Owner's Manual

P SERIES

HYDRO MOBILE

ELEVATING EFFICIENCY

Call us for information:
1-888-484-9376 (US)
(toll free in the United States)
450 589-8100 (Canada)

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P_OpMan_v5.03_EN

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NOTE

All assembly and operation instructions located on motorized units and bridges take precedence over information contained in this manual. Should there be any discrepancies discovered throughout any published documentation issued by Hydro Mobile or its authorized affiliates, the following order of precedence shall prevail:

1. **Written documents issued by the Hydro Mobile Engineering department**
2. **Recall instructions**
3. **Assembly or operation instructions displayed on the motorized unit**
4. **Owner's manual**

Any use of one or several Hydro Mobile motorized units, with or without accessories, in such a configuration or manner as not explicitly described in this manual is not allowed without the permission of Hydro Mobile Inc.

Revision List

Date	Description
Apr 2003 v 1.0	First edition of Owner's manual
Oct 2004 v 2.0	Overall revision 2004
Feb 2005 v 3.0	Addition of bearing bridge; changes to load capacities
Sept 2005 v 3.1	Overall revision; APAVE certification 2005; inclusion of information on 7' (2,1 m)/min model
Dec 2005 v 3.2	Changes to electric diagram for 7' (2,1 m)/min model
Jan 2008 v 4.0	Overall 2007-2008 revision; inclusion of additional accessories; addition of load capacity charts for forward/back extension bridges
Apr 2015 v 4.1	Last edition of version 4; inclusion of additional accessories and corresponding load capacities; this version applies to units with serial number PU-0831 and previous
Feb 2015 v 5.0	Major changes to motorized unit and main components; unit now identified as 7' (2,1 m) per min; this version applies to units with serial number PU-0832 and up
Sep 2015 v 5.01	Minor corrections
Feb 2016 v 5.02	Changes to definitions of competent person and qualified persons
Oct 2016 v 5.03	Minor corrections; changes to values in *Minimum Bearing Surface Capacities* table; standardization of installation and dismantling procedures; inclusion of mast handler

LEGEND OF ICONS

These icons are used to highlight important information throughout this manual

Information
Useful information for safe and easy operation

Useful tip
A useful tip to facilitate installation or operation

Type of setup
Single unit freestanding installation

Type of setup
Multiple units freestanding installation

Warning note
An important warning: damage or injury may occur

Wind speed warning
An important warning: wind speed conditions must be observed to avoid damage or injury

Type of setup
Single unit installation with mast ties

Type of setup
Multiple units installation with mast ties

The information and instructions contained in this manual applies to units bearing the following serial numbers

PU-0832 and up

General Information

Motorized unit serial number _____

Manufacturing date _____

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Introduction

Dear owner or user:

Thank you for investing in a Hydro Mobile P Series mast climbing work platform system. The design of this motorized unit reflects over a decade of continued field operation, testing and research work and comes as a solution to our company's deepest concern, your safety and well being on the job.

To ensure that the workplace becomes safer and more efficient using a Hydro Mobile system, always have a competent person and backup competent person assemble, operate, dismantle and move your mast climbing work platform system. These competent persons will be required to read this owner's manual and assimilate the information contained herein. Failure to do so could lead to serious injury and/or equipment damage.

This motorized unit was designed in accordance with the following standards: US ANSI A92.9-2011, ISO 16369:2007 and EN 1495, 98/37/CE "directive machine" and 89/336/CEE "directive CEM". Furthermore, this motorized unit and its owner's manual comply with US ANSI A92.9-2011 standards, Federal Occupational Safety and Health Administration Standards OSHA 29CFR1926 subpart L; with ISO 16369:2007 and CSA B354.5-07; and with EN 1495, 98/37/CE "directive machine", 89/336/CEE "directive CEM" and ISO 16369:2007.

To maximize the life expectancy of your equipment and to enjoy years of trouble free operation, we recommend that this Hydro Mobile system be serviced according to maintenance schedules and recommendations provided in this manual.

Should you have any questions or concerns, please contact the nearest authorized distributor/service center or Hydro Mobile directly at 888-484-9376 (in the United States) or at 450 589-8100 (in Canada). You can also visit our web site at www.hydro-mobile.com for additional support and information on our factory safety and performance training seminars.

We wish you years and years of safe, productive construction and renovation work.

Sincerely,

Vincent Dequoy
President

The installation and operation of a mast climber is subject to hazards that can be avoided only by using extreme care and common sense. It is essential that the competent person be properly trained in the installation, dismantling, proper use and safe operation of the mast climber and its accessories.

Warranty

Warranty period

Hydro Mobile Inc., herein referred to as Hydro Mobile, warrants its new P Series motorized units to be free from defect of materials and workmanship for a period of 15 months from the date of delivery to the authorized distributor/service center.

Hydro Mobile also warrants its new P Series parts and accessories to be free from defect of materials and workmanship for a period of 15 months from the date of delivery to the authorized distributor/service center.

Product registration

In accordance with standards governing mast climbing work platform systems, the owner of a Hydro Mobile P Series unit **must register the product with Hydro Mobile within sixty (60) days**. The initial buyer of a Hydro Mobile P Series unit is automatically registered by Hydro Mobile.

Hydro Mobile must be kept informed of any change of ownership. The new owner must provide Hydro Mobile with a full name and address, along with the model and serial number of the unit acquired.

Description of warranty

Parts and accessories manufactured by Hydro Mobile

Hydro Mobile's obligation and liability under this warranty are expressly limited to repairing or replacing with re-manufactured or new parts, at Hydro Mobile's option, any part and accessory manufactured by Hydro Mobile proven defective after inspection by Hydro Mobile which appear to have been defective in material or workmanship. Only permanent repairs will be covered under this warranty. Hydro Mobile reserves the right to ask for maintenance records of the defective part before settling a claim and to deny such claim if maintenance records are not available or not compliant with maintenance schedules.

This warranty shall not apply to component parts or accessories of products not manufactured by Hydro Mobile and which carry the warranty of the manufacturer thereof or to normal maintenance (such as engine tune-up) or any part necessary to perform such maintenance. Hydro Mobile offers no other warranty, expressed or implied, and offers no warranty of merchantability or fitness for any particular purpose.

Engine

All engines manufactured by Honda under the "GX" lineup are covered by an international warranty of 36 months (12 months on mufflers). To have an engine repaired under this warranty, the engine must be brought to an authorized Hydro Mobile distributor/service center or to a Honda authorized distributor/service center.

Battery

All the batteries shipped from the factory with new equipment are guaranteed for a period of 60 days. Any battery discharged due to operator error will not be covered under this warranty. Dead batteries that can be recharged will not be replaced under this warranty.

Costs and liability associated with warranty

Hydro Mobile'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.

Exclusion

Any use of one or several Hydro Mobile motorized units, with or without accessories, in such a configuration or manner as not explicitly described in the owner's manual is not recommended without the prior written permission of Hydro Mobile.

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 other than those approved by Hydro Mobile, including anchor systems, or any alteration, modification or repair by others in such manner as in Hydro Mobile's judgment affects the product materially and adversely.

Labor

All warranty work must be performed by a certified Hydro Mobile technician to be eligible for reimbursement under the warranty.

Performance and Safety Rules

SAFETY comes first. The installation and operation of a mast climber is subject to hazards that can be avoided only by using extreme care and common sense, and by providing the **appropriate training and supervision** to all its users.

It is essential that the **installation** and **dismantling** of a P Series motorized unit and its related accessories be carried out according to the guidelines, instructions and warnings included in the owner's manual and performed by qualified erectors/dismantlers under the supervision of a **competent person** (see boxes below).

It is also imperative that the **operation** of a P Series motorized unit setup be carried out according to the guidelines, instructions and warnings included in the owner's manual. To ensure safe and proper operation, Hydro Mobile recommends that **two persons** be on hand to perform maneuvers for **each motorized unit in a setup** and that **at least one of those two persons is a qualified operator** (see box below) for a P Series motorized unit and its accessories.

WARNING

The configurations and methods to achieve these configurations for a P Series installation shown and described in this owner's manual are the only ones authorized by Hydro Mobile. For any configuration or method to achieve such a configuration other than those shown and described in this owner's manual, contact the Hydro Mobile technical support team.

WARNING

It is **mandatory** to refer to the *Mast Tie Schedule* table on p. 51 of the *Masts and Mast Ties* section **before the installation** of **any** P Series configuration.

Definition of the competent person

Competent person means a person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Definition of the qualified person

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

Only a **qualified person** on the specific make and model of the Hydro Mobile equipment can carry out the following tasks:

User/operator
A **qualified user/operator** is allowed to operate Hydro Mobile units according to the guidelines, instructions, warnings and methods set out in the owner's manuals and Hydro Mobile training courses and after they have been erected, tested and passed for use by a qualified person.

Erector/dismantler
A **qualified erector/dismantler** is allowed to erect, dismantle, test, pass for use and modify the configuration of Hydro Mobile units according to the guidelines, instructions, warnings and methods set out in the owner's manuals and Hydro Mobile training courses.

Technician
A **qualified technician** is allowed to perform maintenance inspections and repairs on Hydro Mobile units according to the guidelines, instructions, warnings and methods set out in the owner's manuals and Hydro Mobile training courses.

Hydro Mobile recommends that Qualified Persons follow the Hydro Mobile University Training Program on the specific task and specific make and model to get proper qualifications. For more information on the Hydro Mobile University Training Program, visit www.hydro-mobile.com/training.

General guidelines

1- Prepare a layout plan showing how the mast climbing work platform system (motorized units, bridges and accessories) will be positioned near structures or walls to be erected. On long walls, install separate mast climber sections to allow for flexibility. Make sure to position motorized units so as to provide proper anchoring points for masts for tied installations.

2- Rely on a licensed engineer for help on special jobs and to approve plans if required by local regulation.

3- It is recommended to use the job survey form as a guide for the proper installation of the configuration. Refer to p. 97 of the *Transport, Storage and Maintenance* section for more information about the job survey form.

Performance and Safety Rules

General guidelines (cont'd)

4- Any P Series setup requiring an approved, angled or non-linear configuration achieved with a forward/back extension or a swivel bridge **must have mast ties and all tie levels must be completely pre-installed to the top of the installation before the start of any work**.

5- Any P Series setup requiring the use of additional, approved accessories and equipment such as a hoist structure specifically manufactured to be used on a P Series installation, weather protection or an approved planking configuration wider than the standard three planks **must have mast ties and all tie levels must be completely pre-installed to the top of the installation before the start of any work**.

6- It is **mandatory** to refer to the *Mast Tie Schedule* table on p. 51 of the *Mast and Mast Ties* section and to the *Load Capacities* section on p. 60 **before the installation** of **any** P Series configuration.

7- Establish the distance between the mast climbing work platform system and the structure or wall, taking into account the length of plank outriggers, as well as curvatures, balconies, columns, trees, telephone wires, electrical lines, etc.

8- Refer to and follow local regulations governing distances between the mast climbing work platform system and electrical lines. As a reference, North American regulations generally recommend keeping a safe distance of at least 10' (3 m) from overhead power lines carrying 50,000 volts or less.

9- Make sure the ground or support surface capacity meets with values included in the *Minimum Bearing Surface Capacities* table herein (fig. 1.19, p. 16). Soil compacting, cribbing or shoring can increase bearing capacity.

10- While they can be used to help level the motorized unit, the **jacks on the base outriggers are specifically designed to stabilize the motorized unit** and **must not be used to support any load**. Make sure the motorized unit is **resting on the main jacks on the base** (4) and that the optional caster wheels, if installed, are no longer in contact with the ground before using the motorized unit. Contact an engineer for assistance.

11- Never modify the mast climbing work platform system or use substitute factory parts. This could adversely affect worker safety, unit performance and void the warranty. In addition, this could lead to serious injury or death.

12- The P Series motorized unit **must not be used** with any equipment or any accessories not specifically manufactured and rated by Hydro Mobile to be used with P Series motorized units. For the use and installation of any such equipment or accessories, contact the distributor/service center or the Hydro Mobile technical support team.

13- Never use the motorized unit in a enclosed space due to carbon monoxide emissions or in a place where explosives are stored. It is recommended to use the optional P Series auxiliary electric power pack if the installation must be used in an enclosed area. Refer to p. 76 of the *Accessories* section for more information about the auxiliary electric power pack bridge.

14- Each P Series motorized unit must be equipped with an appropriate fire extinguisher (not supplied). Use the bracket supplied with the motorized unit to hang the fire extinguisher in a readily accessible location (fig. 1.1, p. 10).

15- It is recommended not to smoke on the platform.

16- Planks used for planking must be scaffold graded (SPF), in good condition and meet local regulations.

17- **IMPORTANT**: It is strongly recommended not to use equipment that may generate excessive vibrations or reactions on Hydro Mobile platforms.

18- Workers exposed to potential hazards must always wear proper personal protection equipment (PPE) such as a helmet, safety boots, a fall arrest harness, etc., as prescribed by local regulations. In all cases where workers are exposed to fall hazards, fall protection is required. Installation of all the necessary guardrails is **mandatory**.

19- The P Series motorized unit must only be used on a mast whose height does not exceed 250' (76 m).

20- To ensure work efficiency, maintain an adequate equipment and parts inventory on the job site. Keep equipment in good condition.

21- Inspection and maintenance operations must be carried out efficiently and in a timely manner. Daily inspections and their related operations must be performed by a **qualified user/operator** every day or before every working shift. Frequent and annual inspections and their related operations must be carried out by a **qualified technician**. Refer to the *Transport, Storage and Maintenance* section on p. 93 for more information on inspection and maintenance requirements for P Series motorized units and their accessories.

22- The qualified erectors/dismantlers in charge of the installation must make sure that the equipment being installed has been duly inspected and meets all applicable safety standards.

Performance and Safety Rules

General guidelines (cont'd)

23- After installation, mark off limit areas of the system using fencing, barriers, warning tape and note emergency phone numbers (fire and police dept.) for quick reference. **Prepare an emergency evacuation plan that is specific to the job site and is in accordance with local regulations.** Make sure that there is a **reliable** and **adequate** alternate power source available (generator, extension cord, etc.) to supply the emergency descent system (120 volts in North America, 240 volts in Europe).

24- **Never load bridges or motorized units beyond their rated capacities**. Overloading may bring damages to equipment or cause the installation to become unbalanced, leading to serious injury or death.

25- Contact the distributor/service center or Hydro Mobile for service, repair or technical advice. Refer to equipment type and serial number when calling.

26- Each person should access the platform by the access stairs, a staircase, through an opening in the building or, when the unit is at least 10' (3 m) above base level, by the **right-hand side** of the mast, using the access bridge to reach the platform. The use of the access bridge is **mandatory** to reach the platform by the mast. To avoid crushing hazards, it is important to make sure that the access ladder is **fully extended** before it is used. Refer to p. 72 of the *Accessories* section for more information on the installation and use of the access bridge. In all cases, transfer must be safe and free from obstruction.

27- The use of appropriate fall protection equipment is **mandatory** when using the mast for climbing or descending at heights between 30' (9,1 m) and 69' (21 m), when modifying plank configuration or whenever the worker is exposed to a fall hazard. Failure to use fall protection equipment can expose the user to serious injury or death. It is not recommended to climb up the mast to reach work areas at heights over 69' (21 m) because of the time and effort required to reach such heights. The use of alternate equipment compliant with local regulations, such as a rapid mast climber, a transport platform system, or a conventional scaffold stair system will prove to be more efficient. Refer to local regulations for more information.

28- Only one person at a time may evacuate the platform by climbing down the mast. It is not recommended to evacuate the platform by climbing down the mast when the platform is at heights beyond 69' (21 m).

29- In the event of an abnormal occurrence or operation which could compromise security (ex. malfunction of a motorized unit component, collision with an obstacle, etc.), immobilize the unit and inform the competent person.

30- It is strongly recommended not to touch any of the moving parts on the motorized unit when it is in use.

31- All access doors and panels on the motorized unit must be closed when they are not in use. All access doors and panels should be free from any material or obstruction.

32- The motorized unit must not be used or operated during an electrical thunderstorm.

33- The deposit of loads on the setup must be done with extreme care and under proper supervision. Refer to the *Load Capacities* section on p. 60 for more information about placing loads on the platform. When the motorized unit setup is not in use and **above base level**, loads should not be left on the platform except for counterweights.

WARNING - WIND SPEEDS

The **erection** and **dismantling** of a motorized unit setup (including the base, the bridges, the masts, the mast ties and all the other components) must not be conducted when wind speeds exceed **28 mph (45 km/h)**. **Freestanding installations** and **setups equipped with weather protection**, when allowed, must not be used with wind speeds exceeding **28 mph (45 km/h)**. **Weather protection**, when allowed, **must not be used** when work is performed on an **open air structure**. A motorized unit setup with **mast ties must not be operated** when wind speeds exceed **35 mph (56 km/h)**.

When a motorized unit is not in use

- It is mandatory to leave the platform between two tie levels when the motorized unit is not in use.
- Remove all loads from the setup when the motorized unit is not in use.
- It is mandatory to leave all the counterweights applied on the setup in place when the motorized unit is not in use.
- In a freestanding installation, when allowed, the motorized unit must be brought down to base level when not in use.
- If wind speeds are expected to exceed **94 mph (150 km/h)**, the motorized unit must be brought down to base level when not in use.

Motorized Unit Overview

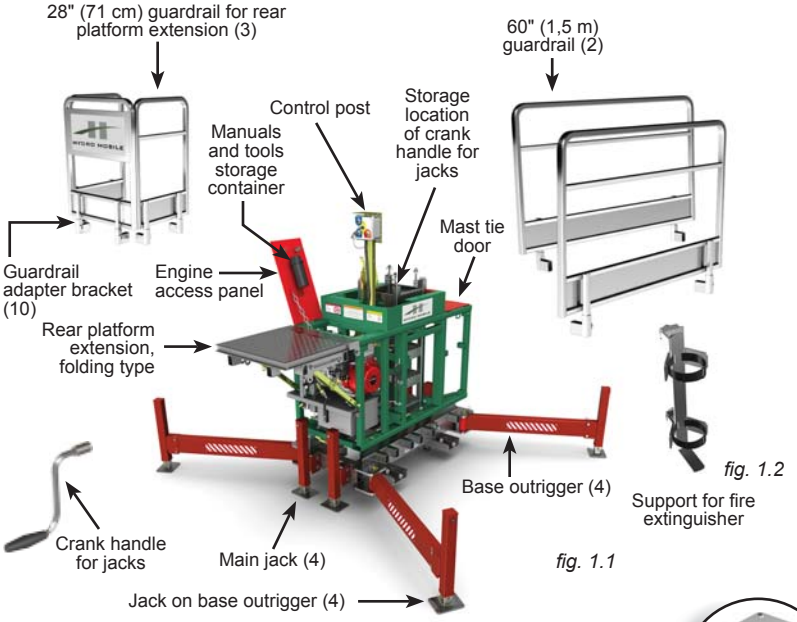


fig. 1.2

fig. 1.1

fig. 1.4

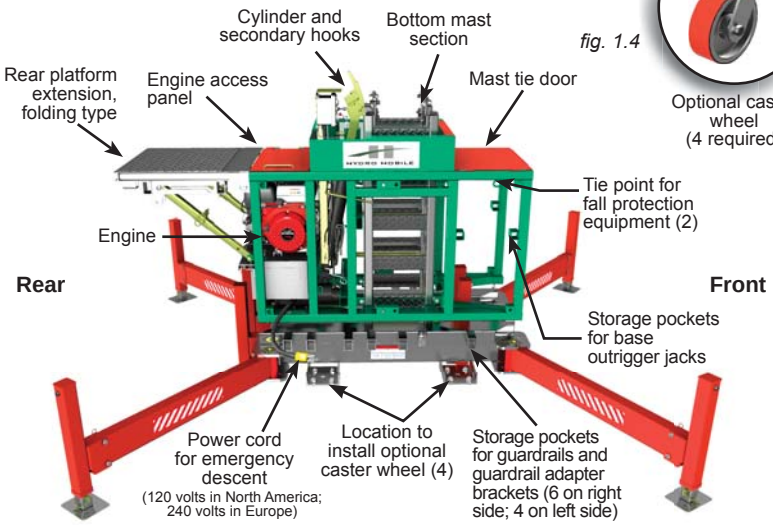


fig. 1.3

Motorized unit – Side view

Note: Items depicted in illustrations may differ from actual products.

Motorized Unit Overview

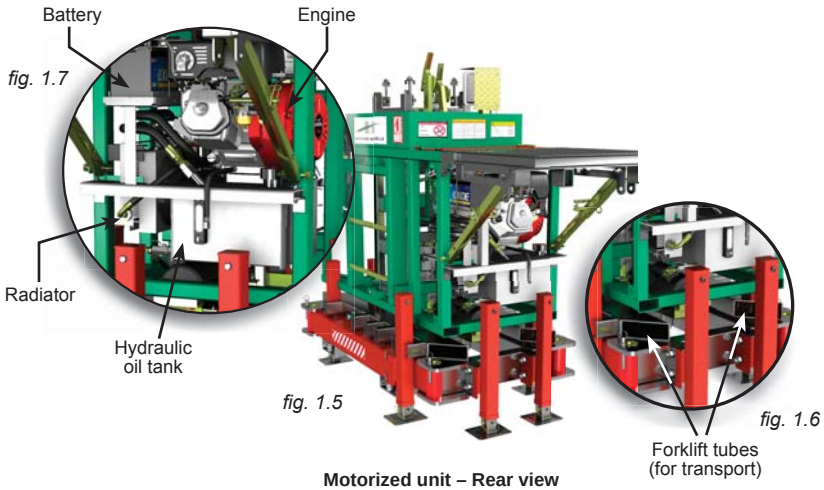


fig. 1.7

fig. 1.5

fig. 1.6

Motorized unit – Rear view

Motorized unit – Typical standard installations

fig. 1.8

fig. 1.9

fig. 1.10

List of components included with shipped unit	
Quantity	**Component**
1	P Series motorized unit [1]
1	Owner's manual
1	15/16" open end wrench
4	jacks for base outriggers
2	60" (1,5 m) guardrails
2	28" (71 cm) guardrails
1	28" (71 cm) guardrail with panel
10	guardrail adapter brackets
2	bridge installation support brackets
1	crank handle for jacks

[1] Refer to fig. 1.1, p. 10 for a view of some of the main components included with the motorized unit.

Notes
The P Series motorized unit is shipped without any outriggers.
The list of components included with each motorized unit shipped may change without notice.

Motorized Unit Specifications

General Specifications		
Dimensions of the motorized unit (as shipped)		42" x 76" x 76" (W x L x H) (1,1 m x 1,9 m x 1,9 m) (fully assembled)
Drive system		Hydraulic ratchet drive
Maximum height		250' (76 m)
Distance between tie levels		Ties every 20' (6,1 m) (refer to *Mast and Mast Ties* section for complete information)
Freestanding height (when freestanding is allowed)	Up to 20' (6,1 m) with base outriggers opened a planking configuration of at least two or a maximum of three planks	
	Up to 35' (10,7 m) with optional adapter base for freestanding installation (when allowed)	
Safety devices	Emergency descent	Independent electrical descent control system
	Safety hooks	Speed-activated hook system
	Inclinometer (included with bearing bridge adapter)	Slope detection switch

fig. 1.11

Specific Features		
Platform weight (as shipped)	**Total**	2550 lb (1157 kg) (fully assembled)
	Base	1130 lb (513 kg)
	MU structure assembly	1190 lb (544 kg)
Maximum load capacity	Single unit installation	7500 lb at 7'–5" (3402 kg at 2,3 m) 6000 lb at 27'–5" (2722 kg at 8,4 m)
	Multiple units installation	11 450 lb at 63'–4" (5194 kg at 19,3 m) 9750 lb at 83'–4" (4423 kg at 25,7 m)
Maximum lifting capacity		8340 lb (3783 kg)
Vertical travel speed		7' (2,1 m) per minute (Honda 9 HP engine)
Mast section		16" x 16" x 60" (40,6 cm x 40,6 cm x 1,5 m) 235 lb (107 kg) per section
Bridges	30" (76 cm)	31" x 62" x 36" (W x L x H) (0,8 m x 1,6 m x 0,9 m)
	5' (1,5 m)	61" x 62" x 36" (W x L x H) (1,5 m x 1,6 m x 0,9 m)
	10' (3 m)	120" x 62" x 36" (W x L x H) (3 m x 1,6 m x 0,9 m)
	Bearing bridge adapter	32" x 62" x 36" (W x L x H) (0,8 m x 1,6 m x 0,9 m)
Guardrails (included)		28" (0,7 m) (3) 60" (1,5 m) (2)

fig. 1.12

Motorized Unit Specifications

Hydraulic Specifications	
Component	**Specifications**
Single gear pump	1 x 7,38 GPM (27,9 l/min)
Hydraulic cylinder	1 x 3 1/2" x 23 1/2" x 1 1/2" (8,9 cm x 59, 7 cm x 3,8 cm) with 3000 psi counterbalance
Hydraulic tank capacity	6,28 US gal (23,75 l)
Hydraulic oil	Dexron III ATF
Oil filter	Ikron filter model HE K44-20-135-A5-SP010 (HM part number A0410000-0004)

fig. 1.13

Engine Specifications	
Model	Honda GX270
Rated power	9 HP @ 3600 rpm
Fuel consumption in continuous service	2,5 US qt/hour (2,4 l/hour) @ 3600 rpm
Spark plug	BPR6ES
Oil type	SAE 5W30
Gasoline tank capacity	1,71 US gal (6,5 l)
Oil capacity	1,16 US qt (1,1 l)
Electrical power supply	12 VDC - 10 ampere-hour
Battery	12 V - 700 CCA
For any other information regarding the use and the maintenance of Honda engines, refer to the Honda User's manual	

fig. 1.14.

Operation Specifications	
Wind exposure	
	Maximum wind speed allowed
During operation (of a setup with mast ties)	35 mph (56 km/h)
During erecting and dismantling (all types of setups), for freestanding installations and setups equipped with weather protection	28 mph (45 km/h)
When unit is not in use	94 mph (150 km/h)

NOTES

A setup with mast ties should only be used on a mast whose height does not exceed 250' (76 m).

A freestanding setup should only be used on a mast whose height does not exceed 20' (6,1 m) unless an optional adapter base for freestanding installation is allowed and used. It is important to note that the adapter base cannot be used for a freestanding configuration with multiple units linked by a bearing bridge. For more information about the optional adapter base for freestanding installation, refer to p. 76 of the *Accessories* section.

