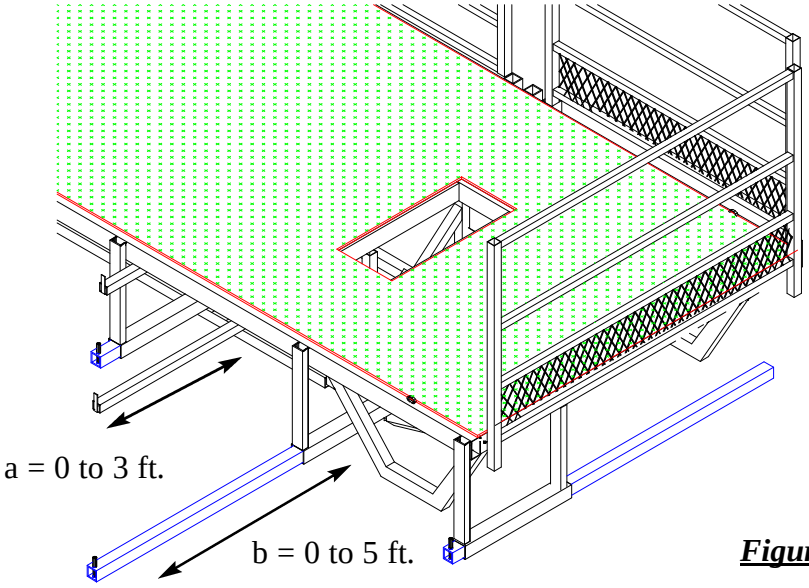


Figure 6.1

Top outriggers can be extended out 3 ft.

Bottom outriggers can be extended out 5 ft.

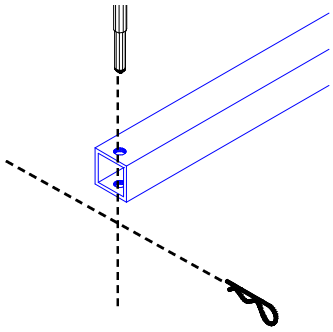


Figure 6.2

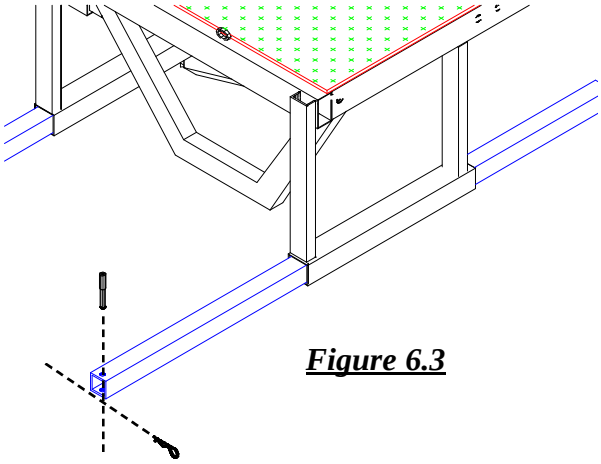


Figure 6.3

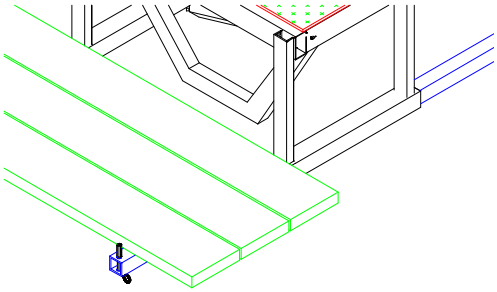


Figure 6.4

PROCEDURE:

1 - Lower outriggers can be inserted from the front or from the back of the outrigger support tubing. Insert plank stop, once outrigger is installed (*see figure 6.2*)

2 - Once planks are in place, push outrigger back in, until plank stop rests against plank (*see figure 6.4*). Lock with set screw 5/8 Nc Hex Hd.

Note: longer outriggers are available for special applications

CAUTION

Always lock outriggers in place, using set screw 5/8 Nc Hex Hd.

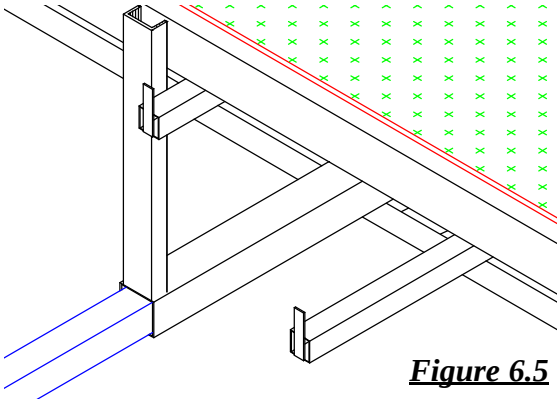


Figure 6.5

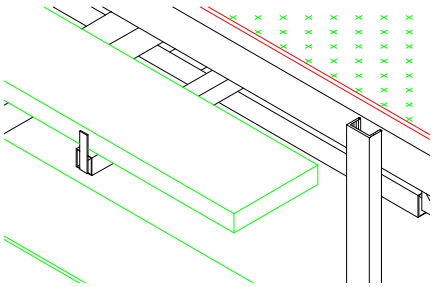


Figure 6.6

Top outriggers can be inserted from the front only.

Once planks are in place, push outrigger back in, until welded plank stop rests snugly against plank. (*see figure 6.6*)

Lock set screw 5/8 Nc Hex Hd

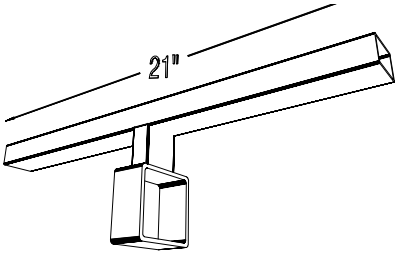


Figure 6.7

PLANK SAFETY

Plank safety (*see figure 6.7*) prevents planks from tipping, lifting and slipping.

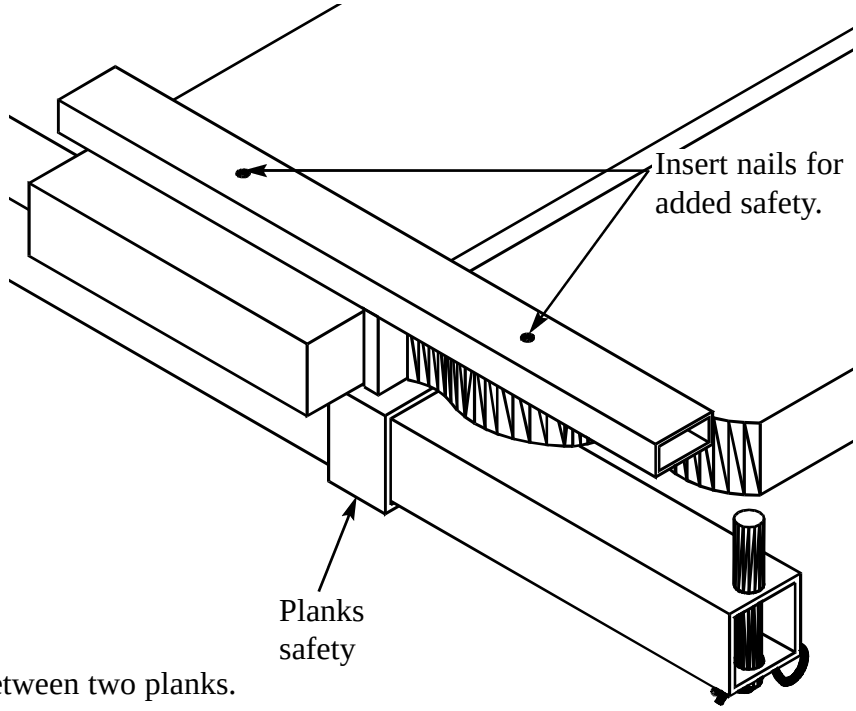


Figure 6.8

PROCEDURE:

1 - Remove plank stop.

2 - Slip plank safety over outrigger between two planks.

3 - Insert plank stop & pin.

If there are more than two planks, use a plank safety for each pair of planks.

B - PORTABLE OUTRIGGER SET

DESCRIPTION:

Allows for the installation of a bottom outrigger anywhere between or beyond two stationary outriggers.

Note: Make sure to respect relative position of components.

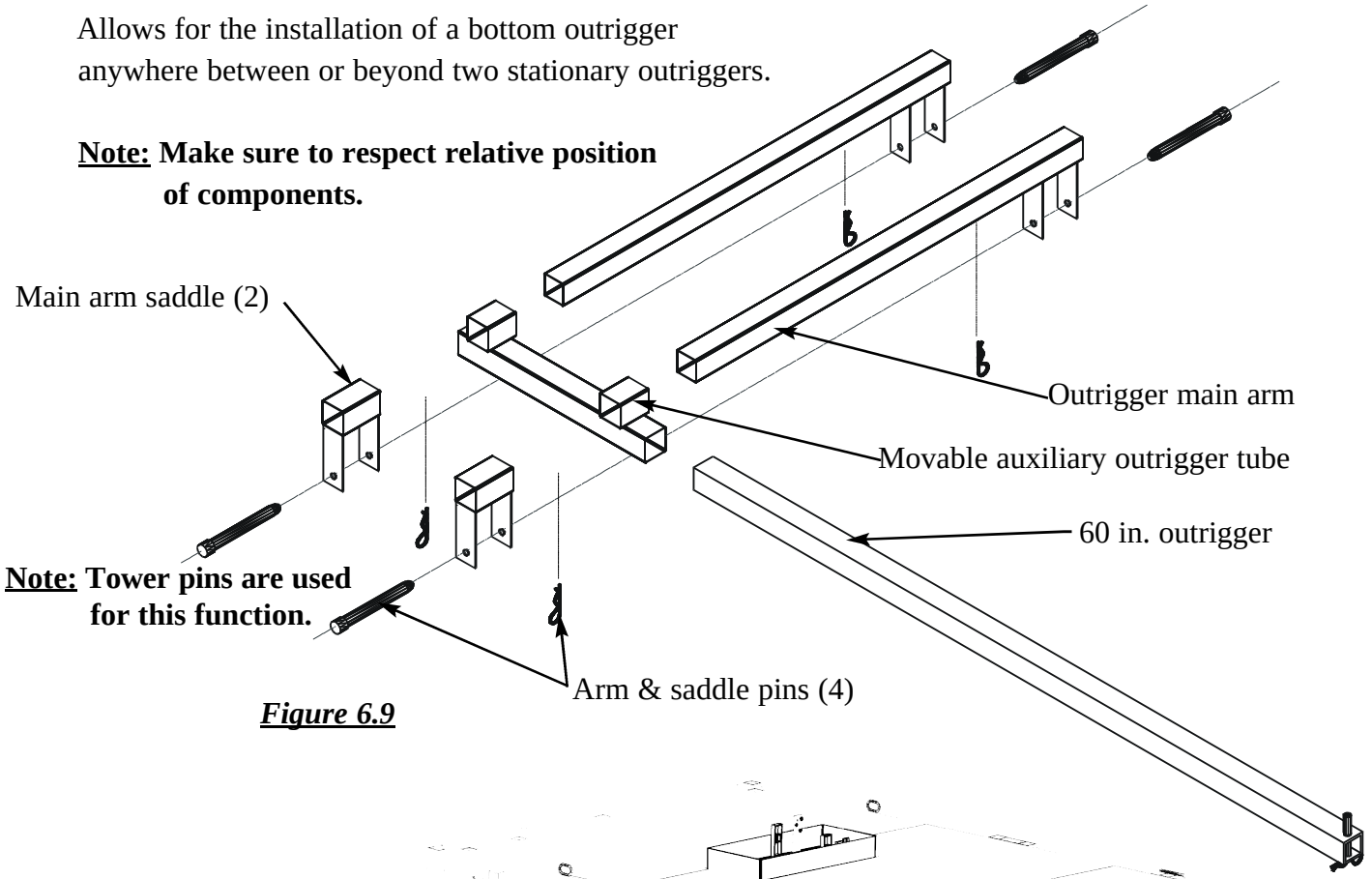


Figure 6.9

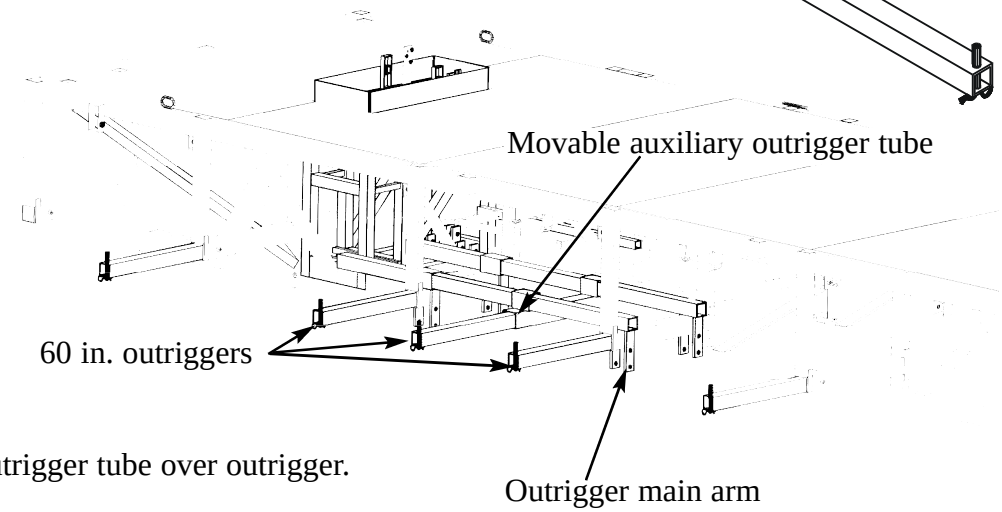


Figure 6.10

PROCEDURE:

1- Slide movable auxiliary outrigger tube over outrigger.

2- Slide main arm saddles over main arms.

3- Position set over two adjacent outriggers, as illustrated.

4- Slide movable auxiliary tube to desired position.

5- Insert (4) pins; (2) in arms, (2) in saddles, using appropriate holes;
first hole: on single outrigger boxes;
second hole: on double boxes.

6- Insert outrigger. Lock all set screws 5/8 NC hex Hd.

C - UNIVERSAL OUTRIGGER CROSS-BOXES

DESCRIPTION:

Cross-boxes provide a mean of installing auxiliary outriggers in odd, or special configurations.

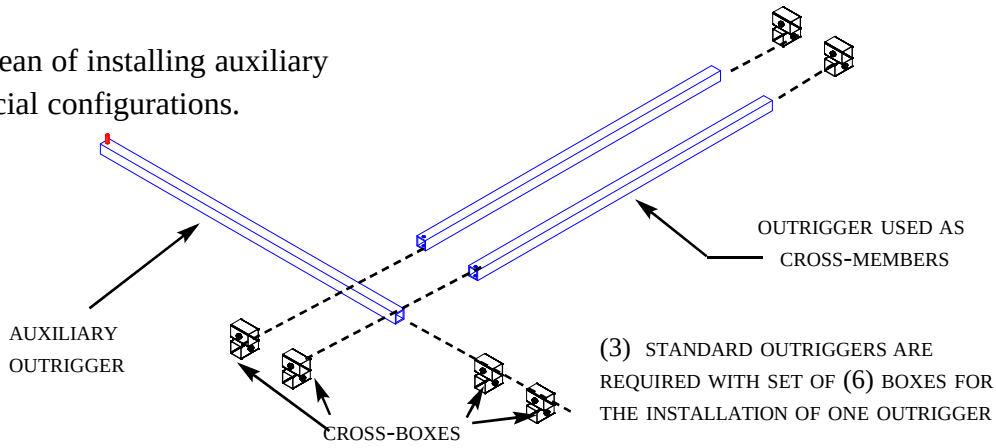


Figure 6.11

PROCEDURE:

1 - Remove lock pin bolt and plank stop from two outriggers.

2 - Slip one box from back and one from front of outrigger (A). Repeat for next outrigger (B)

3 - Slide cross-members in position; one in front and one behind outrigger support 3 in. tubing.

4 - Install remaining two cross-boxes.

5 - Insert auxiliary outrigger.

6 - Adjust all outriggers snugly against planks.

7 - Lock all set screws 5/8 in. Hex. Hd.

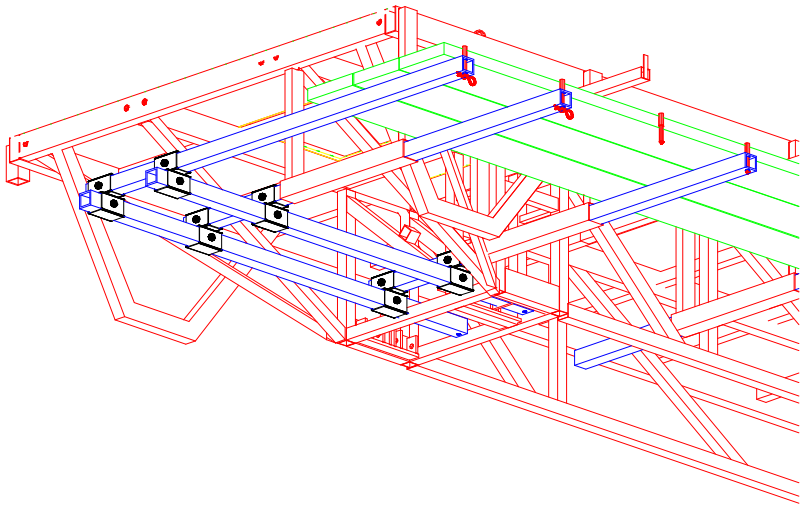


Figure 6.12

Note: **Cross-boxes provide similar functions than portable outrigger sets with, perhaps more flexibility, particularly for end projections.**

In certain cases, (9) cross-boxes and (3) cross-members provide a more sturdy installation, particularly when additional cross-member are set at the end of outriggers. Also two or more outriggers can be installed on one set of cross-members.

D - END BRACKETS

DEFINITION:

A pair of end brackets allows work to be performed off the end of a unit or an extension.

PROCEDURE:

1 - Insert brackets into openings, at end of 4 in. x 2 in. HSS tubing.

2 - Set two planks over brackets.

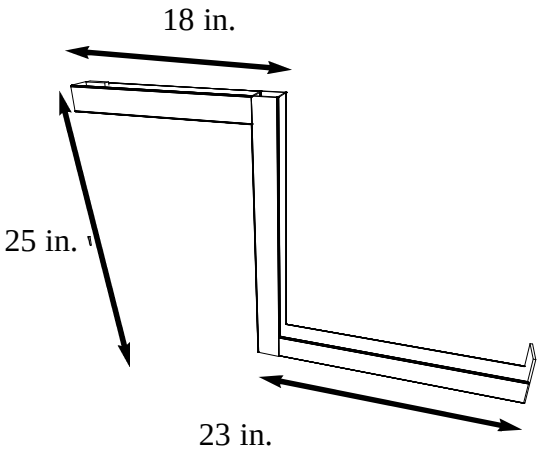
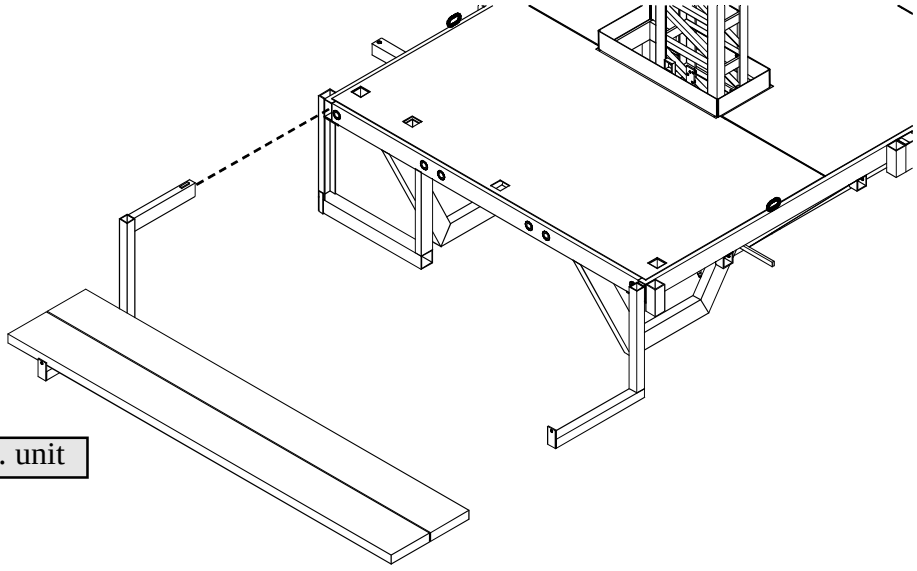
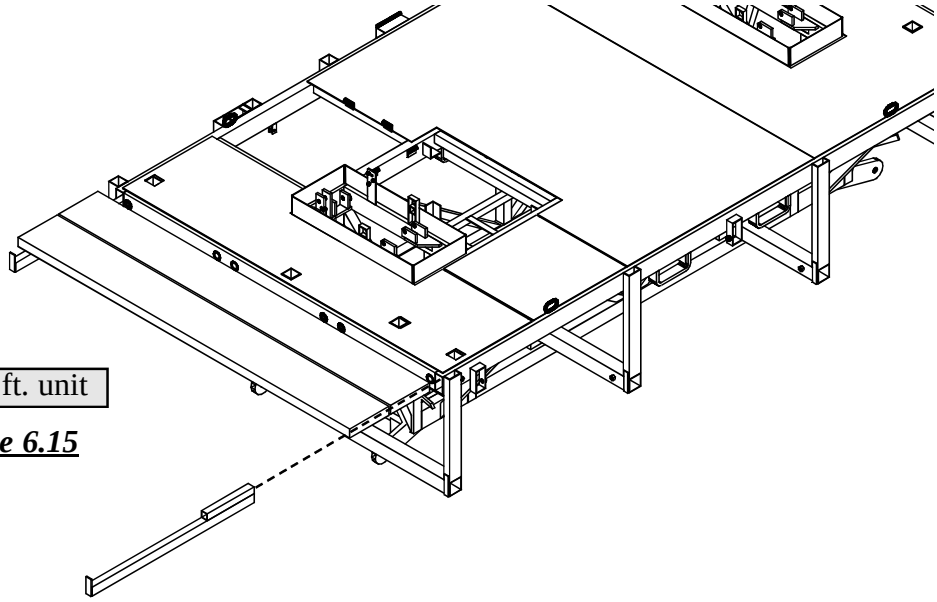


Figure 6.13



For 24 ft. or 12 ft. unit

Figure 6.14



On 12 ft. unit

Figure 6.15

CAUTION

Make sure planks don't extend more than 4 in. beyond brackets, unless they can rest against planks previously installed on mason outrigger, which have been secured, using plank safety.

E - REAR BRACKETS

DEFINITION:

Used as sets of (2) or more, rear brackets are utilized if work is to be done off the back of units, bridges, as well as extensions.

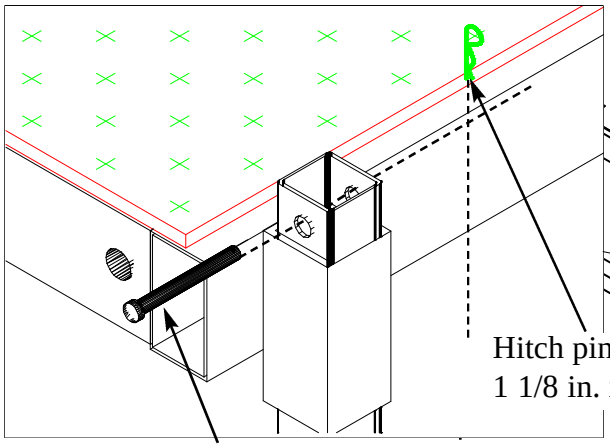


Figure 6.16

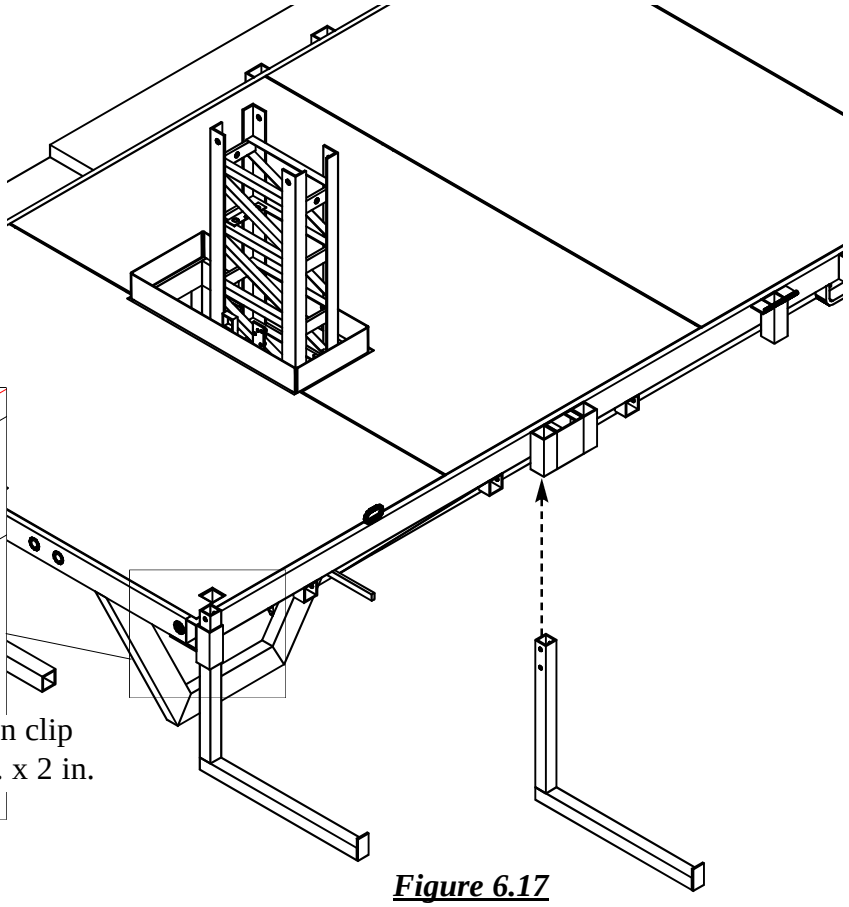


Figure 6.17

PROCEDURE:

1 - Remove guard rails, where work is to be done.

2 - Insert rear brackets into the guard rail or door post pockets from below. Block securely in place, using a pin bolt or bolt & nut.

3 - Install planks. Support brackets can accommodate two planks.

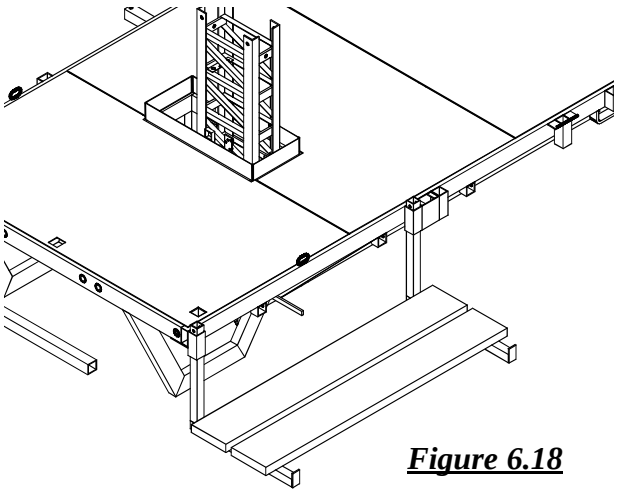


Figure 6.18

Note: **These brackets allow work to be done on both faces of a unit or bridges.**

Facing walls up to 14 ft. apart can therefore be worked upon simultaneously.

WARNING

The capacity per rear bracket is 500 lb. You should inspect the clevis pin every time you do an installation.

F - GUARD RAILS

DESCRIPTION:

Guard rails come in several sizes: 24, 28, 36, 65 and 79 in. The 65 in. is the standard guard rail.

Pockets are provided for the safe installation of guard rails.

On series V and beyond, pockets are removable on the end of units.

Portable pockets are used to provide guard rails at any position along the the front side or end of motorized unit and/or bridges.

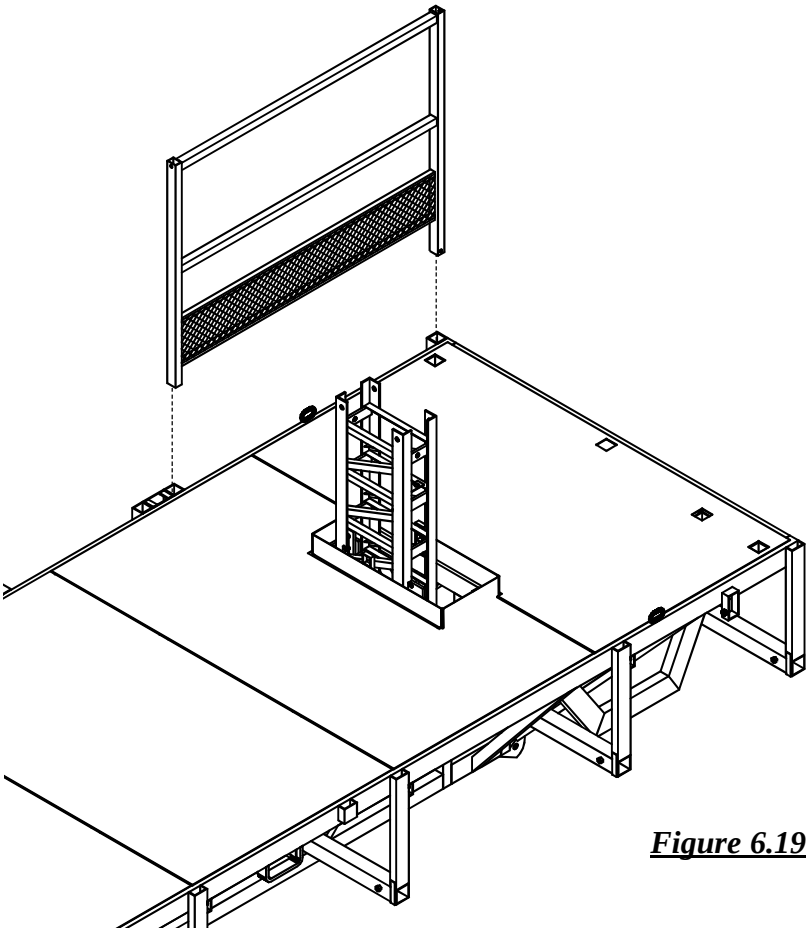


Figure 6.19

PROCEDURE:

1 - Insert guard rail into permanent or removable pockets.

2 - Lock, using pin bolt and spring pin.

Spring pin should be installed inside of guard rail tubing.

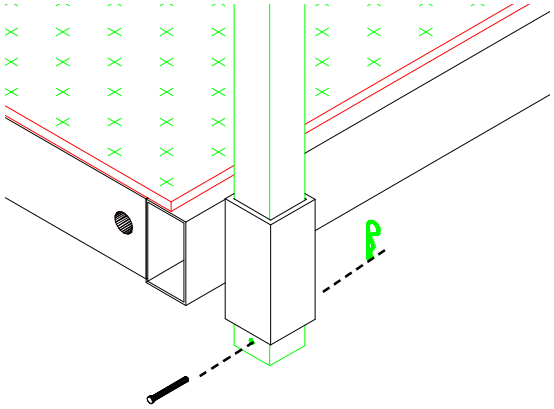


Figure 6.20

G - DOORS

DEFINITION:

Two hinged doors allow for material loading onto main units.

All references are made with the observer standing behind unit and facing the work.

The left door bears the **HYDRO** sign in its name plate.

The right door bears the **MOBILE** sign in its name plate.

There are three (3) posts in total, two (2) supporting doors at hinged side,
one (1) in the center, for locking.

DOORS

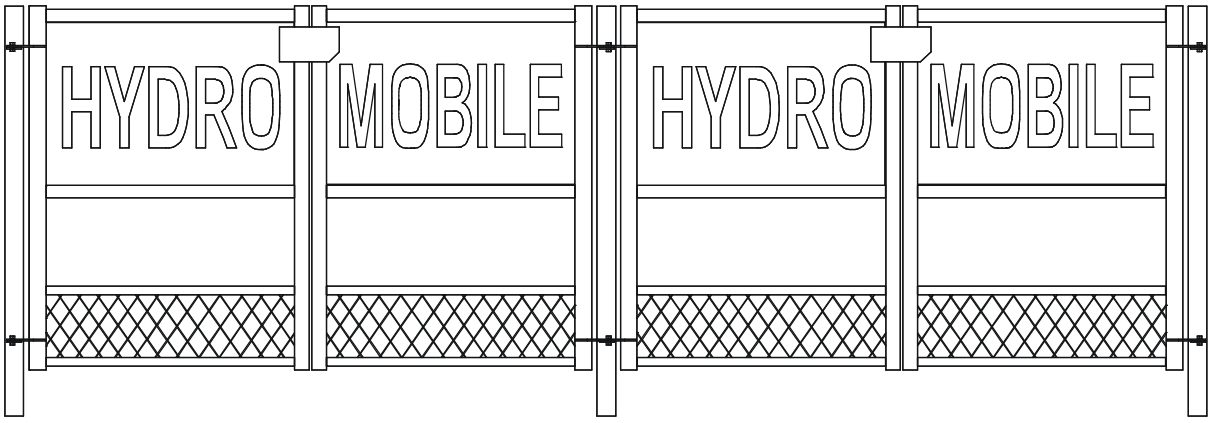


Figure 6.21

G - DOORS, CONT'D

PROCEDURE:

A- Insert door post into socket.

B- Lock it in place with pin and clevis pin

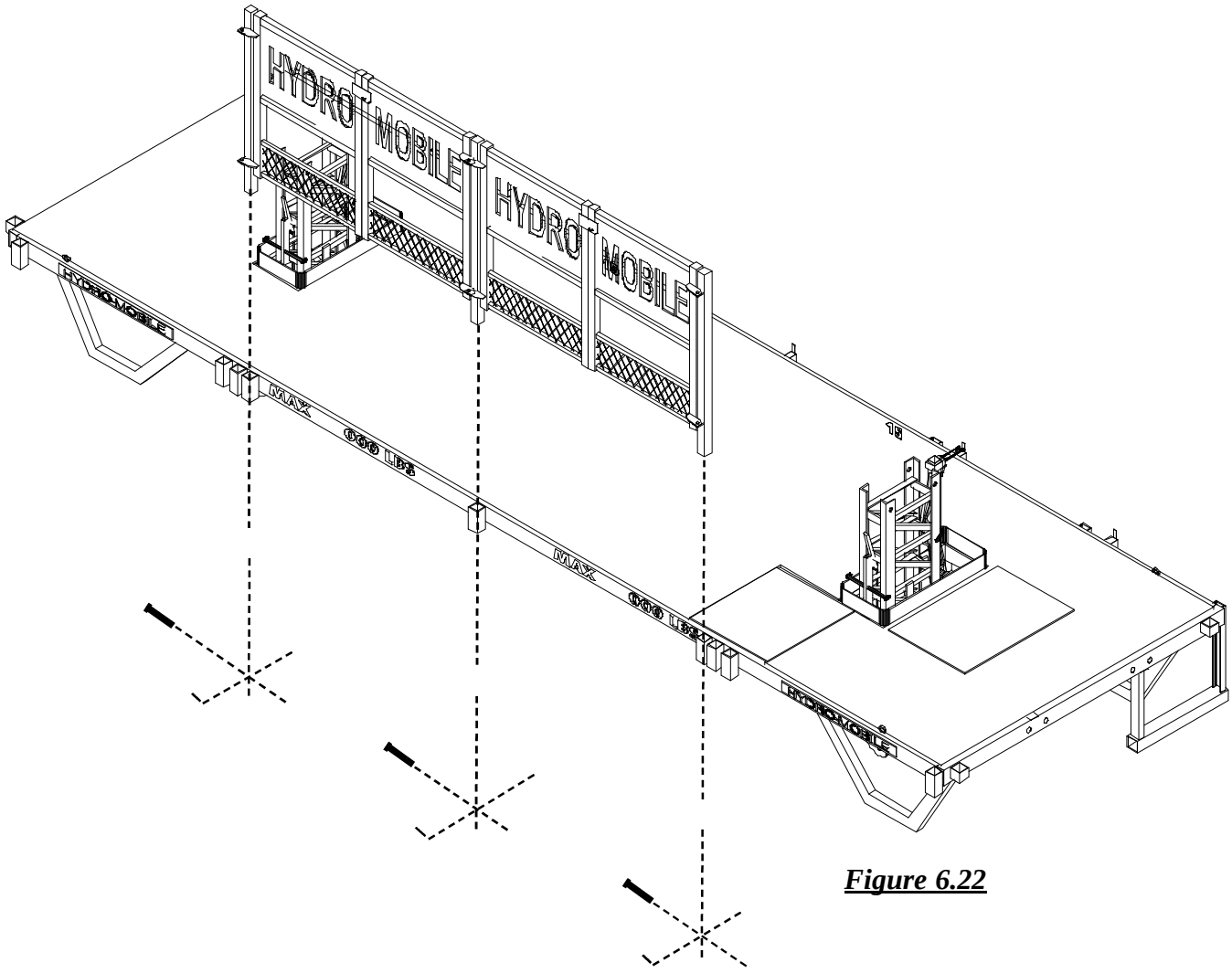


Figure 6.22

WARNING

- **Do not leave door open unnecessarily.**
- **Do not stand in front or near door openings.**
- **Always wear a restraining cable and harness if you must work at or near openings.**

H - MASON GUARD RAILS

DEFINITION:

A mason guard rail permits to close up open ended planks.

It is designed for two planks.

If three planks are used, close gap an other mason guard rail (face to face) *see Figure 6.23*.

If four planks are used, use two mason guard rails, side by side.

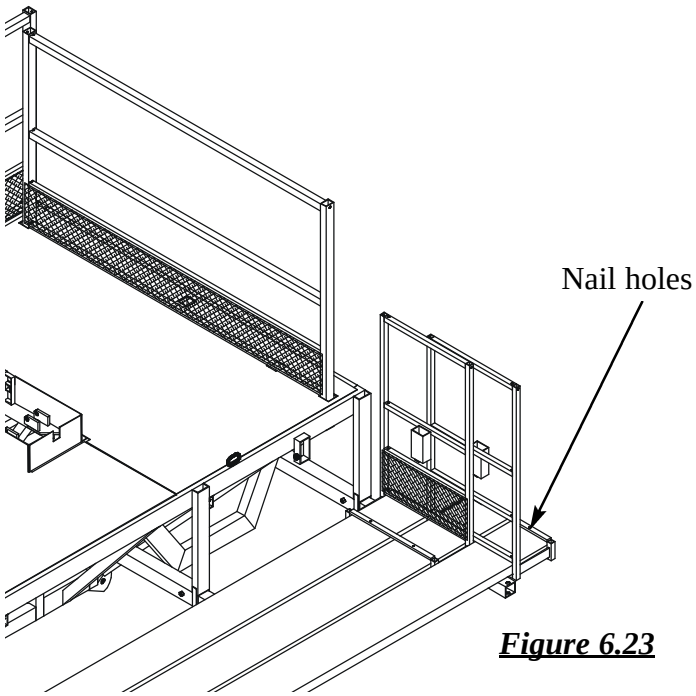


Figure 6.23

PROCEDURE:

1 - Slip Guard Rail collar section over end of two planks, normally with collar out.

2 - Drive one or two nails to prevent Mason Guard Rail from slipping.

A pocket is provided to hold a mason level.

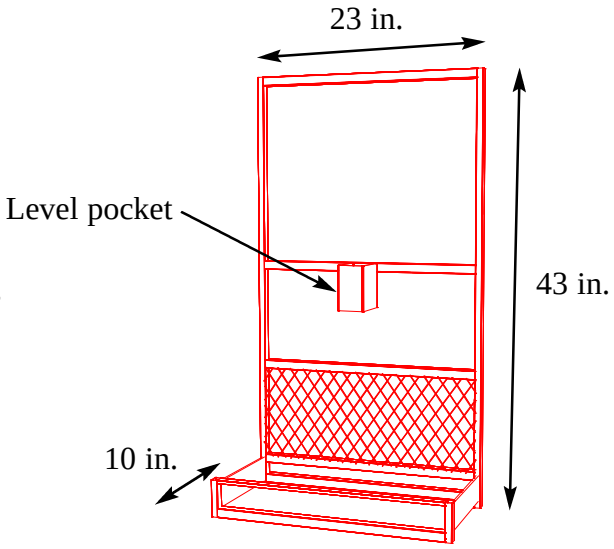


Figure 6.24

I - GUARD RAIL PLANK BRACKETS

DESCRIPTION:

A three level Guard Rail Plank Bracket provides the means for filling guard rail gaps caused by a special configuration of bridges and units or for a temporary replacement of a broken or missing guard rail.

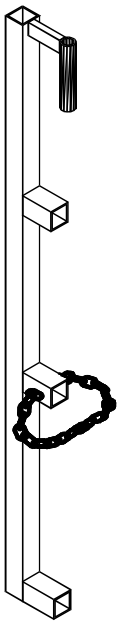


Figure 6.25

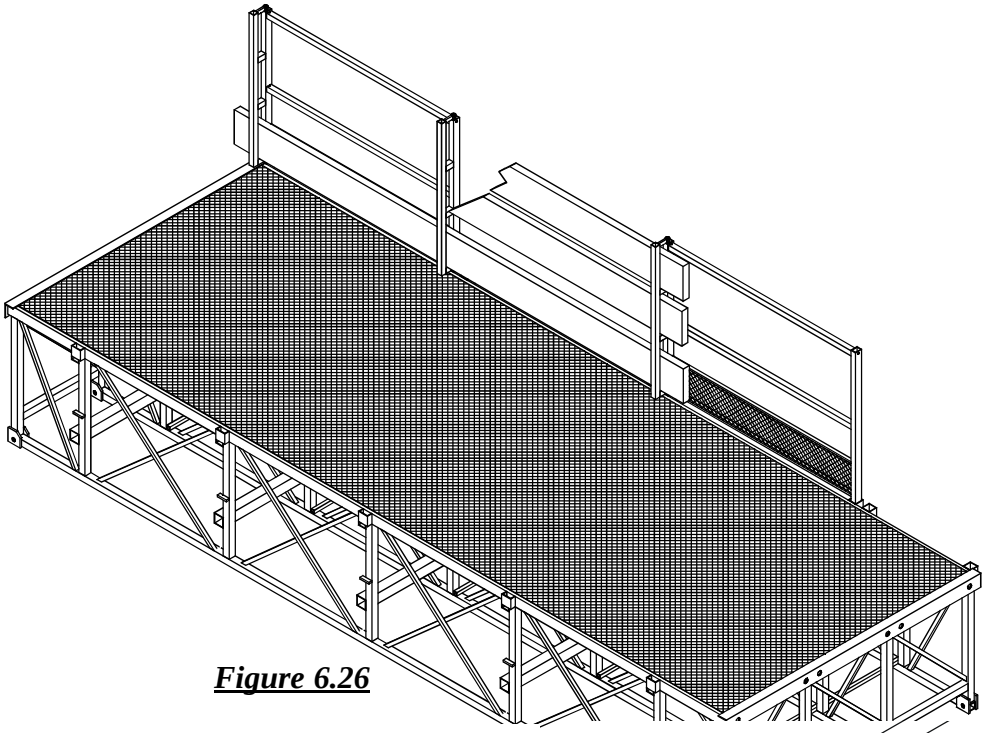


Figure 6.26

PROCEDURE:

1 - Insert top of bracket into top of guard rail vertical tubes or door posts.

2 - Wrap chain around bottom of post and secure back to bracket, using replaceable chain link supplied.

3 - Insert (3) pieces of plank at least 6 in. longer than opening.

Note: Guard Rail Plank Brackets are particularly well suited where bridges form odd angles with a motorised unit and when no standard guard rail can be used to fill the gap.

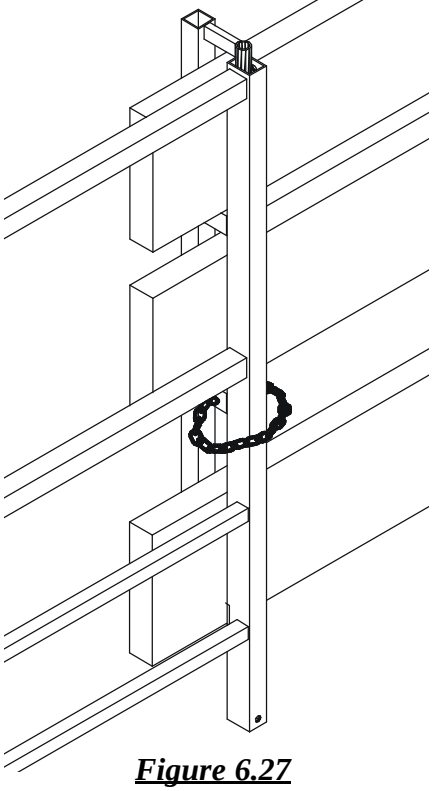


Figure 6.27

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J - FACE GUARD RAIL BRACKETS

DESCRIPTION:

The " **L** " shaped brackets can be inserted **inside** the end of lower outriggers or in place of top outriggers.

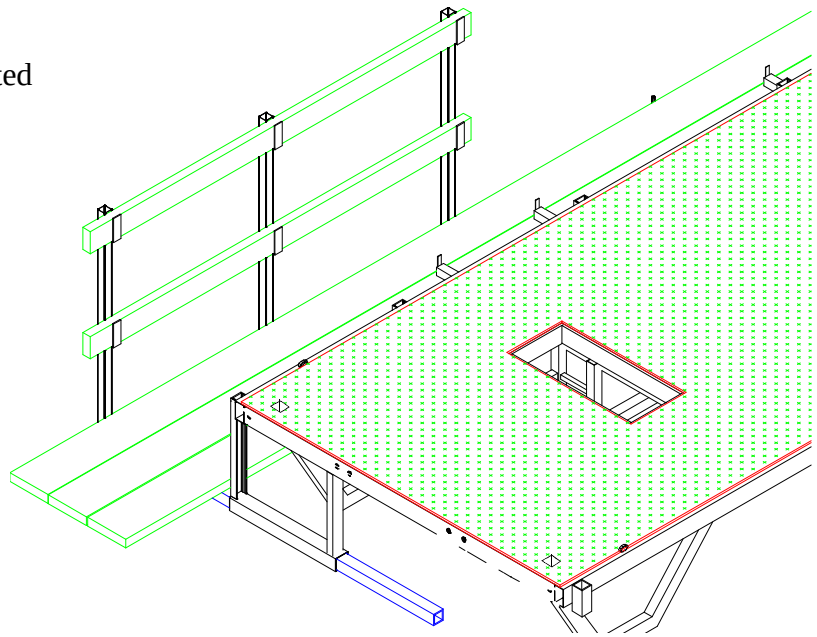

Figure 6.28

PROCEDURE:

a) **Lower (Mason) Outrigger:**

1 - Remove plank stop pin. (*see figure 6.29*)

2 - Insert Face Bracket, as illustrated.

3 - Install plank stop through hole in Face Bracket to secure in place.

4 - Repeat for all outriggers which could leave a hazardous opening.

5 - Insert Planks in hooks provided, secure in place with nails trough holes in hooks.

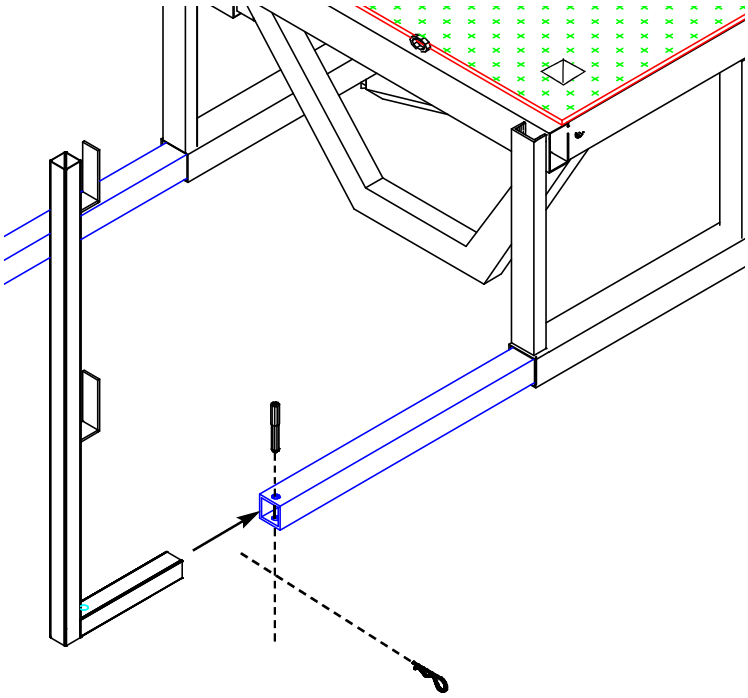

Figure 6.29

b) **Top Outriggers:**

1 - Remove top outriggers where a guard rail section is required.