Noise exposure
Standard noise level [1] = 83dB(A) [2]

1 *measured at 23' (7 m) @ 3600 rpm*

2 *with super silent, noise level is 76 dB(A)*

fig. 1.15

Motorized Unit Specifications

Weight of Components	
Description	**Weight**
Motorized unit (as shipped)	2550 lb (1157 kg)
Base assembly	1130 lb (513 kg)
Structure sub-assembly	1190 lb (544 kg)
Mast assembly	235 lb (107 kg)
Access bridge (assembled)	750 lb (340 kg)
30" (76 cm) bridge assembly (including guardrail)	290 lb (132 kg)
5' (1,5 m) bridge assembly (including guardrail)	390 lb (177 kg)
10' (3 m) bridge assembly (including guardrail)	720 lb (327 kg)
60" (1,5 m) guardrail assembly	58 lb (28,4 kg)
30" (76 cm) guardrail assembly	40 lb (18,1 kg)
30" (76 cm) bridge deck extension assembly	96 lb (47 kg)
60" (1,5 m) bridge deck extension assembly	124 lb (61 kg)
Bearing bridge adapter (without guardrail)	230 lb (104 kg)
Movable guardrail	65 lb (29,5 kg)
20" (51 cm) bridge assembly (without guardrail)	196 lb (96 kg)
Swivel bridge assembly (with guardrail)	800 lb (363 kg)
63" (1,6 m) outrigger	20 lb (9 kg)
72" (1,8 m) outrigger	27 lb (12,2 kg)
84" (2,1 m) outrigger	45 lb (22 kg)
120" (3,04 m) outrigger	55 lb (25 kg)
28" (71 cm) guardrail assembly	30 lb (14 kg)
28" (71 cm) guardrail assembly (with panel)	32 lb (15,6 kg)
Access stairs assembly	76 lb (34,5 kg)
Access stairs handrails (2)	61 lb (28 kg)
60" (1,5 m) door guardrail assembly	100 lb (45,3 kg)
Plank-end guardrail	27 lb (12 kg)
Hoist support structure (including beam; **hoist not included**)	417 lb (214 kg)
Adapter base for freestanding installation	2500 lb (1134 kg)
Adapter base for sidewalk canopy installation	2000 lb (907 kg)
Mast base plate assembly	145 lb (71 kg)
Weather protection – frame assembly	93 lb (45,5 kg)
Weather protection – X-brace 76 13/16"	7 lb (3,4 kg)
Weather protection – frame truss extension	20 lb (9,8 kg)
Junction plate assembly	19,5 lb (9,5 kg)
Monorail beam	85 lb (41,6 kg)
Trolley for monorail	18 lb (8.8 kg)
Hoist chain block	31 lb (15,2 kg)

fig. 1.16

Dimensions of the Motorized Unit

Top view

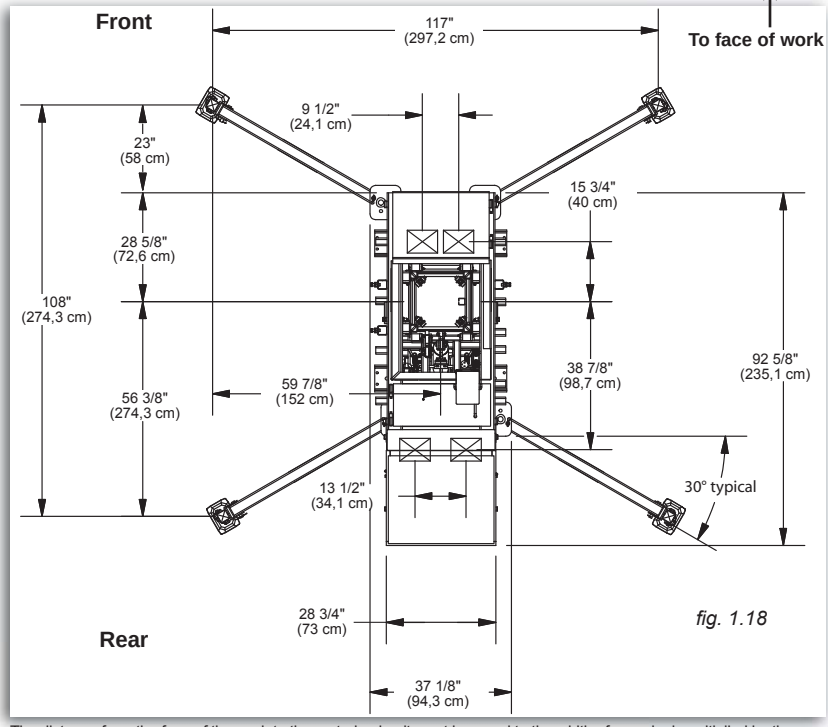


fig. 1.18

* The distance from the face of the work to the motorized unit must be equal to the width of one plank multiplied by the number of planks in the configuration, while allowing 6" to 8" (15 cm to 20 cm) of play. The standard, recommended plank configuration for a P Series installation is two planks.

Rear view

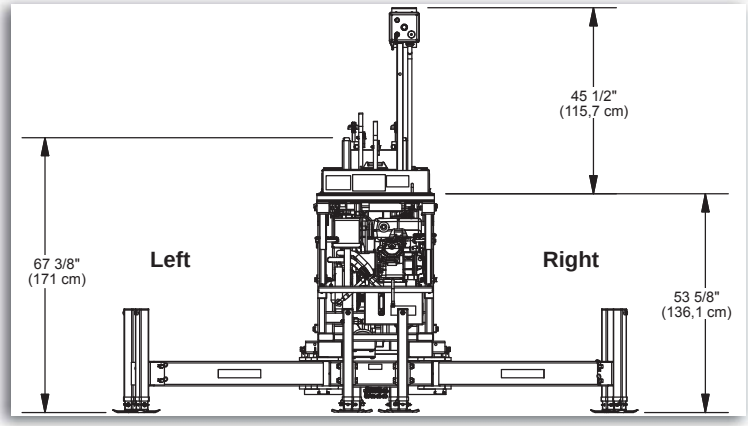


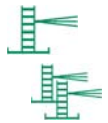
fig. 1.17

Positioning the Motorized Unit
General Concept

Bearing surface

Before installing the motorized unit, make sure the bearing surface under it is level, clear of debris and has the proper bearing capacity. When required, appropriate cribbing must be placed under all jacks to distribute the load. It is important to make sure that the bearing surface is stable and has not been subject to any type of erosion or deterioration caused by weather conditions (snow, rain, etc.).

Minimum Bearing Surface Capacities

	Height		Load on each main jack (4)	Load on each outrigger jack (4)	Load under mast
	(ft)	(m)	Reaction *	Reaction	Reaction *
	20	6,1	4636 lb	2936 lb	13,059 lb
			2103 kg	1332 kg	5923 kg
	50	15,2	5203 lb	There should be no load on the outrigger jacks once two tie levels have been installed	14,657 lb
			2360 kg		6648 kg
	75	22,9	5653 lb		15,925 lb
			2564 kg		7223 kg
	100	30,5	6104 lb		17,194 lb
			2769 kg		7799 kg
	200	61,0	7905 lb		22,269 lb
			3586 kg		10,101 kg
	250	76,2	8806 lb		24,807 lb
			3994 kg		11,252 kg

 Freestanding installation

 Tied installation

Load reactions under the mast must be considered for an installation using mast base plates. For more information about mast base plates, refer to p. 83 of the *Accessories* section.

* Load reactions in this column include a dynamic factor.

fig. 1.19

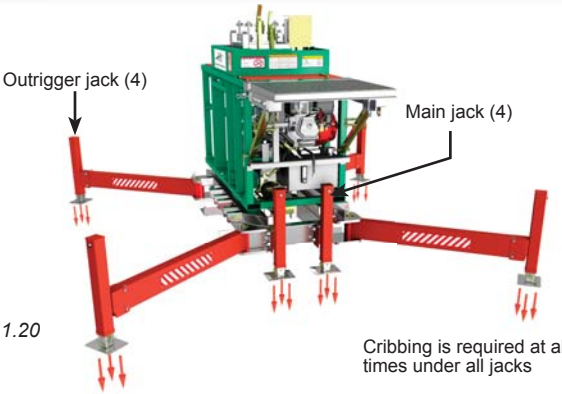


fig. 1.20

Cribbing is required at all times under all jacks

WARNING
Make sure the ground or support surface capacity meets with values included in the *Minimum Bearing Surface Capacities* table (fig. 1.19). Soil compacting, cribbing or shoring can increase bearing capacity. Contact an engineer for assistance.

Positioning the Motorized Unit

Suggested cribbing for most bearing surfaces

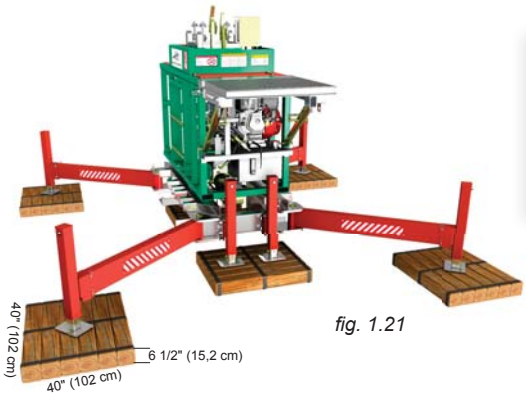


fig. 1.21

fig. 1.22

Suggested Cribbing		
		40" x 40" x 6" (102 cm x 102 cm x 15,2 cm)
1	Plywood 40" x 40" x 3/4" (102 cm x 102 cm x 1,9 cm)	2
2	2"x 10" x 40" (5 cm x 25 cm x 102 cm)	12

Values shown in the above table are for reference only. Any cribbing equivalent to or larger than these values can be used.

The plywood and lumber used as cribbing should be secured together to prevent slipping. Using screws instead of nails for securing will prolong the service life of lumber and plywood used as cribbing.

The type of cribbing chosen may vary according to the bearing surface where the setup must be installed.

For example, a setup installed on a concrete slab that is covering the bearing surface would require cribbing consisting of only one plywood panel under each jack while a setup installed on a concrete slab that is covering an indoor garage would require shoring in addition to plywood cribbing.

A setup installed on a bearing surface composed of gravel, sand or any such type of surface would require stronger cribbing under the jacks.

In cases where shoring is required, it is recommended to contact an engineer for assistance.

fig. 1.23

WARNING / AVERTISSEMENT / AVISO		
Make sure that support surface under jacks has sufficient bearing capacity. A0800100-0011	Veiller à ce que la capacité de charge de la surface d'appui sous les vérins soit adéquate.	Asegúrese que la capacidad de carga de la superficie de apoyo bajo los gatos sea la adecuada.

fig. 1.24

Setup and Configurations
General Guidelines

The installation of a P Series setup may be achieved using a progressive installation method or through complete pre-installation of mast ties. The configuration required by the layout plan will determine which method of installation is more appropriate.

It is mandatory to refer to the *Mast Tie Schedule* table on p. 51 of the *Mast and Mast Ties* section **before the installation** of **any** P Series configuration.

It is also important to consider that for tied installations, the combined use of equipment and accessories required to achieve an non standard configuration may not be allowed on a same installation. Refer to the *Combination of Standard and Non Standard Configurations* table in fig. 1.25 for more information on the combinations allowed.

Combination of Standard and Non Standard Configurations

Configurations	Standard – Cantilever	Standard – Bearing bridge	4 or 5 planks	Front or back extension	Swivel bridge	Hoist support structure	Weather protection	Monorail
Standard – Cantilever		✓	✓	✓	✓	✓	✓	✓
Standard – Bearing bridge	✓		✓	✓	✓	✓	✓	✓
4-5 planks	✓	✓						
Front or back extension	✓	✓						
Swivel bridge	✓							
Hoist support structure	✓	✓						
Weather protection	✓	✓						
Monorail	✓	✓						

Pre-installation of mast ties to the top of the work is mandatory before starting any work

The pre-installation of mast ties to the top of the setup before starting any work is mandatory for non standard configurations (items shown in orange in table above).

fig. 1.25

WARNING

Failure to select and follow the mast tie installation schedule appropriate for the configuration could adversely affect worker safety, leading to serious injury or death and equipment damage. It is **mandatory** to refer to the *Mast Tie Schedule* table on p. 51 of the *Masts and Mast Ties* section before the installation of any P Series configuration. It is also **mandatory** to refer to the *Load Capacities* section on p. 60 for more information about the loads allowed in a configuration. It is also recommended to review and follow the instructions included in this manual for the installation and use of each accessory and equipment to be installed.

WARNING

The **jacks on the base outriggers** are designed to level and stabilize the motorized unit and **must not be used to support the load nor the motorized unit**.

WARNING

It is important to note that non standard configurations are not allowed for a freestanding installation.

Definition of a standard configuration

A **standard configuration**, referred to throughout this owner's manual and related documentation, is a linear installation that **does not require** the use of angled or non-linear equipment, such as a forward/back extension bridge or swivel bridge, nor the use of weather protection, of a hoist support structure or of a planking configuration wider than three planks.

It is **mandatory** to refer to the *Load Capacities* section on p. 60 for the number of bridges allowed in a standard single unit or multiple units installation.

Setup and Configurations
General Guidelines

1- Installation should be carried out by qualified erectors/dismantlers under the supervision of a competent person, in accordance with all applicable local regulations.

2- In reference to the plan/layout drawing, make sure that all the components required are available. Establish the position of the motorized unit, determine if there are obstacles and what are the cribbing requirements.

3- Before installing the motorized unit, determine where the cribbing and the jacks will rest. The bearing surface under the cribbing should be level, clear of debris and have the proper bearing capacity (see the *Minimum Bearing Surface Capacities* table, fig. 1.19, p. 16). Should the actual bearing capacity be inferior to the values in the table, please seek instructions and recommendations from Hydro Mobile.

4- On **freestanding installations**, all base outriggers **must be always be opened** at a 30-degree angle. The **maximum width** of planking allowed in **front** of the unit on a freestanding installation is a **three-plank** wide configuration. It is important to note that base outriggers **cannot be parallel to the face of the work (at a 0-degree angle) for a freestanding installation**.

5- On **tied installation**s, with base outriggers opened at a 30-degree angle, the **maximum width** of planking allowed in **front** of the unit is a five-plank wide configuration.

On **tied installations**, when base outriggers are required to be parallel to the face of the work (at a 0-degree angle) during the initial stages of installation, the **first tie level must be installed** no higher than 10' (3 m) from base level. In such a case, the **maximum width** of planking allowed in **front** of the unit is a **one-plank** configuration.

On **tied installations**, when base outriggers are required to be **closed completely** during the initial stages of installation, it is **mandatory** to refer to and comply with the *Mast Tie Schedule* for installations using a mast base plate, on p. 84 of the *Accessories* section.

6- Distance from the finished wall should be at least 30" (76,2 cm) or the number of planks multiplied by the width of one plank, while allowing 6" to 8" (15 to 20 cm) of play. Add an additional 2" (5 cm) if using a toe board. A configuration of **at least two** and **not more than three planks** must be used for **freestanding installations**. Refer to applicable local regulations to determine play or the maximum allowable distance between the motorized unit, including its accessories, and the face of the work.

7- Mark the position of jacks while taking center-to-center distances into account. Base level differences can be compensated for by adjusting the height of the main jacks, or by building wood cribbing.

8- Make sure that all loads have been removed from the platform and that all workers have stepped down before lifting and transporting the motorized unit. Refer to p. 30 of this section for more information about lifting and transporting a motorized unit. Unload the motorized unit with a rough terrain forklift or a crane.

9- Using a rough terrain forklift, a crane or optional caster wheels (4), position and align the motorized unit with the face of the work or the structure. Before lowering the unit, open all base outriggers. Lock them in place by pushing pins through the holes on the base.

10- If the unit is equipped with optional caster wheels, lift the motorized unit with the main jacks (on the base) until the wheels no longer touch the bearing surface. Make sure the main jacks are lowered completely to the ground and positioned to support the installation.

11- Verify that the mast is plumb on both its front and side axis. Lift and level the motorized unit using the jacks on the base outriggers. It is important to note that the jacks on the base outriggers are not only designed to level the motorized unit but also to stabilize it when installing or removing mast ties or in a freestanding installation. Jacks on base outriggers must not be used to support the load nor the motorized unit.

12- To access the work platform by climbing up the mast, it is recommended to use an optional access bridge installed on the right-hand side of the mast. To avoid any crushing hazard, the access ladder must only be used when **fully extended**. Refer to p. 72 of the *Accessories* section for more information on the installation and use of the access bridge.

13- It is also suggested to install an optional retractable rest platform when the setup has been raised at more than 30' (9 m) above base level or beyond the maximum allowable height prescribed by local regulations for mast climbing without a rest platform. Refer to p. 71 of the *Accessories* section for more information on the installation and use of a retractable rest platform.

14- It must be noted that a bridge attached to the motorized unit (to the left and right) must be bolted using eight bolt assemblies, while only six bolt assemblies are required when bolting two bridges together.

15- Proceed to the following instruction steps for the installation of the setup, as the configuration requires.

Definition of the pre-installation of a setup

The **pre-installation of a setup**, referred to throughout this owner's manual and related documentation, consists in **installing all required mast ties up to the top of the installation before starting any work**.

It is **mandatory** to use this method for any non standard configuration.

Setup and Configurations

Installation of a standard single unit configuration – freestanding

The following installation steps can be used only for a **standard configuration**. For more information about the definition of a standard configuration, refer to p. 18 of this section.

Positioning the motorized unit

1- Prepare the motorized unit and the area where the setup will be installed as described in the general guidelines on p. 19 (steps 1 through 13). Make sure all base outriggers are opened at a 30-degree angle. If necessary, refer to p. 79 of the *Accessories* section for instructions on the installation of an optional adapter base for freestanding installation. The weight of the adapter base (2500 lb or 1134 kg) must be considered in the loads applied on the support surface. Refer to the *Minimum Bearing Surface Capacities* table, fig. 1.19, p. 16 for guidance.

Installation of bridges

2- Using bridge installation support brackets or any other lifting device such as a crane or a rough terrain forklift, install as many bridges as is required and allowed. It must be noted that a **bridge attached to the motorized unit** (to the left and right) must be bolted using **eight bolt assemblies, while only six bolt assemblies** are required when **bolting two bridges** together. For more information about bridge installation, refer to p. 36 of the *Bridges* section. For information on the use of bridge installation support brackets, refer to p. 73 of the *Accessories* section. Refer to the *Load Capacities* section on p. 60 for the maximum number of bridges allowed in a setup.

Installation of outriggers and planking

3- Adjust the outriggers and install planks, as required and allowed (see p. 74 of the *Accessories* section for more information).

Verification of the setup

4- Make a final verification of the setup before starting to install mast sections. Make sure all the guardrails are in place and secure (see p. 69 of the *Accessories* section for more information about guardrails). In all cases where workers are exposed to fall hazards greater than specified by local regulations, the installation of guardrails or face guardrail supports is **mandatory**.

5- Before authorizing workers to use the motorized unit, perform every step in the daily inspection checklist. If required, fill out the handover sheet to complete the installation. Refer to the *Transport, Storage and Maintenance* section on p. 93 for more information about the daily inspection checklist and to p. 97 for information about the handover sheet.

Installation of mast sections

6- Using a crane or a rough terrain forklift, load mast sections on the platform. Mast sections **should be stored horizontally and distributed equally on either side of the mast to ensure good balance**. Refer to the *Load Capacities* section on p. 60 for more information about loading the platform.

7- Proceed with the installation of mast sections. Refer to p. 51 of the *Mast and Mast Ties* section for more details on how to install mast sections.

8- Install as many mast sections as required to reach the desired height, equal or inferior to the maximum allowable height for a freestanding installation, making sure throughout the process that the mast remains plumb on both its front and side axis. Refer to p. 51 of the *Mast and Mast Ties* section for more details on the maximum allowable height for a freestanding installation.

9- It is important to make sure to verify the mast bolts when lowering the platform to make sure they are tightened to the proper torque and are in good condition, especially on **brand-new mast sections**, as the galvanized coating may have compressed. In all cases, mast bolts must be tightened to a torque of 120 lb-ft (163 N-m). Failure to tighten bolts properly may lead to serious injury or death.

WARNING

A freestanding standard single unit setup must not be raised over 20' (6,1 m) unless an optional adapter base for freestanding installation is used in the configuration. The weight of the adapter base (2500 lb or 1134 kg) must be considered in the loads applied on the support surface.

Setup and Configurations
Installation of a standard multiple units configuration – freestanding
(requires the use of two bearing bridge adapters – sold separately)

The following installation steps can be used only for a **standard configuration**. For more information about the definition of a standard configuration, refer to p. 18 of this section.

Positioning the motorized unit

1- Prepare the first motorized unit and the area where the setup will be installed as described in the general guidelines on p. 19 (steps 1 through 13). If the multiple unit setup will be equipped with an access bridge, it is important to make sure that this access bridge is installed on the motorized unit located the **furthest** on the **right side** of the installation. Make sure that all base outriggers are opened at a 30-degree angle.

2- Make sure that a standard 30" (76 cm) bridge is installed as a cantilever bridge on the end of the unit where the bearing bridge structure will be installed. **The upper corner of the diagonal brace on the cantilever bridge should point outwards**, as shown in fig. 3.12, p. 39.

Positioning the second motorized unit

3- Determine the position of the second motorized unit while making sure that the ideal distance is kept between the two motorized units. Refer to the installation instructions for a bearing bridge structure, on p. 38 of the *Bridges* section.

4- Prepare the second motorized unit and the area where it will be installed as described in the general guidelines on p. 19 (steps 1 through 13). Make sure all base outriggers are opened at a 30-degree angle.

5- Make sure that a standard 30” (76 cm) bridge is installed as a cantilever bridge on the end of the unit where the bearing bridge structure will be installed. **The upper corner of the diagonal brace on the cantilever bridge should point outwards**, as shown in fig. 3.12, p. 39.

Installation of the bearing bridge structure and the cantilever bridges

6- Proceed with the installation of the bearing bridge structure. Refer to p. 38 of the *Bridges* section for more information on the installation of a bearing bridge.

7- Plug in the inclinometers at both ends of the bearing bridge structure. Make sure that the inclinometers work properly. Refer to p. 32 of the *Safety Devices* section for more information on the installation and use of an inclinometer in a bearing bridge structure.

8- Proceed with the installation of cantilever bridges on the sides of the motorized units opposite to the bearing bridge structure, as required and allowed. Refer to p. 38 of the *Bridges* section for more information on the installation of a cantilever bridge and to the *Load Capacities* section on p. 60 for the maximum number of bridges allowed in a setup.

Installation of outriggers and planking

9- Adjust the outriggers and install planks, as required and allowed (see p. 74 of the *Accessories* section for more information).

Verification of the setup

10- Make a final verification of the setup before starting to install mast sections. Make sure all the guardrails are in place and secure (see p. 69 of the *Accessories* section for more information about guardrails). In all cases where workers are exposed to fall hazards greater than specified by local regulations, the installation of guardrails or face guardrail supports is **mandatory**.

WARNING
A freestanding multiple unit setup must not be raised over 20' (6,1 m). It is important to note that adapter bases for freestanding installations cannot be used in a setup with multiple units linked by a bearing bridge.

Setup and Configurations

Installation of a standard multiple units configuration – freestanding
(requires the use of two bearing bridge adapters – sold separately)

Verification of the setup (cont'd)

11- Before authorizing workers to use the motorized unit, perform every step in the daily inspection checklist. If required, fill out the handover sheet to complete the installation. Refer to the *Transport, Storage and Maintenance* section on p. 90 for more information about the daily inspection checklist and to p. 93 for information about the handover sheet.

Installation of mast sections

12- Using a crane or a rough terrain forklift, load mast sections on the platform. **Mast sections should be stored horizontally and distributed equally on either side of each mast to ensure good balance**. Refer to the *Load Capacities* section on p. 60 for more information about loading the platform.

13- Proceed with the installation of mast sections. Refer to p. 51 of the *Masts and Mast Ties* section for more details on how to install mast sections.

14- Install as many mast sections as required until the setup has reached the desired height, equal or inferior to the maximum allowable height for a freestanding installation, making sure throughout the process that the mast remains plumb on both its front and side axis. It is important to install mast sections alternately – one on the first motorized unit, then one on the second, to ensure good balance. Refer to p. 51 of the *Masts and Mast Ties* section for more details on the maximum allowable height for a freestanding installation.

15- It is important to make sure to verify the mast bolts when lowering the platform to make sure they are tightened to the proper torque and are in good condition, especially on **brand-new mast sections**, as the galvanized coating may have compressed. In all cases, mast bolts must be tightened to a torque of 120 lb-ft (163 N-m). Failure to tighten bolts properly may lead to serious injury or death.

Installation of a standard single unit configuration – with mast ties

The following installation steps can be used for both **standard** and **non standard configurations**. It is important to note, however, that in the case of a non standard configuration, mast ties must absolutely be **pre-installed to the top of the installation before starting any work**. Refer to p. 19 of this section for more information about the pre-installation of a setup.

Positioning the motorized unit

1- Prepare the motorized unit and the area where the setup will be installed as described in the general guidelines on p. 19 (steps 1 through 13). Make sure all base outriggers are opened at a 30-degree angle and **remain opened** until at least **two tie levels** have been installed. If base outriggers are required to be parallel to the face of the work (at a 0-degree angle) during the initial stages of installation, the **first tie level** must be installed no higher than 10' (3 m) above base level. If base outriggers are required to required to be closed completely during the initial stages of installation, it is mandatory to refer to and comply with the *Mast Tie Schedule* for an installation using a mast base plate, on p. 84 of the *Accessories* section.

Installation of bridges

2- Using bridge installation support brackets or any other lifting device such as a crane or a rough terrain forklift, install as many bridges as is required and allowed. It must be noted that a **bridge attached to the motorized unit** (to the left and right) must be bolted using **eight bolt assemblies, while only six bolt assemblies** are required when **bolting two bridges** together. For more information about bridge installation, refer to p. 36 of the *Bridges* section. For information on the use of bridge installation support brackets, refer to p. 73 of the *Accessories* section. Refer to the *Load Capacities* section on p. 60 for the maximum number of bridges allowed in a setup.

WARNING
During pre-installation, only mast sections can be loaded on the platform until the process is complete.

Setup and Configurations

Installation of a standard single unit configuration – with mast ties

Installation of outriggers and planking

3- Adjust the outriggers and install planks, as required and allowed (see p. 74 of the *Accessories* section for more information).

Verification of the setup

4- Make a final verification of the setup before starting to install mast sections. Make sure all the guardrails are in place and secure (see p. 69 of the *Accessories* section for more information about guardrails). In all cases where workers are exposed to fall hazards greater than specified by local regulations, the installation of guardrails or face guardrail supports is **mandatory**.

5- Before authorizing workers to use the motorized unit, perform every step in the daily inspection checklist. If required, fill out the handover sheet to complete the installation. Refer to the *Transport, Storage and Maintenance* section on p. 93 for more information about the daily inspection checklist and to p. 97 for information about the handover sheet.