2 - Insert bracket in top outrigger mounting rings.

3- Secure with set screw 5/8" Hex. Hd.

4 - Insert planks in hooks and nail

DESCRIPTION:

In some circumstances, it will be necessary to access the platform, using means other than going through a building being constructed or repaired.

Because of the diagonal braces in the towers, the tower cannot be used for climbing.

WARNING

Some states or countries require fall restraint where ladders exceed certain heights. Fall restraint should be used at all times, when ladders exeed 30'.

A ladder/guard rail system has been developed to overcome this situation. Ladder sections, like towers come in 60" sections.

Back guard rails are installed every 30" and are joined together by chains acting as a continuous back guards.

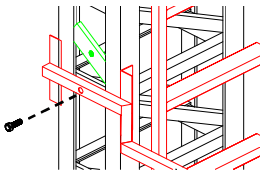

Figure 6.33

Figure 6.32

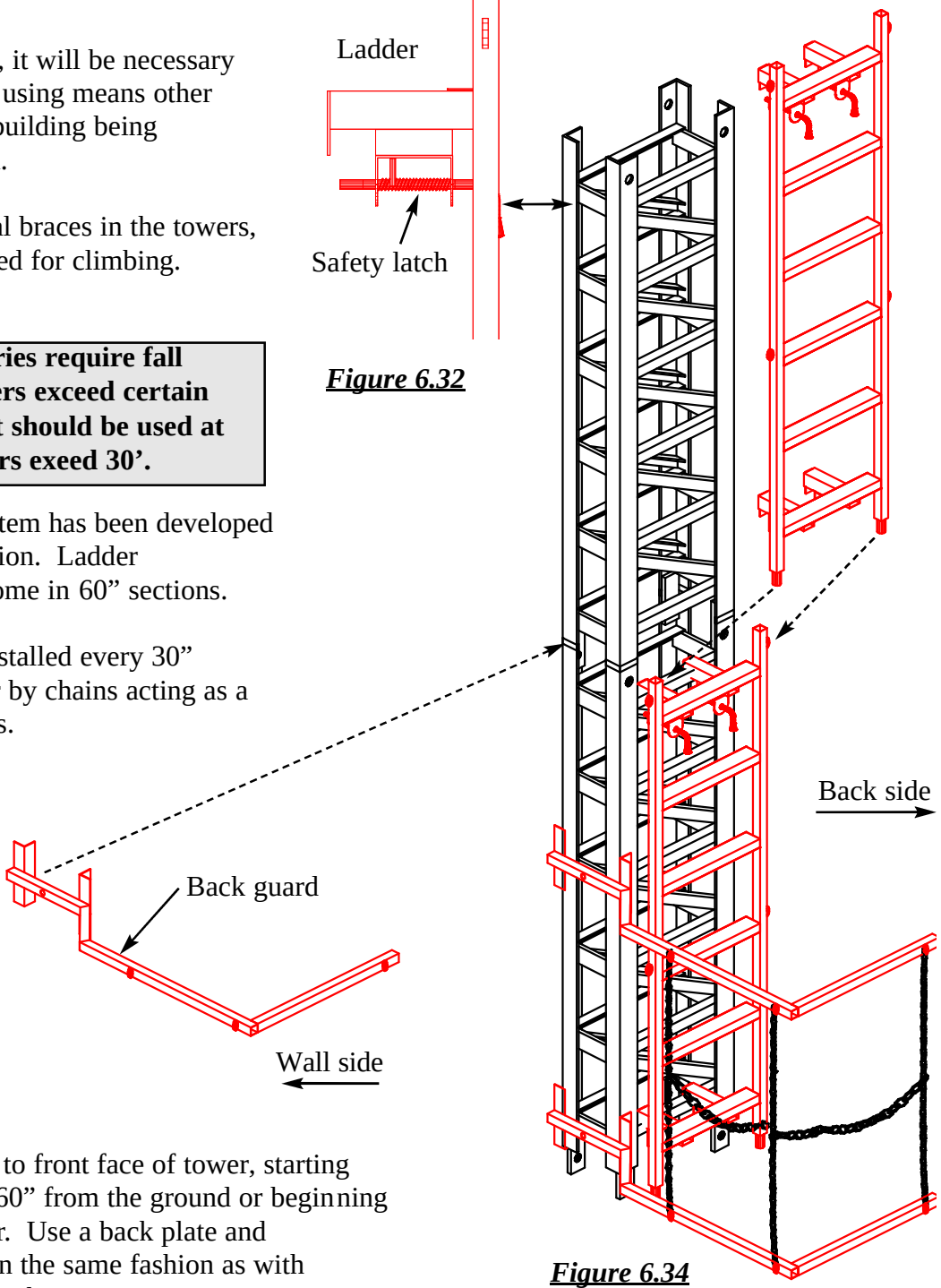

Figure 6.34

b) **Back Guards**

1 - Apply brackets to front face of tower, starting approximately 60" from the ground or beginning of second tower. Use a back plate and bolt provided, in the same fashion as with wall fastener brackets.

2 - Tighten first bracket.

3 - Having tied a set of chains to it, install second bracket to tower, approximately 30" above first bracket.

4 - Connect chains to bottom bracket, using chain

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K - TOWER LADDERS AND GUARD RAILS (OLD), CONT'D

Platform Extension - Description:

To gain access to the motorised unit, coming off the ladder system, one must step onto the operators' platform, underneath the main unit. To achieve this passage safely, the operators' platform must be extended by about 2 feet.

Platform Extension - Procedure:

While unit is still about 8' from the ground, or when the operators' platform has started to lift off the base:

1 - Position the platform at the appropriate end, where the ladder is being installed.

Note: If a choice exists, pick the platform ladder at motor end for the installation of the tower ladder. This will reduce the need to walk the operators' platform each time access is required.

2 - Hold the extension in place, slide the locking bar through the rings and through the end tube of the operators' platform.
3 - Lock, using pin bolt and spring pin.
4 - Install extension wing towards the front, thus filling the gap between the ladder way and the operators' platform.
5- Install the end guard rail which also serves as a wing lock.
6- Use quick attach between A and B, as well as C and D.
SYSTEM IS NOW READY FOR USE !

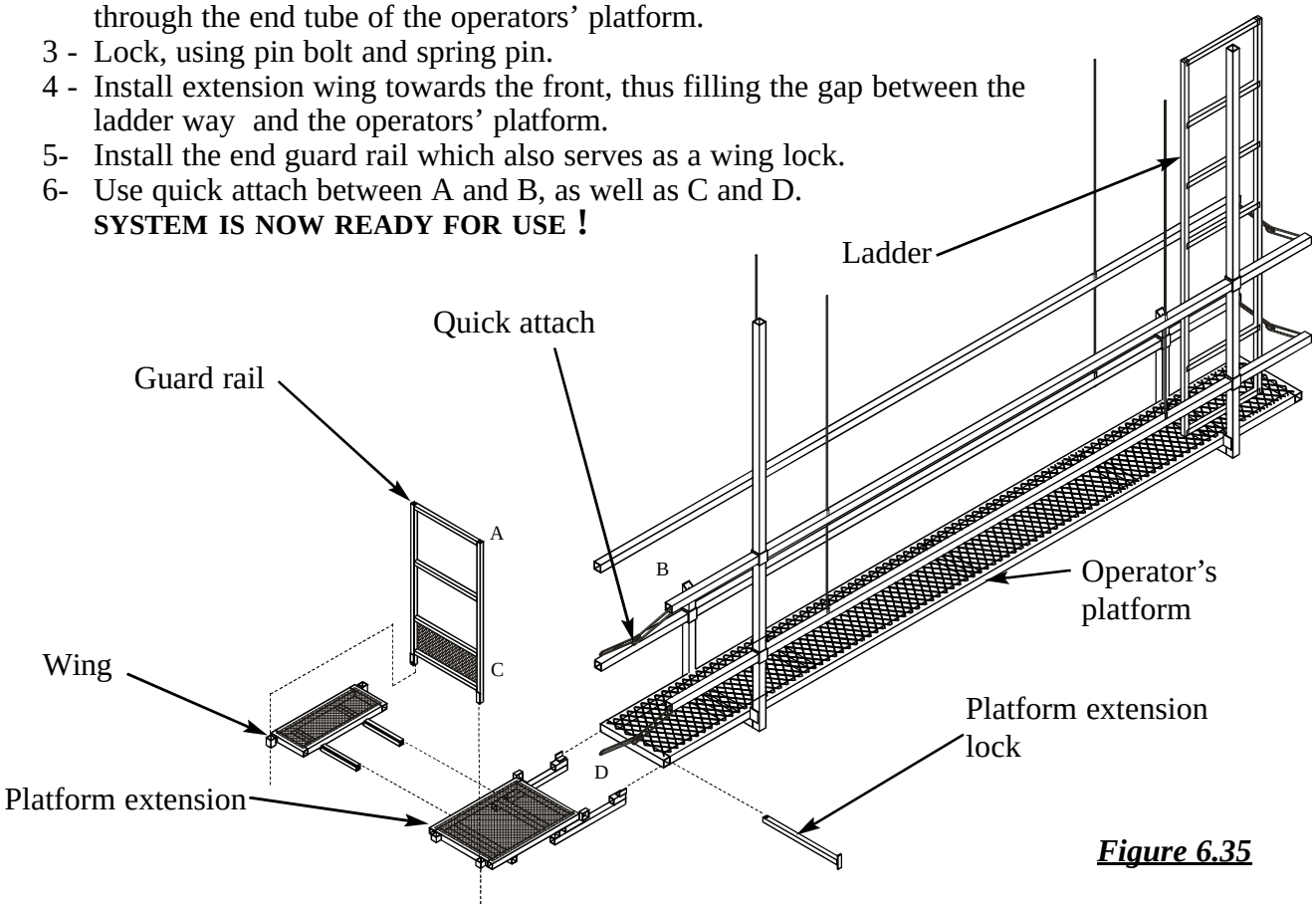


Figure 6.35

NOTICE:

Make sure to remove ladders and guard rails when lowering motorised units. Remove operators' platform extension and guard rails as soon as it is within reach from ground.

K - TOWERS, LADDERS (NEW), REST PLATFORM, ACCES CAGE AND GUARD RAILS,

WARNING

Some states or countries require fall restraint where ladders exceed certain heights. Fall restraint should be used at all times when ladders exceed 30'.

NEW LADDER SYSTEM,
COMPATIBLE WITH ACCESS CAGE:

PROCEDURE:

a) **Ladder:**

1 -The ladder sections are installed on towers, first level the ground where the ladder will sit.

2 -Place the ladder in position with the fixing bracket insert in the top of the ladder section.

3 -Bolt the fixing bracket to the tower

4 -Adjust the legs to level the ladder.

5 -Insert a second section of ladder on the fixing bracket and follow the steps 1 to 4 for finish the installation. *see Figure 6.30*

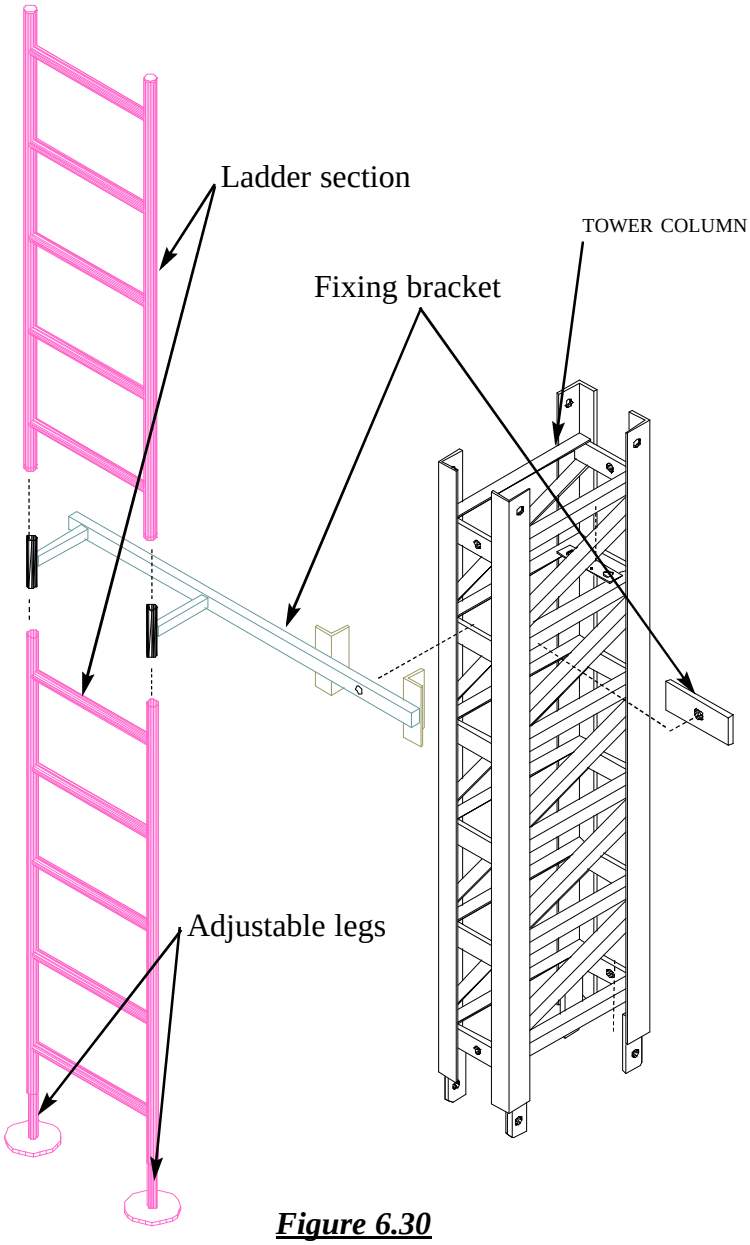


Figure 6.30

K - TOWERS, LADDERS, REST PLATFORM, ACCES CAGE AND GUARD RAILS, CONT'D

1 -From walkway, install tower bracket on 3rd rung of tower column
see figure 6.31

NOTE: First ladder bracket must be installed above 4 th rung of tower column.

2 - Mount rest platform on tower bracket, lock in place with long locking stud

3 - Rotate the rest platform to clear the way of the walkway when rising the Hydro-Mobile platform.

NOTE: Rotate the rest platform towards the inside of the tower column.

4 -Put rest platform back in place and lock it with the short locking stud, clevis pin and hitch pin clip.

5 - Install guard rail on tower column as shown.

WARNING

Make sure to always be securely attached when operating with no guard rail around you.

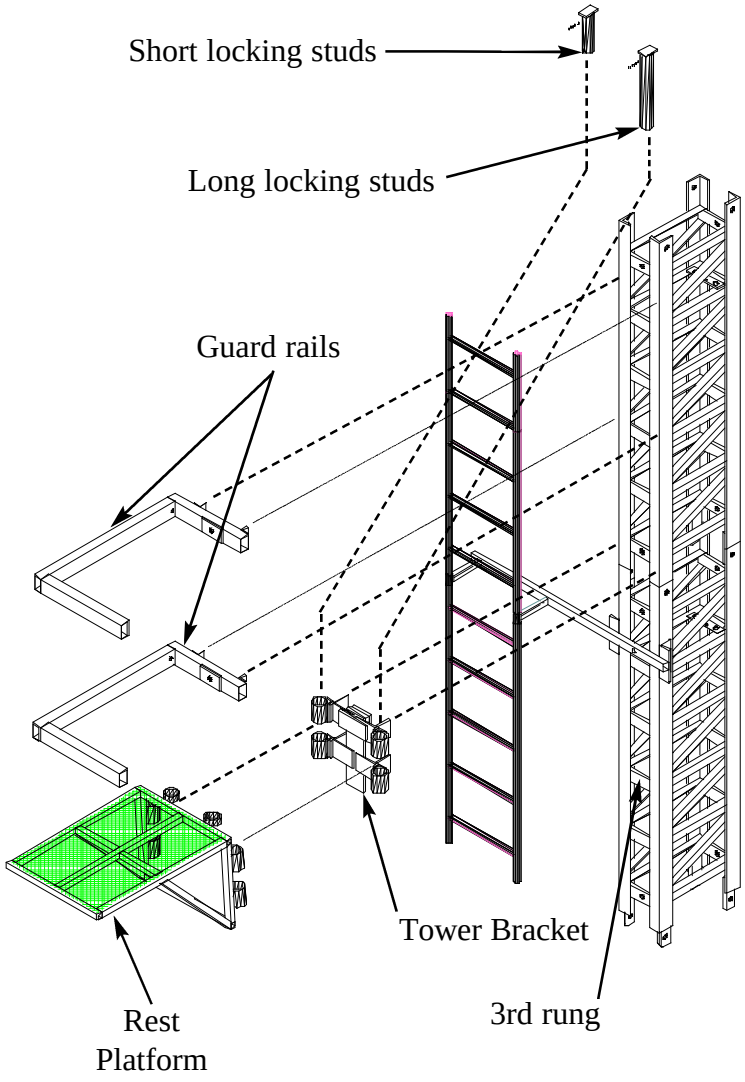


Figure 6.31

K - TOWERS, LADDERS, REST PLATFORM, ACCES CAGE AND GUARD RAILS, CONT'D

- 750 lbs lift capacity
- 33' Per minute travel speed
- 250' Height reach
- 3/8" Steel cable
- 220 Vac motor

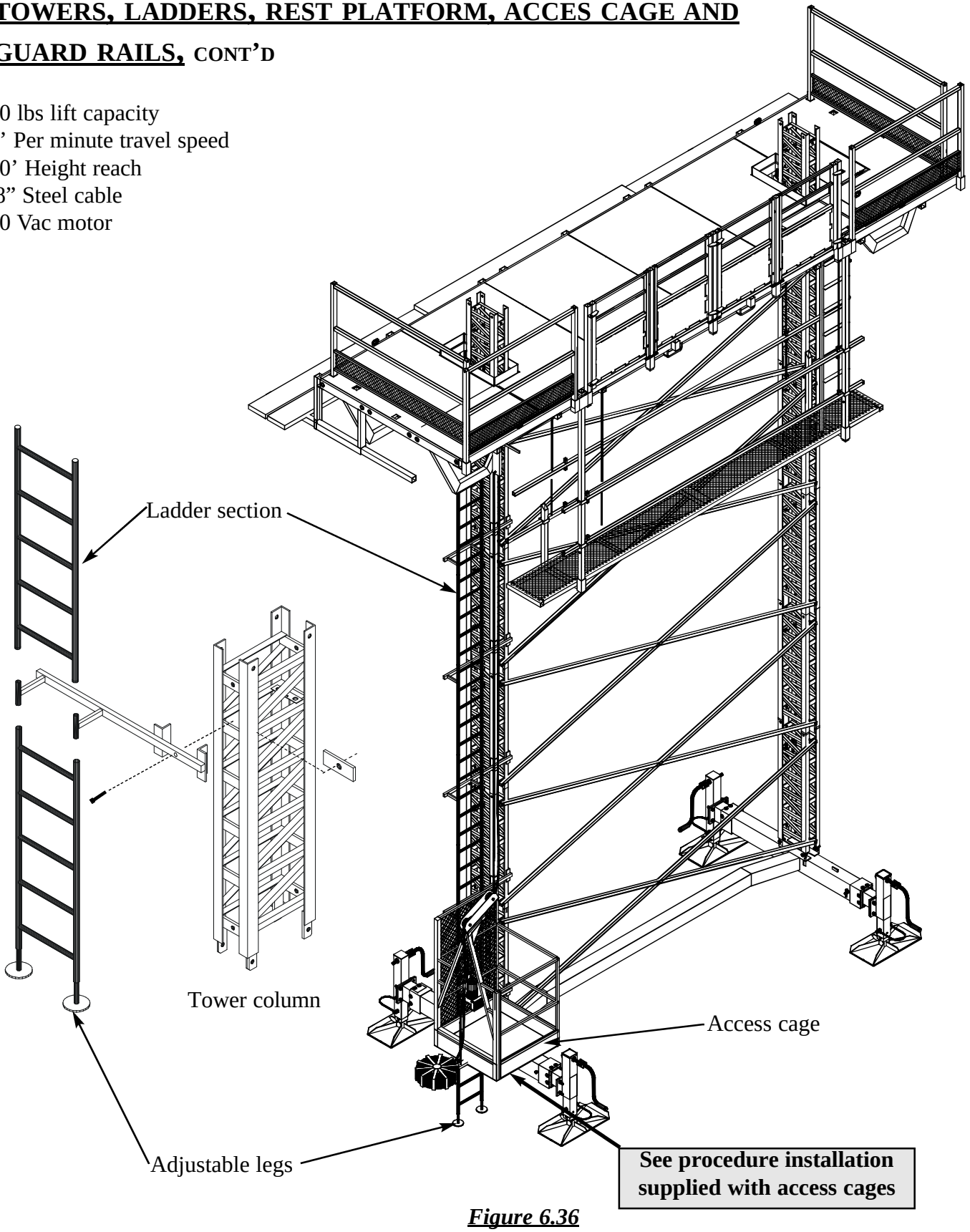


Figure 6.36

L - HANDLING APPARATUS

DESCRIPTION:

Consisting of a lift truck fork adapter (Part A) and a 15 ft. beam (Part B), the handling apparatus facilitates placing a motorized unit in tight or hard to reach location.

The beam is also recommended when using a crane to handle a unit or a bridge.

NOTE 1:	**Lifting a unit from the towers without a spreader bar could cause permanent damage to towers and the guiding mechanism.**

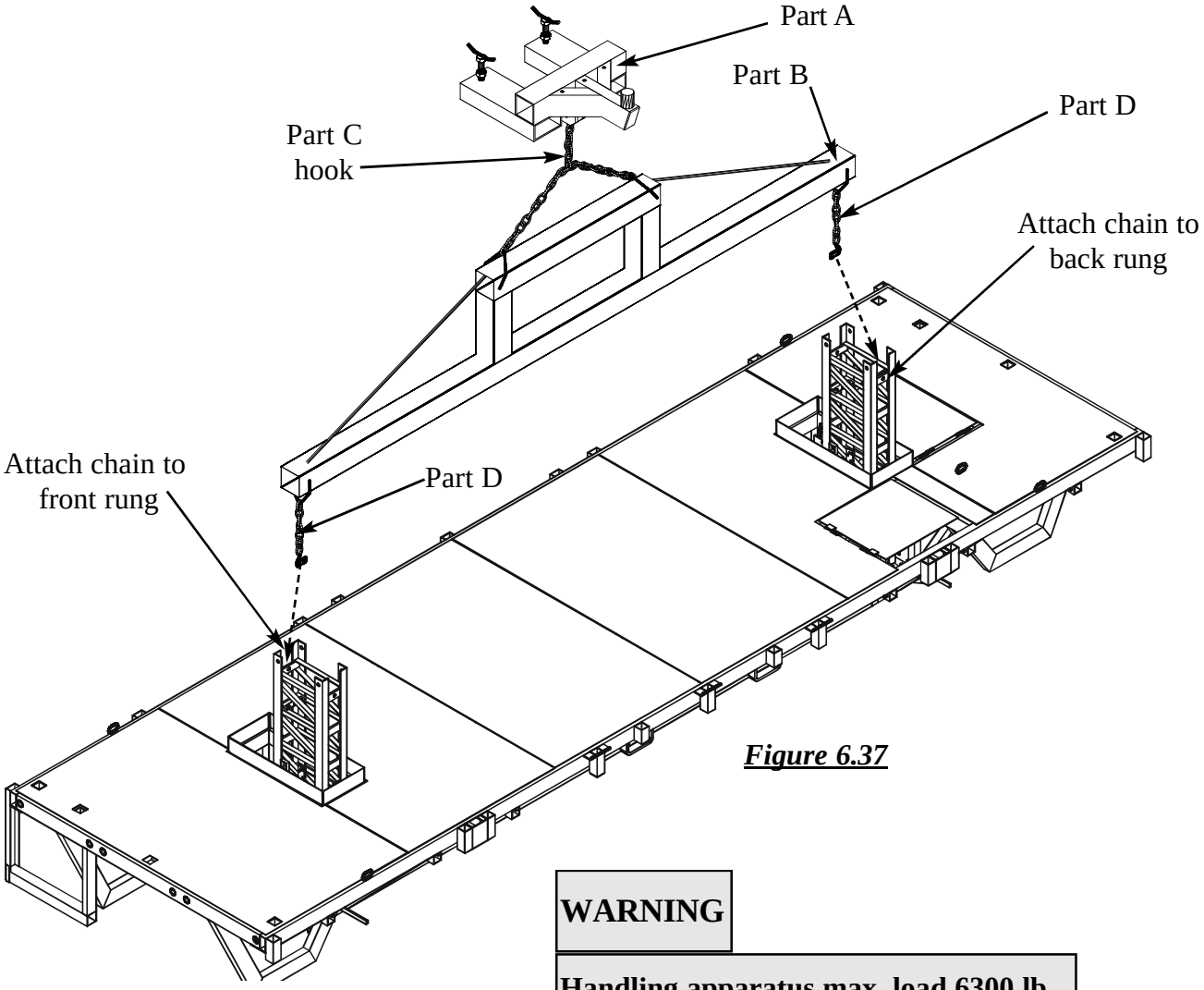


Figure 6.37

WARNING

Handling apparatus max. load 6300 lb.

L - HANDLING APPARATUS, CONT'D

PROCEDURE:

a) **Lift Truck:**

1- Slip (Part A) over lift truck forks (min. 6000 lb capacity).
2- Hook at (C) to (Part B).

b) **Crane or Lift Truck:**

3- Fasten chain around top **forward** rung of each tower, as shown.
4- Lift up unit and locate to desired position.

NOTE 2:	**It is not required to install transport locks when using handling apparatus.**

NOTE 3:	**When handling bridges with a handling apparatus, use two metal or nylon slings at both hooks D to obtain a four (4) point lift. It is not mandatory to use the handling apparatus to handle bridges.**

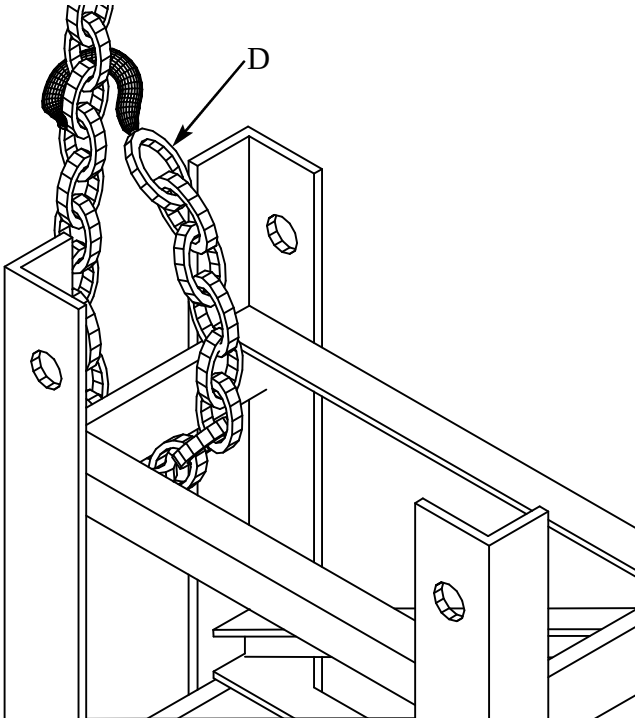


Figure 6.38

M - LOCKING BARS

DESCRIPTION:

By design, the platform can be lifted along the towers mounted on the base.

To pick up the complete assembly base and towers included, there must be a mean of temporarily locking the base/tower assembly to the main platform. This is accomplished by the locking bar.

These bars must also be used during transportation.

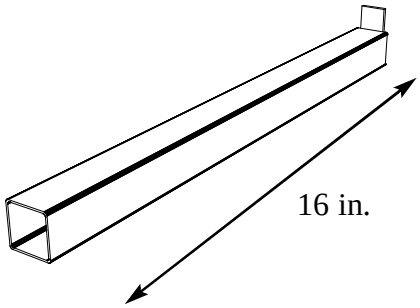


Figure 6.39

PROCEDURE:

1 - Insert the locking bar, having first made sure unit is completely lowered, or in a position where the locking bar pockets line up with an opening through the tower.

2 - Insert pin bolt and spring pin to secure locking bar in place.

Unit can now be lifted from the main platform.

Note: If a bar bent it would need to be removed, you may required a cutting tool.

Always cut bar not the tower, nor the unit structure.

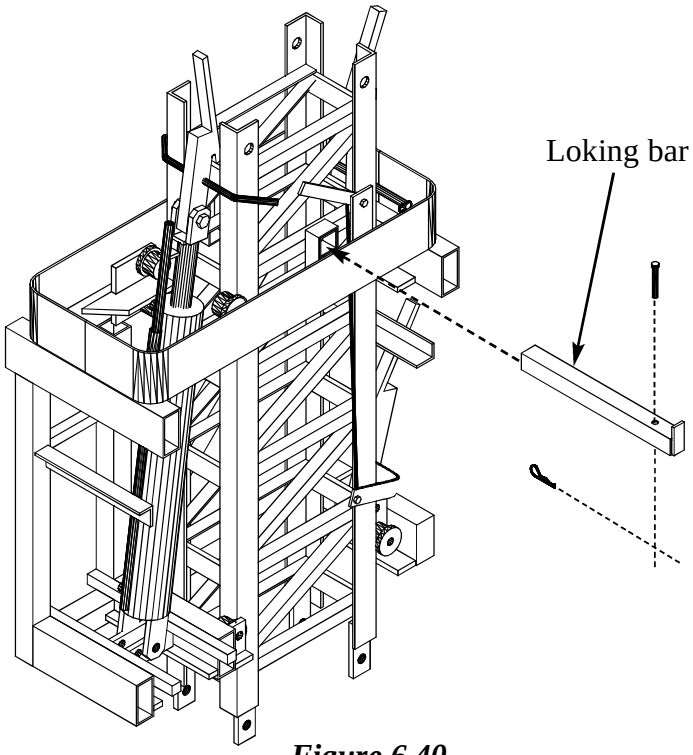


Figure 6.40

WARNING

Make sure to remove bar before operating system. The hydraulic system will make no notice of bar, and bend it. As well, damage to the towers may occur.

N - UTILITY BASKETS

TOWER BASKET:

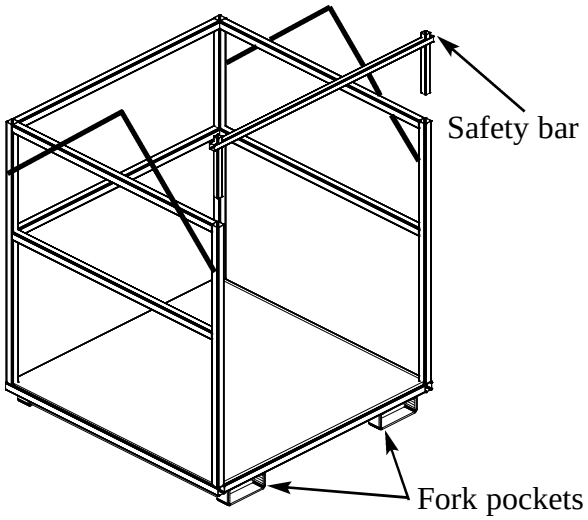


Figure 6.41

Designed to conveniently hold (10) towers, in an upright position. It has a removable safety bar for easy loading/unloading of towers.

Fork pockets are provided to ensure stable transfer and handling. Two lifting bars are also provided for crane or hoist handling.

Towers are packed 5 wide x 2 deep, with ear tabs down.

Dismantable baskets are available for certain countries.

WALL FASTENER BASKET:

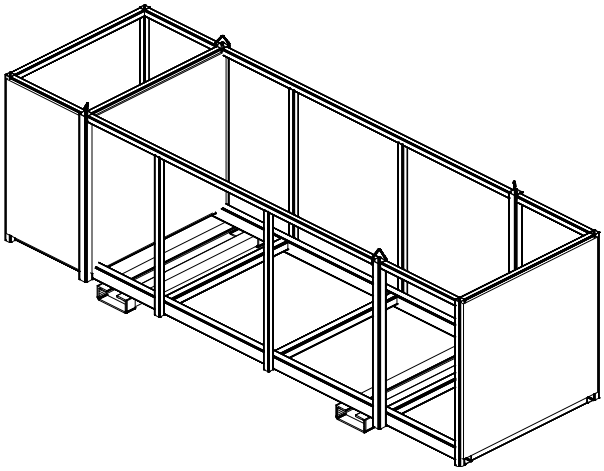


Figure 6.42

Similar in construction and features to the tower basket, it allows for storage and handling of adjustable wall mounts in the open section, and fasteners and anchors in the closed end section.

Four lifting rings are provided for hoisting.

X-BRACE BASKET:

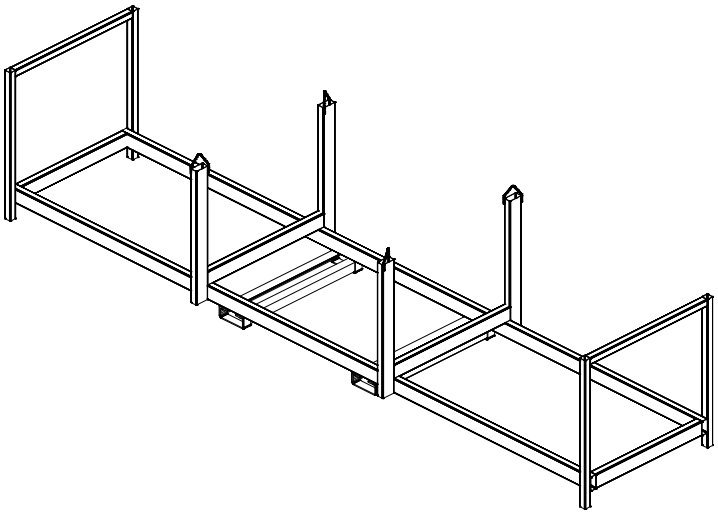


Figure 6.43

Similar to the above, has no closed section and will handle approximately 125 X-braces.

COMBO BASKET:

Designed to hold different accesories at the same time, X-braces,
Wall ties, Guard rails and small pieces.
Covered section is lockable.

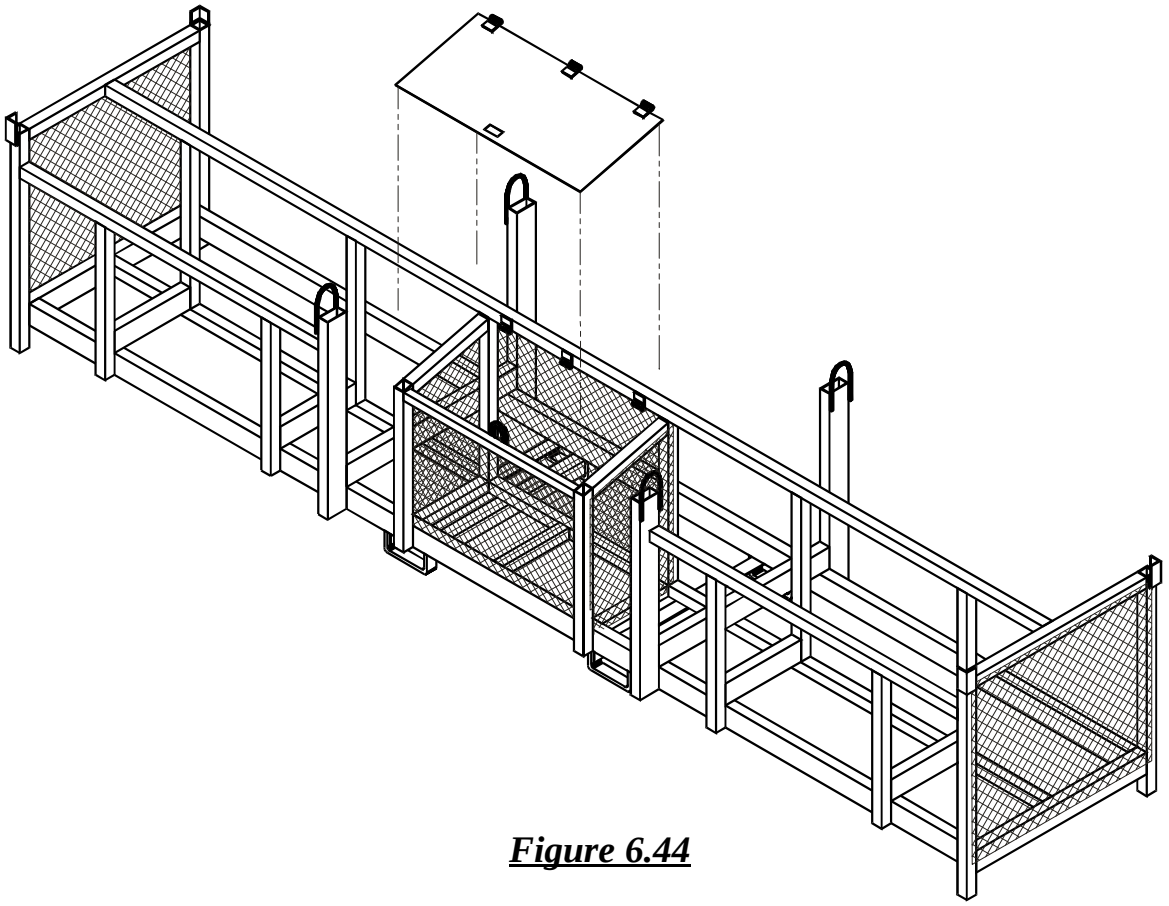


Figure 6.44

O - CANTILEVER BRIDGE OUTRIGGER SUPPORTS

DESCRIPTION:

The use of **bridges** in a cantilever configuration requires the addition of an outrigger at the free end to complete the installation of planks along the total working section.

PROCEDURE:

1 - Line up and insert outrigger tube insert into bridge end tube, as shown *Figure 6.42*

2 - Push in as far as possible.

3 - Lift up "U" Box to rest against bridge end tube.

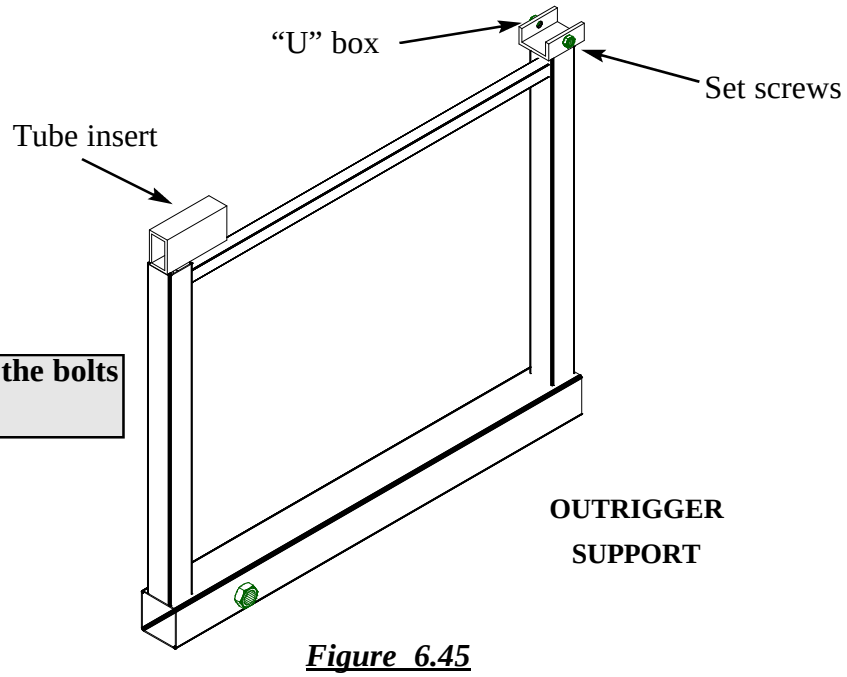
4 - Tighten set screw.

5 - Insert outrigger and adjust to desired length.

6 - Tighten outrigger set screw.

7 - Install planks.

8 - Install plank stops and plank end guard rails, as required.



WARNING

Do not over tighten the bolts in the set screws.

OUTRIGGER SUPPORT

Figure 6.45

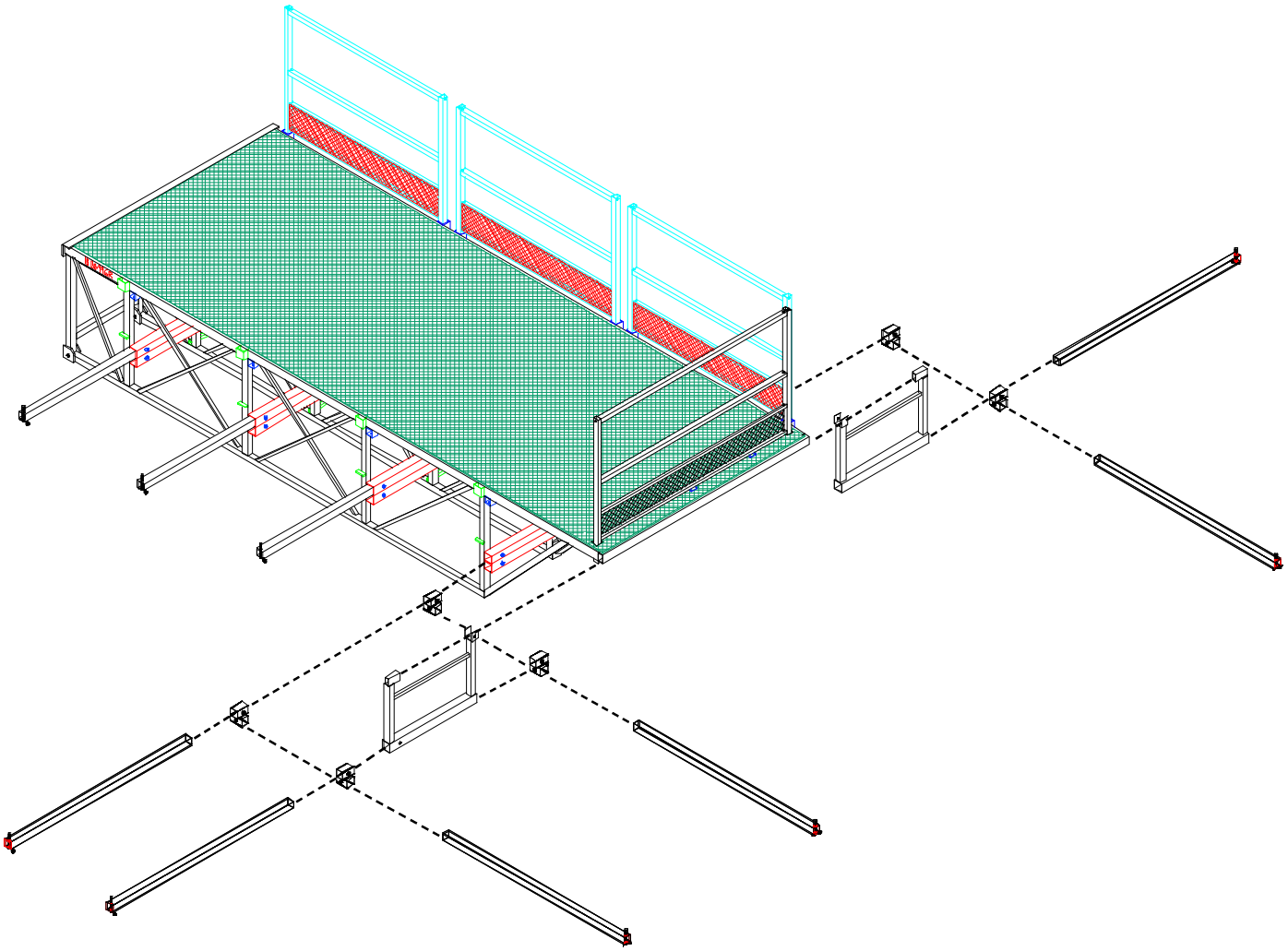


Figure 6.46

NOTE:

To install a cross-box kit at the end of a cantilever bridge, you must add a second cantilever outrigger support.

P - GUARD RAIL AND BRIDGE LOCK POCKETS

DESCRIPTION: Two guard rail pockets may be required on 2 ft. insert depending on configuration.

With the introduction of **cantilever Bridges (series V and beyond)**, guard rail pockets had to be removable to permit a true bolting pattern between the units and cantilever bridges. From series 6 and beyond guard rail pockets are welded on the motorized unit. You will need 2 guard rail on a 2 ft. insert structure *see Figure 6.44*

PROCEDURE:

1 - Insert 1 in. Bolt into appropriate hole on unit (hole 1 and hole 6)
Hole: Guard Rail Pockets are non symmetrical.

- The hole in the back plate is off to one side.
- Consequently, the pockets present a larger offset on one side.
- This large offset is always installed towards the outside of the unit

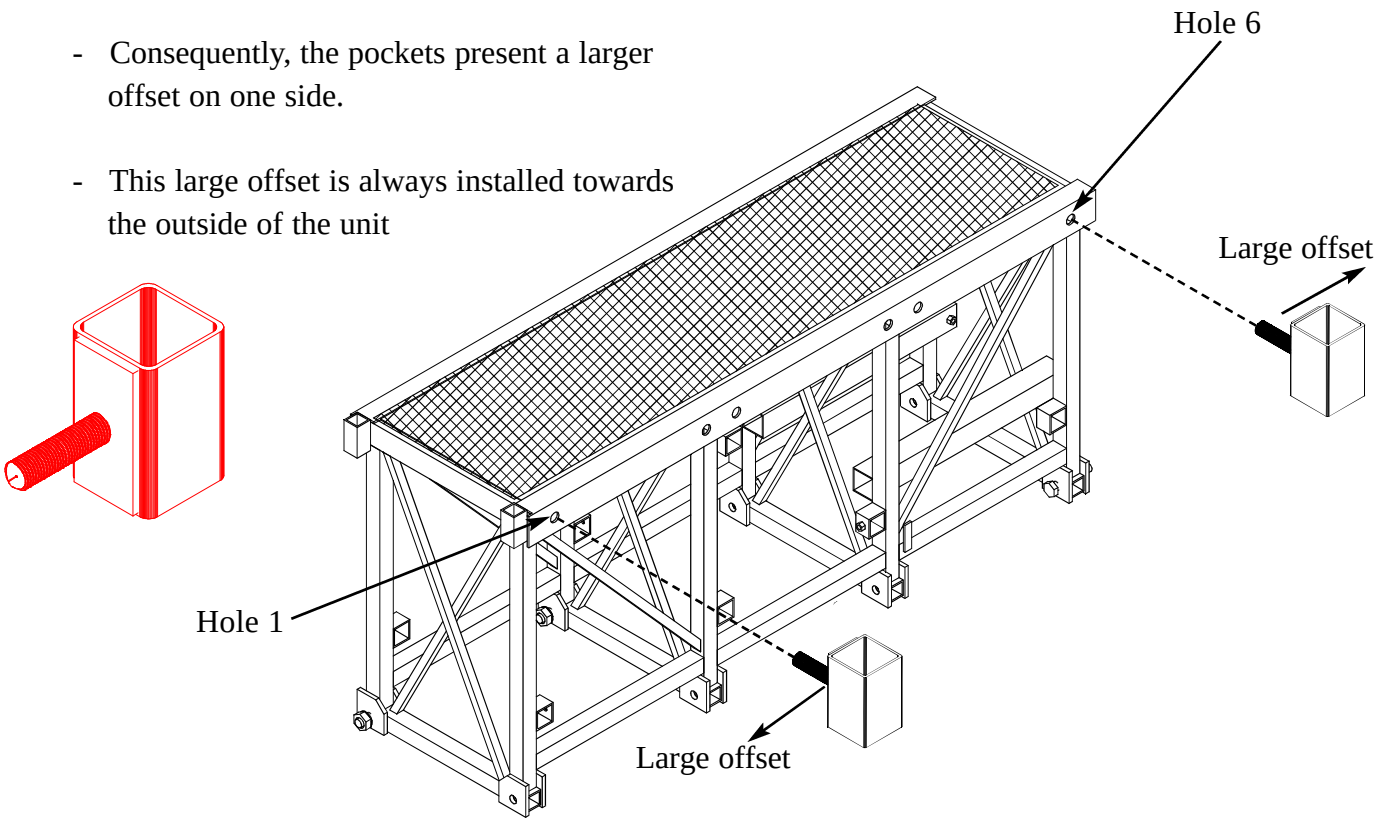


Figure 6.47

2 - Install lock washer and nut.