Installation of mast sections and mast ties

6- Using a crane or a rough terrain forklift, load mast sections on the platform. **Mast sections should be stored horizontally and distributed equally on either side of the mast to ensure good balance**. Refer to the *Load Capacities* section on p. 60 for more information about loading the platform.

7- Proceed with the installation of mast sections. Refer to p. 51 of the *Masts and Mast Ties* section for more details on how to install mast sections.

8- Install mast sections until a first tie level is required. Refer to p. 51 of the *Mast and Mast Ties* section for instructions on how to install mast sections. For more information about the schedule of installation of tie levels, refer to the *Mast Tie Schedule* table on p. 51 of the *Mast and Mast Ties* section. Refer to p. 51 of the *Mast and Mast Ties* section for instructions on how to install mast ties.

9- Once **at least two tie levels** have been installed, the base outriggers can be either parallel to the face of the work (at a 0-degree angle) or completely closed, if required.

10- Install as many mast sections as the plan layout requires and as is allowed. A setup with mast ties should not be raised above 250' (76 m). Make sure throughout the process that the mast remains plumb on both its front and side axis and that tie levels are installed when required.

11- It is important to make sure to verify the mast bolts when lowering the platform to make sure they are tightened to the proper torque and are in good condition, especially on **brand-new mast sections**, as the galvanized coating may have compressed. In all cases, mast bolts must be tightened to a torque of 120 lb-ft (163 N-m). Failure to tighten bolts properly may lead to serious injury or death.

WARNING

It is important to make sure that all base outriggers are **opened** at a 30-degree angle until at least **two tie levels** have been installed. If base outriggers are required to be parallel to the face of the work (at a 0-degree angle) during the initial stages of installation, the first tie level must be installed no higher than 10' (3 m) above base level; if base outriggers are required to be closed completely, it is mandatory to refer to and comply with the *Mast Tie Schedule* for an installation using a mast base plate, on p. 84 of the *Accessories* section.

To access the work platform by climbing up the mast, it is recommended to use an access bridge installed on the right-hand side of the mast. In a **multiple units configuration**, it is important to make sure that this **access bridge is installed on the motorized unit located the furthest on the right side of the installation**. It is also suggested to install a retractable rest platform when the setup has been raised at more than 30' (9 m) above base level or beyond the maximum allowable height prescribed by local regulations for mast climbing without a rest platform.

Setup and configurations

Installation of a standard multiple units configuration – with mast ties

(requires the use of two bearing bridge adapters – sold separately)

The following installation steps can be used for both **standard** and **non standard configurations**. It is important to note, however, that in the case of a non standard configuration, mast ties must absolutely be **pre-installed to the top of the installation before starting any work**. Refer to p. 19 of this section for more information about the pre-installation of a setup.

Positioning the motorized unit

1- Prepare the first motorized unit and the area where the setup will be installed as described in the general guidelines on p. 19 (steps 1 through 13). If the multiple unit setup will be equipped with an access bridge, it is important to make sure that this access bridge is installed on the motorized unit located the **furthest** on the **right side** of the installation. Make sure all base outriggers are opened at a 30-degree angle and **remain opened** until at least **two tie levels** have been installed. If base outriggers are required to be parallel to the face of the work (at a 0-degree angle) during the initial stages of installation, the **first tie level** must be installed no higher than 10' (3 m) above base level. If base outriggers are required to required to be closed completely during the initial stages of installation, it is mandatory to refer to and comply with the *Mast Tie Schedule* for an installation using a mast base plate, on p. 84 of the *Accessories* section.

2- Make sure that a standard 30" (76 cm) bridge is installed as a cantilever bridge on the end of the unit where the bearing bridge structure will be installed. **The upper corner of the diagonal brace on the cantilever bridge should point outwards**, as shown in fig. 3.12, p. 39.

Positioning the second motorized unit

3- Determine the position of the second motorized unit while making sure that the ideal distance is kept between the two motorized units. Refer to the installation instructions for a bearing bridge structure, on p. 38 of the *Bridges* section.

4- Prepare the second motorized unit and the area where it will be installed as described in the general guidelines on p. 19 (steps 1 through 13). Make sure all base outriggers are opened at a 30-degree angle and **remain opened** until at least **two tie levels** have been installed. If base outriggers are required to be parallel to the face of the work (at a 0-degree angle) during the initial stages of installation, the **first tie level** must be installed no higher than 10' (3 m) above base level. If base outriggers are required to required to be closed completely during the initial stages of installation, it is mandatory to refer to and comply with the *Mast Tie Schedule* for installations using a mast base plate, on p. 84 of the *Accessories* section.

5- Make sure that a standard 30" (76 cm) bridge is installed as a cantilever bridge on the end of the unit where the bearing bridge structure will be installed. **The upper corner of the diagonal brace on the cantilever bridge should point outwards**, as shown in fig. 3.12, p. 39.

Installation of the bearing bridge structure and cantilever bridges

6- Proceed with the installation of the bearing bridge structure. Refer to p. 38 of the *Bridges* section for more information on the installation of a bearing bridge.

7- Plug in the inclinometers at both ends of the bearing bridge structure. Make sure that the inclinometers work properly. Refer to p. 32 of the *Safety Devices* section for more information on the installation and use of an inclinometer in a bearing bridge structure.

8- Proceed with the installation of cantilever bridges on the sides of the motorized units opposite to the bearing bridge structure, as required and allowed. Refer to p. 38 of the *Bridges* section for more information on the installation of a cantilever bridge and to the *Load Capacities* section on p. 60 for the maximum number of bridges allowed in a setup.

Installation of outriggers and planking

9- Adjust the outriggers and install planks, as required and allowed (see p. 74 of the *Accessories* section for more information).

Verification of the setup

10- Make a final verification of the setup before starting to install mast sections. Make sure all the guardrails are in place and secure (see p. 69 of the *Accessories* section for more information about guardrails). In all cases where workers are exposed to fall hazards greater than specified by local regulations, the installation of guardrails or face guardrail supports is **mandatory**.

Setup and configurations

Installation of a standard multiple units configuration – with mast ties

(requires the use of two bearing bridge adapters – sold separately)

Verification of the setup

11- Before authorizing workers to use the motorized unit, perform every step in the daily inspection checklist. If required, fill out the handover sheet to complete the installation. Refer to the *Transport, Storage and Maintenance* section on p. 93 for more information about the daily inspection checklist and to p. 97 for information about the handover sheet.

Installation of mast sections and tie levels

12- Using a crane or a rough terrain forklift, load mast sections on the platform. **Mast sections should be stored horizontally and distributed equally on either side of each mast to ensure good balance**. Refer to the *Load Capacities* section on p. 60 for more information about loading the platform.

13- Proceed with the installation of mast sections. Refer to p. 51 of the *Masts and Mast Ties* section for more details on how to install mast sections.

14- Install mast sections until a first tie level is required, making sure throughout the process that each mast remains plumb on both its front and side axis. It is important to install mast sections alternately – one on the first motorized unit, then one on the second, to ensure good balance. Refer to p. 51 of the *Mast and Mast Ties* section for instructions on how to install mast sections. For more information about the schedule of installation of tie levels, refer to the *Mast Tie Schedule* table on p. 51 of the *Mast and Mast Ties* section. Refer to p. 51 of the *Mast and Mast Ties* section for instructions on how to install mast ties.

15- Once **at least two tie levels** have been installed, the base outriggers can be either parallel to the face of the work (at a 0-degree angle) or completely closed, if required.

16- Install as many mast sections as the plan layout requires and as is allowed. A setup with mast ties should not be raised above 250' (76 m). Make sure throughout the process that the mast remains plumb on both its front and side axis and that tie levels are installed when required.

17- It is important to make sure to verify the mast bolts when lowering the platform to make sure they are tightened to the proper torque and are in good condition, especially on **brand-new mast sections**, as the galvanized coating may have compressed. In all cases, mast bolts must be tightened to a torque of 120 lb-ft (163 N-m). Failure to tighten bolts properly may lead to serious injury or death.

Dismantling an installation

SAFETY comes first. It is essential that the **dismantling** of a P Series motorized unit setup be carried out by qualified erectors/dismantlers under the supervision of a **competent person** and be performed with the same care and precaution taken during the installation.

It is mandatory to make sure that the motorized unit installation remains stable and secure throughout the dismantling maneuvers. For the definition of a qualified erector/dismantler, refer to p. 7 of this section.

Safety guidelines for dismantling an installation

1- Make sure all the equipment necessary for a safe dismantlement of the installation is on hand (slings, crane or rough terrain forklift, etc., as required).

2- Perform every step in the daily inspection checklist. Refer to p. 93 of the *Transport, Storage and Maintenance* section for more information about the daily inspection checklist.

3- **Make sure that all base outriggers are completely opened on each motorized unit of the installation.**

4- Make sure to choose the appropriate method for dismantling the installation. For more information about standard and non standard configurations, refer to p. 18 of this section. For instructions on the dismantling of an installation using an adapter base for sidewalk canopy installation, refer to p. 82 of the *Accessories* section. For an installation using a mast base plate, refer to p. 84 of the *Accessories* section for dismantling guidelines.

Setup and configurations

Dismantling an installation

Dismantling a standard single unit installation – freestanding

1- Prepare the installation as described in the safety guidelines for dismantling a P Series installation, on p. 25.

2- Bring the motorized unit to the top of the work, verifying mast bolts on the way up. Make sure that all mast bolts are tightened at the appropriate torque.

3- Lower the motorized unit to base level, removing mast sections on the way down. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. **Mast sections should be stored horizontally and distributed equally on either side of the mast to ensure good balance**.

4- Once at base level, remove all loads from the platform and make all workers step down.

5- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails. For instructions on the removal and storage of guardrails, refer to p. 90 of the *Transport, Storage and Maintenance* section.

6- Remove all installed cantilever bridges, access bridge and access stairs, leaving no more than one 30" (76 cm) bridge installed on each side of the motorized unit.

7- Remove and store the jacks used for the base outriggers. Push in and close all base outriggers.

8- If the unit is to be stored for any significant length of time, refer to p. 90 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Dismantling a standard multiple units installation – freestanding

1- Prepare the installation as described in the safety guidelines for dismantling a P Series installation, on p. 25.

2- Bring the motorized units to the top of the work, verifying mast bolts on each mast on the way up. Make sure that all mast bolts are tightened at the appropriate torque.

3- Lower the motorized units linked by a bearing bridge until the units are two rungs (20" or 50 cm) above base level, removing mast sections on the way down. To make sure that the installation remains stable, remove mast sections alternately – one on one motorized unit, then one on the other. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. **Mast sections should be stored horizontally and distributed equally on either side of each mast to ensure good balance**.

4- Remove all loads from the platform and make workers step down.

5- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails. For instructions on the removal and storage of guardrails, refer to p. 90 of the *Transport, Storage and Maintenance* section.

6- First remove any installed cantilever bridge, then remove the access bridge and access stairs, leaving no more than one 30" (76 cm) bridge installed at each cantilever end of the multiple units installation.

7- Dismantle the bearing bridge structure, as described in the instructions on p. 40 of the *Bridges* section.

8- Remove and store the jacks used for the base outriggers. Push in and close all base outriggers on both motorized units.

9- If any of the units is to be stored for any significant length of time, refer to p. 90 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Setup and configurations

Dismantling an installation

Dismantling a standard single unit installation – with mast ties

The following dismantling steps can be used **only** for a P Series motorized unit installation using a **standard configuration**. For installations using **non standard configurations**, refer to p. 27 of this section for dismantling guidelines.

1- Prepare the installation as described in the safety guidelines for dismantling a P Series installation, on p. 25.

2- Bring the motorized unit to the top of the work, verifying mast bolts and mast ties on the way up. Make sure that all mast bolts are tightened at the appropriate torque and that all mast ties are properly tied to the face of the work.

3- Lower the motorized unit to base level, removing all mast sections and mast ties on the way down, **leaving the last two tie levels in place**. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove mast ties. **Mast sections should be stored horizontally and distributed equally on either side of the mast to ensure good balance**.

4- Make sure to avoid overloading the platform. On higher installations, it may be required to use a crane to remove mast sections from the platform to avoid any overloads. Refer to the *Load Capacities* section on p. 60 for more information about loads allowed on an installation.

5- **With the last two tie levels still in place**, make sure all base outriggers are opened at a 30-degree angle to ensure that the motorized unit remains stable.

6- Remove the last two tie levels.

7- Once at base level, remove all loads from the platform and make all workers step down.

8- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails. For instructions on the removal and storage of guardrails, refer to p. 90 of the *Transport, Storage and Maintenance* section.

9- Remove all installed cantilever bridges, access bridge and access stairs, leaving no more than one 30" (76 cm) bridge installed on each side of the motorized unit.

10- Remove and store the jacks used for the base outriggers. Push in and close all base outriggers.

11- If the unit is to be stored for any significant length of time, refer to p. 90 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Dismantling a non standard single unit installation – with mast ties

The following dismantling steps must be used for a P Series motorized unit installation using a **non standard configuration**.

1- Prepare the installation as described in the safety guidelines for dismantling a P Series installation, on p. 25.

2- With the motorized unit at base level, remove any installed equipment or accessory such as forward or back extension bridge, hoist and hoist structure, swivel bridge, bridge deck extension and weather protection. Make sure the setup to be dismantled meets the conditions for a standard, linear configuration. For more information about standard and non standard configurations, refer to p. 18 of this section.

3- Bring the motorized unit to the top of the work, verifying mast bolts and mast ties on the way up. Make sure that all mast bolts are tightened at the appropriate torque and that all mast ties are properly tied to the face of the work.

WARNING
Before starting to dismantle any **non standard configuration**, make sure to remove all installed equipment and accessories for the setup to meet the conditions for a standard, linear configuration.

Setup and configurations

Dismantling an installation

Dismantling a non standard single unit installation – with mast ties

4- Lower the motorized unit to base level, removing all mast sections and mast ties on the way down, **leaving the last two tie levels in place**. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove mast ties. **Mast sections should be stored horizontally and distributed equally on either side of the mast to ensure good balance**.

5- Make sure to avoid overloading the platform. On higher installations, it may be required to use a crane to remove mast sections from the platform to avoid any overloads. Refer to the *Load Capacities* section on p. 60 for more information about loads allowed on an installation.

6- **With the last two tie levels still in place**, make sure all base outriggers are opened at a 30-degree angle to ensure that the motorized unit remains stable.

7- Remove the last two tie levels.

8- Once at base level, remove all loads from the platform and make all workers step down.

9- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails. For instructions on the removal and storage of guardrails, refer to p. 90 of the *Transport, Storage and Maintenance* section.

10- Remove all installed cantilever bridges, access bridge and access stairs, leaving no more than one 30" (76 cm) bridge installed on each side of the motorized unit.

11- Remove and store the jacks used for the base outriggers. Push in and close all base outriggers.

12- If the unit is to be stored for any significant length of time, refer to p. 90 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Dismantling a standard multiple units installation – with mast ties

The following dismantling steps can be used for a P Series multiple units installation using a **standard configuration**. For installations using **non standard configurations**, refer to p. 29 of this section for dismantling guidelines.

1- Prepare the installation as described in the safety guidelines for dismantling a P Series installation, on p. 25.

2- Bring the motorized units to the top of the work, verifying mast bolts and mast ties on each mast on the way up. Make sure that all mast bolts are tightened at the appropriate torque and that all mast ties are properly tied to the face of the work.

3- Lower the motorized units linked by a bearing bridge, removing all mast sections and mast ties on the way down, **leaving the last two tie levels in place on each mast**. To make sure that the installation remains stable, remove mast sections alternately – one on one motorized unit, then one on the other. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove mast ties. **Mast sections should be stored horizontally and distributed equally on either side of each mast to ensure good balance**.

4- Make sure to avoid overloading the platform. On higher installations, it may be required to use a crane to remove mast sections from the platform to avoid any overloads. Refer to the *Load Capacities* section on p. 60 for more information about loads allowed on an installation.

WARNING
The **jacks on the base outriggers** are designed to level and stabilize the motorized unit. **The base outriggers must be opened completely** before the start of dismantling operations.

Setup and configurations

Dismantling an installation

Dismantling a standard multiple units installation – with mast ties

5- **With the last two tie levels still in place**, make sure all base outriggers are opened at a 30-degree angle to ensure that each motorized unit remains stable.

6- Remove the last two tie levels on each mast and lower the motorized units linked by a bearing bridge until the units are two rungs (20” or 50 cm) above base level.

7- Remove all loads from the platform and make workers step down.

8- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails. For instructions on the removal and storage of guardrails, refer to p. 90 of the *Transport, Storage and Maintenance* section.

9- First remove any installed cantilever bridge, then remove the access bridge and access stairs, leaving no more than one 30" (76 cm) bridge installed at each cantilever end of the multiple units installation.

10- Dismantle the bearing bridge structure, as described in the instructions on p. 40 of the *Bridges* section.

11- Remove and store the jacks used for the base outriggers. Push in and close all base outriggers on both motorized units.

12- If any of the units is to be stored for any significant length of time, refer to p. 90 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Dismantling a non standard multiple units installation – with mast ties

The following dismantling steps must be used for a P Series multiple units installation using a **non standard configuration**.

1- Prepare the installation as described in the safety guidelines for dismantling a P Series installation, on p. 25.

2- With the motorized units linked by a bearing bridge at base level, remove any installed equipment or accessory such as a forward or back extension bridge, hoist and hoist structure, swivel bridge, bridge deck extension and weather protection. Make sure the setup to be dismantled meets the conditions for a standard, linear configuration. For more information about standard and non standard configurations, refer to p. 18 of this section.

3- Bring the motorized units to the top of the work, verifying mast bolts and mast ties on each mast on the way up. Make sure that all mast bolts are tightened at the appropriate torque and that all mast ties are properly tied to the face of the work.

4- Lower the motorized units linked by a bearing bridge, removing all mast sections and mast ties on the way down, **leaving the last two tie levels in place on each mast**. To make sure that the installation remains stable, remove mast sections alternately – one on one motorized unit, then one on the other. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 54 of the *Mast and Mast Ties* section for instructions on how to remove mast ties. **Mast sections should be stored horizontally and distributed equally on either side of each mast to ensure good balance**.

5- Make sure to avoid overloading the platform. On higher installations, it may be required to use a crane to remove mast sections from the platform to avoid any overloads. Refer to the *Load Capacities* section on p. 60 for more information about loads allowed on an installation.

6- **With the last two tie levels still in place**, make sure all base outriggers are opened at a 30-degree angle to ensure that each motorized unit remains stable.

7- Remove the last two tie levels on each mast and lower the motorized units linked by a bearing bridge until the units are two rungs (20” or 50 cm) above base level.

8- Remove all loads from the platform and make workers step down.

Setup and configurations

Dismantling an installation

Dismantling a non standard multiple units installation – with mast ties

9- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails. For instructions on the removal and storage of guardrails, refer to p. 90 of the *Transport, Storage and Maintenance* section.

10- First remove any installed cantilever bridge, then remove the access bridge and access stairs, leaving no more than one 30" (76 cm) bridge installed at each cantilever end of the multiple units installation.

11- Dismantle the bearing bridge structure, as described in the instructions on p. 40 of the *Bridges* section.

12- Remove and store the jacks used for the base outriggers. Push in and close all base outriggers on both motorized units.

13- If any of the units is to be stored for any significant length of time, refer to p. 90 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Lifting and moving a motorized unit setup

The lift and relocation of a P Series motorized unit or setup must be carried out with extreme care, using appropriate, certified lifting equipment.

The **maximum length** of a P Series motorized unit setup that can be lifted and transported by a **rough terrain forklift** (by the base, using the forklift tubes) or a **crane** (using slings) is 27'–5" (8,4 m), weighing approximately 5400 lb (2449 kg).

It is **mandatory** to refer to and comply with the capacities and limitations of the lifting device as specified by the manufacturer. It is **mandatory** to remove any installed access bridge, access stairs, forward/back extension bridge, hoist and hoist support structure, and swivel bridge **before** lifting and transporting a motorized unit setup. It is also **mandatory** to make sure that the weight of the setup is **equally balanced** on each side of the mast before lifting and transporting a motorized unit setup. A setup equipped with an **adapter base for freestanding installation** must be lifted **by the mast using a sling**.

Preparation

1- Before lifting and moving the motorized unit or setup, make sure that all workers have stepped down and that all tools, equipment and loads have been removed from the platform.

2- Remove all the planking, mast ties and mast sections, **leaving only one mast section** in place. If necessary, remove the access stairs and the access bridge. Make sure that all the guardrails and other components are secure.

3- In reference to the plan/layout drawing, establish the position where the motorized unit setup must be moved to and make sure that there are no obstacles.

4- Make sure that the lifting, transport and destination areas are clear of workers and equipment or any obstacle liable to interfere with the operation.

Lifting a setup by the base – using a forklift

1- When using a rough terrain forklift to lift and move the motorized unit setup by the **base**, make sure that the forks are inserted in the forklift tubes located on the base (fig. 1.26, p. 31).

WARNING

It is **mandatory** to remove any installed access bridge, access stairs, forward/back extension bridge, hoist and hoist support structure and swivel bridge **before** lifting and transporting a motorized unit setup.

Setup and configurations

Lifting and moving a motorized unit setup

Lifting and moving a setup by the mast – using a sling

1- When using a sling and a rough terrain forklift or a crane to lift and move the motorized unit setup by the **mast**, make sure to select an appropriate sling.

2- Secure the sling to the **top first lifting rung on the back** of the mast. If using a forklift, make sure to use an appropriate forklift attachment to secure the sling (shown in red, in fig. 1.28 and fig. 1.29).

3- Make sure that a worker, wearing adequate individual protection, is standing on the ground to help stabilize the structure during the lift, transport and landing of the motorized unit setup.

4- Refer to p. 90 for more information about the transport and storage of a motorized unit.

fig. 1.27

Forks must inserted in the forklift tubes located on the base of the unit

fig. 1.26

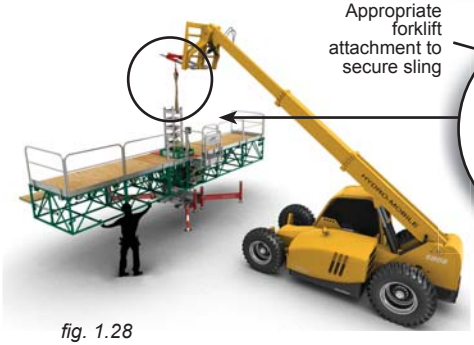
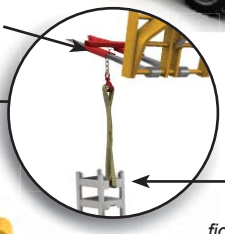


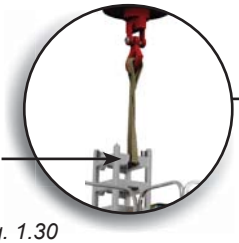
fig. 1.28

Appropriate forklift attachment to secure sling



Sling must be secured to top first lifting rung at the back of the mast

fig. 1.29



Sling must be secured to top first lifting rung at the back of the mast

fig. 1.30

fig. 1.31

Safety Devices

Inclinometer (Leveling Control Device)

Used only in bearing configurations, the inclinometer is located on the bearing bridge adapter (fig. 2.2 and fig. 2.3) and must **absolutely** be linked to the electrical system of the motorized unit through its main electrical power supply box (fig. 2.4). For more information on the installation and the use of a bearing bridge adapter, see p. 38 of the *Bridges* section.

Detection of a ± 2-degree slope

1- When the motorized unit is in movement, if the inclinometer detects a slope of ± 2 degrees of the bearing bridge structure (fig. 2.1), the power supply of the solenoid valves is shut off. The motorized unit stops moving but the engine is still running.
2- To bring the bearing bridge structure back to level and resume operation, bypass the inclinometer signal **on the lowest motorized unit of the installation** by pushing in and holding the inclinometer bypass button on the joystick control box (fig. 2.6) and raising the motorized unit until the setup is level again.
3- Make sure that the bearing bridge structure is level before resuming operation. Repeat step 2, if necessary.

Connecting and testing the inclinometers

1- Make sure the bearing bridge structure is level.
2- Disconnect the bypass connection (loop) (fig. 2.5) and plug in the inclinometer connection cable.
3- Loosen the adjustment bolt and adjust the inclinometer to a 0° level. Tighten the bolt.
4- Raise one end of the structure and make sure that the unit at that end stops moving when a ± 2 degrees slope of the bearing bridge structure is detected.
5- Lower the unit at the lowest end and make sure that the unit stops.
6- Repeat steps 3 through 5 in reverse to complete the testing of the inclinometers.

Operation in a cantilever configuration

1- To operate the motorized unit in a cantilever configuration only, disconnect the inclinometer connection cable (fig. 2.5).
2- Plug in the bypass connection cable.

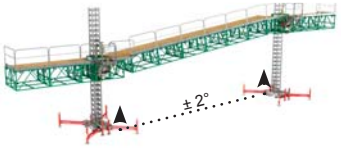


fig. 2.1

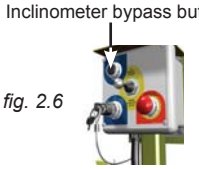


fig. 2.6

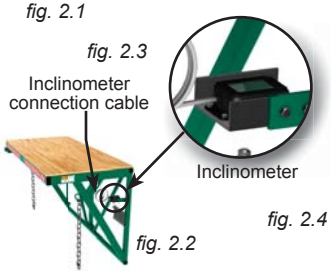


fig. 2.3
fig. 2.2


fig. 2.4

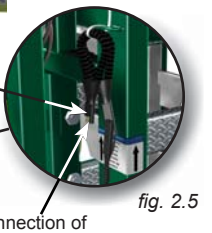


fig. 2.5

WARNING
Daily verification and testing of all the inclinometers are **mandatory before operating** the motorized units.

Safety Devices

Safety Hooks System

Activation of the safety hooks system

1- In the event of an activation of the safety hooks system, the qualified operator must contact the distributor/service center or the Hydro Mobile technical support team.

2- All precautions must be immediately taken to ensure the safe return of all workers to the nearest safe evacuation point according to the evacuation plan (see step 22 of the general guidelines beginning on p. 7 of the *Performance and Safety Rules* section). **The motorized unit must be immediately put out of service.**

3- Make sure the safety hooks system is properly engaged (fig. 2.8).

The following steps must be performed by a qualified technician. For the definition of a qualified technician, refer to p. 7 of the *Performance and Safety Rules* section.

4- Determine what caused the activation of the safety hooks system.

5- Remove as much load from the motorized unit and the bridges as possible.

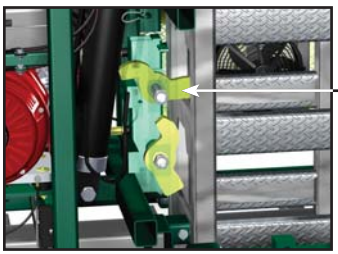
6- Perform a thorough inspection of the entire installation from base level to the top of the work, including structures, mast ties, anchoring system for any damages possibly caused by the incident.