3 - Orient so that large offset is at outside of unit end.

4 - Tighten securely.

CHAPTER 7

INSULATOR'S BRACKETS

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INSULATOR'S BRACKETS

GENERAL ARRANGEMENT

A - INSULATOR'S BRACKETS

B - MONORAIL SYSTEM

GENERAL ARRANGEMENT:

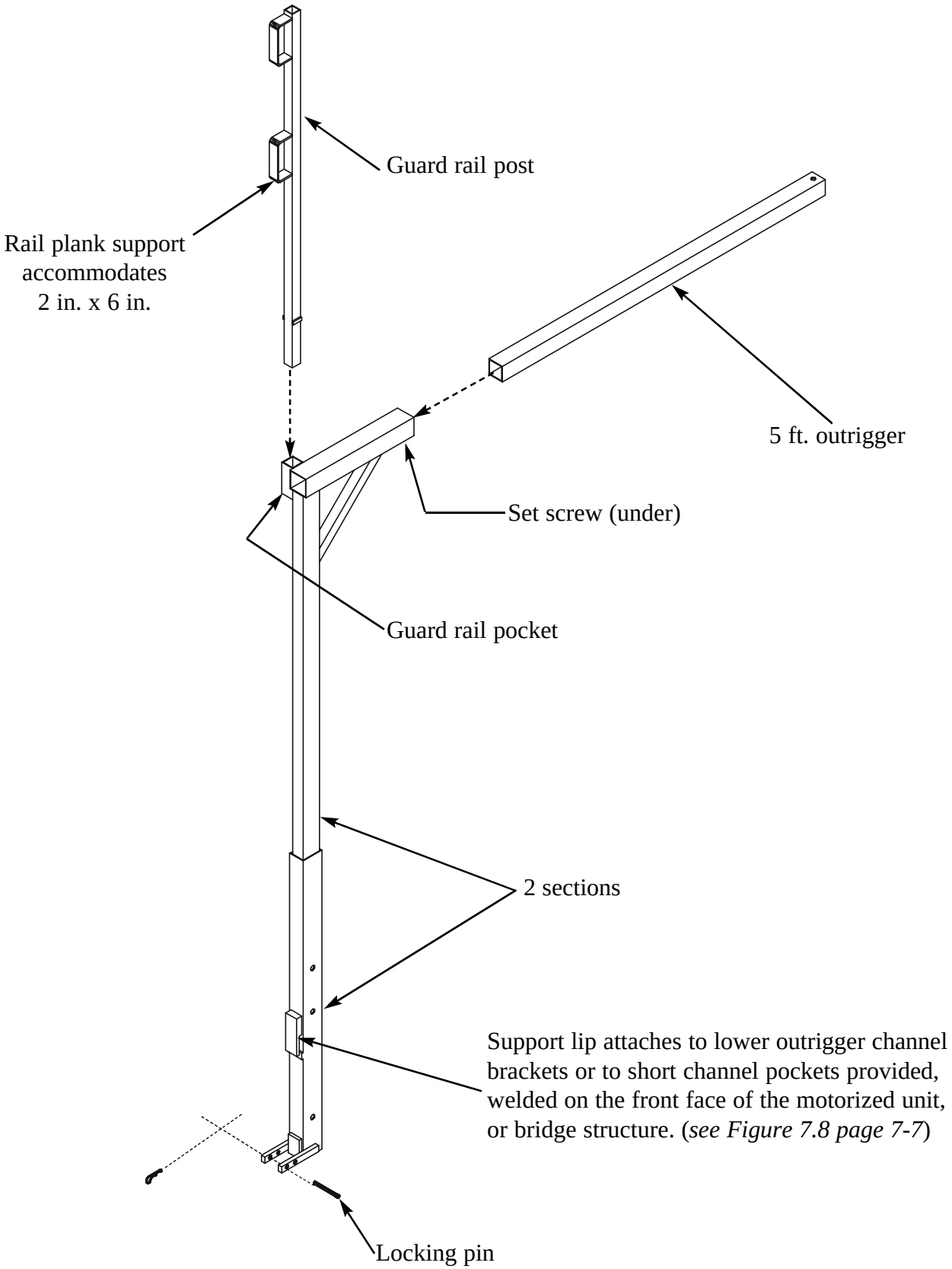


Figure 7.1

A - INSULATOR'S BRACKETS

DESCRIPTION:

- In certain circumstances, it is necessary to involve several trades all at once on the same job.

- A frequent requirement is for the application of insulation materials to a wall ahead of masonry work.

- The insulator's bracket allows a second working level to be provided, 5 ft. or more above the main level or 7 ft. or more above the lower outriggers.

- Main supports, outriggers and guard rail posts are all sold separately.

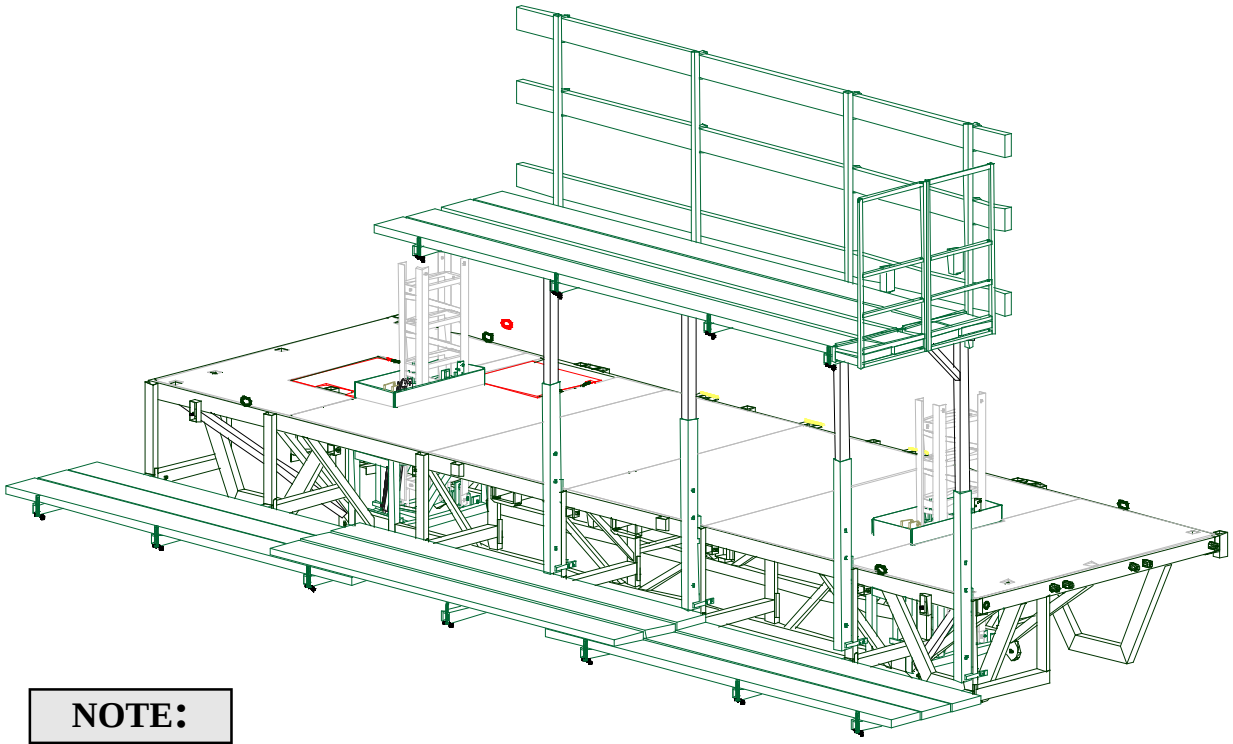


Figure 7.2

NOTE:

Make sure to verify capacity of the insulator bracket if you want to use it with a monorail system.

A - INSULATOR'S BRACKETS, CONT'D

PROCEDURE:

1 - Install support brackets onto outrigger supports, wrap collars around channels, insert lock pin and spring pin.

2 - Set up all vertical brackets first

3 - Lay planks over top horizontal section.
- No outrigger is required, if only (2) planks are used. Use outriggers if (3) planks or more are required.
- Maximum number of planks is (6) or (60 in.). It is recommended to use no more than four (4) planks, 3 ft. 6 in. of total width.

4 - Insert guard rail posts as required into pockets provided.

5 - Slide 2 in. x 4 in. or 2 in. x 6 in. lumber into top and lower "**D**" shaped plank supports. *See figure 7.1 page 7-2*

6 - Drive nails through holes to secure in place.

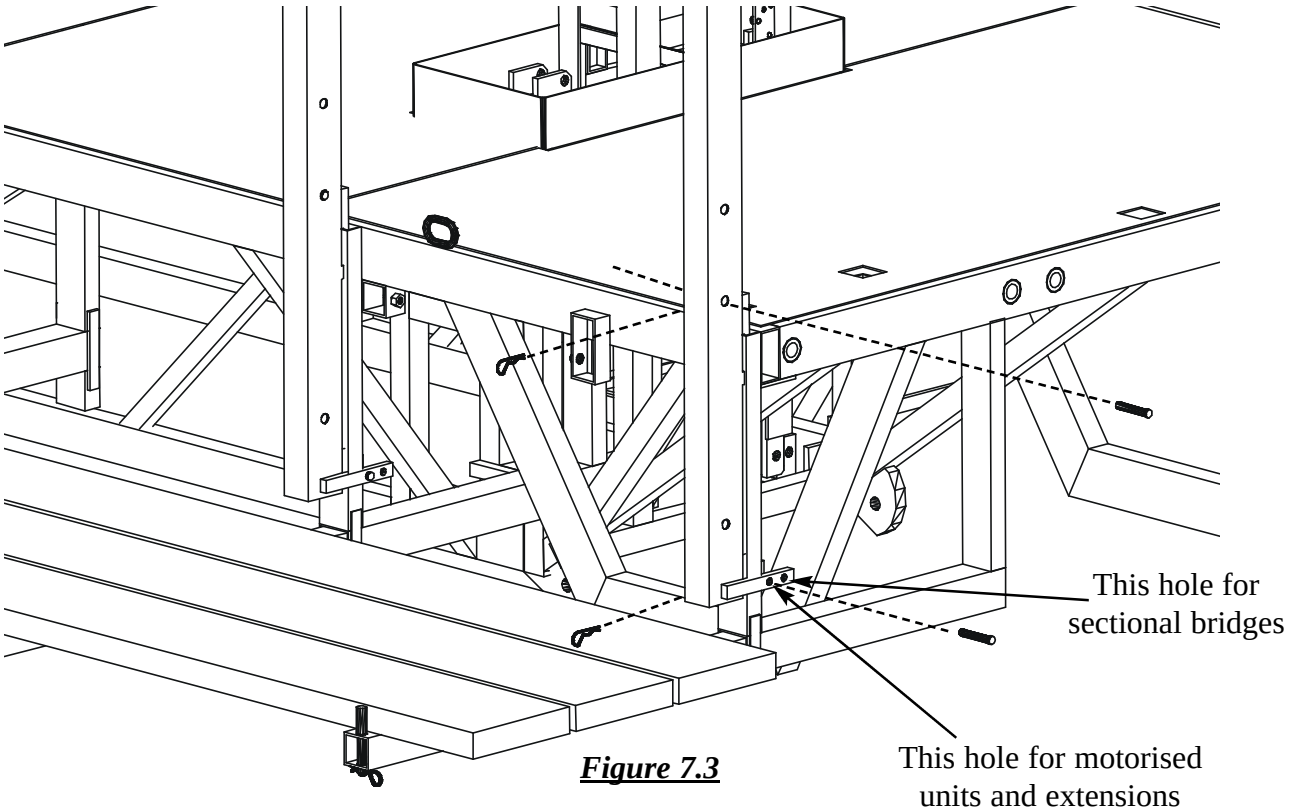
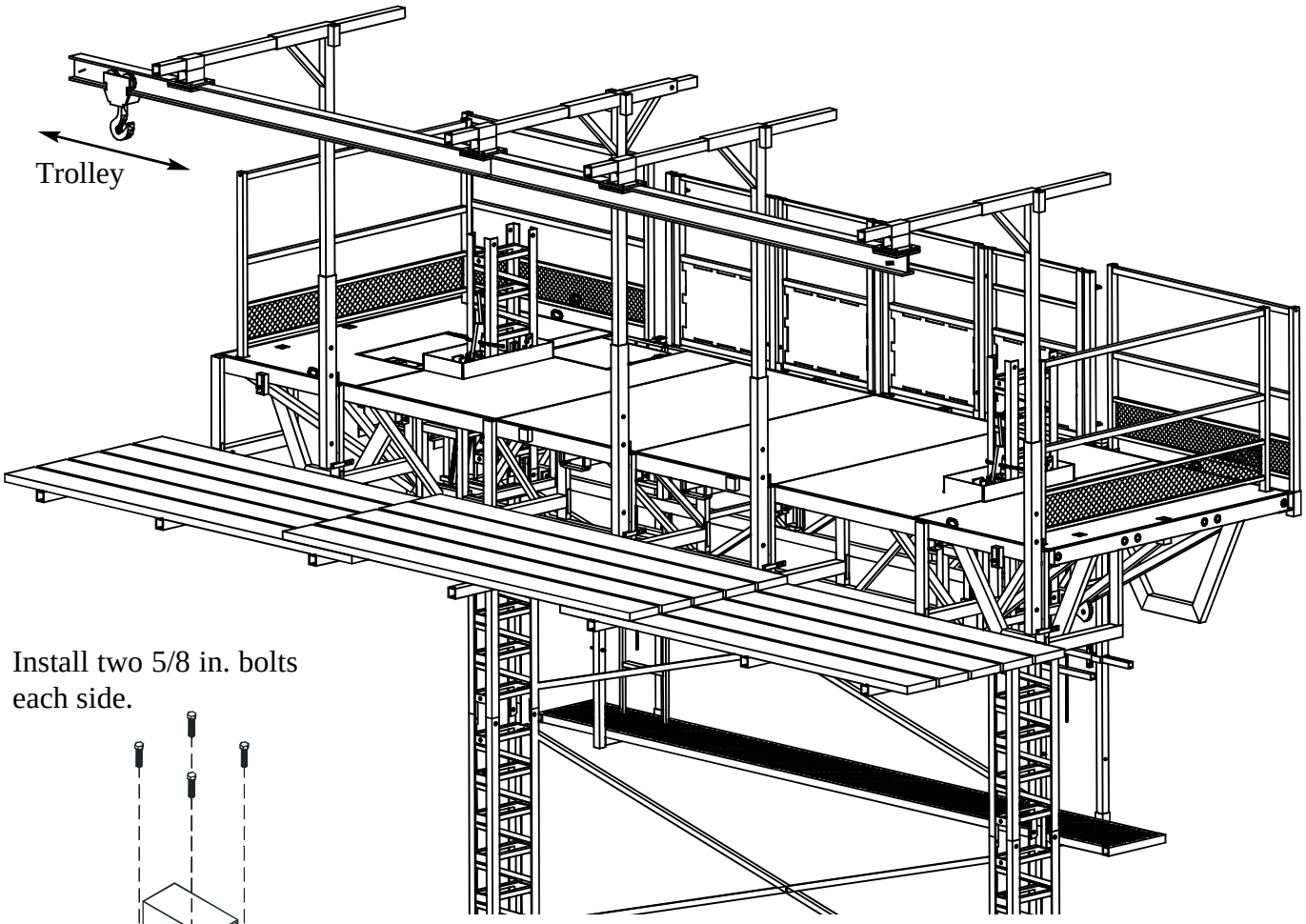


Figure 7.3

B - MONORAIL SYSTEM



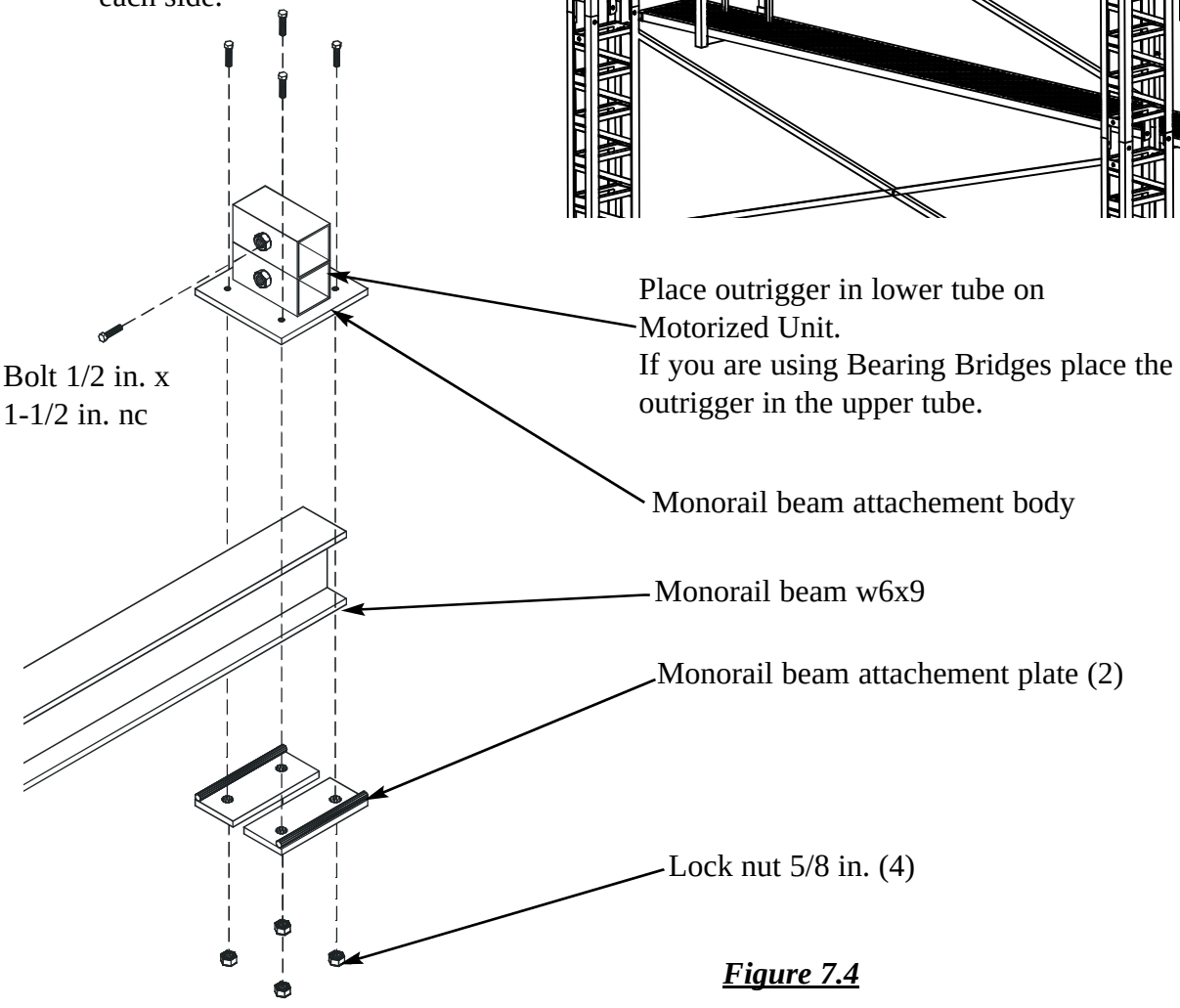


Figure 7.4

B - MONORAIL SYSTEM

From 0 to 2 ft. reverse the universal load bracket facing back.

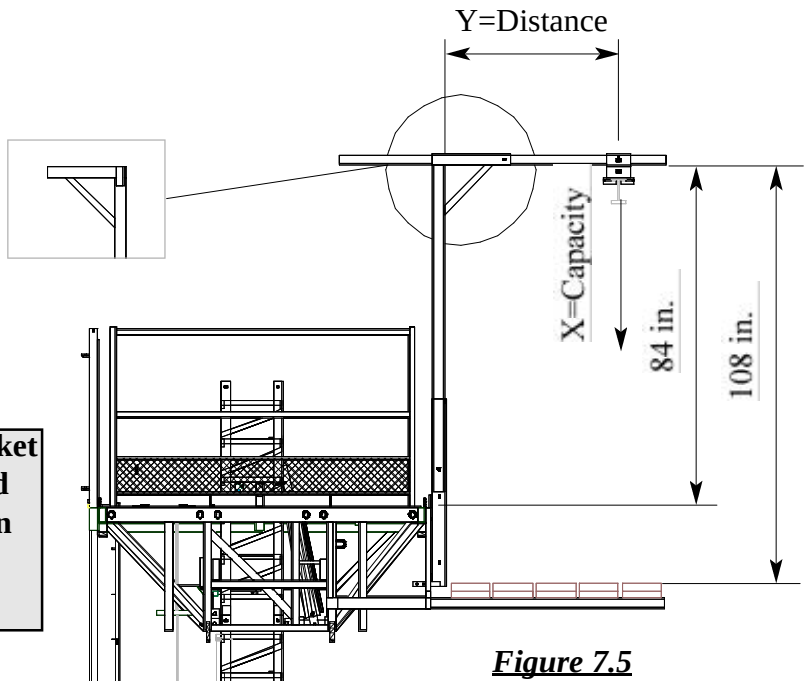


Figure 7.5

WARNING

If you use the universal load bracket for monorail system and as second level of work platform, the load on the system must not exeed the capacity.