7- Take the necessary actions to have the motorized unit repaired properly, according to Hydro Mobile standards. It is **mandatory** to visually inspect the safety hooks and replace the hook that was activated. Any **triggered** safety hook **cannot be used a second time and must be replaced immediately** before operating the motorized unit. It is **mandatory** to also replace the bolt and nut of the safety hook.

8- Once all the mandatory corrective actions described in the previous steps have been carried out, make sure that the cylinder hook and the secondary hook are properly engaged on a mast rung (fig. 4.8 and fig. 4.9, p. 47) and **carefully lower** the motorized unit to base level.

9- In all cases, the motorized unit must be thoroughly inspected and all the necessary repairs must be made according to Hydro Mobile's recommendations before resuming normal operation of the motorized unit.

fig. 2.7 Safety hooks in normal working position



Safety hooks in emergency activation position *fig. 2.8*

Safety Devices

Fall Protection

The use of fall protection equipment is **mandatory** for all workers on a P Series motorized unit setup whenever a fall hazard is present. It is recommended to use a combination of full body harness and a shock-absorbing lanyard. It is mandatory to use certified fall protection equipment that is clean and in good working condition. Fall protection equipment should be inspected before each use and be replaced if found to be defective. Refer to the manufacturer's recommendations for more information about the use and care of the selected equipment. Refer also to local regulations for more information about fall protection equipment requirements.

When climbing or descending the mast

The use of fall protection equipment is **recommended** when climbing or descending the mast when the height of lift is over 10' (3 m) above base level and is **mandatory** for climbing or descending the mast when the height of lift is between 30' and 69' (9 m and 21 m). It is not recommended to climb or descend the mast when the setup is at heights over 69' (21 m) because of the time and effort required to reach such heights. The use of alternate equipment compliant with local regulations, such as a rapid mast climber, a transport platform system, or a conventional scaffold stair system will prove to be more efficient. Refer to local regulations for more information.

1- Attach a rope to a self-retracting lifeline hook for easy retrieval from base level.

2- Using the designated tie points (fig. 2.9) on the motorized unit, secure the fall protection equipment. Tie points are designed to resist to a maximum arrest force of 5000 lb (2268 kg) and can be used by workers to tie themselves to the unit (not more than one worker per chain link).

3- Attach the body harness to the self-retracting lifeline before climbing or descending the mast.

fig. 2.10

Self-retracting lifeline

Designated tie points on the unit (chain links – shown in red for illustration purposes)

fig. 2.9

Not more than one worker per tie point (chain link)

fig. 2.11

Cross-arm anchorage strap
(not manufactured by Hydro Mobile)

fig. 2.12

Fall arrest bracket

When moving planks

The use of fall protection equipment is also **mandatory** when moving planks – for example, when moving planks away from in front of the mast to pass a tie level or to modify the planking configuration.

1- Using the designated tie points (fig. 2.9) on the motorized unit, an optional fall arrest bracket installed on two guardrails (fig. 2.12) or a cross-arm anchorage strap tied to two guardrails (fig. 2.11), secure the fall protection equipment. Tie points are designed to resist to a maximum arrest force of 5000 lb (2268 kg) and can be used by workers to tie themselves to the unit (not more than one worker per tie point).

2- Move planks in front of the mast to pass a tie level or modify the planking configuration.

Safety Devices

Emergency Descent Control Device

In the event of an engine failure, a shortage of gasoline or broken parts, it is recommended to use the emergency descent control device to bring the workers and the motorized unit safely to the **nearest safe evacuation point**. The emergency descent control device (120 V in North America; 240 V in Europe) is standard only on specific P Series motorized units. It is not recommended to use the emergency control device if the failure is due to a malfunction of the cylinder, a malfunction of one or both hooks or a leak in the hydraulic system.

Emergency descent procedure

1- Before initiating the descent, make sure that the motorized unit and plank outriggers clear the building, balconies, etc.

2- Unlock the lowering cam on both the cylinder hook and the secondary hook (fig. 4.14, p. 49).

3- Open the engine access panel. Connect the power cord of the emergency descent motor into an appropriate, reliable power source, using an extension cord, if necessary. The emergency motor will start immediately once it is plugged into the power source.

4- Perform the necessary steps to **lower or raise the motorized unit to the nearest safe evacuation point**, using the override buttons instead of the control lever, where the **LEFT** button will act as bringing the control lever **DOWN**, while the **RIGHT** button will act as bringing the control lever **UP**. Refer to p. 47 and p. 49 of the *Power Pack and Controls* section for instructions on raising and lowering the motorized unit.

5- If the nearest safe evacuation point is at base level, monitor the last 10' (or 3 m) of descent to ensure the proper seating of the access stairs and the access bridge, if necessary.

Action on override button	Correspondence on control lever
Press and hold LEFT override button	Lower the control lever
Press and hold RIGHT override button	Raise the control lever

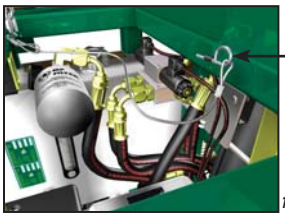


fig. 2.13

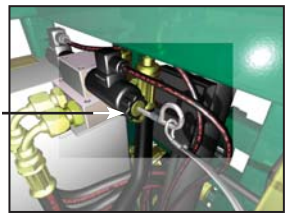


fig. 2.14 Press and hold the override button

WARNING
It is not recommended to use an emergency descent control device if the failure is due to a malfunction of the cylinder, a malfunction of one or both hooks or a leak in the hydraulic system.

WARNING
Emergency descent control devices are designed for emergencies only. These devices must not be used to operate the motorized unit **under normal conditions**.

Standard bridge

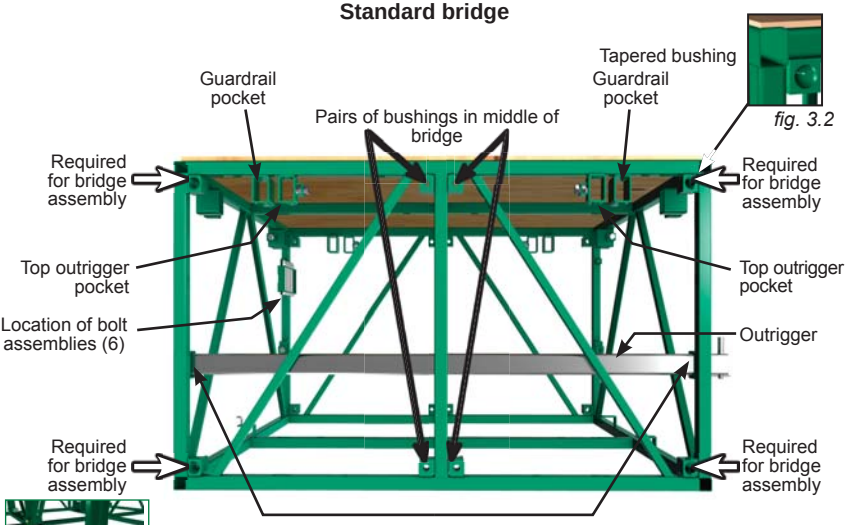


fig. 3.2

fig. 3.1

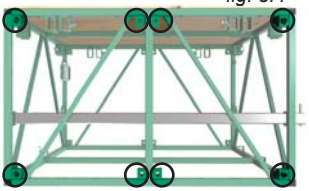
Bolt for assembly

fig. 3.3

Installing a bridge on the motorized unit

1- Align the bridge with the motorized unit using the tapered bushings (large white arrows, fig. 3.1).

fig. 3.4



2- Bolt the bridge to the motorized unit using **eight** bolt assemblies: one 5/8" x 5 1/2" (GR8) hex bolt, one 5/8" (GR8) lock washer and one 5/8" (GR8) nut in each of the four corner tapered bushings and in **each** of the pairs of bushings in the middle of the bridge (using **both top and bottom bushings on each side** – left **and** right, fig. 3.4). Tighten all bolt assemblies to a torque of 120 lb-ft (163 N-m).

3- Set up bridges alternately on each side of the mast in such a sequence as to warrant the balance of the structure.

Assembly of two bridges together

1- Align both bridges using the tapered bushings (large white arrows, fig. 3.1).

2- Assemble both bridges together using **six** bolt assemblies: one 5/8" x 5 1/2" (GR8) hex bolt, one 5/8" (GR8) lock washer and one 5/8" (GR8) nut in each of the four corner tapered bushings and in **one** of the pairs of bushings in the middle of the bridge (using top and bottom bushings on either side – left **or** right, fig. 3.5). Tighten all bolt assemblies to a torque of 120 b-ft (163 N-m).

3- Set up bridges alternately on each side of the mast in such a sequence as to warrant the balance of the structure.

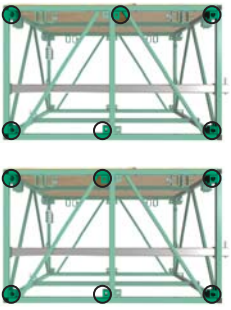


fig. 3.5

Bridges

Bridge Types

5' (1,5 m) bridge

fig. 3.6

Dimensions	60" x 62 1/4" x 35 13/16" (152,4 cm x 158 cm x 91 cm)
Weight	390 lb (177 kg)
Guardrail	1x 60" (1,5 m) – 58 lb (26,3 kg)
Outrigger	1x 2 1/2" x 1 1/2" x 1/8" x 63" long (6,4 cm x 3,8 cm x 0,3 cm x 160 cm)
Bolt and nut set	6x 5/8" x 5 1/2" long (GR8 UNC)

30" (76 cm) bridge

fig. 3.7

Dimensions	30 1/2" x 62 1/4" x 35 13/16" (77,4 cm x 158 cm x 91 cm)
Weight	290 lb (132 kg)
Guardrail	1x 30" (76 cm) – 40 lb (18,1 kg)
Outrigger	1x 2 1/2" x 1 1/2" x 1/8" x 63" long (6,4 cm x 3,8 cm x 0,3 cm x 160 cm)
Bolt and nut set	6x 5/8" x 5 1/2" long (GR8 UNC)

10' (3 m) bridge

fig. 3.8

Dimensions	120" x 62 1/4" x 35 13/16" (305 cm x 158 cm x 91 cm)
Weight	720 lb (327 kg)
Guardrail	2x 60" (1,5 m) – 58 lb (26,3 kg)
Outrigger	2x 2 1/2" x 1 1/2" x 1/8" x 63" long (6,4 cm x 3,8 cm x 0,3 cm x 160 cm)
Bolt and nut set	6x 5/8" x 5 1/2" long (GR8 UviensNC)

Bearing bridge adapter

fig. 3.9

Dimensions	30 3/8" x 62 1/4" x 35 13/16" (77,2 cm x 158 cm x 91 cm)
Weight	230 lb (104 kg) (without guardrail)
Guardrail	1x movable guardrail – 65 lb (29,5 kg)
Accessories	Inclinometer and safety chains
Bolt and nut set	6x 5/8" x 5 1/2" long (GR8 UNC)

Swivel bridge

fig. 3.10

Dimensions	67 7/8" x 62 1/4" x 39 1/2" (172,4 cm x 158 cm x 100,3 cm)
Weight	800 lb (363 kg)
Guardrail	1x swivel bridge guardrail – 120 lb (54,4 kg)
Bolt and nut set	6x 5/8" x 5 1/2" long (GR8 UNC)

Bridge for restricted space

fig. 3.11

Dimensions	21" x 62 1/4" x 35" (53 cm x 158 cm x 89 cm)
Weight	196 lb (89 kg)
Outriggers	4x 32" (81 cm) outriggers 2x 20" (51 cm) outriggers
Bolt and nut set	6x 5/8" x 5 1/2" long (GR8 UNC)

Bridges

Cantilever Bridge

Installation

1- Make sure that the inclinometer bypass connection is plugged in. For more information on inclinometers and bypass connections, see p. 32 of the *Safety Devices* section. Raise the motorized unit by 2 rungs (20" or 50 cm) to facilitate the installation of bridges.

2- Bolt a bridge assembly to the motorized unit on one side of the mast. It is important to note that bridge support installation brackets cannot be used to support a bridge that is installed directly on the motorized unit. If the bridge installed on the motorized unit is a 30" (76 cm) bridge, make sure that the **upper corner of the diagonal brace is pointing outwards**, as shown in fig. 3.12, p. 39.

3- Repeat step 2 to bolt a second bridge assembly on the other side of the mast. For more information about the use of bridge installation support brackets, refer to p. 73 of the *Accessories* section. Refer also to p. 36 of this section for instructions on the installation of a bridge.

4- Install as many additional bridges as required and allowed. It is important to install each bridge alternately on one side, then on the other side of the mast, to avoid throwing the structure out of balance. The number of bridges should be equal on both sides of the mast for a cantilever installation. Refer to the *Load Capacities* section on p. 60 for information on the number of bridges allowed in a cantilever bridge configuration.

Bearing Bridge

(requires the use of two motorized units and two bearing bridge adapters – sold separately)

Safety guidelines

1- In a bearing bridge setup (multiple units), it is mandatory to install any additional cantilever bridge **after** the bearing bridge structure has been installed to avoid throwing the structure off balance. Dismantle all the components of the structure in reverse order.

2- It is **mandatory** that two qualified users/operators handle all rise and descent operations and coordinate the motion of the two motorized units linked by a bearing bridge to ensure that the structure slope does not exceed 2º or 1" / 24" (2,5 cm / 61 cm). Refer to p. 7 of the *Motorized Unit* section for the definition of a qualified user/operator.

3- It is also important to make sure that all safety chains (two at each end) are properly hooked at all times (see step 9 of the installation instructions beginning below).

4- Daily verification and testing of all the inclinometers are **mandatory before** operating the motorized units.

Installation

1- Choose a clear, level surface close to the work area where the bridges can be temporarily set down to assemble the bearing bridge structure. To facilitate assembly, set down wood cribbing or mast sections laid horizontally before lowering the bridges in place.

2- Using a rough terrain forklift or a crane, lift and lower a bridge on top of the wood cribbing or the laid down mast sections.

3- Lift another bridge and align it carefully with the bridge it must be attached to.

4- Assemble the two bridges as described in the instructions on p. 36 of this section.

5- Complete the assembly of the bearing bridge structure ("D", fig. 3.16, p. 40) using as many bridges as is required and allowed. Refer to p. 62 of the *Load Capacities* section for information on the number of bridges allowed in a bearing bridge configuration. Install a 30" (76 cm) bearing bridge adapter at each end of the bearing bridge structure ("C", fig. 3.16, p. 40).

WARNING

To ensure safe and proper operation, Hydro Mobile recommends that **two persons** be on hand to perform maneuvers for **each motorized unit in a setup** and that **at least one of those two persons is a qualified user/operator** for a P Series motorized unit and its accessories.

Bridges

Bearing Bridge

Installation (cont'd)

6- Measure the length of the bearing bridge and subtract 9" x 2 = 18" (23 cm x 2 = 46 cm) to obtain the ideal distance between the two motorized units.

7- AP Series bearing bridge installation can be installed at an angle not exceeding 5 degrees. It is mandatory to make sure that there is an overlap of at least 6" (15 cm) at both ends of the bearing bridge structure and that both ends are properly supported, as shown in fig. 3.15.

8- Using a forklift, a crane or any other lifting device, lift the bearing bridge assembly from the ground and lower it down onto the two motorized units making sure the overlap is between 6" and 12" (15 and 30 cm) at each end.

9- Install one bearing bridge safety chain by making a loop near the top end of the diagonal brace on the 30" (76 cm) bridge. Insert the chain into the cross plate, making sure the slack does not exceed one link when pulling it tightly towards the cross plate (fig. 3.12). Perform this step for each safety chain at both ends of the bearing bridge structure (four in total).

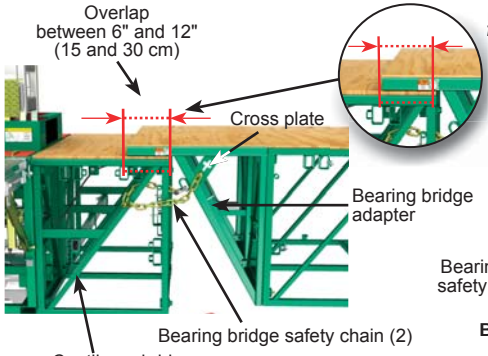


fig. 3.12

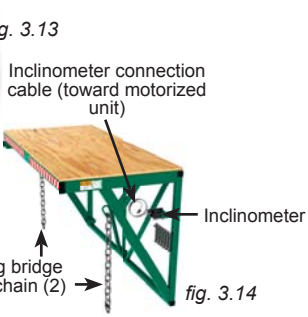


fig. 3.13

fig. 3.14

Bearing bridge adapter

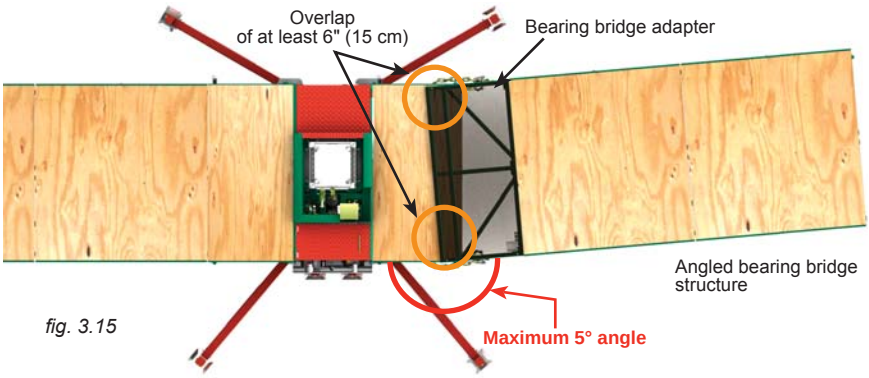


fig. 3.15

WARNING
When raising or lowering motorized units linked by a bearing bridge, any bridge slope should not to exceed a maximum of 2° or
1" / 24" (2,5 cm / 61 cm).

Bridges

Bearing Bridge

Installation (cont'd)

10- Plug in and test all the inclinometers, making adjustments as necessary. For more information on the installation and use of inclinometers, refer to p. 32 of the *Safety Devices* section.

11- Install all other cantilever bridges (“E”, fig. 3.16) on the ends of the motorized units opposite to the bearing bridge structure. In a bearing bridge setup (multiple units), it is **mandatory** to install any additional cantilever bridge **after** the bearing bridge has been installed to avoid throwing the structure off balance.

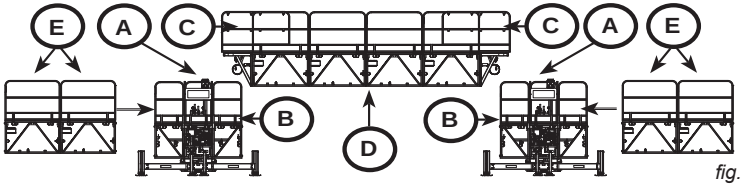


fig. 3.16

WARNING
The upper corner of the diagonal brace of the 30" (76 cm) cantilever bridge should always point outwards (as shown in fig. 3.12, p. 39).

Dismantling a bearing bridge structure

SAFETY comes first. It is essential that **all dismantling operations** of a bearing bridge be carried out with the same care and precaution taken during the installation. It is mandatory to refer to the safety guidelines and to select the dismantling method appropriate to the installation, starting on p. 25 of the *Motorized Unit* section. The following dismantling steps are for the bearing bridge structure only.

1- Follow the dismantling steps appropriate to the installation.

2- Unhook the bearing bridge safety chains (four in total).

3- Using a rough terrain forklift or a crane, slightly raise the bearing bridge structure and lower it on a proper bearing surface for disassembly.

Bridges

Forward/Back Extension Bridge
(optional)

The extension bridge (used on the front or on the back of a motorized unit setup) is assembled using a regular bridge, two outriggers and three forward extension plate assemblies. Refer to p. 63 of the *Load Capacities* section for the load capacities and the appropriate positioning of a forward or back extension bridge in a setup.

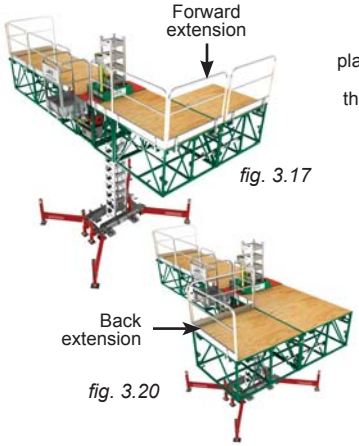


fig. 3.17

fig. 3.20

fig. 3.18

fig. 3.19

Connection of two new generation bridges

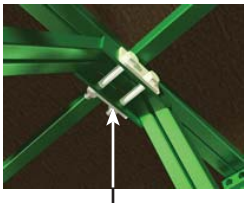


fig. 3.21

Extension plate assembly installed in middle of bridge

Connection of previous generation bridge (right) with new generation bridge (left)

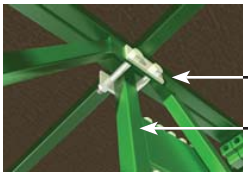


fig. 3.22

Installation

1- Remove the plank stop pins from two outriggers and slide the outriggers in the bottom outrigger pockets of a bridge assembly already installed, leaving about 6" (15 cm) protruding from the bridge. Do not tighten the bolts.

2- Align the bridge that will be used as an extension with the installed bridge and slide the protruding ends of the two outriggers from the bridge assembly in the bottom outrigger pockets of the back or forward extension. Insert a plank stop pin in each outrigger.

3- Install the first two forward extension plate assemblies at the **TOP** of each of the two vertical tubes at each end of the bridge assembly (fig. 3.19). If using only previous generation bridges, install the third extension plate assembly on the middle vertical tube of the bridge, secure the bolt assemblies and proceed to step 5.

4- If using at least one new generation bridge in the installation, install the third forward extension plate assembly at the **TOP** in the middle of the bridge structure by positioning the plates so the holes align with the holes on the plate in the middle of the bridge structure (fig. 3.22). Secure with bolt assemblies.

5- Tighten all bolts to secure the outriggers.

6- Install the appropriate guardrails on the back or forward extension.

Bridges

Forward/Back Extension Bridge

Installation (cont'd)

7- If required, install cross boxes and additional outriggers to plank the inside corner of the bridge used as an extension. For more information on the use and installation of cross boxes, refer to p. 75 of the *Accessories* section.

Bridge Deck Extension
(optional)

Bridge deck extensions can be attached to 30" (76 cm), 5' (1,5 m) and 10' (3 m) bridges and are used to extend the width of the work area from 5' (1,5 m) to 7' 6" (2,3 m), increasing the walk area available on the setup.

Bridge deck extensions **must be used only for the circulation of workers on the setup** and **must not be used as a storage area for material, tools, equipment or any other load**. The weight of each bridge deck extension installed must be taken into account when calculating the load capacity of a setup. Refer to the *Weight of Components* table on p. 14 of the *Motorized Unit* section.

Planking is not allowed when using bridge deck extensions in the **front of a setup**.

Installation

1- Remove the plank stop pins and clevis pins from two outriggers.

2- Slide the outriggers in the top outrigger pockets of the bridge and reinstall the clevis pins to prevent the outriggers from slipping out of the outrigger pockets.

3- Insert the bridge deck extension on the outriggers and push in the extension until it is snug against the bridge.

4- Install the plank stop pins and push in the outriggers until they are snug against the extension.

5- Tighten the bolt assemblies of the outrigger pockets both on the deck extension and the bridge to secure the outriggers in place.

6- Install the appropriate guardrails on the deck extension.

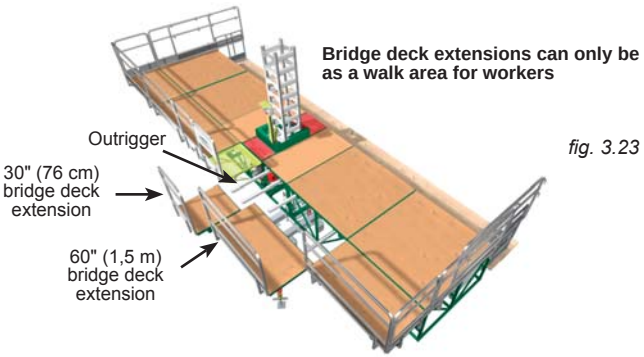


fig. 3.23

Bridges

Swivel Bridge
(optional)

The swivel bridge allows creating **front** 0° to 45° configurations, as well as corner (90°) configurations for **cantilever installations**. The swivel bridge **cannot be used on the bearing bridge side of a multiple units configuration** nor to achieve **rear configurations**.

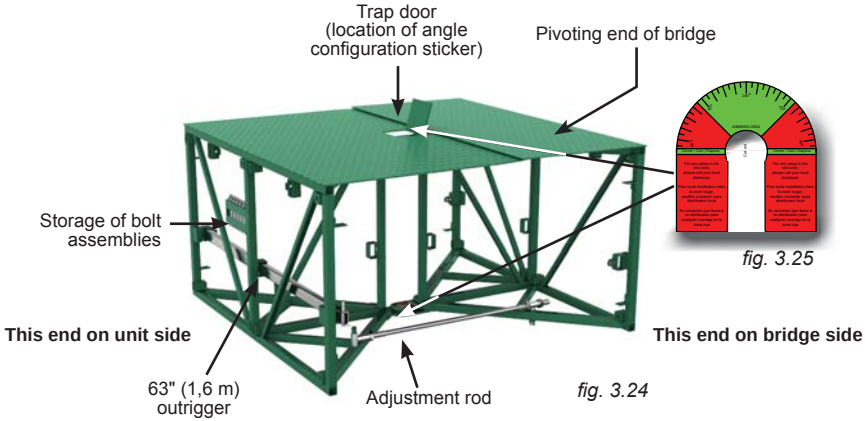


fig. 3.25

fig. 3.24

Installation

1- Make sure that there is a 30" (76 cm) bridge (not longer) already attached to the motorized unit.

2- Using the tapered bushings, align the swivel bridge with the bridge. If the welded stoppers on the bottom trusses of the bridge and the swivel bridge prevent proper alignment, the swivel bridge is not correctly positioned.

3- Attach the swivel bridge to the bridge and make sure all the bolt assemblies are tightened and secure. For instructions on the installation of a bridge, refer to the standard installation instructions, on p. 36.

4- Repeat steps 1 and 2 to attach a standard bridge to the swivel bridge.

5- Install as many additional bridges as required and allowed. Refer to p. 66 of the *Load Capacities* section for information on the number of bridges allowed in a swivel bridge configuration.

Angle adjustment

1- Make sure that the adjustment rod is installed on the appropriate side of the bridge to achieve the desired configuration. If required, remove the bolt assemblies at both ends of the adjustment rod and reinstall on the other side of the bridge (fig. 3.26).

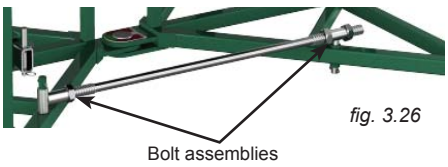


fig. 3.26

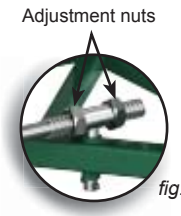


fig. 3.27

Bridges
Swivel Bridge

Angle adjustment (cont'd)

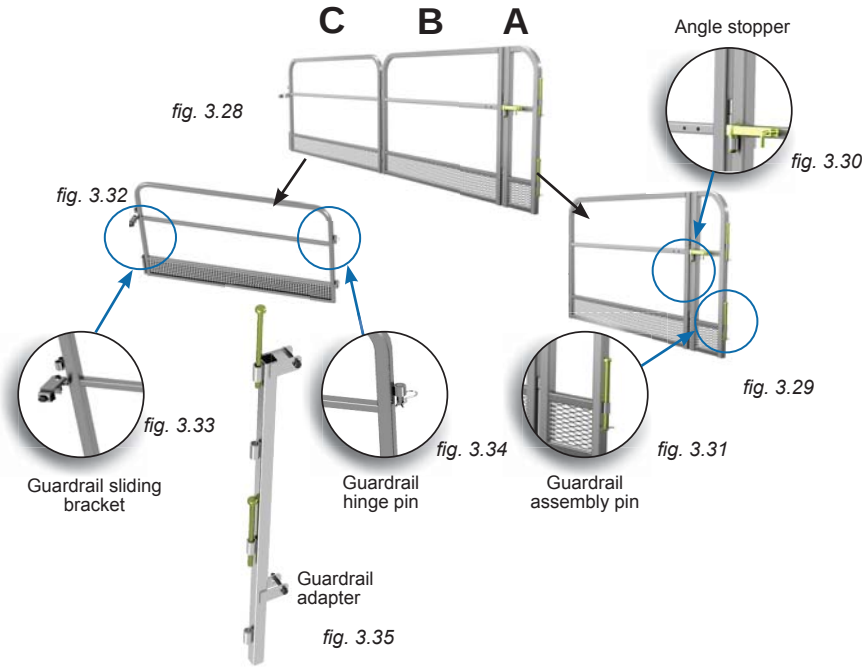
2- Position the swivel bridge installation at the desired angle by turning the adjustment nut. Refer to the angle sticker located under the trap door on the bridge deck or on the pivot pin at the bottom of the bridge (fig. 3.26, p. 43) to make sure the installation is at an appropriate angle. A swivel bridge configuration may only be installed at an angle between 0 and 45 degrees or at exactly 90 degrees.

Installation of swivel bridge guardrails

Swivel bridge installations require the use of special guardrails, included with each swivel bridge. The installation of guardrails on a swivel bridge will depend on the angle of the configuration.

Since not all swivel bridge guardrails may be necessary for a given configuration, refer to specific instructions for the configuration for the assembly of the appropriate guardrails.

It is important to note that swivel bridge guardrails must not be used as a tie-off point.



WARNING

Swivel bridge guardrails must not be used as a tie-off point.

Bridges
Swivel Bridge Guardrails
Cantilever Configurations

Front cantilever configurations (0 to 45° and 90°)

1- Make sure that the adjustment rod is installed on the appropriate side of the bridge to achieve the desired configuration. If required, remove the bolt assemblies at both ends of the adjustment rod and reinstall it on the other side of the bridge (fig. 3.26, p. 43).

2- Lock the angle stopper between parts “A” and “B” of the swivel bridge guardrail assembly at 0° using the angle stopper (fig. 3.30, p. 44).

3- Align the plates of the guardrail adapter (fig. 3.37) with the **side** of the guardrail of the 30" (76 cm) bridge attached to the motorized unit and secure in place with bolts.

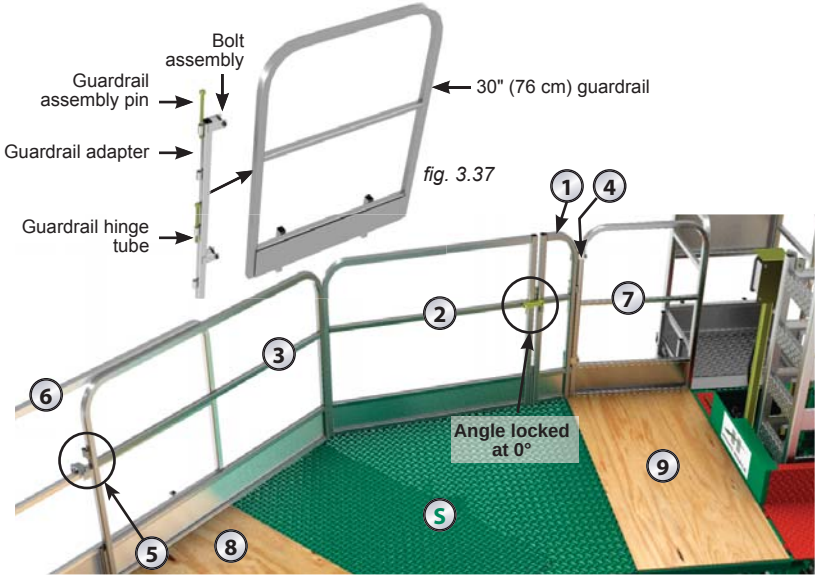
4- Align the hinge tubes on the swivel bridge guardrail assembly with the hinge tubes on the adapter on the 30" (71 cm) guardrail and secure in place with guardrail assembly pins (fig. 3.37).

5- Insert the guardrail hinge pins on part “C” in the corresponding hinge tubes on part “B”. Secure the assembly with hairpin cotter pins.

6- Install a 60" (1,5 m) regular guardrail on the bridge attached to the swivel bridge.

7- Secure part “C” of the swivel bridge guardrail assembly to the 60" (1,5 m) guardrail by tightening the bolt on the sliding bracket (fig. 3.33, p. 44).

8- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 69 for more information about guardrails). In all cases where workers are exposed to fall hazards greater than specified by local regulations, the installation of guardrails or face guardrail supports is **mandatory**.



Front 45° cantilever configuration *fig. 3.36*

LEGEND

1 Part “A” of swivel bridge guardrail assembly	4 Guardrail adapter	7 Standard 30" (76 m) guardrail	
2 Part “B” of swivel bridge guardrail assembly	5 Sliding bracket to secure guardrails together	8 Standard 5' (1,5 m) bridge	
3 Part “C” of swivel bridge guardrail assembly	6 Standard 60" (1,5 m) guardrail	9 Standard 30" (76 cm) bridge	S Swivel bridge

Power Pack and Operating Components

Startup preparation instructions

1- Pull the spring latch (fig. 4.2) and pull the control post completely out of its storage position.

2- Rotate the control post to 180º so that controls are facing the rear platform extension (behind operator).

3- Pull the spring latch again and let the control post slide down until the spring latch is engaged and locks the control post in place.

4- If the motorized unit is brand-new, connect the battery.

fig. 4.1

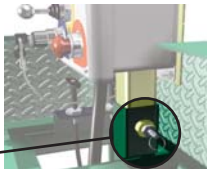


fig. 4.2

fig. 4.3

5- Perform every step in the daily inspection checklist. Refer to the *Transport, Storage and Maintenance* section on p. 93 for more information about the daily inspection.

6- Move the engine gasoline valve lever to the ON position.

Storing the control post

1- To store the control post, pull the spring latch and pull the control post out. Rotate the control post to 180º so that the controls are facing the mast.

2- Pull the spring latch again and slide in the control post until it is completely inside its storage location. Make sure the spring latch is engaged and locks it in place.

Engine and motorized unit startup procedure

1- If the engine is cold, push in and hold the button to pull out the choke cable to the closed position (blue control cable, fig. 4.4). Adjust by rotating the knob, if necessary. If the engine is warm, leave the choke cable at the open position.

2- Push in and hold the button to pull out the throttle cable (yellow control cable, fig. 4.4). Adjust by rotating the knob, if necessary.

3- Turn and hold the ignition key at the START position (fig. 4.5) to start the engine (hold for a maximum of 10 seconds). Release the key as soon as the engine is running. Use the ignition key to shut down the engine.

4- Push in and hold the button, then slowly push down the choke cable all the way to the open position.

5- To adjust the engine speed, push in and hold the button, then push down the throttle cable to reach maximum RPM. Adjust by rotating the knob, if necessary.

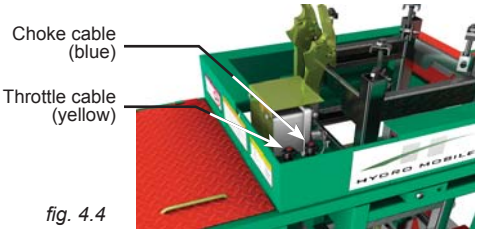
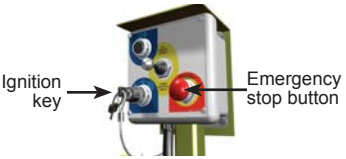


fig. 4.4

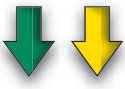


Control post

fig. 4.5

Power Pack and Operating Components

SAFETY comes first. The raising and lowering of the platform must be visually monitored at all times. It is mandatory to make sure that **both** hooks are properly engaged on a mast rung before raising or lowering the platform. Failure to engage the hooks correctly may cause the platform to drop, leading to damages to equipment and injury, even death.

	**RAISING the control lever** will cause the **cylinder to retract** and generate an **upward** motion of the platform **GREEN ARROW** indicates to raise and hold the control lever until the cylinder retracts completely **YELLOW ARROW** indicates to raise and hold the control lever until the cylinder has retracted sufficiently for the task to perform
	**LOWERING the control lever** will cause the **cylinder to extend** and generate a **downward** motion of the platform **GREEN ARROW** indicates to lower and hold the control lever until the cylinder extends completely **YELLOW ARROW** indicates to lower and hold the control lever until the cylinder has extended sufficiently for the task to perform

Raising the platform

1- Before initiating the ascent, make sure that the motorized unit and plank outriggers clear the building, balconies, etc., and that the mast tie door is open and planking has been removed from in front of the mast when passing a tie level.

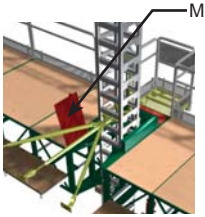


fig. 4.6

2- Lock the lowering cam on both the cylinder hook and the secondary hook (fig. 4.7).

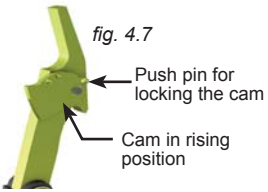


fig. 4.7

3- Make sure that the engine is running at full throttle and that the cylinder hook and the secondary hook are properly engaged (fig. 4.8 and fig. 4.9) and on the same mast rung (fig. 4.12, p. 48). Failure to engage the hooks correctly can cause the platform to drop.

fig. 4.8

Correct

fig. 4.9

Incorrect

To facilitate rise and descent operations, it is suggested to engage both the cylinder hook and the secondary hook on the same mast rung, as shown in fig. 4.12, p. 48.

WARNING

Make sure the cylinder hook and the secondary hook are properly engaged (fig. 4.8 and fig. 4.9) and on the same mast rung (fig. 4.12, p. 48) before raising or lowering the platform. Failure to engage hooks correctly can cause the platform to drop.

Power Pack and Operating Components

Raising the platform (cont'd)

4- Lower the control lever and let the hydraulic cylinder become fully extended (to a height equal to two rungs) (fig. 4.10). The engine will slow down when the cylinder is fully extended.

fig. 4.10

5- Raise the control lever so the cylinder hook drops slightly, enough to engage onto the mast rung.

Before raising the platform, check visually to make sure that the cylinder hook is properly engaged on the mast rung.

fig. 4.11

6- Raise the control lever and let the platform rise until the secondary hook is above the rung where the cylinder hook is engaged. The lift can vary from 10" to 20" (25,4 cm to 50,8 cm), or a height equal to one or two mast rungs.

7- Lower the control lever enough to engage the secondary hook on the mast rung. Both hooks should now be side by side on the same mast rung.

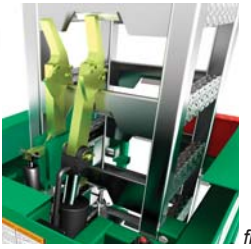


fig. 4.12

8- Repeat steps 4 through 7 to continue raising the platform.

9- Once the platform has reached the desired height, make sure that both hooks are properly engaged on the same mast rung.

WARNING
In a bearing bridge configuration, it is mandatory to coordinate the rise and descent operation on each motorized unit linked by the bearing bridge to ensure that any slope of the structure does not exceed 2 degrees.

The use of shorter planks will facilitate the passing of tie levels.

WARNING
The use of fall protection equipment is **mandatory** to handle operations when passing tie levels. Properly tied to the unit, slide planks away from in front of the mast and open the mast tie door. The use of shorter planks will facilitate this task. Close the mast tie door once the tie level is passed.

Power Pack and Operating Components

Lowering the platform

1- Before initiating descent, make sure that the motorized unit and plank outriggers clear the building, balconies, etc., and that the mast tie door is open and planking has been removed from in front of the mast when passing a tie level.

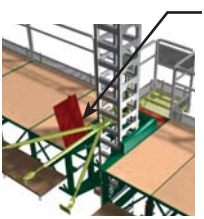


fig. 4.13

2- Unlock the lowering cam on both the cylinder hook and the secondary hook (fig. 4.14).

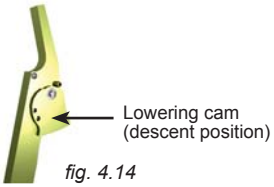


fig. 4.14

3- Make sure that the engine is running at full throttle and that the cylinder hook and the secondary hook are properly engaged (fig. 4.15 and fig. 4.16) and on the same mast rung (fig. 4.17). Failure to engage the hooks correctly can cause the platform to drop.

fig. 4.15

fig. 4.16

4- Raise the control lever to retract the cylinder completely so the lowering cam of the secondary hook can swing toward the mast. The engine will slow down when the cylinder has retracted completely.

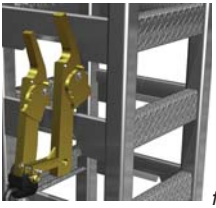


fig. 4.17

5- Lower the control lever to extend the cylinder completely. The engine will slow down when the cylinder is fully extended. The platform will descend by 10" to 20" (25,4 cm to 50,8 cm), or a height equal to one or two mast rungs (fig. 4.18).

fig. 4.18

WARNING
In a bearing bridge configuration, it is mandatory to coordinate the rise and descent operation on each motorized unit linked by the bearing bridge to ensure that any slope of the structure does not exceed 2 degrees.

Power Pack and Operating Components

Lowering the platform (cont'd)

6- Raise the control lever so the cylinder retracts itself enough so the secondary hook is above the mast rung (but not its lowering cam).

7- Lower the control lever so the secondary hook drops slightly, enough to engage onto the mast rung.

Before lowering the platform, check visually to make sure that the secondary hook is properly engaged on the mast rung.

fig. 4.20

8- Lower the control lever again to extend the cylinder completely and force its lowering cam to swing toward the mast.

fig. 4.19

9- Raise the control lever so the cylinder retracts completely.

10- Lower the control lever to extend the cylinder enough until its hook is above the mast rung (but not its lowering cam).

11- Raise the control lever so the cylinder hook drops slightly, enough to engage onto the mast rung.

Both the cylinder and secondary hooks will be side by side on the same mast rung.

fig. 4.21

12- Repeat steps 4 through 11 to continue lowering the platform.

13- Monitor the last 10' (3 m) of descent to base level to ensure the proper seating of the access stairs and the access bridge, if necessary.

14- Once the platform has been brought down to base level or to the desired height, make sure that both hooks are properly engaged on the same mast rung.

WARNING

The use of fall protection equipment is **mandatory** to handle operations when passing tie levels. Properly tied to the unit, slide planks away from in front of the mast and open the mast tie door. The use of shorter planks will facilitate this task. Close the mast tie door once the tie level is passed.

WARNING

Make sure the cylinder hook and the secondary hook are properly engaged (fig. 4.15 and fig. 4.16, p. 49) and on the same mast rung (fig. 4.21) before raising or lowering platform. Failure to engage hooks correctly can cause the platform to drop.

Mast and Mast Ties

The installation of mast sections must be performed with care to avoid any twisting of the mast that may compromise the proper operation of the motorized unit setup and lead to safety issues.

The front face of mast sections must always be parallel to the face of the work. It is important to verify that the mast remains parallel throughout the installation of mast sections.

Mast sections loaded on the platform using a crane or a rough terrain forklift **must be stored horizontally and distributed equally on either side of the mast to ensure good balance**. Refer to the *Load Capacities* section on p. 60 for more information about loading the platform.

Installation of a mast section

1- To connect one mast section to another, align the mast section to be installed on top of the bottom mast section. Insert the anti-error stubs on top of the bottom section into the bottom tubes of the section to be installed, making sure the mast sections line up square and that rungs for the hooks are on the same side.

2- Flip the 5/8" x 6 1/2" toggle bolt, mast clamp and flange nut onto the connecting lug and tighten by hand. Perform this operation for all four (4) corners.

3- Tighten all toggle bolts to 120 lb-ft (163 N-m) of torque. Use a cross-pattern sequence when tightening (fig. 5.1).

4- Repeat steps 1, 2 and 3 for each mast section to be installed at every 5' (1,5 m) of rise.

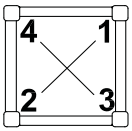


fig. 5.1

5- For faster assembly, 20' (6,1 m) sections of masts can be pre-assembled. Similarly, masts can be dismantled in 20' (6,1 m) sections. For personal safety, the use of a sling is recommended when manipulating pre-assembled mast sections.

6- Always make sure that the mast assembly is plumb on both the front and side axis.

7- It is important to make sure to verify the mast bolts when lowering the platform to make sure they are tightened to the proper torque and are in good condition, especially on **brand-new mast sections**, as the galvanized coating may have compressed. In all cases, mast bolts must be tightened to a torque of 120 lb-ft (163 N-m). Failure to tighten bolts properly may lead to serious injury or death.

fig. 5.2

Installation of mast ties

Mast Tie Schedule

Height of setup		Standard setup (single or multiple units) (2 or 3 planks)	Setup with forward or back extension, swivel bridge, hoist, monorail, weather protection (single or multiple units, 2 or 3 planks)	Setup with 4 or 5 planks (single or multiple units)
 250' (76 m)	Maximum travel distance above the last tie level	20' (6,1 m)	**Not allowed**	**Not allowed**
	All subsequent: every	20' (6,1 m)	20' (6,1 m)	20' (6,1 m)
	Maximum freestanding height allowed (without adapter base) (Note: a freestanding installation requires a configuration of **at least** 2 and **not more than** 3 planks)	20' (6,1 m)	**Not allowed**	**Not allowed**

NOTE: It is **mandatory** to refer to the appropriate mast tie schedule for configuration using an adapter base for installation with sidewalk canopy (p. 82) and an installation using a mast base plate (p. 84).

During the initial stages of installation of a tied setup, if base outriggers are required to be parallel to the face of the work (at a **0-degree angle)**, the first tie level must be installed **no higher than 10' (3 m) above base level**; if base outriggers are required to be **completely closed**, it is mandatory to refer to and comply with the *Mast Tie Schedule* for an installation with a mast base plate, on p. 84 of the *Accessories* section.

WARNING

It is important to make sure to verify the mast bolts when lowering the platform to make sure they are tightened to the proper torque and are in good condition, especially on **brand-new mast sections**, as the galvanized coating may have compressed. In all cases, mast bolts must be tightened to a torque of 120 lb-ft (163 N-m). Failure to tighten bolts properly may lead to serious injury or death.

Mast and Mast Ties

Installation of mast ties (cont'd)

1- Slide the mast tie attachment assembly into the mast section.

2- Spread open the mast tie attachment assembly until the four corner stoppers are positioned properly.

3- Flip the 5/8" x 6 1/2" toggle bolt, mast clamp and flange nut on the mast tie attachment assembly and tighten to 60 lb-ft (80 N-m) of torque.

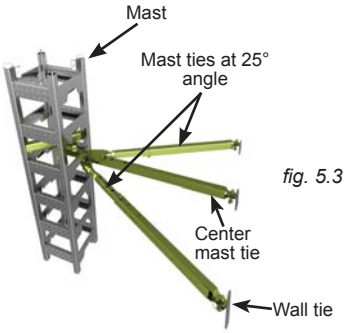


fig. 5.3

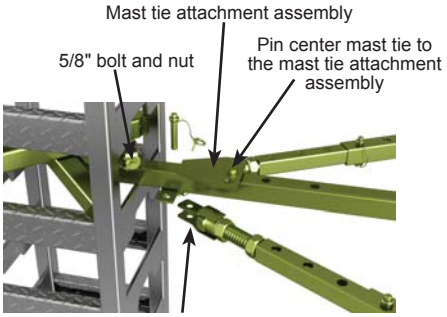


fig. 5.4 Latch both angle mast ties to the mast tie attachment assembly

4- Refer to the diagrams illustrated on p. 55 for the plank configuration appropriate for the setup. Refer to the *Mast Tie Components Requirements* table in fig. 5.17, p. 55, and choose the components required according to the plank configuration.

5- Pin the required center mast tie to the mast tie attachment using a clevis pin and a linch pin.

6- Pin the center mast tie to the wall tie and adjust its length until the mast is perfectly plumb on the front axis. Use the threaded rod and the pin for adjustment, leaving a maximum length of threaded rod inside the mast tie tube for added strength.

7- Install the other required mast ties at a 25° angle (fig. 5.3) and use the threaded rods to adjust their length until the mast is perfectly plumb on the side axis.

WARNING

It is important to verify each mast tie of an installation that has been exposed to high winds.

fig. 5.5

Correction of the twist in a mast

The presence of a twist in a mast can compromise the proper operation of a P Series installation and lead to serious safety issues. An installation that is no longer parallel to the face of the work may cause the last cantilever bridge of the installation to come into contact with the face of the work, leading to damages to the equipment and possibly injuries.

Mast and Mast Ties

Correction of the twist in a mast (cont'd)

It is important to correct any twist of the mast installation quickly and efficiently. A specific method of installation of mast ties can be used to correct the twist. Particular care must be taken when choosing the direction of the rotation of the mast. The following steps apply to a **clockwise rotation** of the mast. For **counterclockwise rotation**, adapt the following steps by inverting left and right positions. It is important to note that the following method of installation must not be used for the standard installation of mast ties.

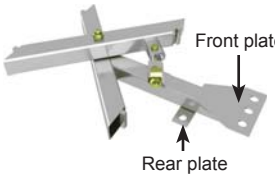


fig. 5.6

1- Pin a mast tie to the left position on the rear plate (fig. 5.6) of the mast tie attachment assembly and attach it at a straight angle ("1", in fig. 5.7) to the face of the work. Adjust its length until the mast is perfectly plumb on its front axis.

2- Install the first angle mast tie ("2", in fig. 5.7) at the right position on the rear plate of the mast tie attachment assembly. Attach the mast tie to the face of the work at an angle of 25 degrees from the straight angle mast tie installed in step 1. Adjust its length until the mast is perfectly plumb on its side axis.

3- Pin the second angle mast tie ("3", in fig. 5.7) to the right position on the front plate. Attach the mast tie to the face of the work at an angle of 25 degrees from the straight angle mast tie installed in step 1.

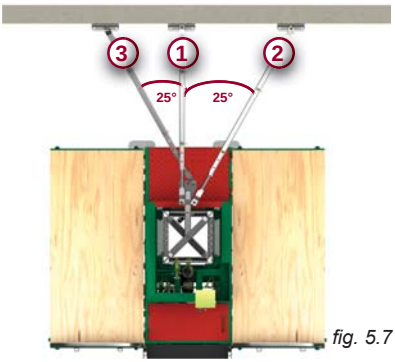


fig. 5.7

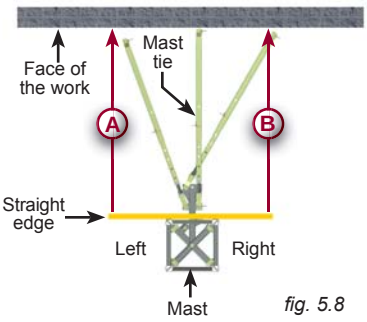


fig. 5.8

WARNING - WIND SPEEDS

The **erection** and **dismantling** of a motorized unit setup (including the base, the bridges, the masts, the mast ties and all the other components) must not be conducted when wind speeds exceed **28 mph (45 km/h)**. **Freestanding installations** and **setups equipped with weather protection**, when allowed, must not be used with wind speeds exceeding **28 mph (45 km/h)**. **Weather protection**, when allowed, **must not be used** when work is performed on an **open air structure**. A motorized unit setup with **mast ties must not be operated** when wind speeds exceed **35 mph (56 km/h)**.

When a motorized unit is not in use

- It is mandatory to leave the platform between two tie levels when the motorized unit is not in use.
- Remove all loads from the setup when the motorized unit is not in use.
- It is mandatory to leave all the counterweights applied on the setup in place when the motorized unit is not in use.
- In a freestanding installation, when allowed, the motorized unit must be brought down to base level when not in use.
- If wind speeds are expected to exceed **94 mph (150 km/h)**, the motorized unit must be brought down to base level when not in use.

Mast and Mast Ties

Correction of the twist in a mast

4- Holding a straight edge of at least 4' (1,2 m) long horizontally on the face of the mast section, measure the distance between each end (“A” and “B”, fig. 5.8, p. 53) and the face of the work. Adjust the length of the angle mast tie installed in step 3 until both distances are equal.

Passing mast tie levels

The use of fall protection equipment is **mandatory** to handle operations when passing tie levels. To safely pass mast tie levels, slide planks away from the front area of the mast and open the mast tie door. The use of shorter planks will facilitate this task. It is recommended to use the designated tie points located on the motorized unit and on the substructure to anchor the fall protection equipment.

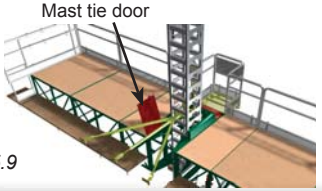


fig. 5.9

The use of shorter planks will facilitate the passing of tie levels.

Removal of mast ties

1- Loosen the adjustment rod on one of the angle mast ties until the mast tie is loose enough to be easily unfastened from the wall tie installed on the face of the work.

2- Repeat step 1 for the other angle mast tie, then for the center mast tie. The center mast tie must be the last mast tie removed.

3- Before removing **the last two tie points** above base level, make sure that **all base outriggers are completely opened (30-degree angle) and secure**.