Monorail system capacity (by beam 9 ft. long)

capacity	# of planks (Distance Y)				
	1	2	3	4	5
lb	695	530	375	300	255

Table 7.6

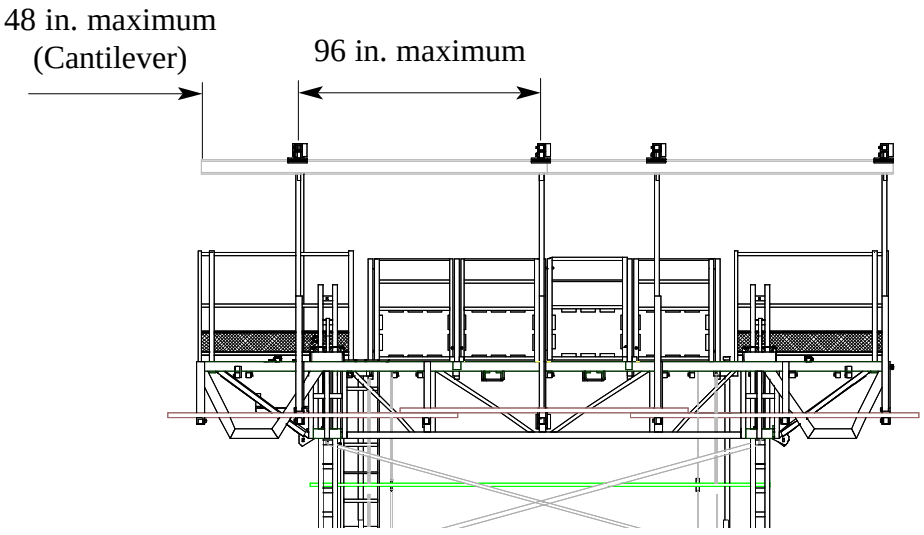


Figure 7.7

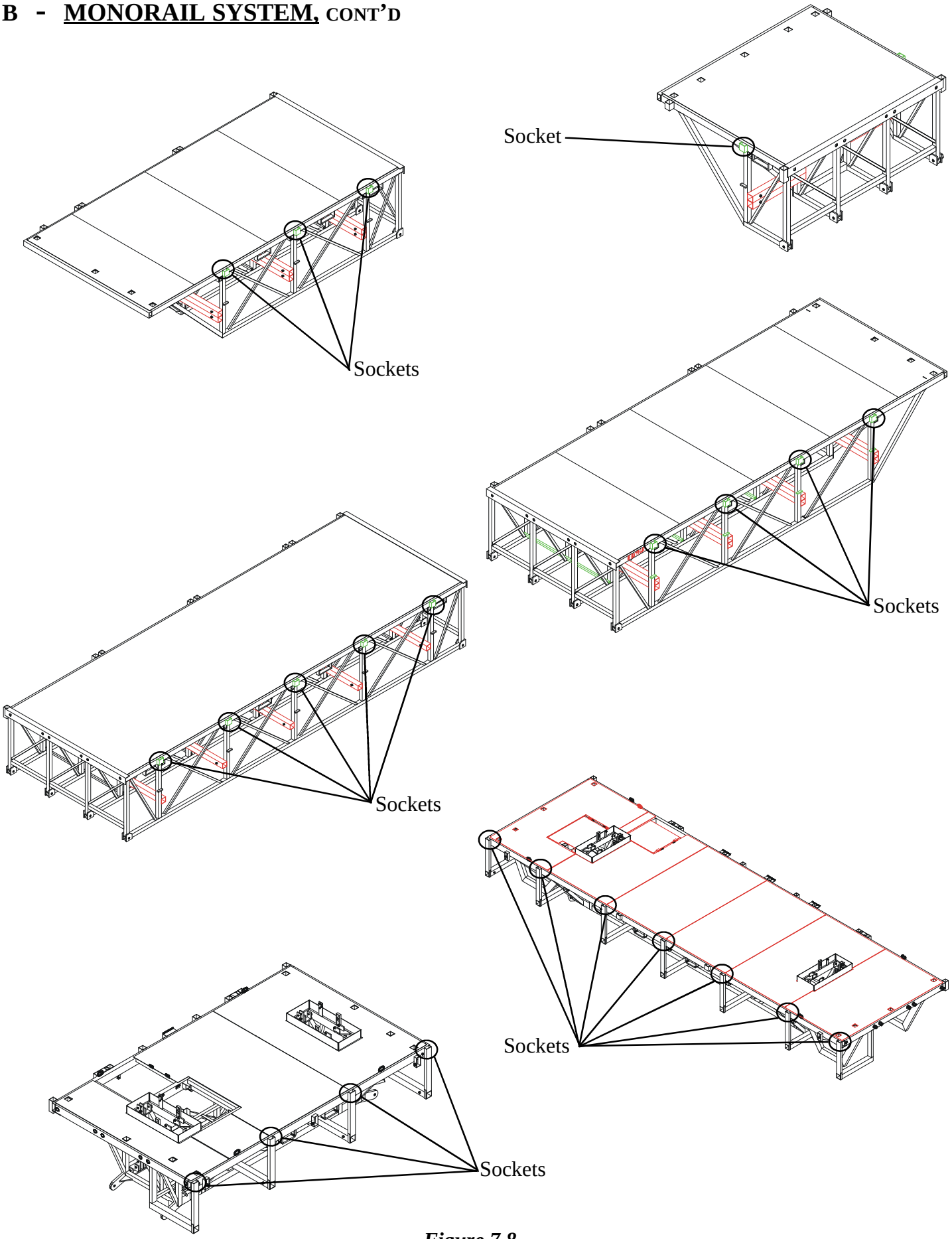


Figure 7.8

CHAPTER 8

FRONT AND REAR WHEEL ASSEMBLIES

FRONT AND REAR
WHEEL ASSEMBLIES

A - MAIN COMPONENTS DESCRIPTION

B - DESCRIPTION OF PARTS AND ACCESSORIES (FRONT WHEEL SET)

C - INSTALLATION

D - LIFTING BRACKETS

E - WHEEL LOWERING PROCEDURE

F - WHEEL SET REMOVAL PROCEDURE

G - TOW BAR AND TOW BAR EXTENSION

H - USE OF WHEEL SET WITH LONG CANTILEVER BRIDGES

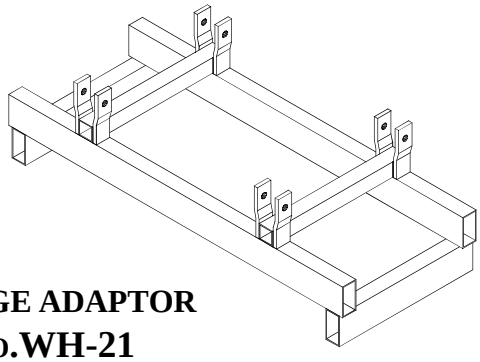
A - MAIN COMPONENTS DESCRIPTION:

In some circumstances, unit positioning cannot be achieved with a crane or a lift truck. Moving the motorised unit becomes practical and simple with the installation of front and rear wheel sets, underneath its main platform.

It is possible to use only one set of wheels, while opposite end will be lifted by a ball attachment installed on a lift truck.

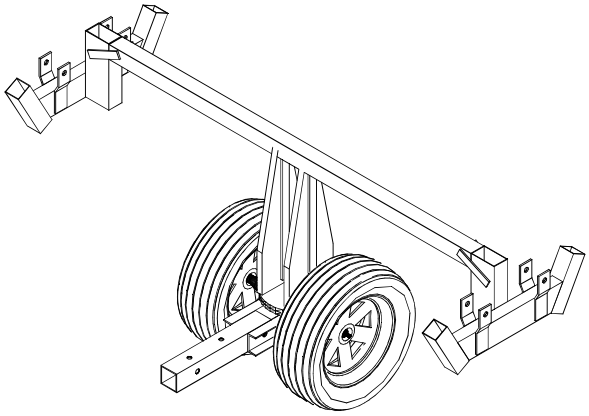
Main characteristics are the following:

- welded solid steel structure
- capacity of 5,860 lb per wheel set
- 2 - 30 in. diameter tires (off-road type).

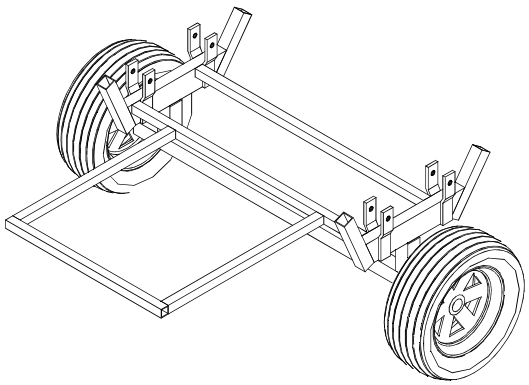


BRIDGE ADAPTOR
NO.WH-21

Figure 8.2



FRONT WHEEL SET
NO.WH-11



REAR WHEEL SET
NO. WH-01

Figure 8.1

The rear wheel set has a solid wide base axle.

For stability: when using one set of wheels only, it is preferable to use a rear wheel set.

The front or steered wheel set has a pivoted base mount to permit changing direction or steering. The front wheel set may be used alone for crabbing (side movement). Stability is impaired in this configuration and extra care should be taken to prevent motorised unit from tipping.

B - DESCRIPTION OF PARTS AND ACCESSORIES (FRONT WHEEL SET):

Tow Bar:

Length: 67 in.
Weight: 39 lb

with 2 pin bolts

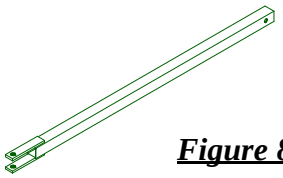


Figure 8.3

Tow Bar Pin:

Length: 1 in. x 9 in. (metal plated)

with spring pin

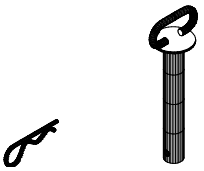


Figure 8.4

Set of (4) Tower Clevis Pins:

Length: 1 in. x 9 in. (metal plated)

with spring pin

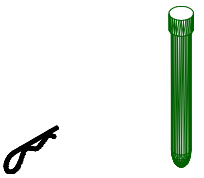


Figure 8.5

ACCESSORIES:

Tow bar extension:

Length: 76 in.
Weight: 48 lb

with tow bar pin

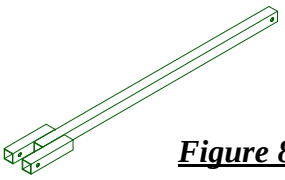


Figure 8.6

Set of Lifting brackets:

Length: 16-1/2 in. (metal plated)

Note: **The set of brackets allows the base to be lifted to clear unit off the ground.**

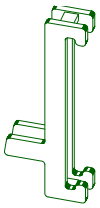


Figure 8.7

C - INSTALLATION:

1 - With a forklift truck, or using the hydraulic system, raise motorised unit sufficiently to permit easy access and installation of wheel assemblies, underneath the main platform (approximately 3 ft.)

Note: There is no "better" positioning of wheel sets. The installation of the front wheel set will dictate towing direction (see schematic)

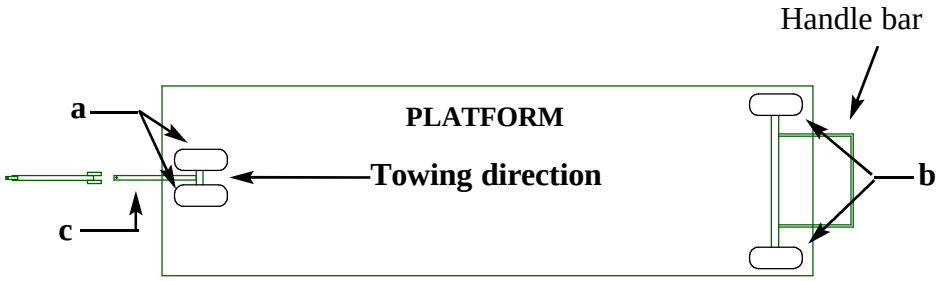


Figure 8.8

a) front wheel set

b) rear wheel set

c) tow bar

d) tow bar extension

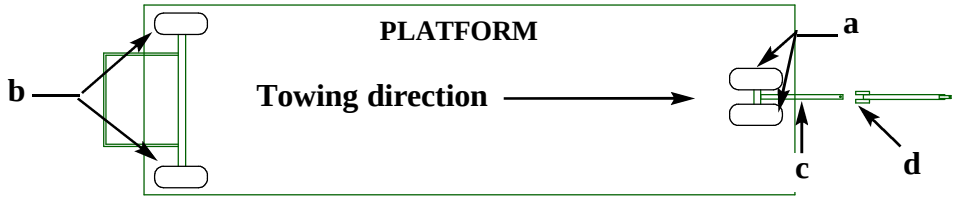


Figure 8.9

IMPORTANT

On the rear wheel set, the handle bar should face backwards.
On the front wheel set, the tow bar mounting channels should face forward.

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PROCEDURE:

Underneath the main platform, push in proper wheel assembly and secure with clevis pin and lock with spring pin. Wheel sets may be lifted in place, or motorised unit may be lowered onto wheel sets.

Make sure power unit wheel mounting structure nests snugly into steel brackets.

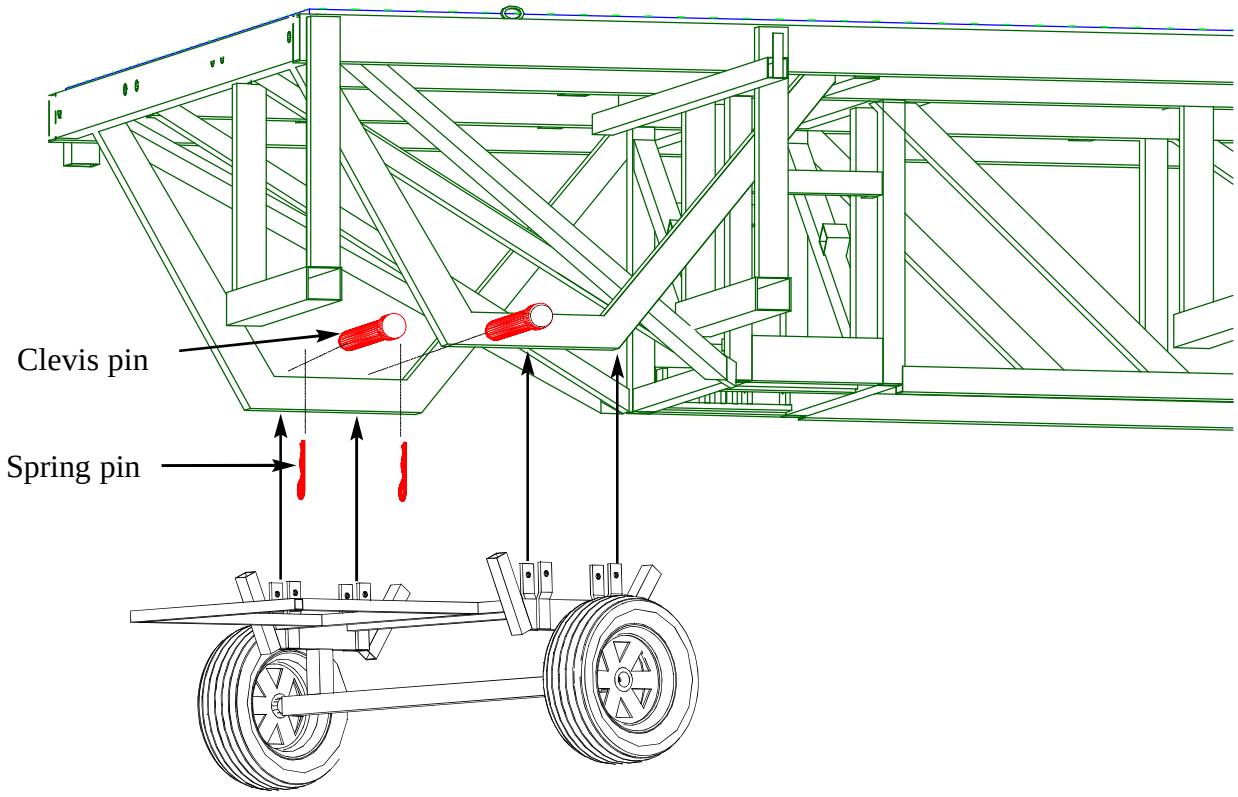


Figure 8.10

WARNING

Moving speed of motorised unit should not exceed 6 miles / hr.

D - LIFTING BRACKETS:

DESCRIPTION:

The lifting brackets allow to lift the base up into the motorized unit, transforming the motorized unit into a trailer like towable unit.

Wheels may be installed on the unit in a permanent fashion.

There is no inconvenience encountered when raising or lowering the motorised unit with the wheels attached.

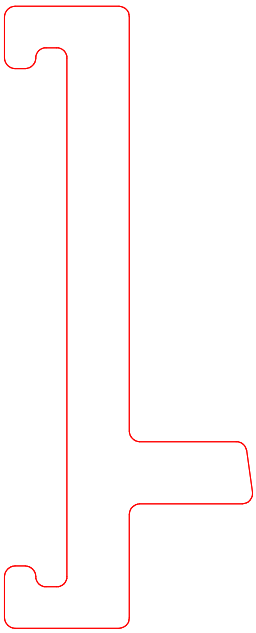


Figure 8.11

WARNING

With the wheels permanently attached to the motorized unit, the total weight of these assemblies must be deducted from the allowable weight of the motorized unit:

Total Weight - Front Wheel Set : 383 lb
Total Weight - Rear Wheel Set: 288 lb

NOTICE:

Before utilizing the LIFTING BRACKETS, it is mandatory for an operator to become fully acquainted with the lifting and lowering mechanism of the unit.

D - LIFTING BRACKETS: CONT'D

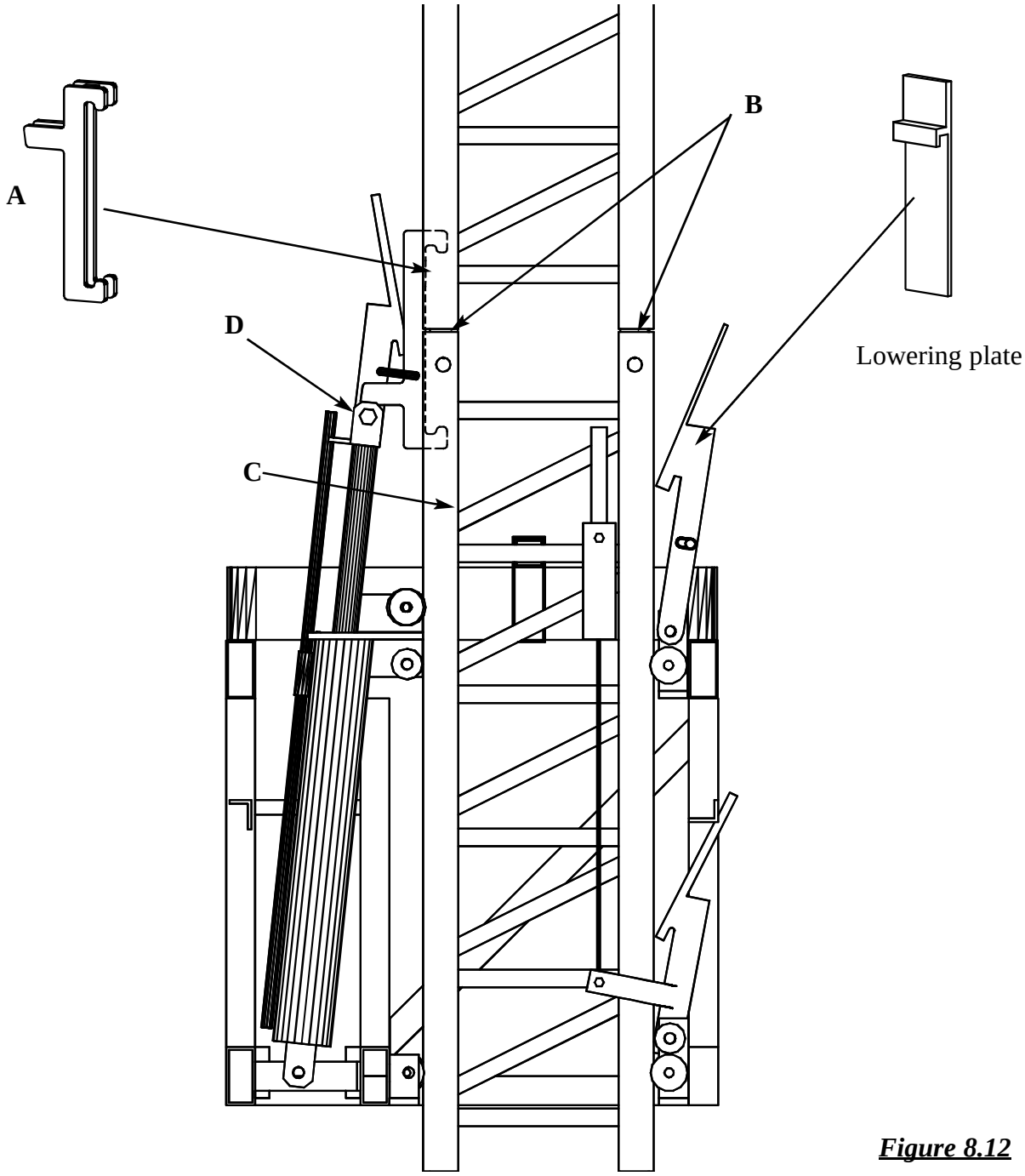


Figure 8.12

A) lowering bracket

B) tower joint

C) first tower

D) cylinder rod end

E - WHEEL LOWERING PROCEDURE:

The front and rear wheel sets are in place under the unit.

The following steps will allow to lower the wheel sets to the ground, in order to tow the motorized unit:

1 - Install an additional tower on each lower tower and secure with tower clevis.

2 - Start the engine and push down both control handles on the engine housing in order to bring the hook attached at the end of the hydraulic cylinder rod in a position slightly below the tower joint.

3 - If it has not been already done, remove the locking bars located at the main mechanical cage under the platform. The bar is fitted into square sockets welded onto the cage structure.

4 - Install lowering bracket **(a)** at the tower joint **(b)** of first two towers **(c)** at either end of the unit. (*see figure 8.12 page 8-7*).

5 - Install lowering plates in proper position to disengage security hooks.

6 - Set each lever of the **back-up hooks** at 12 o'clock position.

7 - Push the control levers up, so that each lowering bracket **(a)** rests firmly against the tower horizontal rungs, as well as on the top of the cylinder rod end **(d)**.

8 - Push both control handles up, until the base rests against the frame and the engine stalls.

9 - Install locking bars in place at the mechanical cage under the platform.

10 - Wheels should now be in contact with the ground.

11 - Push both control levers down to free lowering brackets.

12 - Remove the lowering brackets and replace the cylinder hook in position.

Note: Wheel sets are now functional as the base and adjustable legs are lifted off the ground.

13 - Move unit to the desired location.

14 - **Installation and levelling can now proceed normally.**

F - WHEEL SET REMOVAL PROCEDURE:

1 - While wheels are on the ground, remove four tower clevis pins securing wheel sets to power unit wheel mounting structure.

2 - Lift up unit in a normal fashion.

3 - Wheel sets will remain on the ground

G - TOW BAR AND TOW BAR EXTENSION:

When a unit is towed, the tow bar is installed in the tow bar pocket on the front wheel set.

If a unit is towed while an extension or 6 ft. cantilever bridge is installed, it is necessary to add a tow bar extension between the tow bar pocket and the two bar.

For displacing a unit with a longer cantilever bridge, refer to **SECTION H**.