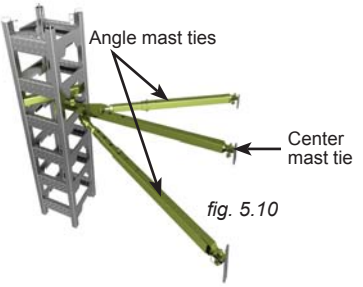


fig. 5.10

WARNING

It is **mandatory** to make sure that **all tension (or compression) is released** from the mast tie before attempting to unpin it from the wall tie.

Removal and transport of mast sections

1- To remove one mast section, loosen the toggle bolt assembly and disengage from the connecting lug (fig. 5.11). Perform this operation for all four (4) corners.

2- Pull the top mast section off the bottom mast section. If mast sections are to be stored on the platform during dismantling, make sure they are set down horizontally and distributed equally on either side of the mast to ensure good balance.

3- Store mast sections on a flat surface away from work areas and construction traffic.

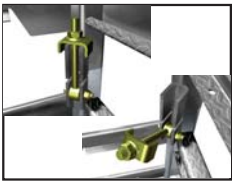


fig. 5.11

4- Masts can be removed and carried in lengths of mast sections (also referred to as “sticks”). It is recommended to use an optional multiple mast handler to handle pre-assembled lengths of mast sections. For instructions on the use of the optional mast handler, refer to p. 85 of the *Accessories* section.

5- For best results when carrying mast sections in bundles, it is recommended to strap them in groups of nine (9). Make sure that mast sections positioned in the middle are securely strapped to the other sections to prevent them from slipping out during transport.

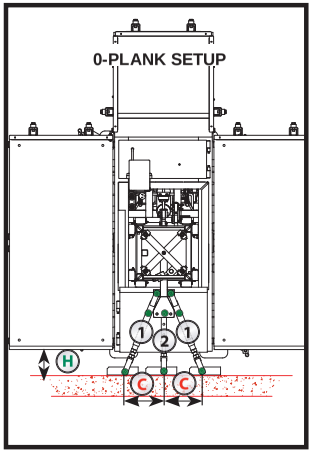


fig. 5.12

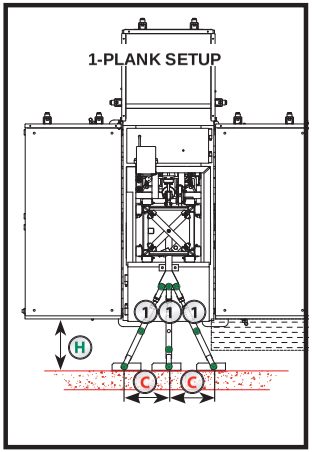


fig. 5.13

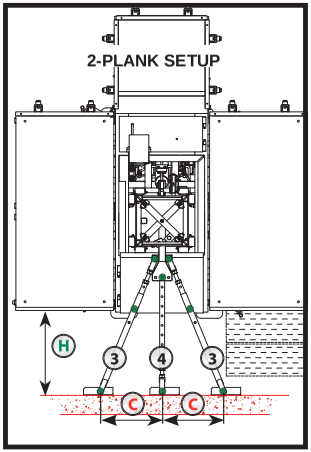


fig. 5.14

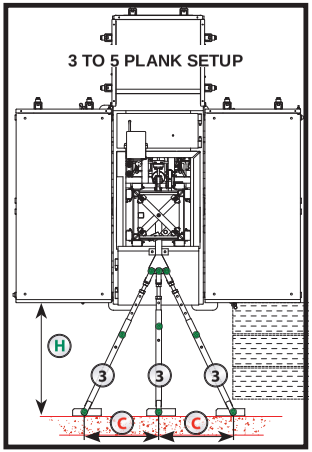


fig. 5.15

fig. 5.17

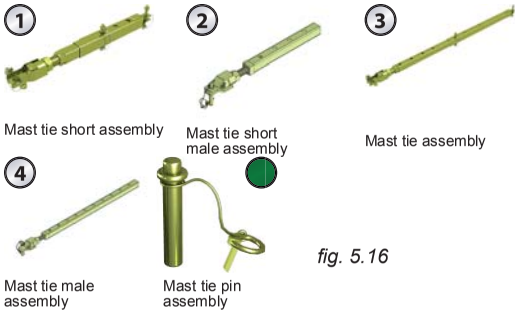


fig. 5.16

Mast Tie Components Requirements

	COMPONENTS					
Number of planks	① Mast tie short assembly	② Mast tie short male assembly	③ Mast tie assembly	④ Mast tie male assembly	Ⓗ Distance from motorized unit to face of work	Ⓒ Center to center distance
0	3	2	0	0	6" (15,2 cm)	11" (27,9 cm)
1	3	3	0	0	15" (38,1 cm)	14" (35,6 cm)
2	0	0	3	2	25" (63,5 cm)	19" (48,3 cm)
3	0	0	3	3	35" (88,9 cm)	23" (58,4 cm)
4	0	0	3	3	45" (114,3 cm)	28" (71,1 cm)
5	0	0	3	3	54" (134,6 cm)	31" (78,7 cm)

1- Parts required are based on number of planks x 10" (25,4 cm) + 6" to 8" (15 cm to 20 cm) of play for planking configurations of up to 4 planks and 3" to 6" (7,6 cm to 15,2 cm) of play for 5-plank configurations.
2- The H and C/C distances are given only as a reference. Tolerance rate is of ± 2" (5 cm).

Mast and Mast Ties

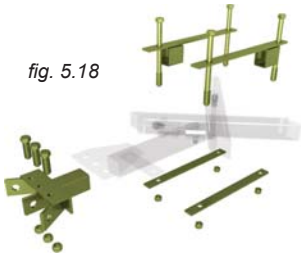
Angled Mast Ties

Some mast tie configurations require that the mast ties be attached at an angle (between 5 and 30 degrees from horizontal) through windows or other building openings (fig. 5.22). Angled mast tie configurations can only be achieved with a **type 2 mast tie bracket** (fig. 5.19).

These angled mast tie configurations require the use of the optional 30-degree mast tie kit (fig. 5.18) and floor/wall ties. An angled mast tie installation **must not exceed** a 30-degree angle from horizontal (fig. 5.23, p. 57).

Only one optional mast tie extension is allowed for each mast tie in an angled mast tie configuration.

fig. 5.18



Mast tie attachment assembly with 30-degree mast tie kit

Mast tie bracket – type 2 *fig. 5.19*

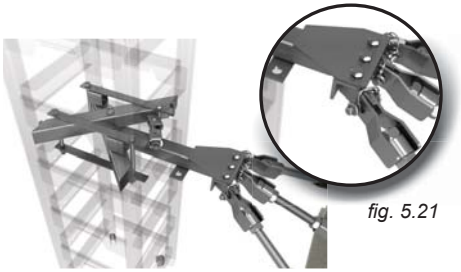


fig. 5.20 Angle bracket

fig. 5.21

fig. 5.22

Installation of the angle bracket

1- Install the mast tie attachment assembly as described in steps 1 through 3 of the mast tie installation procedure on p. 51.

2- Slide the top part (two angle bars) of the 30-degree mast tie bracket in the mast over the mast tie attachment assembly and make sure they are inserted in both the front and back mast rungs (fig. 5.20).

3- Slide the bottom part of the 30-degree mast tie bracket in the mast under the mast tie attachment assembly.

4- Align the top two angle bars with the bottom part of the 30-degree mast tie bracket and bolt them together using 5/8" bolt and nut assemblies (4).

5- Attach the angle bracket (fig. 5.21) to the front of the mast tie attachment assembly with 9/16" bolt, washer and nut assemblies (3).

6- Tighten all the nut and bolt assemblies to 60 lb-ft (81 N-m) of torque.

WARNING

An angled mast tie installation **must not exceed** a 30-degree angle from horizontal. Only **one** optional mast tie extension is allowed for **each** mast tie in an angled mast tie configuration.

Mast and Mast Ties

Angled Mast Ties

Installation of extended mast ties

1- Remove the linch pin and clevis pin joining the two parts of the mast tie assembly together.

2- Insert the male part of the mast tie assembly into an optional mast tie extension. Secure with a clevis pin and a linch pin.

3- Insert this new assembly into the female part of the mast tie assembly. Secure with a clevis pin and a linch pin.

4- Pin the required center mast tie to the mast tie attachment using a clevis pin and a linch pin.

5- Pin the center mast tie to the floor tie and adjust its length until the mast is perfectly plumb on the front axis. Use the threaded rod and the pin for adjustment, leaving a maximum length of threaded rod inside the mast tie tube for added strength. Floor ties must be able to sustain 1500 lb (680 kg) of tension/compression and 3000 lb (1361 kg) of shear force.

6- Repeat steps 1 through 5 to install the other required mast ties at a 25° angle (fig. 5.3, p. 52) and use the threaded rods to adjust their length until the mast is perfectly plumb on the side axis.

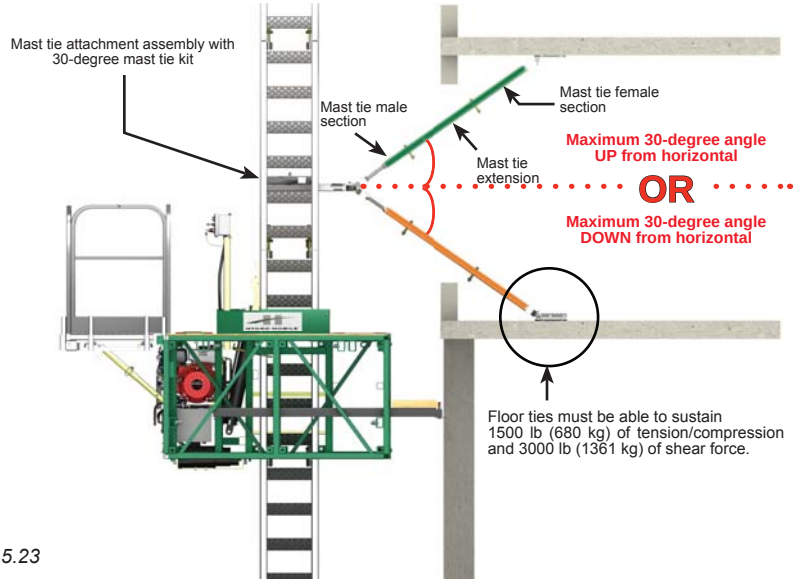


fig. 5.23

0 to 30-degree **UPPER** angle

OR

0 to 30-degree **LOWER** angle

Calculation of a mast tie angle

A 5-degree slope represents a 12" to 1" (30 cm to 2,5 cm) ratio — 12" (30 cm) / 1" (2,5 cm)

A 30-degree slope represents a 12" to 7" (30 cm to 18 cm) ratio — 12" (30 cm) / 7" (18 cm)

Masts and Mast Ties

Anchoring System

Wall tie types

Before attaching masts to the building using the mast tie system, wall ties must be installed on a solid component of the building structure. It is important to understand that whether the anchoring installation is a wall or floor type, values for tension / compression and shear forces will be **inverted**.

Concrete slabs, columns, steel beams, relief angles and other structural elements can be used provided they and the anchoring system chosen can sustain 3000 lb (1360 kg) of tension / compression and 1500 lb (680 kg) of shear force for an **anchoring installation on a wall** and 1500 lb (680 kg) of tension / compression and 3000 lb (1360 kg) of shear force for an **anchoring installation on a floor**.

There are 4 types of wall ties that can be used. As the installation is rising, install the wall ties as per the *Mast Tie Schedule* table (fig. 5.2, p. 51). **It is important to note that M1 Series wall ties do not meet minimum strength requirements for setups using current Hydro Mobile equipment**.

fig. 5.24

Welded wall tie

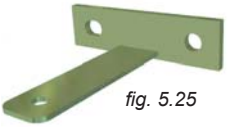


fig. 5.25

Fixed wall tie
(4" or 10 cm only)

fig. 5.26

Re-usable wall tie
(welded at bottom)

fig. 5.28

Floor or wall tie

fig. 5.27

Re-usable wall tie
(welded in center)

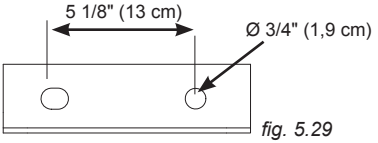


fig. 5.29

Wall tie bracket template

WARNING / AVERTISSEMENT / AVISO		
Wall ties must be installed on a structure capable of withstanding 3000 lb (1360 kg) of tension or compression and 1500 lb (680 kg) of shear. Adjust mast ties until mast is plumb.	Les attaches murales doivent être installées sur une structure pouvant résister à une traction ou compression de 1360 kg (3000 lb) et une force de cisaillement de 680 kg (1500 lb). Ajuster les attaches de mât de façon à ce que le mât soit d'aplomb.	Las ataduras murales deben ser puestos sobre una estructura capaz de resistir a una tracción o compresión de 1360 kg (3000 lb) y una fuerza de cizallamiento de 680 kg (1500 lb). Ajustar las ataduras de mástil para poner el mástil de plomo.
		A0800500-0005

fig. 5.30

WARNING

It is **important** to note that M1 Series wall ties do not meet minimum strength requirements for setups using current Hydro Mobile equipment.

Masts and Mast Ties

Anchoring System

Installation guidelines for floor ties

Floor anchoring can be installed at angles ranging from 0° up to 30° from horizontal. Floor ties must be able to sustain 1500 lb (680 kg) of tension/compression and 3000 lb (1361 kg) of shear force.

fig. 5.31

Floor tie

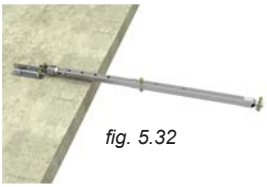


fig. 5.32

Installation guidelines for fixed wall ties

Fixed wall ties can be installed on a wall between two layers of brick (fig. 5.33). It is important to make sure that several layers of brick have been laid on top of the fixed wall ties and that the mortar has cured properly **before attaching mast ties to the wall ties**.

Distance between the anchoring structure and the back of the brick wall must not be greater than 1 1/2" (3,8 cm), as show in fig. 5.34.

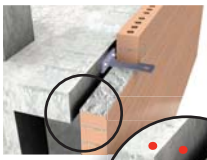


fig. 5.33

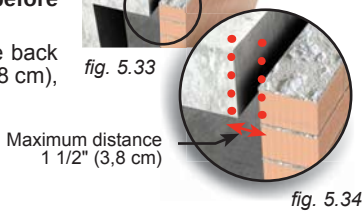


fig. 5.34

Installation guidelines for a welded wall tie on a beam

The welded wall tie is 6 7/8" (17,5 cm) long and should protrude from the beam by a maximum of 3 7/8" (10 cm), as shown in fig. 5.36.

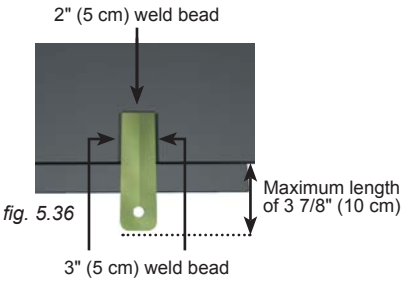


fig. 5.36

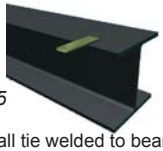


fig. 5.35

Wall tie welded to beam

The welded wall tie can be fastened to the beam by three 3/16" (5 mm) wide weld beads. The two weld beads along the length of the wall tie will be 3" (5 cm) long, while the weld bead along the width of the wall tie will be 2" (5 cm) long.

Installation guidelines for a re-usable wall tie

Used mainly for masonry work projects, the re-usable wall tie is installed in a cavity left unfilled in a brick wall under construction.

When dismantling the setup and removing mast ties, the re-usable wall tie is removed and the brickwork is completed.

fig. 5.37

Installation of the re-usable wall tie

Load Capacities

General guidelines

1- **The weight of planks and any additional accessory being used must be deducted from the load capacities.**

2- **Each worker's weight (personal tools and equipment included) must be deducted from load capacities.**

3- To ensure stability it is recommended that the loads applied on the platform be as evenly distributed as possible.

4- To ensure stability in a single unit setup, the length of cantilever bridges on either side of the unit must be equal at all times, unless otherwise shown in load capacity diagrams for specific configurations using a forward or back extension, a swivel bridge, etc.

5- To ensure stability in a multiple unit setup, the minimum load applied on the bearing bridge must be similar to the total load applied on the cantilever bridges.

6- It is recommended that there be a **maximum** number of workers for each installation, calculated as follows: overall length of installation divided by 15' (4,6 m) and rounded **up, PLUS** two workers for each motorized unit in the installation, with at least one of those two workers being a qualified operator of a P Series motorized unit and its accessories. For example, on a setup with an overall length of 63' 4" (19,3 m), the calculation would be: 63' 4" / 15 (or 19,3 m / 4,6 m) rounded up to **5**, PLUS **two** workers **for each** motorized unit (in this case, two units) = **4**, resulting in a **maximum of 9 workers** for the installation, including **two qualified operators**. Refer to p. 7 of the *Performance and Safety Rules* section for the definition of a qualified operator.

7- The weight of each person working in a given area reduces the load capacity of that area.

8- **The load capacity charts stickers displayed on the motorized unit used in the setup will take precedence over the information included in this owner's manual.**

9- Multiple unit setups can be a combination of any cantilever bridge configuration with any bearing bridge shown on the charts. The maximum length of cantilever bridge allowed for a P Series installation is 12' 6" (4,1 m). The maximum length of bearing bridge allowed for a P Series installation is 45' (13,7 m).

10- In the single unit and multiple unit installation charts shown in the following pages, the 5' (1,5 m) bridge is used to illustrate capacities. On setups using 10' (3 m) bridges, the load deposited on the 10' (3 m) bridge must be distributed in the same way it is distributed over two 5' (1,5 m) bridges on the chart, as shown in fig. 6.1, below.

11- To calculate the load capacity of a standard, authorized single or multiple unit configuration that is not shown in the charts included in this manual, take the length of the bridge to be installed and refer to the capacities of the bridge in the chart that is longer and closest to it. For example, for a 42' 6" (13 m) bearing bridge, the load capacities of a 45' (13,7 m) bearing bridge would be used.

Combination of four 5' (1,5 m) bridges

Combination of two 10' (3 m) bridges

fig. 6.1

WARNING

To ensure safety at all times on a mast climbing work platform system, bridges should not be loaded beyond their maximum rated weight capacities. In addition, to prevent a mast climbing work platform system from stalling because of an overload, maximum rated load capacities of the motorized unit(s) should be observed. Overloading a mast climbing work platform system could result in serious injury or death.

Make sure that there are never two workers standing on the same plank outrigger at the same time.

Load Capacities

Evenly distributed – Single unit setup

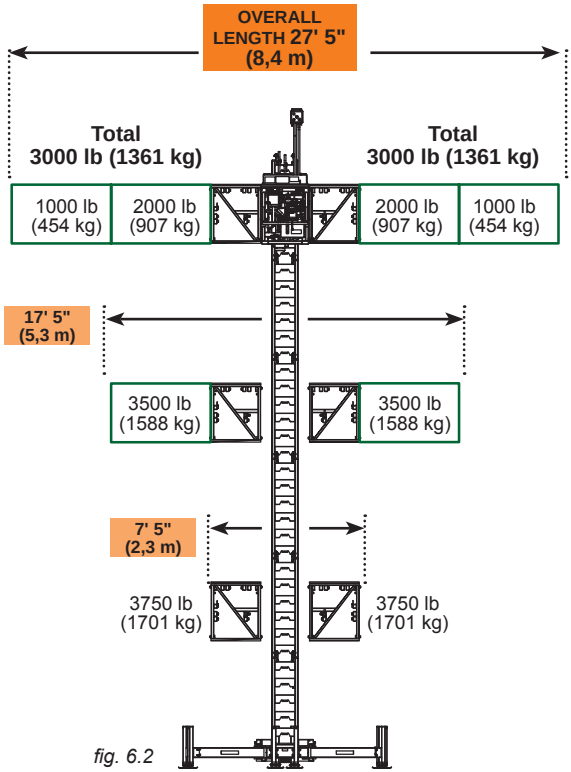


fig. 6.2

Calculating the maximum number of workers allowed on a given installation

Formula

Overall length of installation / 15' (4,6 m), rounded **up**

+

Two (2) workers per motorized unit in the installation

Calculation example for a 63' 4" (19,3 m) installation

63' 4" (19,3 m) / 15' (4,6 m), rounded **up** → **5**

+

Two (2) workers for each motorized unit in the installation → **4**

Total of workers allowed on installation → **9**

To calculate the load capacity of a standard, authorized configuration not shown in the chart above, refer to step 11 of the *General Guidelines* on p. 60 of this section.

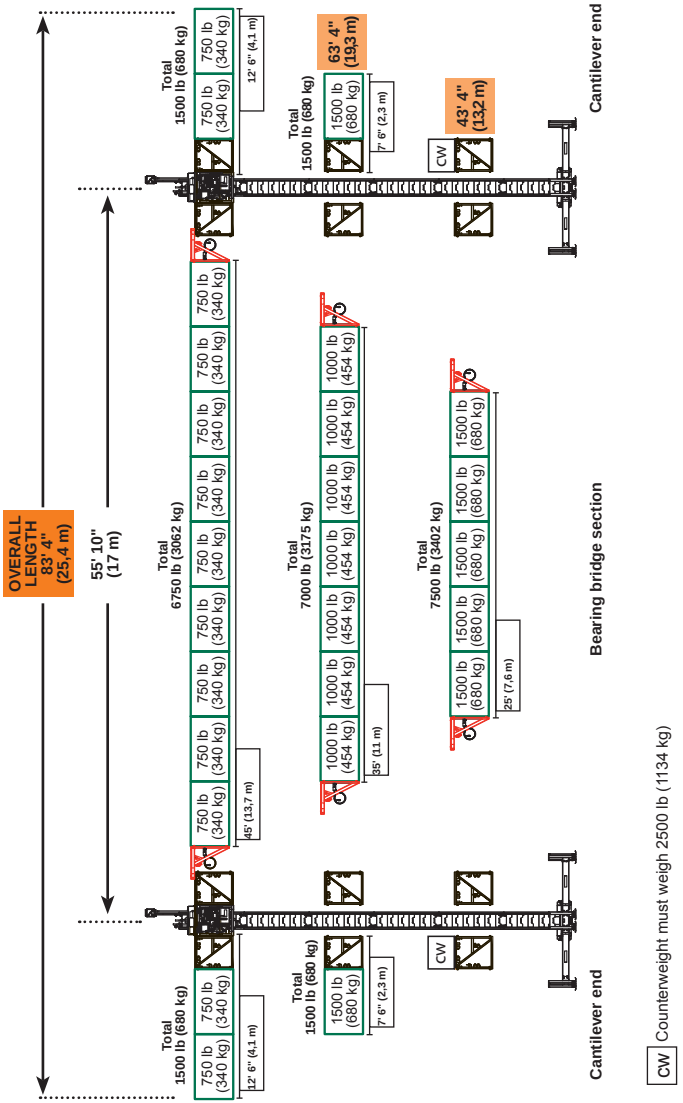
LEGEND

- 5' (1,5 m) bridge
- or 30" (76 cm) bridge
- or Bearing bridge adapter
- Bridge used as an extension
- CW Counterweight

Load Capacities

Evenly distributed – Multiple units setup

fig. 6.3



The configurations illustrated above require the use of two motorized units and two optional bearing bridge adapters (shown in red). When only a 30" (76 cm) bridge is used at either cantilever end, the use of a counterweight is **mandatory to ensure stability**. To ensure safety at all times, refer to notes and warning on p. 60 for more information on load capacities. To calculate the load capacity of a standard, authorized configuration not shown in the chart above, refer to step 11 of the *General Guidelines* on p. 60 of this section.

Load Capacities

Back / forward extension – Bearing bridge setup

Bearing bridge setup with back extension

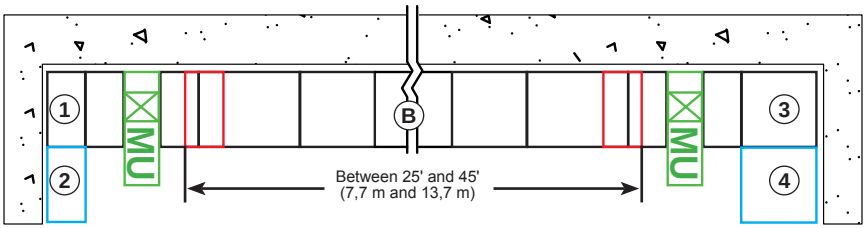


fig. 6.4

Capacity for area

1 1500 lb (680 kg)
3 1000 lb (454 kg)
2 300 lb (136 kg)
4 300 lb (136 kg)
B For the load capacities of the bearing bridges in the setups illustrated in fig. 6.4, refer to the bearing bridge capacities illustrated in fig. 6.3, p. 62.

Bearing bridge setup with forward extension

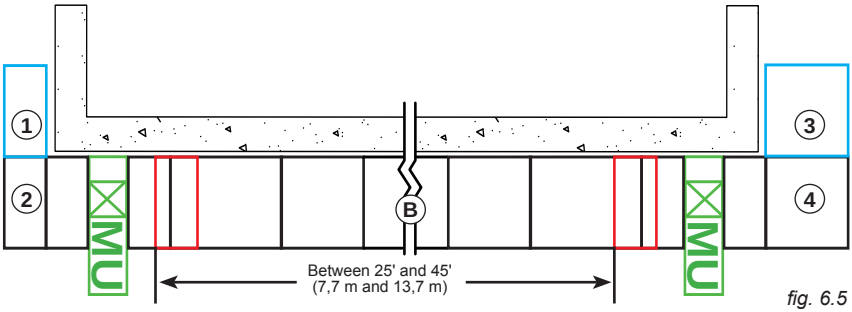


fig. 6.5

Capacity for area

1 500 lb (227 kg)
3 500 lb (227 kg)
2 1500 lb (680 kg)
4 1500 lb (680 kg)
B For the load capacities of the bearing bridges in the setups illustrated in fig. 6.5, refer to the bearing bridge capacities illustrated in fig. 6.3, p. 62.

LEGEND

5' (1,5 m) bridge
or
Bearing bridge adapter
Bridge used as an extension
or
30" (76 cm) bridge
CW
Counterweight

To ensure safety at all times, refer to notes and warning on p. 60 for more information on load capacities.

Load Capacities

30" (76 cm) Back / forward extension – Cantilever bridge setup

Cantilever bridge setups with a 30" (76 cm) back extension

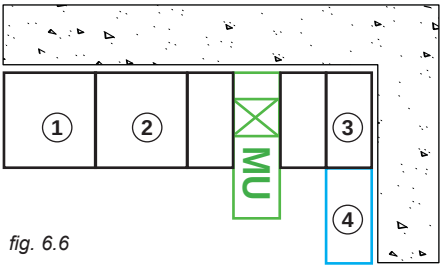


fig. 6.6

Capacity for area

1. 500 lb (227 kg)
2. 750 lb (340 kg)
3. 2000 lb (907 kg)
4. 500 lb (227 kg)

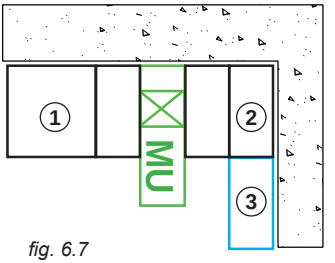


fig. 6.7

Capacity for area

1. 1750 lb (794 kg)
2. 2000 lb (907 kg)
3. 500 lb (227 kg)

Cantilever bridge setups with a 30" (76 cm) forward extension

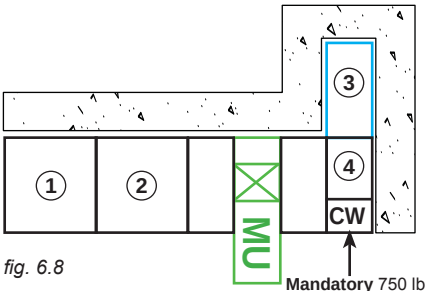


fig. 6.8

Capacity for area

1. 500 lb (227 kg)
2. 750 lb (340 kg)
3. 750 lb (340 kg)
4. 1750 lb (794 kg)

Mandatory 750 lb (340 kg) counterweight (CW) located within 21" (53 cm) from edge of bridge

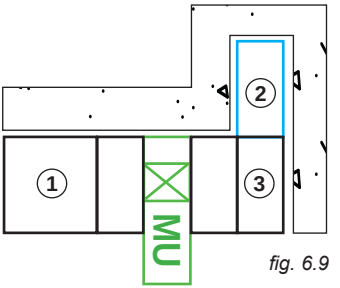


fig. 6.9

Capacity for area

1. 1750 lb (794 kg)
2. 1000 lb (454 kg)
3. 1500 lb (680 kg)

LEGEND

- 5' (1,5 m) bridge
- or
- Bearing bridge adapter
- Bridge used as an extension
- or 30" (76 cm) bridge
- CW Counterweight

To ensure safety at all times, refer to notes and warning on p. 60 for more information on load capacities.

Load Capacities

5' (1,5 m) Back / forward extension – Cantilever bridge setup

Cantilever bridge setups with a 5' (1,5 m) forward extension

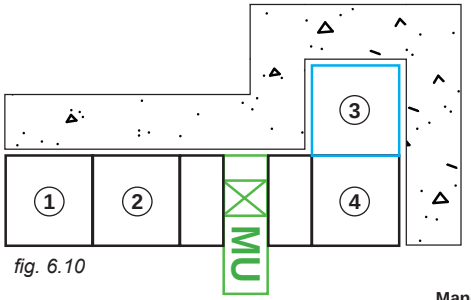


fig. 6.10

Capacity for area

1 300 lb (136 kg)
2 1000 lb (454 kg)
3 750 lb (340 kg)
4 1750 lb (794 kg)

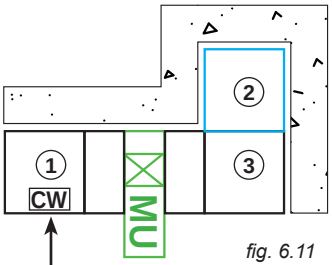


fig. 6.11

Mandatory 750 lb (340 kg) counterweight (CW) located within 21" (53 cm) from edge of bridge

Capacity for area

1 2000 lb (907 kg)
2 750 lb (340 kg)
3 1500 lb (680 kg)

Cantilever bridge setups with a 5' (1,5 m) back extension

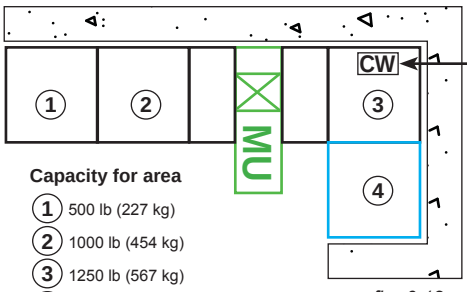


fig. 6.12

Capacity for area

1 500 lb (227 kg)
2 1000 lb (454 kg)
3 1250 lb (567 kg)
4 300 lb (136 kg)

Mandatory 500 lb (227 kg) counterweight (CW) located within 21" (53 cm) from edge of bridge

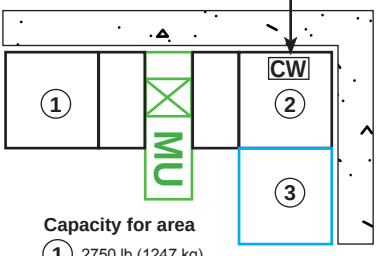


fig. 6.13

Capacity for area

1 2750 lb (1247 kg)
2 750 lb (340 kg)
3 300 lb (136 kg)

LEGEND

- 5' (1,5 m) bridge
- or
- Bearing bridge adapter
- Bridge used as an extension
- or 30" (76 cm) bridge
- CW Counterweight

To ensure safety at all times, refer to notes and warning on p. 60 for more information on load capacities.

Load Capacities

Swivel bridge installation – Single unit (Front 90 degrees)

At this end, it is mandatory to install a bridge. The only bridge configurations allowed are a cantilever bridge measuring exactly 7' 6" (2,3 m)

— OR —

any bearing bridge configuration shown in the load capacities charts for multiple unit setups (see fig. 6.3, p. 62).

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

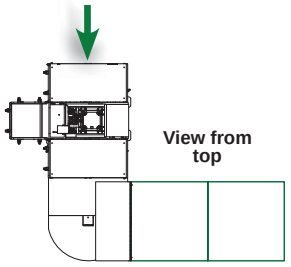


fig. 6.14

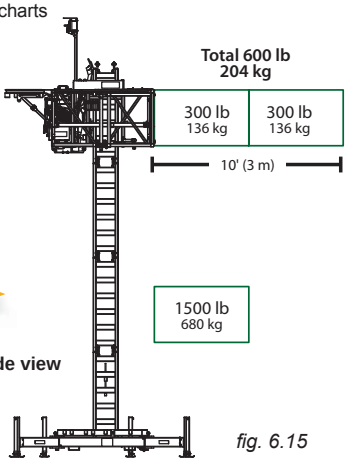


fig. 6.15

Swivel bridge installation – Single unit (Front 0-45 degrees)

At this end, it is mandatory to install a bridge. The only bridge configurations allowed are a cantilever bridge measuring **at least** 7' 6" (2,3 m) and a **maximum** of 12' 6" (4,1 m)

— OR —

any bearing bridge configuration shown in the load capacities charts for multiple unit setups (see fig. 6.3, p. 62).

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

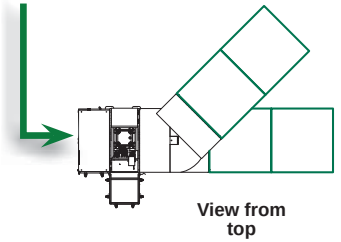


fig. 6.16

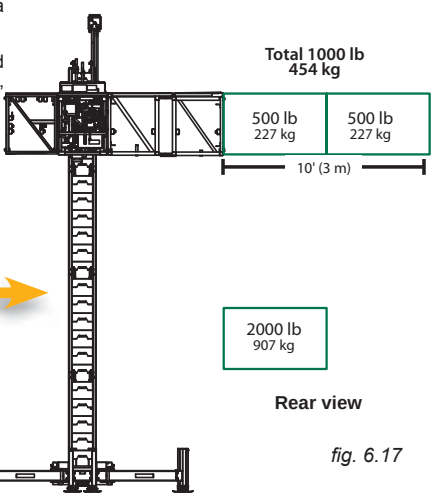


fig. 6.17

LEGEND

5' (1,5 m) bridge assembly — Length of bridge setup

To ensure safety at all times, refer to notes and warning on p. 60 for more information on load capacities.

Load Capacities

Hoist installation – Single unit setup

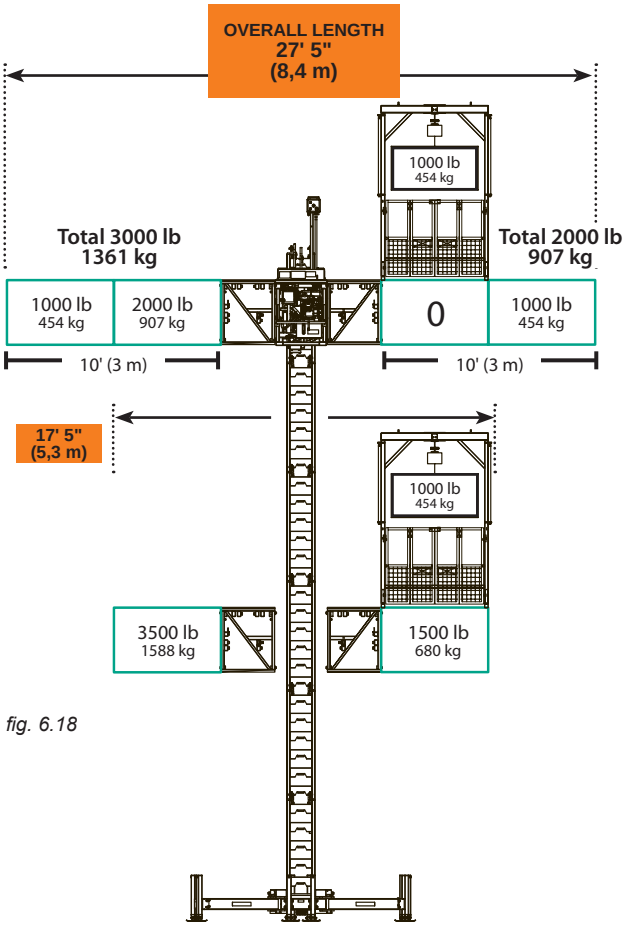


fig. 6.18

The hoist can be installed on either side of the mast. Only one hoist is allowed per installation.

LEGEND

5' (1,5 m) bridge assembly — Length of bridge setup

To ensure safety at all times, refer to notes and warning on p. 60 for more information on load capacities. To calculate the load capacity of a standard, authorized configuration not shown in the chart above, refer to step 11 of the *General Guidelines* on p. 60 of this section.

Load Capacities

Hoist installation – Multiple units setup

The hoist can be installed at either end of the bearing bridge. Only one hoist is allowed per installation.

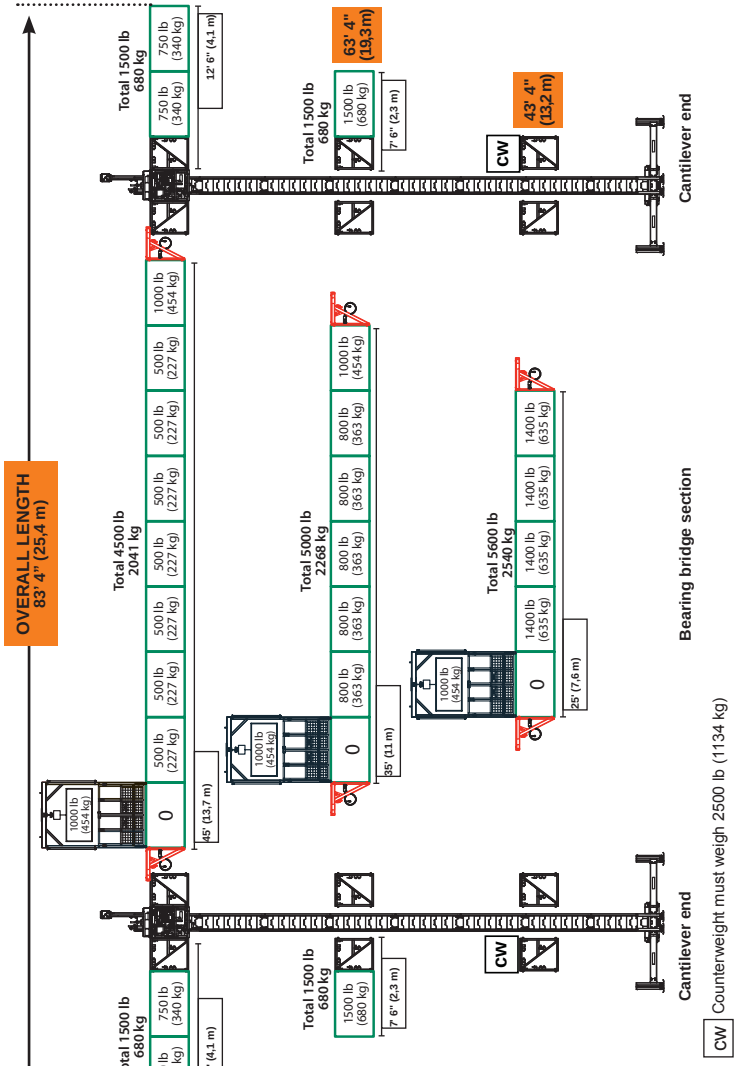


fig. 6.19

LEGEND

5' (1,5 m) bridge assembly

Length of bridge setup

The configurations illustrated above require the use of two motorized units and two optional bearing bridge adapters (shown in red) and an optional hoist support structure. Load capacities shown above are based on the use of an electric hoist weighing 250 lb (113,4 kg). To calculate the load capacity of a standard, authorized configuration not shown in the chart above, refer to step 11 of the *General Guidelines* on p. 60 of this section.

Safety Accessories

SAFETY comes first. While most hazards that may occur when operating a P Series motorized unit setup can be avoided by using extreme care and common sense, the use of safety accessories, such as a rest platform and appropriate guardrails and supports, is recommended when areas and activities involve heights or positioning of the setup that put workers at risk.

Guardrails

In all cases where workers are exposed to fall hazards greater than specified by local regulations, the installation of appropriate guardrails is **mandatory** to ensure safety.

Installation of standard guardrails

1- Slide a guardrail adapter bracket (fig. 7.2) in each of the two guardrail pockets at the top of the bridge (see fig. 3.1, p. 36 of the *Bridges* section) and secure them with toggle pins.

2- Insert the guardrail legs in the vertical part of the adapter brackets and tighten the bolts on the adapter brackets to secure the guardrail.

3- Install as many guardrails as is required by the setup. Make sure that all guardrails are appropriately locked together (fig. 7.3).

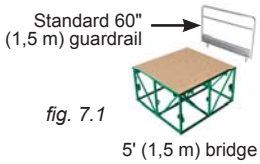


fig. 7.1

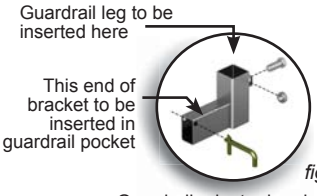


fig. 7.2

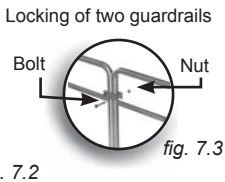


fig. 7.3

Plank-End Guardrails

Plank-end guardrails must be installed at the ends of planking as fall protection. In a three-plank configuration, the opening must be closed by placing two plank-end guardrails **face to face**.

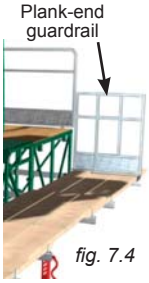


fig. 7.4

Installation

1- Slide the bottom end of the plank-end guardrail over the end of two planks.

2- Drive one or two nails or screws into the planks through the top plate to secure the guardrail in place.

3- A three-plank configuration will require the installation of two plank-end guardrails. Follow steps 1 and 2 to install the first plank-end guardrail.

4- Slide a second plank-end guardrail second guardrail backwards over the end of two planks, overlapping the first one installed. Secure the second guardrail in place as described in step 2.

*Note: Two guardrails installed **face to face** shown in fig. 7.4.*

Safety Accessories

Guardrails

Movable Guardrail
(optional)

To ensure the safety of workers in a more flexible way, movable guardrails may be installed on bridges. Follow the installation steps of a standard guardrail and secure the movable guardrail to the standard guardrail with toggle pins.

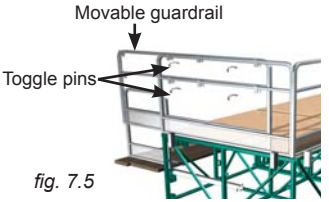


fig. 7.5

Face Guardrail Supports
(optional)

Face guardrail supports must be installed when the distance between the end of planking (or deck, if not using planks) and the structure is greater than what local regulations allow or 6" (15 cm) (ex. recess in a wall, end of a building, etc.), the most stringent of conditions taking precedence over the others. On all P Series motorized units and bridges, the face guardrail supports can be installed at the **bottom** or **top** outrigger position.

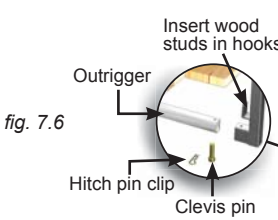


fig. 7.6

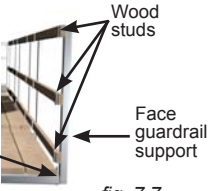


fig. 7.7

Installation

1- Remove the plank stop pin from the outrigger and slide the face guardrail support over the outrigger tube.
2- Secure in place by sliding the supplied clevis pin through the face guardrail support and the outrigger. Secure the support in place with a hitch pin clip and tighten all the outrigger pocket bolts properly.
3- Repeat steps 1 and 2 for each guardrail face support required to secure the hazardous opening.
4- Insert wood studs in the hooks of each face guardrail support to cover the hazardous opening. It is important to make sure to use 2" x 6" (5 cm x 15 cm) wood studs at the bottom position. Secure the studs in place with nails or screws.

WARNING
It is important to make sure to use 2" x 6" (5 cm x 15 cm) wood studs at the bottom position.

Universal Plank Safety Support
(optional)

The universal plank safety support is installed at the extremities of planking to prevent planks from lifting, tipping and slipping.

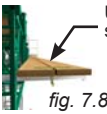


fig. 7.8


fig. 7.9

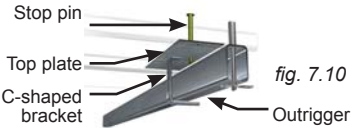


fig. 7.10

Installation

1- Remove the stop pin (fig. 7.10) and slide the plank safety support between two planks.
2- Secure the C-shaped bracket around the outrigger and replace the stop pin.
3- Using screws or nails, secure the top plate of the plank safety support to the planks (fig. 7.9).

Safety Accessories

Retractable Rest Platform
(optional)

The use of an automatically retractable rest platform is recommended to reach work areas at heights between 30' and 69' (9 m and 21 m). It is not recommended to climb up the mast to reach work areas at heights over 69' (21 m) because of the time and effort required to reach such heights. The use of alternate equipment compliant with local regulations, such as a rapid mast climber, a transport platform system, or a conventional scaffold stair system will prove to be more efficient. Refer to local regulations for more information.

It is recommended to inspect the rest platform before every working shift to make sure it is clean and in good working condition. The rest platform must be used in combination with the access bridge. For more information about the access bridge, refer to p. 72 of this section.

Installation

1- For safety reasons, it is recommended that the rest platform be installed from the platform of the motorized unit or from a man basket underneath the motorized unit. The rest platform must be installed on the back side of the mast, when the platform of the motorized unit has been raised to more than 30' (9 m) from base level.

2- Remove the 3/8" nuts and bolts from the folder part (fig. 7.13).

3- Unfold the rest platform and leave the handle on top.

4- Slide the rest platform inside the mast with its rectangular step resting against the back side of the mast (fig. 7.12).

5- Install the folder part on a rung facing the wall using 3/8" bolts and nuts.

6- Let the rest platform retract slowly inside the mast.

7- Remove the 3/8" bolt and nut from the handle.

8- Install the handle 5 rungs above the rest platform (fig. 7.14). Fasten with the 3/8" bolt and nut.

9- Test the rest platform by raising the handle. Doing so will retrieve the rest platform from inside the mast. When the handle is released the rest platform will fold and retract inside the mast.

10- If the rest platform unfolds and retracts as and when it should, it is safe to use the rest platform.

fig. 7.11

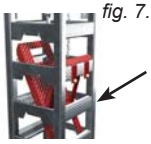


fig. 7.12

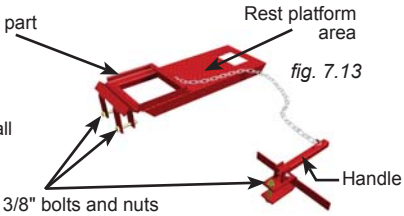


fig. 7.13

Using the retractable rest platform

1- Climb up the mast until one step above the rest platform.

2- Raise the handle to a vertical position to retrieve the rest platform from inside the mast.

3- Step on the rest platform only when the handle is in a vertical position.

4- Once on the rest platform, release the handle.

5- Resuming the climb up the mast will make the rest platform retract into the mast automatically.

fig. 7.14

Access Bridge
(optional)

To reach the work area when the motorized unit is at a height above 10' (3 m), it is recommended to use a staircase or an opening in the building. The platform may also be accessed by climbing up mast rungs to an optional access bridge, then up the ladder of that access bridge onto the work area (fig. 7.15). The access bridge must be installed **directly on the motorized unit**, on the **right side** of the mast only.

The access bridge can be used to reach work areas at heights of up to 69' (21 m) but requires the use of a retractable rest platform when the height of lift is over 30' (9 m). For more information about the retractable rest platform, see p. 71 of this section. It is not recommended to climb up the mast to reach work areas at heights over 69' (21 m) because of the time and effort required to reach such heights. The use of alternate equipment compliant with local regulations, such as a rapid mast climber, a transport platform system, or a conventional scaffold stair system will prove to be more efficient. Refer to local regulations for more information.

Installation

1- To install the access bridge, raise the motorized unit by two or three rungs.
2- Using a lifting device such as a crane or a forklift, bolt the access bridge assembly on the **right side** of the motorized unit. Refer to p. 36 of the *Bridges* section for more information about the installation of a bridge.
3- Loosen the 3/8" bolts to pull out all three access walkway legs (fig. 7.15). Secure in place by tightening the bolts.
4- Lower the motorized unit carefully until the access walkway legs touch the bearing surface.
5- Remove the two locking bars at the bottom of the bridge assembly and slide them into their storage location (fig. 7.17).
6- Raise the motorized unit to completely unfold the access walkway and the flip up access step. The access ladder must only be used when it is **fully extended**. Once it is fully extended, the access walkway can be accessed by climbing up the mast rungs, stepping on the flip-up access step and then on the walkway. Climb up the access ladder and reach the work platform through the access panel. Make sure the access panel is closed when it is not used.

fig. 7.18

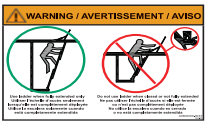


fig. 7.19

Warning stickers located inside the access panel

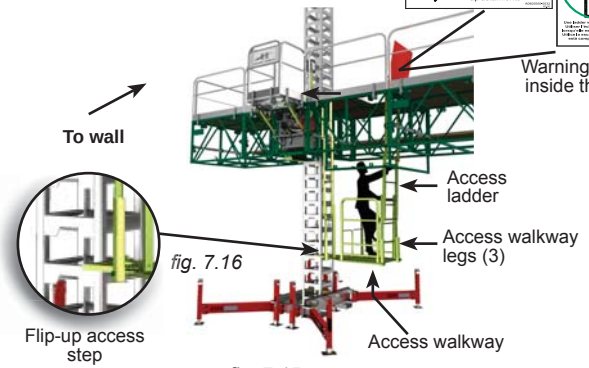


fig. 7.16

fig. 7.15

Access bridge

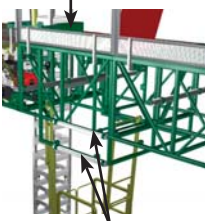


fig. 7.17

Location of locking bars (storage position)

The access walkway must be accessed by climbing up mast rungs on the **right side** of the mast

WARNING
The access bridge must be installed **directly on the motorized unit**, on the **right side** of the mast **ONLY** and a bearing bridge installation cannot be positioned on the same side as the access bridge.

Access Stairs
(optional)

When the motorized unit is at base level, workers may use the optional access stairs to reach the platform. The access stairs can be installed on a bridge in the setup.

Installation

1- Install the guardrail door by sliding the guardrail legs in the guardrail pockets on the bridge. Secure the guardrail door with two toggle pins.

2- Slide the top part of the stairs into the top outrigger pockets (fig. 7.21).

3- Unfold the stair brace.

4- Secure the stair brace to the bottom truss of the bridge (fig. 7.20) with two toggle pins.

5- Secure the top part in place by sliding in two toggle pins and tightening each outrigger pocket bolt.

6- Install the handrails (2) and secure in place and tighten the bolts.

7- If the height between the bearing surface and the first step (fig. 7.20) is greater than what is allowed by local regulations, it is mandatory to install one or more optional extension stair (fig. 7.20). A **maximum** of three (3) extension stairs is allowed per access stairs installation.

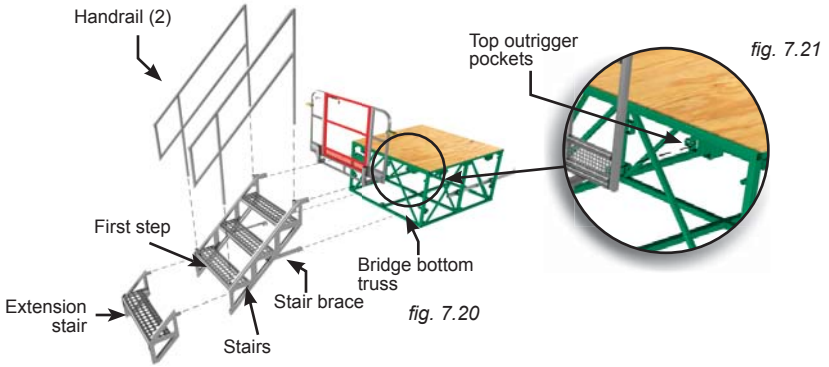


fig. 7.21

fig. 7.20

Bridge Installation Support Brackets

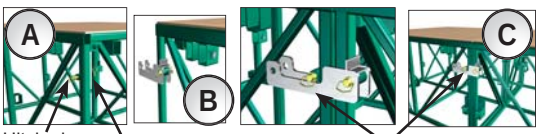


fig. 7.22

The use of the bridge installation support brackets requires that at least two persons handle the bridge installation maneuvers. Bridge installation support brackets are used whenever a bridge must be lifted by hand and no appropriate lifting device is available.

Step A: Under the bridge to be installed, slide hitch pins in the designated holes on both sides of the bridge and secure them with linch pins.

Step B: Using other hitch pin and linch pin assemblies, attach the bridge installation support brackets to the bridge already bolted to the motorized unit or the bridge.

Step C: Lift the bridge to be installed and lower it down so that the hitch pins are completely supported by the bridge installation support brackets. Assemble the bridges using the appropriate bolts and nuts. Remove the brackets when the bridges are bolted together.

NOTE
Bridge installation support brackets can only be used to attach a bridge to another bridge, not to a motorized unit.

Outriggers

Outriggers can be installed on two levels on P Series motorized units and bridges, top and bottom. Plank support outriggers must be installed 5' (1,5 m) from one another and can be installed from the **front** or the **back** of the bridge or motorized unit.