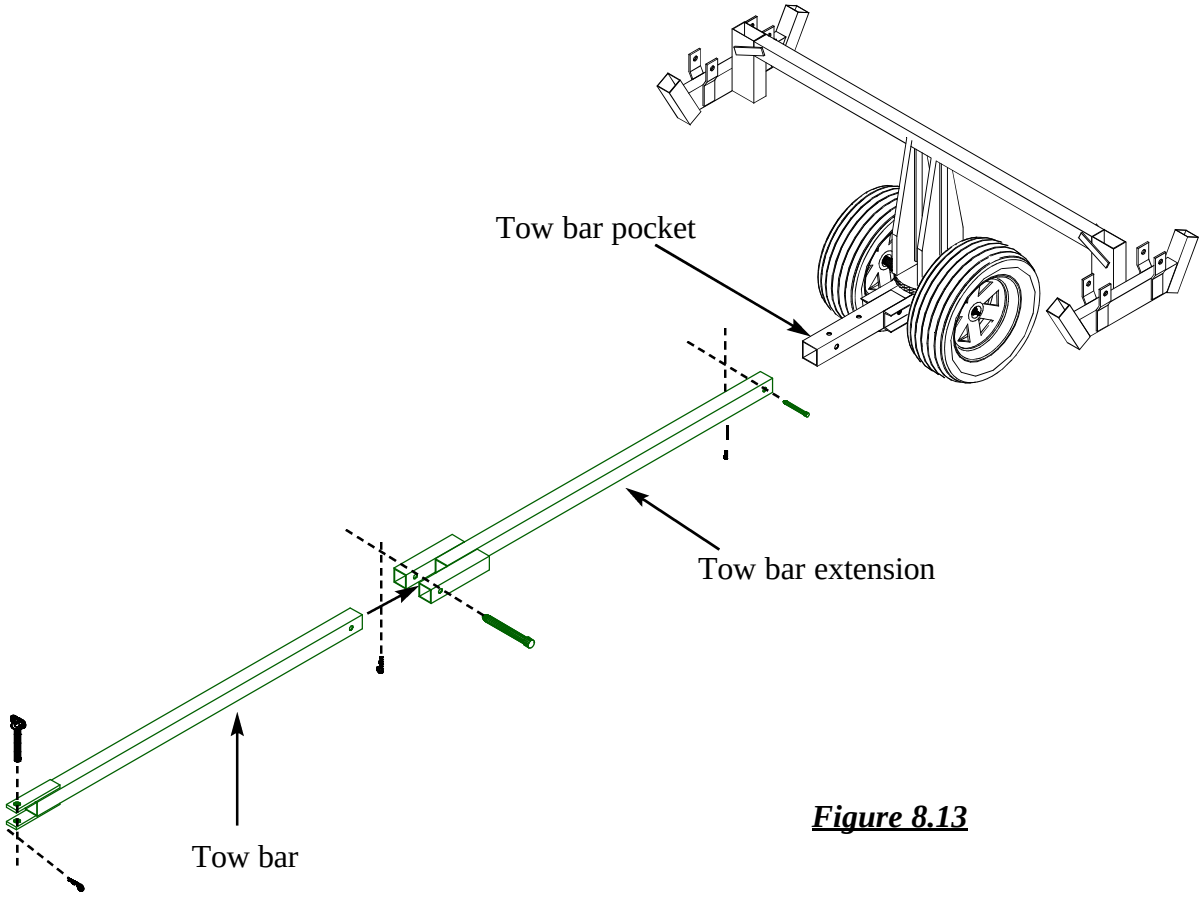
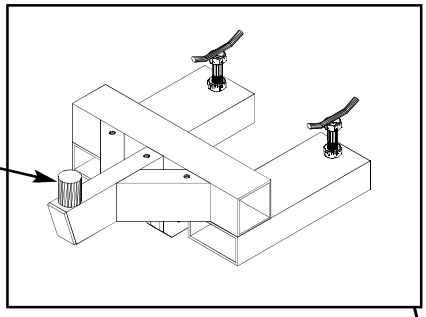


Figure 8.13

H - USE OF WHEEL SET WITH LONG CANTILEVER BRIDGES:



Fork lift adaptor

18 ft. bridge

Figure 8.14

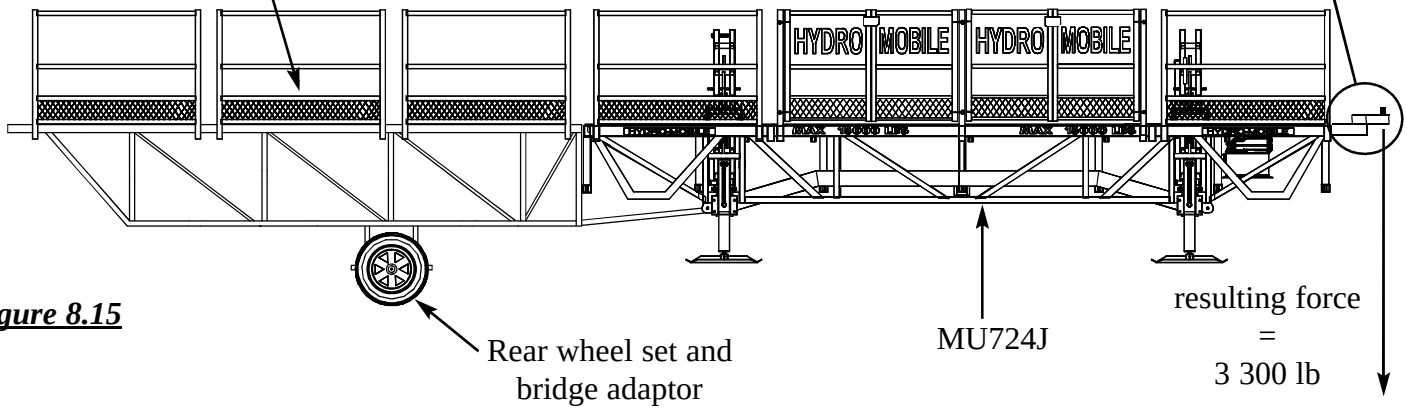


Figure 8.15

Note: **It is possible to move a motorised unit with a cantilever bridge of up to 18 ft. connected to one end.**

PROCEDURE:

1 - Install a rear wheel set on the bridge end.

2 - Install part "A" of the handling apparatus to the forks of a lift truck. (7000 lb capacity required).

3 - Line up ball on part A with center socket of cantilever bridge. (series VI and beyond).

4 - Lift up base into unit. (See **PROCEDURE, Section E**)

5 - With lift truck hitched to end of bridge, move complete set up like a trailer, to desired location.

6 - Set up unit in a normal fashion.

7 - Wheel set may be removed or left installed on unit during operation.

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H - USE OF WHEEL SET WITH LONG CANTILEVER BRIDGES: CONT'D

60 ft. setup

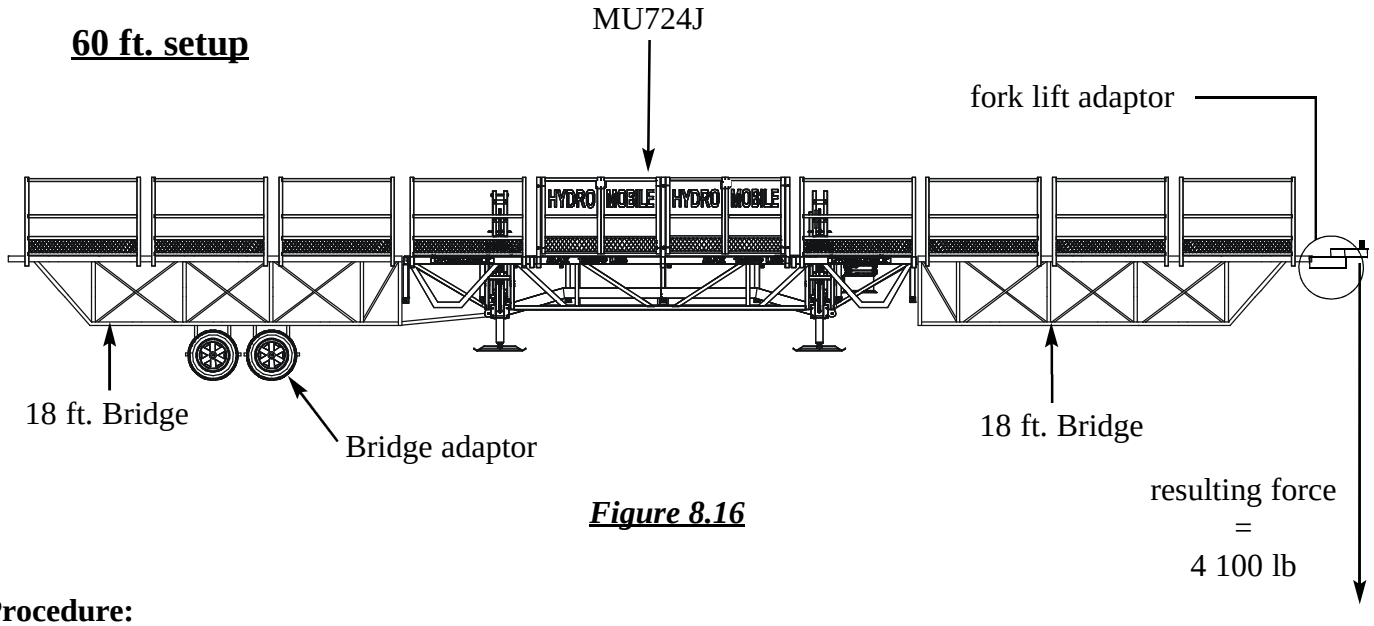

Figure 8.16

Procedure:

1 - Install the Motorized Unit with jacks raised 7 to 8 in.
2 - Install the two bridge adaptors (wheels set)
3 - Raise the motorized unit 7 to 8 in. with the fork lift adaptor
4 - Raise the jacks 5 to 7 in.
5 - Proceed with the moving of the scaffolding

WARNING

Before moving - clear the ground
- remove all excessive weight

56 ft. setup

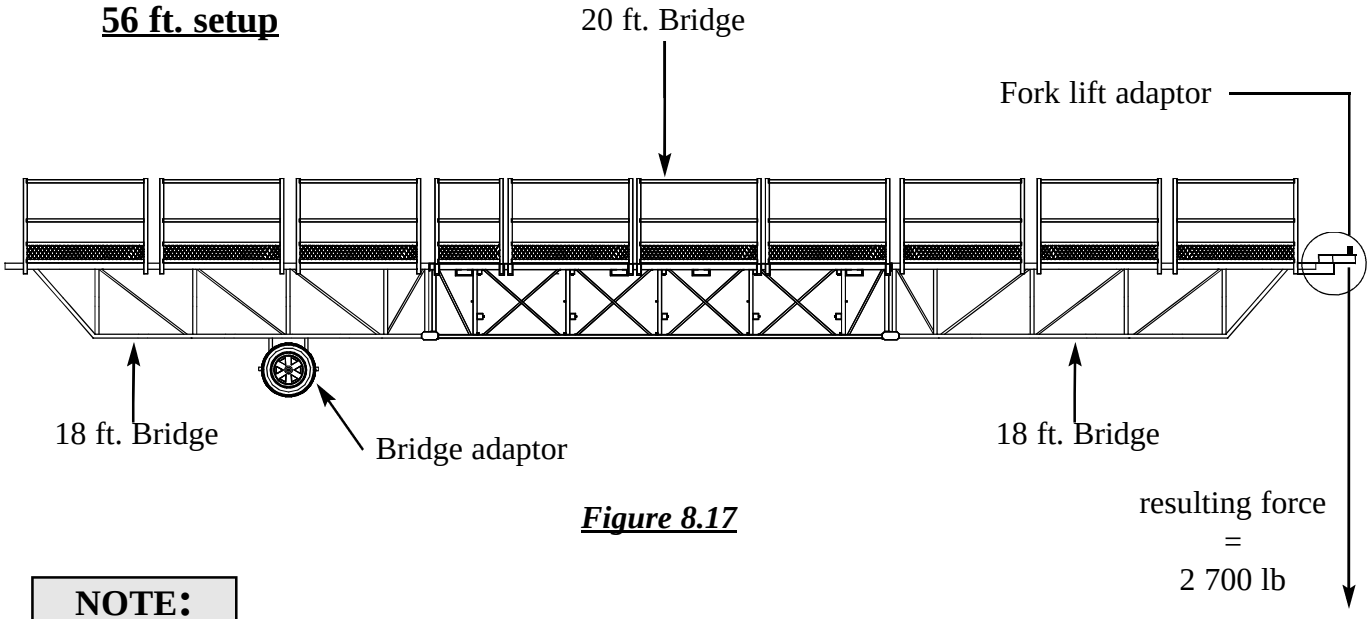

Figure 8.17

NOTE:

Under special conditions where ground is particulary rough of soft, it may be necessary to use two wheel sets at one end, thus forming a tandem axle.

CHAPTER 9

CAPACITY AND WEIGHT

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CAPACITY AND WEIGHT

A - MAXIMUM CAPACITIES USING 1 MOTORIZED UNIT

B - MAXIMUM CAPACITIES USING 2 MOTORIZED UNIT

C - CAPACITY BY OUTRIGGER

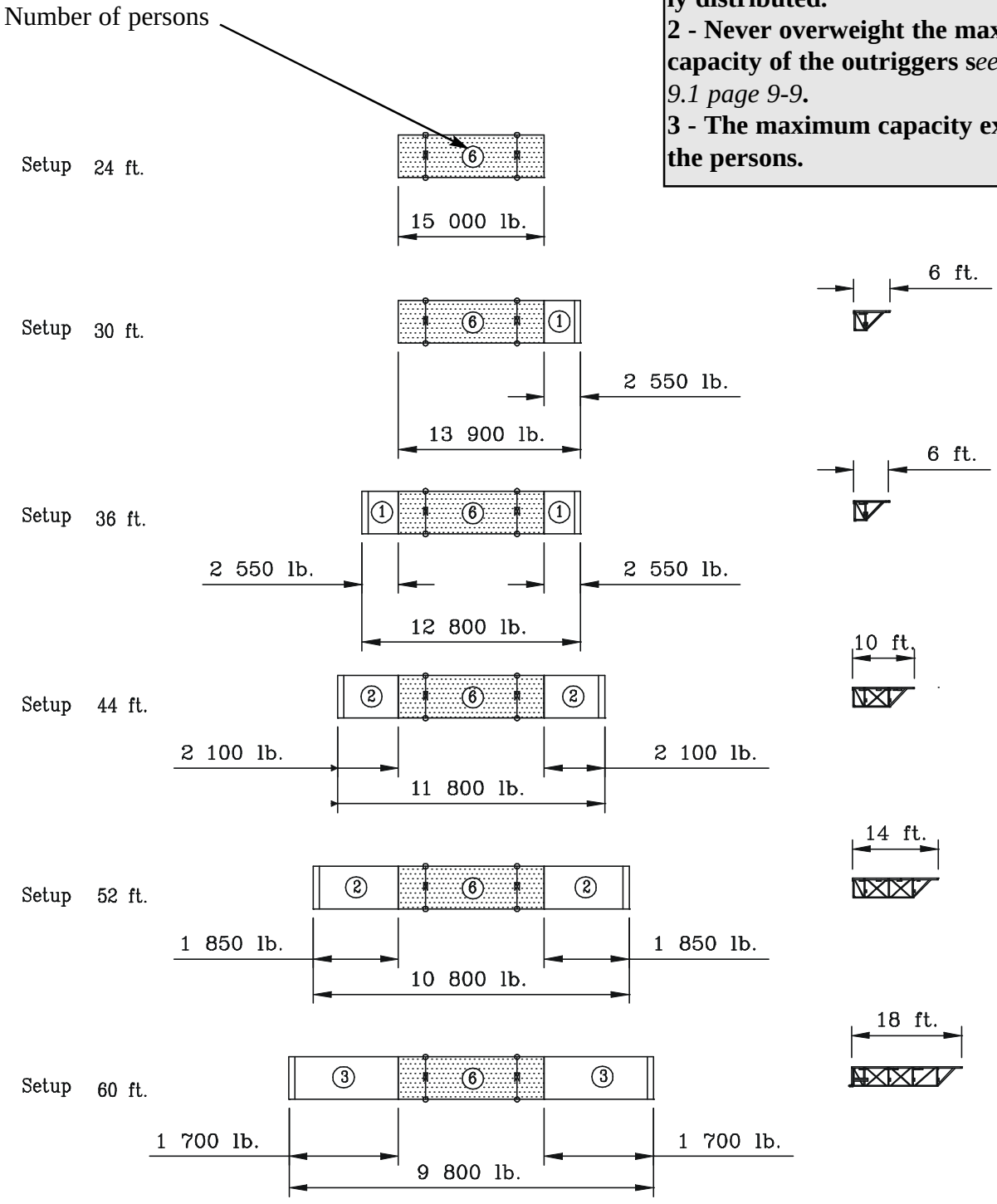
D - EQUIPMENT WEIGHT CHART

A - CAPACITY AND WEIGHT

MAXIMUM CAPACITIES USING ONE MOTORIZED UNIT

NOTES

1 - The weight must always be evenly distributed.
2 - Never overweight the maximum capacity of the outriggers s*ee Table 9.1 page 9-9***.**
3 - The maximum capacity exclude the persons.



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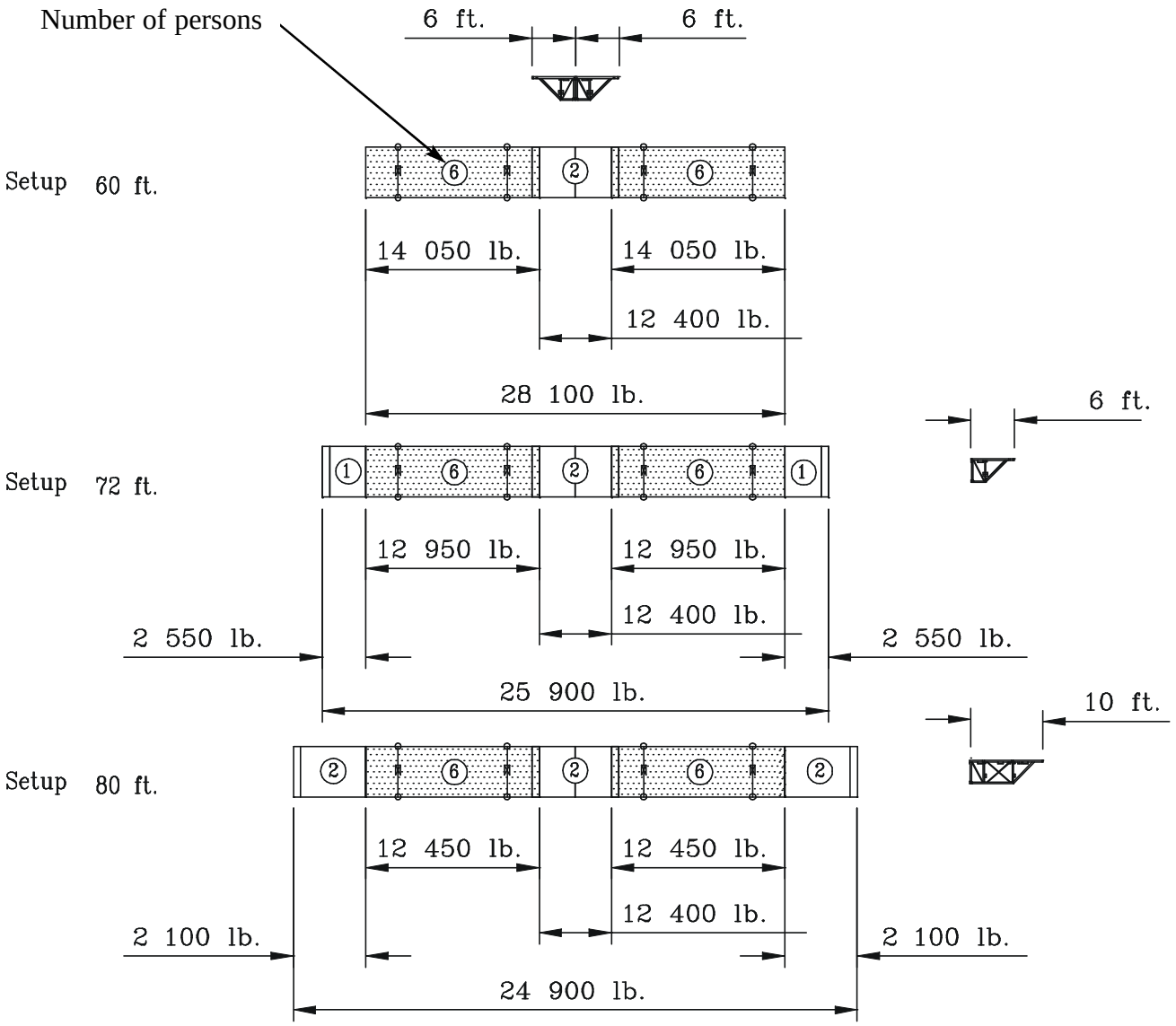
MAXIMUM CAPACITIES USING TWO MOTORIZED UNIT

NOTES

1 - The weight must always be evenly distributed.
2 - Never overweight the maximum capacity of the outriggers s*ee Table 9.1 page 9-9***.**
3 - The maximum capacity exclude the persons.



MAXIMUM CAPACITIES USING TWO MOTORIZED UNIT

NOTES

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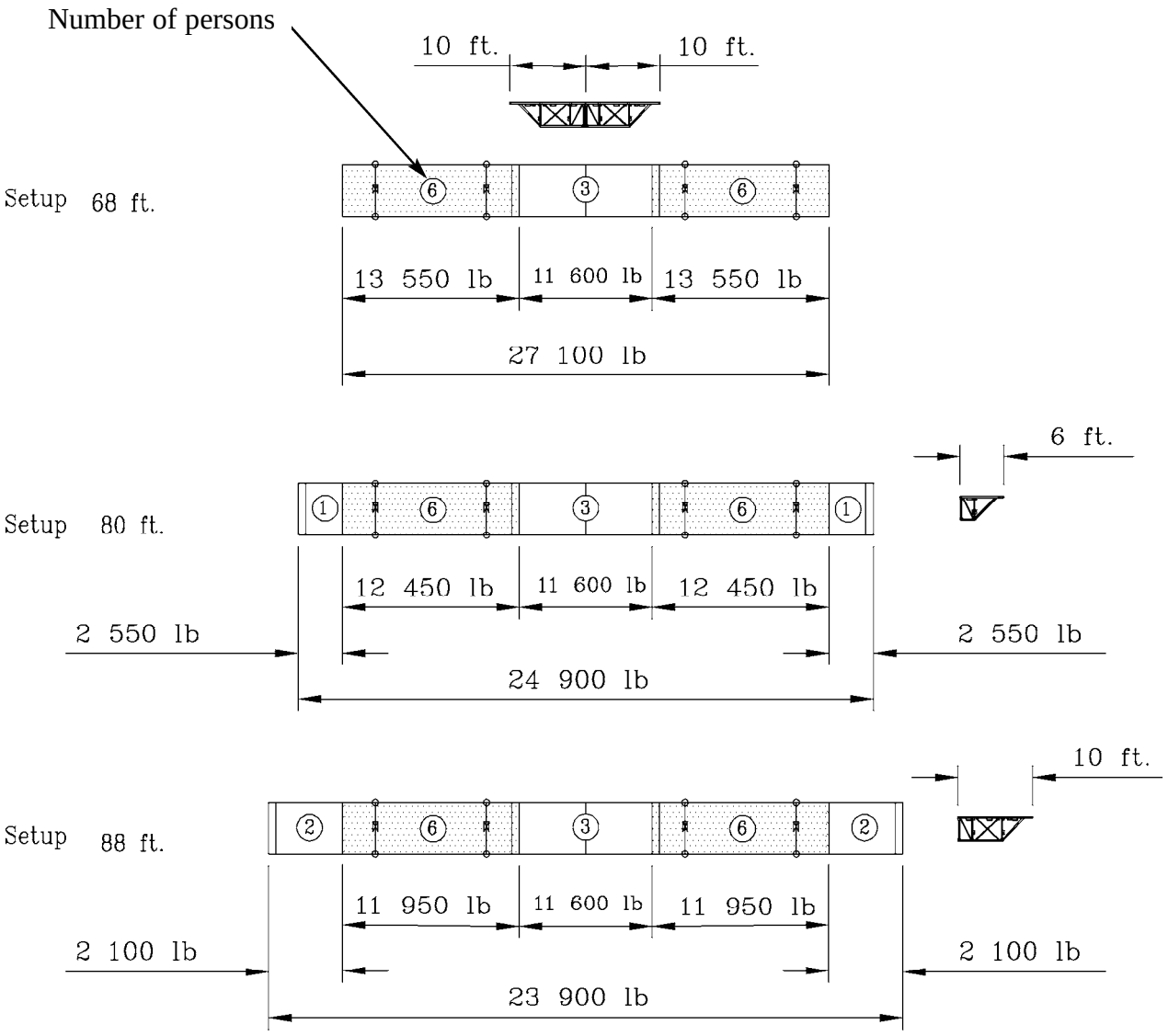

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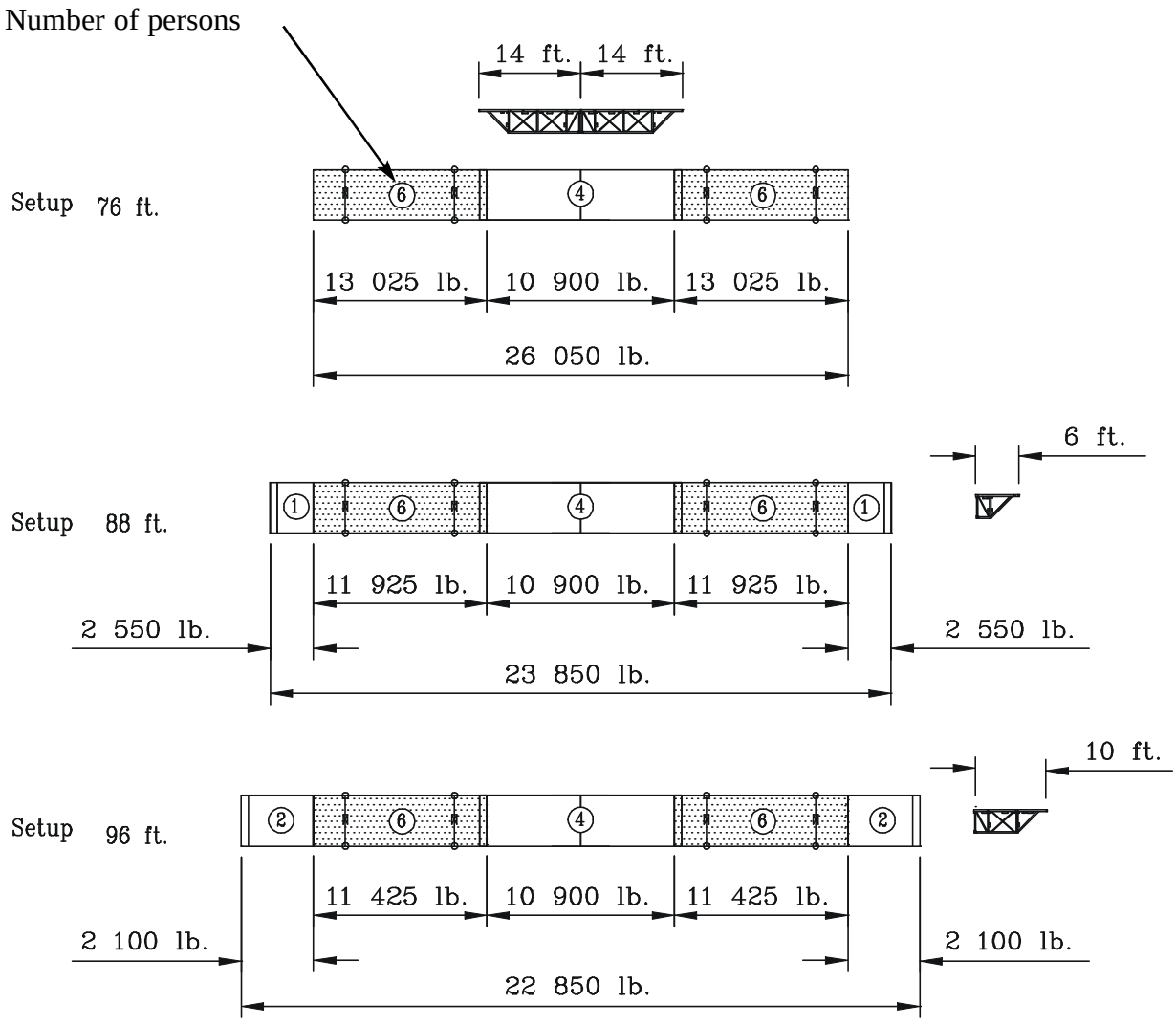

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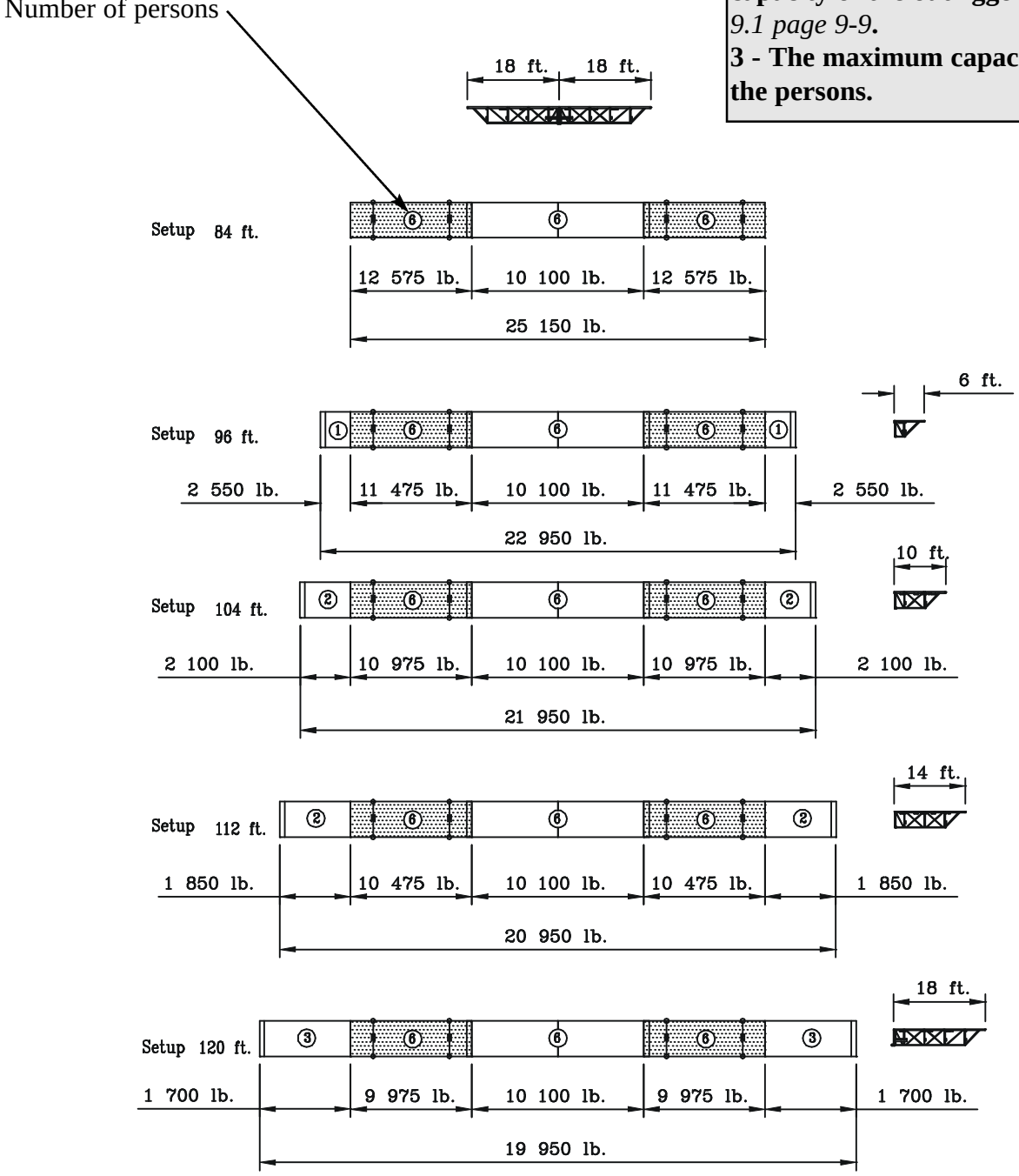

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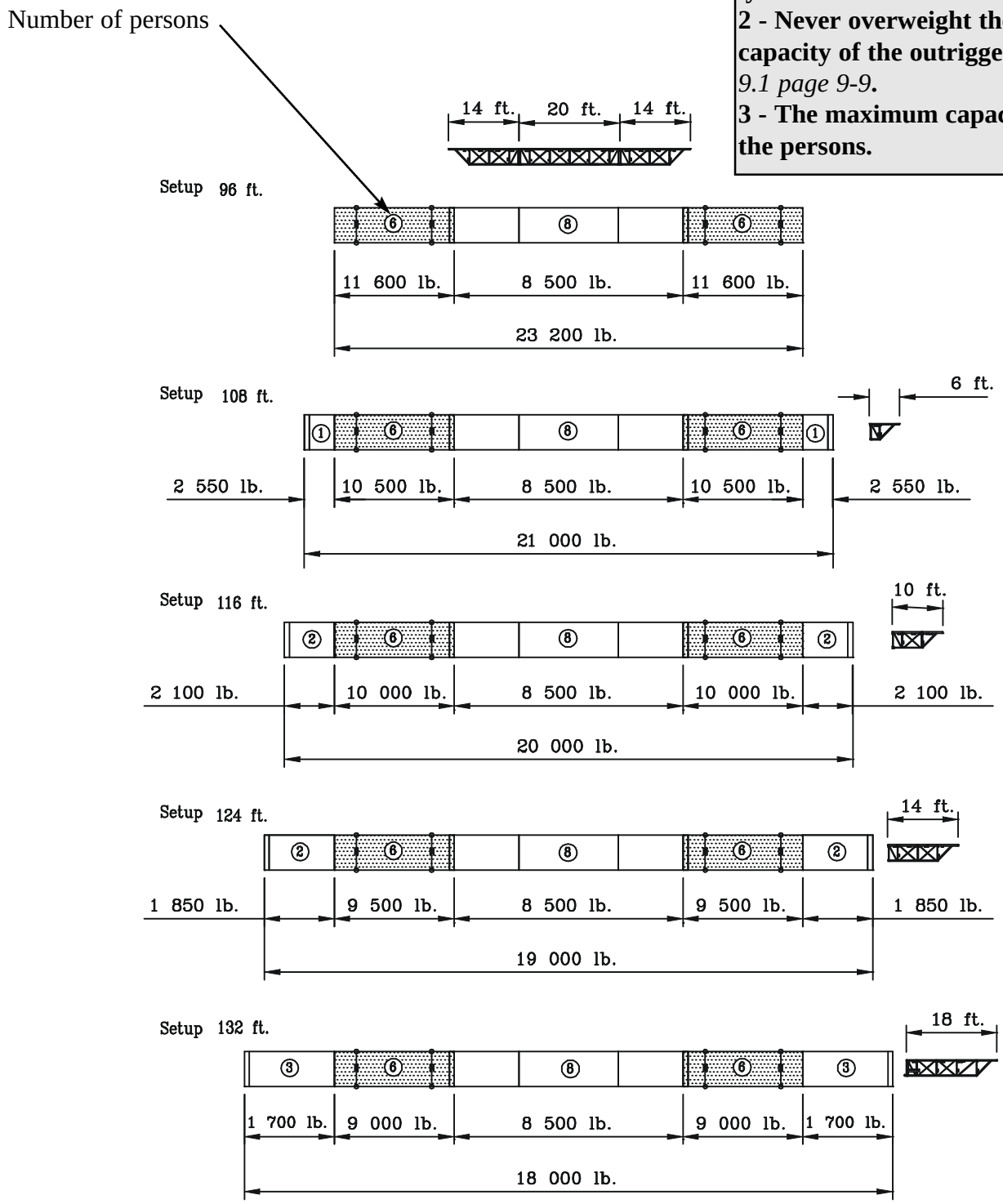

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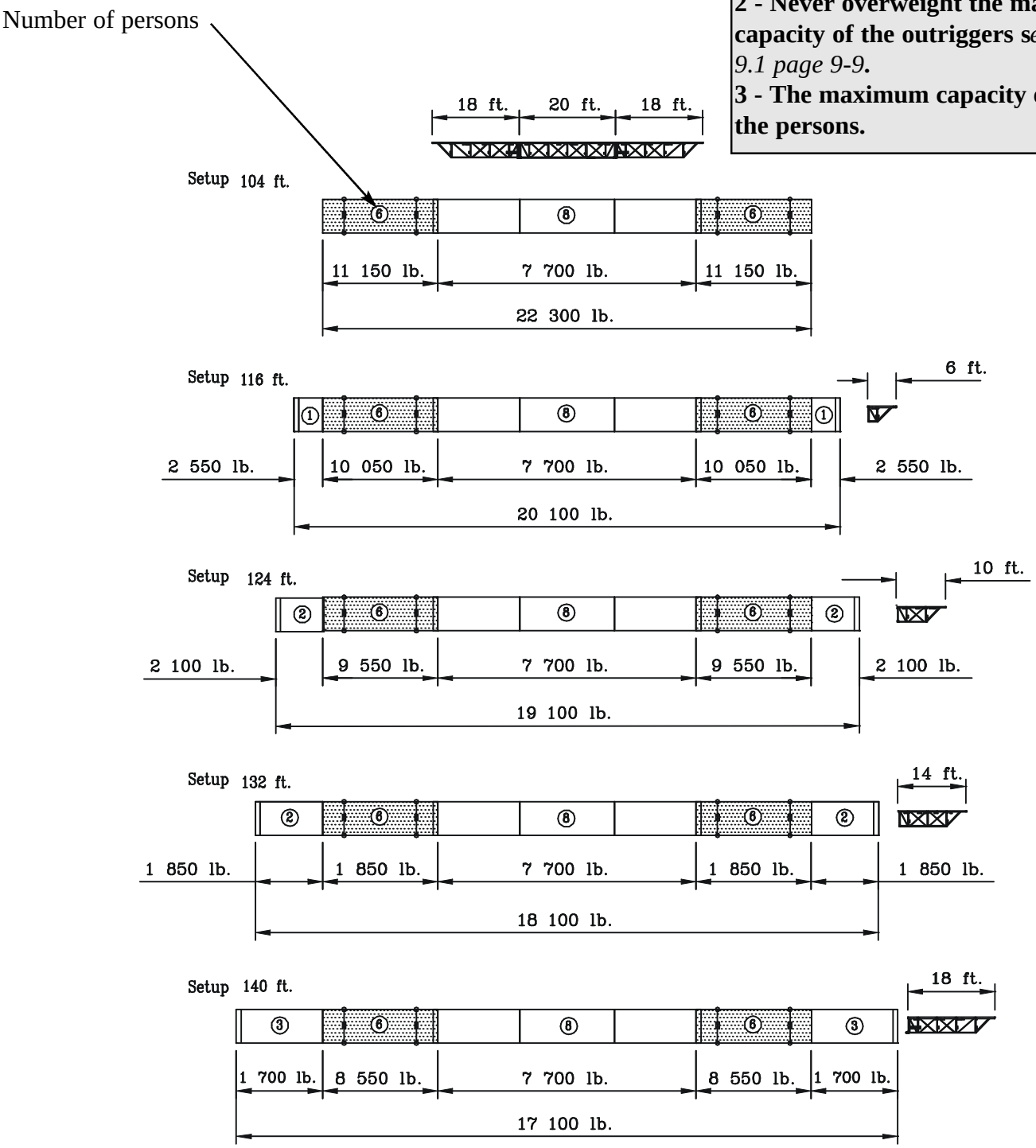

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C - CAPACITY BY OUTRIGGER

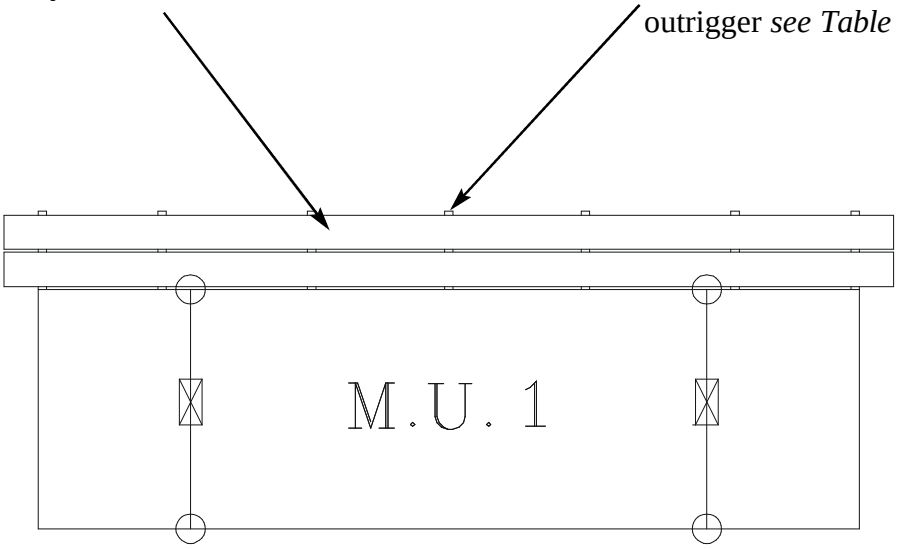
	Extended length (feet) (weight lb)							
	1	2	3	4	5	6	7	8
2 1/2 in. x 2 1/2 in. x 3/16 in.	2000 lb	1311 lb	855 lb	622 lb	477 lb	377 lb	302 lb	243 lb
Déflexion (in.)	0.01	0.07	0.16	0.28	0.42	0.57	0.72	0.87
2 in. x 2 in. x 1/8 in.	1170 lb	568 lb	360 lb					
Déflexion (in.)	0.02	0.09	0.19					

NOTE: The *Table 9.1* tell you the maximum capacity per outrigger.

Table 9.1

The weight must be evenly distributed on the top outriggers.

For the maximum weight per lower outrigger *see Table 9.1*



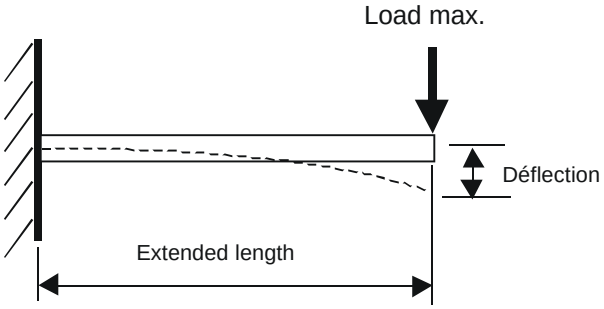


Figure 9.2

D - EQUIPMENT WEIGHT CHART

	lb
Motorized Unit	
MU724W	6 200
MU712W	4 500
Bearing bridge	
2 ft.	500
6 ft.	950
10 ft.	1 450
14 ft.	1 975
18 ft.	2 425
20 ft.	2 850
Cantilever bridge	
2 ft.	675
6 ft.	1 100
10 ft.	1 600
14 ft.	2 100
18 ft.	2 600
Forward extension	
10 ft.	716
16 ft.	1 016
22 ft.	1 316
Counterweight	129
Extension counterweight	188
Back extension	460
w150x14 2,7 m (9 ft.)	108
Tower	149

	lb
Access cage	600
Wheel set	
Front	444
Back	296
Tower basket	166
Handling apparatus	282
Lift truck adapter	
	65
Yoke MU712W	
	49
Yoke MU724J	
	162
Guard rail 65 in.	
	56
Guard rail 79 in.	
	69
Hoist	
Front arch	210
Back arch	210
Engine rack	75
beam	343
Hoist	100
Engine	420
Tow bar MU812W	
	102

Table 9.3

CHAPTER 10
TROUBLE SHOOTING

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TROUBLE SHOOTING

A - HYDRO-MOBILE SCAFFOLDING UNITS

B - HYDRAULIC SYSTEM

A - HYDRO-MOBILE SCAFFOLDING UNITS

DAILY

☐	Check level of base and tower (correct if necessary).
	NOTE: It is usually easier to lwer one leg of motorized unit than it is to raise (on model with screw jack).
☐	For model with adjustable jack make sure that the pin of drop part is securly engage.
☐	Check gasoline level.
☐	Clean off excess mortar from unit and accessories.
☐	Make sure no mortar or broken masonry is infringing operation of guide rollers, cylinders, hooks and springs (clean as required).
☐	Make sure safety hook springs are in good condition and check hook for binding.
☐	At first operation, make sure cylinders and cylinder hooks move freely about their retaining pins.
☐	Make sure auxiliary hook is engaged and can move freely.
☐	Check engine oil level (refer to Honda owner's manuel).
	NOTE: Units are provided with oil alert, which should normally prevent engine from starting, if oil level is low.
	CAUTION: Auxiliary safety hook should always be latched during normal operation.

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A - HYDRO-MOBILE SCAFFOLDING UNITS, CONT'D

WEEKLY

☐	Observe all hydraulic components, checking for leaks ans wear of hydraulic hoses.
☐	Verify hydraulic oil level. Tank should be between 3/4 and 7/8 full with cylinders pulled in (closed position).
☐	Make sure guide rollers turn freely (clean if necessary).
☐	Check structure for possible damage or distortion caused by overload conditions.
☐	Grease hydraulic cables at ends, using a grease gun.

A - HYDRO-MOBILE SCAFFOLDING UNITS, CONT'D

MONTHLY

☐	Clean up and lubricate all guide rollers.
☐	Clean up and oil hook at pivots.
☐	Check springs and replace as necessary.
☐	Clean jack screws and lubricate.
☐	Check the lock pin of adjustable jack.
☐	Check engine oil level.
☐	Check and replenish hydraulic fluid. Use (ISO-032)
☐	Clean outriggers and material.
☐	Check lock bolts, planks stops, pin bolts. Replace as necessary.
☐	Examine doors. Repair as necessary.
☐	Check for missing tower pins and spring pins. Replace/replenish as necessary.
☐	Make sure bridge sections are provided with junction plates and fastening bolts or pins.
	NOTE: 5/8 in. lock bolts are stainless steel.

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A - HYDRO-MOBILE SCAFFOLDING UNITS, CONT'D

YEARLY

☐	Perform all checks listed in monthly check list.
☐	Remove and clen all outriggers.
☐	Check for paint damages, touch-up or generally repaint unit.
☐	Inspect structure for bends and tears.
☐	Inspect welds for cracks.
	NOTE: In case of doubt, consult factory or refer to a certified welder.
☐	Check and balance hydraulic pressure to 2 500 lb. On both sides.

B - HYDRAULIC SYSTEM

Your **HYDRO-MOBILE** scaffolding units are powered by a reliable hydraulic operating system:

The system includes:

- internal combustion engine
- pump
- distributing device (flow splitter)
- two way valves (2)
- remote dual control bloc
- two cylinders
- safety return check valves
- hydraulic hoses
- hydraulic oil filter

The system operates at 2500 PSI or 170 BAR.

For information concerning engine, refer to Honda Operation Manual.

SIMPLE REMINDER FOR ENGINE STARTING:

First, - check oil and gasoline level.

Then,
- pull choke (blue lever)
- pull out throttle (yellow lever)
- pull ignition/starter (red lever)
- repeat if engine will not start

Note: Honda engines require use of choke in most cases

POSSIBLE HYDRAULIC MALFUNCTIONS AND REMEDIES
ASSUMING ENGINE IS RUNNING NORMALLY:

PRELIMINARY CHECK:

Test 1:

1 - Pull back both hydraulic cylinders away from towers.

2 - Operate both levers together and extend cylinders all the way out.

3 - Retract back in.

Full extension and retraction should require approximately 30 seconds. If it takes longer than 30 seconds, there are two possible causes:

a) Pump suction is obstructed:

In this case, both cylinders are operating slowly.
If operating for some time, the oil temperature will rise and the oil will foam in tank.
It may be necessary to drain the tank to check this out. The cause of blockage can be mortar (most likely), a piece of wood from an improvised oil dip stick or a piece of steel. Remove obstruction, fill up with clean hydraulic oil and restart.

b) Pump is damaged.

Test 2:

1 - Place both cylinders back onto towers.

2 - Operate handles so that platform actually hangs on hydraulic hooks. Platform should remain stable.

If one end lowers itself, there is probable internal leakage. This problem is very unlikely as the daily maximum number of operating cycles is likely to allow 10 years of rough service before any packing set could wear out. If cylinders do not operate at about the same speed, the flow splitter may be obstructed:

Remedy:

1 - Open both allen screw plugs from flow splitter (1/2 in. allen key required)

2 - Push out spool piece, if necessary use 400 grit sand cloth.

3 - Clean up

4 - Blow air through splitter valve or run a clean piece of rag through opening back and forth.

5 - Reassemble spool piece and screw plugs.

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Test 3:
(Load test)

- This test is preferably done with load on the platform, and similar weight being carried by both cylinders.

- Although your Hydro Mobile unit has a very large lifting capacity, it is designed to have the two cylinders lift a similar load. Particularly, if a long bridge is used off to one side only, it is possible to have all the load actually being picked up by just one cylinder.

For the purpose of testing, it is recommended to have a similar load on both cylinders:

1 - Operate the two control levers simultaneously. If one side will not lift, it is possible that the hydraulic control valve has lost its adjustment.

2 - Disconnect **one** hose line on top of valve.

3 - Connect on hydraulic pressure gauge to valve where hose was connected.

Note: Hoses are colour coded: RED and GREEN. RED line goes to top of cylinder and causes cylinder to close, platform to raise and corresponds to the down position of the control level.

Assuming gauge was connected to RED valve outlet:

4 - Loosen the pressure adjustment lock nut. Using an appropriate allen key, turn control stem in, to increase pressure out to lower

6 - Start engine, run at high speed, push and hold lever down.

7 - Check gauge and adjust pressure to 2500 psi., while lever is held in the down position.

Note: Left valve has pressure adjustment pointing to back of unit. Right valve has pressure adjustment pointing to front of unit.

If pressure cannot be increased to 2500 psi at high engine RPM, pump is damaged and should be replaced. If pressure is set to 2500 psi, system is adequate for that cylinder.

8 - Proceed in the same manner for other cylinder.

If system still will not lift on one side, there is an overload condition.

Test 4:

When control levers are actuated, they should be pushed down or lifted up completely.
Valves are ON - OFF - ON types.

1 - Operate each control valve up or down.

If engine speed reduces considerably, it means the oil flow is dead ended.
This is usually caused by a partly shuttled spool piece in the valve itself. Although the control lever might be at 45^{o} up, or 45^{o} down, the fully open positions, it is possible that the cable connection housings may have come loose.

2 - Check at both end of cables, and tighten (4) allen dead screw on each of housings. The housing is recognized by the presence of a standard automotive grease fitting.

This should remedy most common hydraulic problems.

If there is a further problem, contact your local distributor or a qualified technician.

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