Plank support outriggers are not designed to support the weight of material and each outrigger has a maximum capacity of 265 lb (120 kg). Standard 63" (1,6 m) outriggers, used either at the top or bottom position, can be pulled out to a maximum of 30" (76 cm).

The length of outriggers required will vary according to the planking configuration. Refer to the *Outrigger Selection* table (fig. 7.25) for more information about the length of outriggers required for each planking configuration.

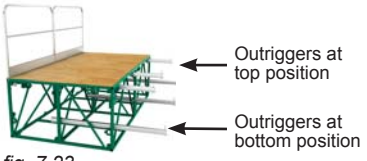


fig. 7.23

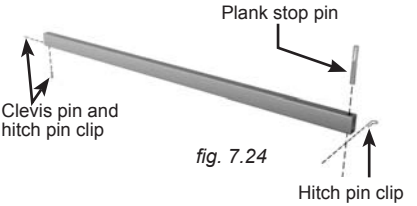


fig. 7.24

Installation

1- Remove the clevis pin and the plank stop pin (fig. 7.24) and slide the outrigger in the top outrigger pockets on the motorized unit or the bridge, leaving no more than 20" (50,8 cm) protruding from the structure if bottom outriggers are installed, or no more than 31" (78,7 cm) if there are no bottom outriggers installed. Replace the clevis pin and the plank stop pin.

2- Once the planks are in place, push in each outrigger until the plank stop pin rests snugly against the planks.

3- Secure the outriggers in place by tightening the outrigger pocket bolts to a torque of 30 lb-ft (41 N-m).

Planking configurations

Outrigger Selection		
Planking configuration	**Outrigger size**	
0 to 3 planks	**2 1/2" x 1 1/2" x 1/8" x 63" (6,4 cm x 3,8 cm x 0,3 cm x 160 cm) (standard outrigger, as provided with unit or bridge)**	**SINGLE**
4 planks	**2 1/2" x 1 1/2" x 3/16" x 72" (6,4 cm x 3,8 cm x 0,5 cm x 183 cm)**	**SINGLE**
5 planks	**2 1/2" x 1 1/2" x 1/4" x 84" (6,4 cm x 3,8 cm x 0,6 cm x 213 cm)**	**SINGLE**

fig. 7.25

Planking configuration guidelines

PLANKING CONFIGURATIONS – WIDTH ALLOWED ON INSTALLATION			
Number of planks	**Motorized unit**	**Bearing bridge**	**Cantilever bridge(s)**
0 to 3 planks	100% of total width	100% of total width	100% of total width
4 or 5 planks	100% of total width	50% of total width	Max width 5' (1,5 m)

fig. 7.26

Outriggers

Non standard planking configurations allowed

Special planking configurations may be required according to job site requirements, to install planking in areas not covered by standard planking. The maximum number of planks for non standard planking configurations is 5 planks and **only the following three** non standard planking configurations are **allowed**. The following planking configurations will require the use of optional cross boxes and, in some cases, optional 120" (305 cm) outriggers. It is mandatory to install the cross boxes as close to the bridge outrigger pockets as possible (fig. 7.31).

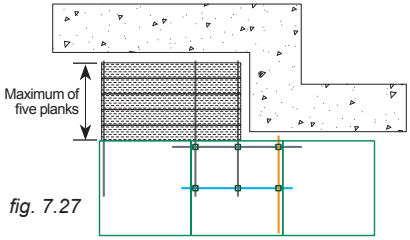


fig. 7.27

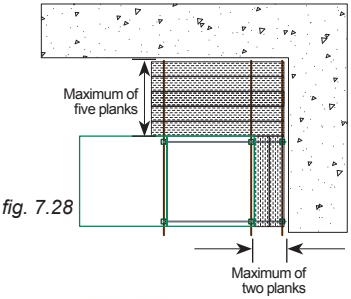


fig. 7.28

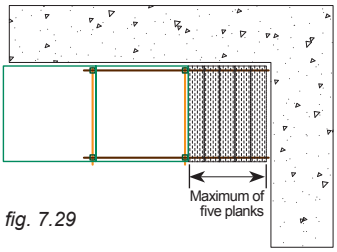


fig. 7.29

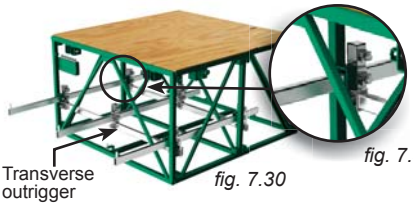
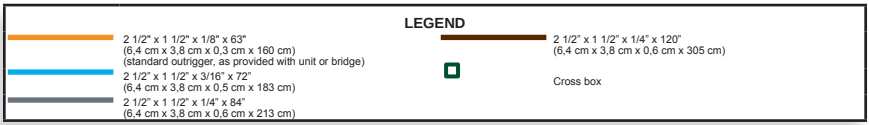


fig. 7.30

fig. 7.31



Cross Boxes
(optional)

Installation

1- Remove the clevis pin and the plank stop pin from an outrigger. Pull the outrigger until it clears the outrigger pocket located in the middle of the bridge structure.

2- Slide a cross box on the back of the outrigger. Push the outrigger back into the middle outrigger pocket. Slide another cross box on the back of the outrigger. Make sure both cross boxes are as close to the front and middle outrigger pockets as possible (fig. 7.31). Do not tighten any bolts yet.

3- Repeat steps 1 and 2 at the other end of the bridge.

4- Slide a transverse outrigger in the cross boxes installed close to the front outrigger pockets until the outrigger clears one of the pockets. Slide a cross box on the transverse outrigger until it is halfway through on the outrigger. Pull back the outrigger until it goes through both cross boxes installed close to the front outrigger pockets.

5- Repeat step 4 on the cross boxes installed close to the middle outrigger pockets.

6- Slide an outrigger in the cross boxes installed in the middle, between the left and right outrigger pockets.

7- Once the planks are in place, adjust the outriggers until the plank stop pins rest snugly against the planks.

8- Secure the outriggers in place by tightening all the bolts on outrigger pockets and cross boxes to a torque of 30 lb-ft (41 N-m).

Auxiliary Electric Power Pack Bridge
(optional)

General guidelines

The optional auxiliary electric power pack bridge allows the conversion of a gas-powered P Series motorized unit into an electric-powered motorized unit. The optional power pack bridge can only be used in a standard configuration. For more information about standard configurations, refer to p. 18 of the *Motorized Unit* section.

1- Make sure that the motorized unit has been installed following the installation guidelines described in the *Motorized Unit* section, on p. 19, and that it can be operated safely.

2- Make sure to select a safe, reliable power source and a power cable that is suitable for the height of the setup. Refer to the *Power Cable Selection* table (fig. 7.34) to select the appropriate power cable for the installation. Contact the Hydro Mobile technical support if a cable longer than 500' (152 m) is required.

Auxiliary electric power pack bridge

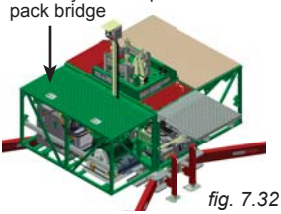


fig. 7.32

3- Install the auxiliary electric power pack bridge as described in the installation instructions, on p. 77.

Specifications of the Auxiliary Electric Power Pack Bridge

Power Cable Selection	
Length of cable	**Cable size**
Up to 200' (61 m)	10 AWG
201' to 300' (61,3 m to 91,4 m)	8 AWG
301' to 500' (91,7 m to 152 m)	6 AWG

fig. 7.33

Specific Features	
Weight (as shipped)	1000 lb (454 kg) (fully assembled)
Vertical travel speed	Up to 7' (2,1 m) per minute

fig. 7.35

Hydraulic Specifications	
Component	**Specifications**
Single gear pump	1 x 7,38 GPM (27,9 l/min)
Hydraulic tank capacity	8.3 US gal (31,42 l)
Hydraulic oil	Dexron III ATF
Oil filter	Ikron filter model HE K44-20-135-A5-SP010 (HM part number A0410000-0004)

fig. 7.34

General Specifications		
Dimensions of the auxiliary electric power pack bridge (as shipped)		30 1/2" x 62" x 49 11/16" (W x L x H) (0,8 m x 1,6 m x 1,3 m) (fully assembled)
Safety device – Emergency	Emergency descent	Independent electrical descent control system (120 VAC 60 Hz 15 A)

fig. 7.36

fig. 7.37

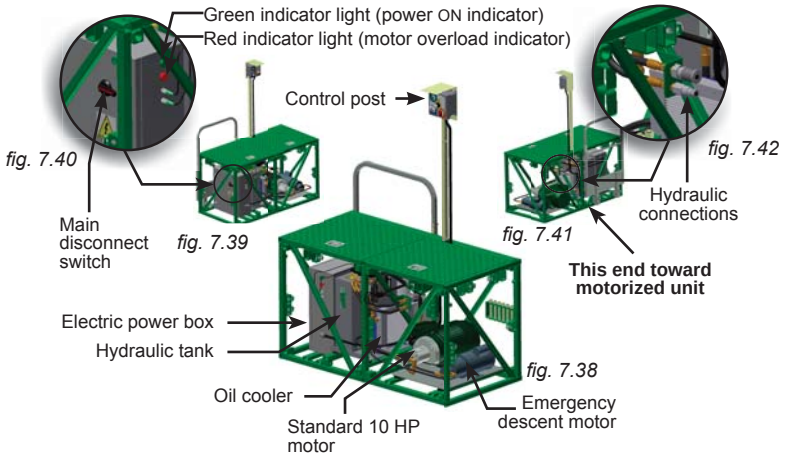
Motor Specifications		
	600 V model	**480 V model**
Rated power	10 HP @ 3600 rpm	10 HP @ 3600 rpm
Electrical input	600V 60 Hz 3 ph 20 A ±5%	480V 60 Hz 3 ph 20 A ±5%
Full load current draw	11 A	14 A
Control voltage	12 VDC	12 VDC

WARNING

Installation of the power cable must be performed by a **certified electrician**.

Auxiliary Electric Power Pack Bridge
(optional)

Overview of the Auxiliary Electric Power Pack Bridge



General guidelines (cont'd)

4- Install and hook up the power cable to the motorized unit and the power source. **The installation and hookup of the power cable must be performed by a certified electrician**.

5- It is important to consider that the electric power pack bridge weighs 750 lb (340 kg) more than a regular 30" (76 cm) and that this weight difference must be deducted from the load capacities of the area where the auxiliary electric power pack bridge is installed is installed. Refer to the *Load Capacities* section on p. 60 for more information about the loads allowed on a setup. Refer to step 9 of the installation instructions of the power pack bridge for the appropriate location to install the power pack bridge in a setup.

Installation of the auxiliary electric power pack bridge

1- Make sure to release any residual pressure in the hydraulic system of the motorized unit.

2- Carefully disconnect the two hydraulic hoses from the lifting cylinder of the unit, making sure to avoid spills. Cap the two hoses with the supplied hydraulic caps and secure the hoses inside the motorized unit.

3- Retrieve the hydraulic hose with a female quick connect fitting supplied with the electric power pack. Connect one end to the cylinder port located toward the mast on the motorized unit.

4- Retrieve the hydraulic hose with a male quick connect fitting supplied with the electric power pack. Connect one end of the hose to the cylinder port located away from the mast on the motorized unit.

5- Disconnect and remove the battery from the motorized unit.

6- Disconnect the spark plug wire to prevent unintentional use of the gasoline engine.

If the motorized unit will be used indoors or in an enclosed area, it is recommended to completely drain or remove the gasoline tank from the motorized unit to avoid fire hazards.

Auxiliary Electric Power Pack Bridge
(optional)

Installation of the auxiliary electric power pack bridge (cont'd)

7- If the motorized unit will be used indoors or in an enclosed area, it is recommended to completely drain or remove the gasoline tank from the motorized unit to avoid fire hazards.

8- Store the control post on the motorized unit, as described in the storage procedure, on p. 46 of the *Power Pack and Operating Components* section.

9- Bolt the auxiliary electric power pack bridge to the motorized unit, with the control post toward the unit, as shown in fig. 7.41, p. 77. In a standard, **single unit** configuration, the bridge can be installed on either side of the mast. In a standard **multiple units** configuration, the bridge **must be attached on the cantilever side** of the installation.

10- Connect the hydraulic hoses installed in steps 3 and 4 to the corresponding ports (female and male) on the electric power pack.

11- If the motorized unit is used in a **multiple units** configuration, make sure that the inclinometer has been connected to the appropriate port on the electric power box.

Installation and connection of the power cable

1- Select a power cable that is suitable for the height of the setup. Refer to the *Power Cable Selection* table (fig. 7.34, p. 76) for help with the selection of the power cable. Make sure that the overall length of the cable is sufficient for the installation (height of setup, distance from power source, acceptable overall slack in cable).

2- Run the power cable through the first bridge of the setup. The cable must clear the base completely.

3- Using a U bolt and flat bar assembly, attach an open mesh grip at the bottom of a vertical tube on the bridge (fig. 7.44).

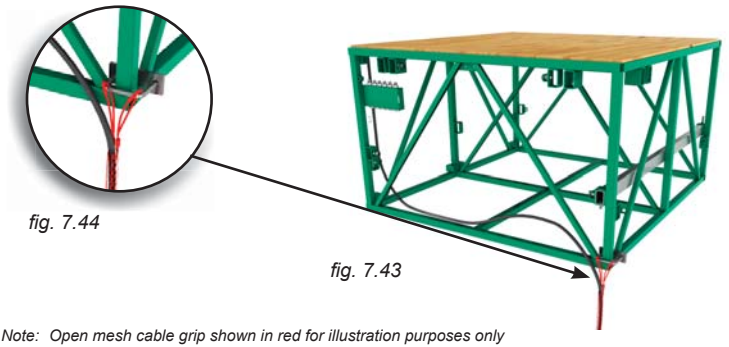


fig. 7.44

fig. 7.43

Note: Open mesh cable grip shown in red for illustration purposes only

4- Connect the power cable to a safe and reliable source (from the building or a generator). **This installation must be performed by a certified electrician**. Make sure that the input voltage is within the specified range and that phases are synchronized. Refer to p. 76 for more information on the input power range.

Motorized unit startup procedure

1- Turn on the main disconnect switch located on the electric power box. The green indicator light on the power box will light up. If the red indicator light is lit, the motor overload is tripped. Turn off the main disconnect switch and contact a certified electrician to troubleshoot the problem.

2- Turn the ignition key to the START position, then release it to the ON position. Use the ignition key to shut down the engine.

Adapter Base for Freestanding Installation
(optional)

The optional adapter base for freestanding installation is used to increase to 35' (11 m) the freestanding height allowed for a P Series setup. The weight of the adapter base (2500 lb or 1134 kg) must be considered in the loads applied on the support surface. Refer to the *Minimum Bearing Surface Capacities* table (fig. 1.19, p. 16) for guidance.

A freestanding P Series installation **must only be used in a standard single unit configuration**. For more information about standard configurations, refer to p. 18 of the *Motorized Unit* section.

Installation

1- Make sure that there is one mast section installed on the motorized unit in addition to the mast section welded on the base.

2- Prepare the lifting and moving of the motorized unit as described in steps 1 through 4 of the preparation guidelines on p. 30 of the *Motorized Unit* section.

3- Raise the motorized unit up to the second mast section until it is above the mast toggle bolts.

4- Secure a sling to the top first lifting rung at the back of the top mast section and hold the unit with a crane or a rough terrain forklift. Loosen and flip down the mast toggle bolts joining the second mast section to the mast section welded on the base of the motorized unit.

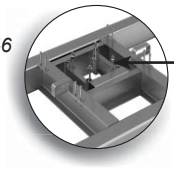
5- Lift the motorized unit following the guidelines on p. 31 of the *Motorized Unit* section for the lifting and moving of the unit with a sling.

6- Carefully lower the motorized unit on top of the adapter base.

7- Secure the motorized unit to the adapter base with the mast toggle bolts located on the adapter base. Tighten all toggle bolts to 120 lb-ft (163 N-m) of torque, using a cross-pattern sequence when tightening.

8- Proceed with the installation of the unit by following the instructions for a standard, freestanding single unit configuration starting on of the *Motorized Unit* section. Make sure that the outriggers on the adapter base are extended according to the height of the setup, as is required and allowed. Use the *Authorized Height for a Freestanding Installation with Adapter base* table (fig. 7.48) as a guide for the appropriate extension of the outriggers.

fig. 7.46



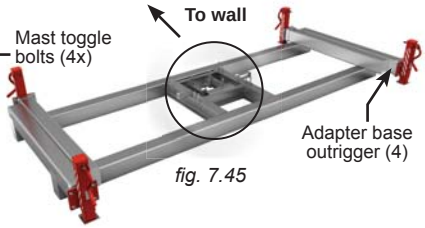
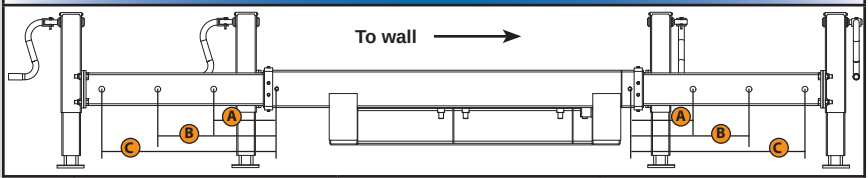


fig. 7.45

fig. 7.47

Authorized Height for a Freestanding Installation with Adapter Base



Ref	Length of base outrigger extension	Maximum height of mast	Maximum number of planks
A	10" (25 cm)	20' (9 m)	3
B	20" (51 cm)	30' (9 m)	3
C	30" (76 cm)	35' (11 m)	3

Adapter Base for Sidewalk Canopy Installation
(optional)

The optional adapter base for sidewalk canopy installation is used to install a P Series motorized unit at 10' (3 m) above the bearing surface, as part of a sidewalk canopy installation. The optional adapter base for sidewalk canopy installation can be used in any single or multiple units **standard** P Series configuration **with mast ties**. For more information about standard configurations, refer to p. 18 of the *Motorized Unit* section. A P Series configuration using an adapter base for a sidewalk canopy installation cannot be raised higher than 250' (76 m).

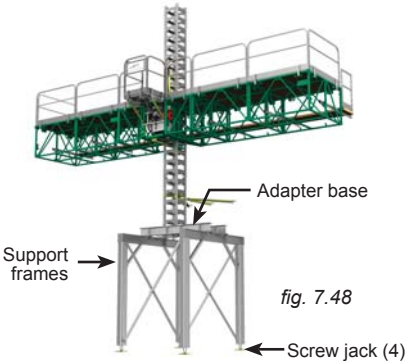


fig. 7.48

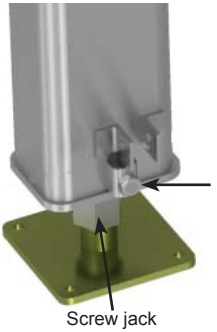


fig. 7.49

Installation of the adapter base

1- Before installing the adapter base, determine where the cribbing and the jacks will rest. Typically, for an installation without any planking, the support frame for the adapter base will be installed at 8" (20 cm) from the face of the wall.

2- The bearing surface under the support frames should be level, clear of debris and have a bearing capacity sufficient to support a load of 27,000 lb (12 247 kg) under each screw jack. When required, appropriate cribbing must be placed under each screw jack on the legs of the support frames to distribute the load. It is important to make sure that the bearing surface is stable and has not been subject to any type of erosion or deterioration caused by weather conditions (snow, rain, etc.).

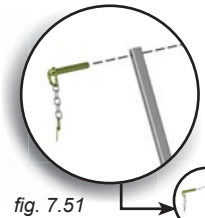


fig. 7.51

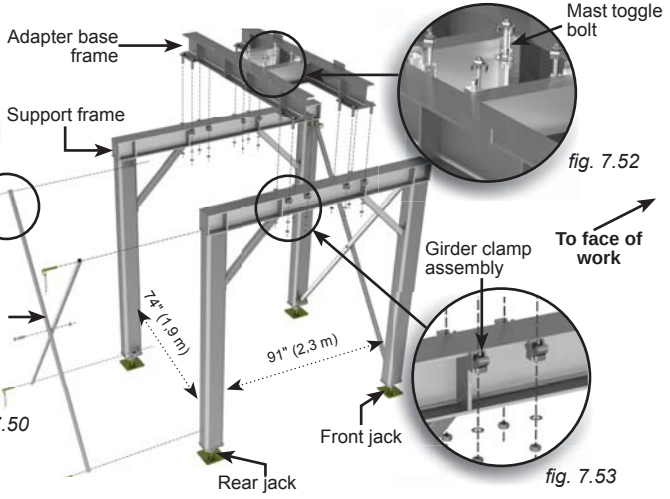


fig. 7.52

fig. 7.50

fig. 7.53

Adapter Base for Sidewalk Canopy Installation
(optional)

Installation of the adapter base (cont'd)

3- Mark the position of jacks. The distance between the front and rear jacks is 91" (2,3 m), while the distance between the left and right jacks is 74" (1,9 m) (fig. 7.51, p. 80).

4- Using the supplied X-braces, assemble the two frames of the base support structure together. Verify the squareness of the assembly and make corrections, if necessary.

5- Loosen the retaining bolt on each leg of the frames (fig. 7.50, p. 80) to release the screw jacks.

6- Using a rough terrain forklift or a crane, lift and position the adapter base frame on top of the support assembly. Refer to the table in fig. 7.55 to determine the distance between the mounting flange on the adapter base and the front edge of the support assembly. The adapter base frame will be moved back by 10" to 12" (25 cm to 30 cm) from the front edge of the support assembly for each plank required by the configuration (as shown in fig. 7.55). If necessary, install the support assembly further back from the face of the wall for larger planking configurations (see step 1 and fig. 7.55). Use the *Outrigger Selection* table (fig. 7.25, p. 74) as a guide for planking configurations.

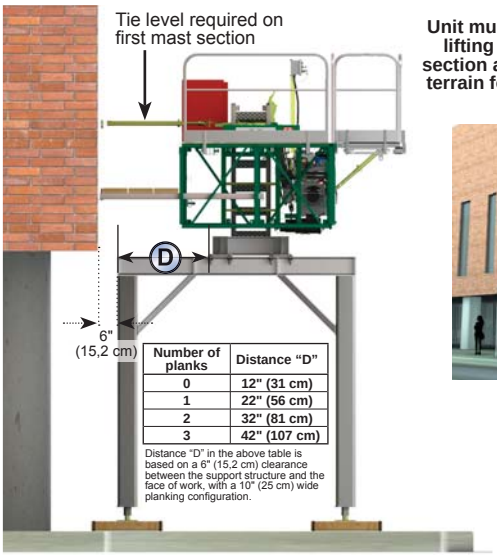
7- Secure the adapter base to the support assembly by tightening each girder clamp assembly (fig. 7.54) to a torque of 108 lb-ft (147 N-m).

8- Verify the level of the adapter base and the support assembly. Adjust the level using the screw jacks on the support assembly or by adding cribbing.

Installation of the motorized unit

9- Make sure that there is no more than one 30" (76 cm) bridge installed on either side of the motorized unit.

10- Make sure that there is a mast section installed on the motorized unit in addition to the mast section welded on the base.



Number of planks	Distance "D"
0	12" (31 cm)
1	22" (56 cm)
2	32" (81 cm)
3	42" (107 cm)

Distance "D" in the above table is based on a 6" (15,2 cm) clearance between the support structure and the face of work, with a 10" (25 cm) wide planking configuration.

fig. 7.54 Unit on adapter base for sidewalk canopy installation with three-plank configuration

Unit must have a sling secured to the first lifting rung at the back of the top mast section and be held up by a crane or rough terrain forklift during installation until first tie level is installed

fig. 7.55

WARNING

Once the unit is installed on the adapter base, it is **mandatory** to install a tie level on the **first** mast section before proceeding with the installation.

Adapter Base for Sidewalk Canopy Installation
(optional)

Installation of the motorized unit (cont'd)

11- Prepare the lifting and moving of the motorized unit as described in steps 1 to 4 of the preparation guidelines on p. 30 of the *Motorized Unit* section.

12- Raise the motorized unit up to the second mast section until it is above the mast toggle bolts of the mast section welded on the base.

13- Secure a sling to the top first lifting rung at the back of the top mast section and hold the unit with a crane or a rough terrain forklift. Loosen and flip down the mast toggle bolts joining the second mast section to the mast section welded on the base of the motorized unit.

14- Lift the motorized unit with a crane or a rough terrain forklift, following the guidelines on p. 31 of the *Motorized Unit* section for the lifting and moving of the unit with a sling.

15- Carefully lower the motorized unit on top of the adapter base.

16- **Continue to hold the motorized unit** and secure it to the adapter base with the mast toggle bolts located on the adapter base. Tighten all toggle bolts to 120 lb-ft (163 N-m) of torque, using a cross-pattern sequence when tightening.

17- **Still holding the motorized unit**, tie the mast to the face of the work. Refer to p. 51 of the *Mast and Mast Ties* section and to the *Mast Tie Schedule* in fig. 7.56 for instructions on how and when to install mast ties.

18- Once the first tie level is installed, make sure that the hooks are properly engaged on a mast rung and release the unit. Continue installing the setup as described in the general guidelines and installation instructions starting on p. 19 of the *Motorized Unit* section.

Mast Tie Schedule Setups with Adapter Base for Sidewalk Canopy Installation	
Maximum travel distance above the last tie level	20' (6,1 m) (standard configurations only)
First set between	3' and 10' (0,9 m and 3 m)
All subsequent: every	20' (6,1 m)
Maximum freestanding height allowed	**Not allowed**

fig. 7.56

Dismantling guidelines – single unit setup

The following dismantling steps can be used for a **standard configuration** using an adapter base for sidewalk canopy installation.

1- Make sure all the equipment necessary for a safe dismantlement of the installation is on hand (slings, crane or rough terrain forklift, etc.). **Make sure the regular motorized unit base is also on hand**.

2- Follow the dismantling instructions appropriate for the configuration **leaving the last two tie levels in place**. For dismantling instructions, refer to the *Motorized Unit* section, starting on p. 25.

3- Before lifting and moving the motorized unit, make sure all workers have stepped down and that all tools, equipment and loads have been removed from the platform.

4- Using a rough terrain forklift or a crane, support the motorized unit. Refer to p. 30 of the *Motorized Unit* section for instructions on the lifting of a motorized unit. Remove the last two tie levels. Make sure that the motorized unit remains on the second mast section, above the mast toggle bolts joining it to the first mast section installed.

5- **Still holding the motorized unit**, loosen all toggle bolts and clamps holding the unit to the adapter base.

6- To ensure proper stability, **make sure that the regular base is level and that all base outriggers are opened at a 30-degree angle**. Carefully lift the motorized unit off the sidewalk canopy frame and lower it on top of the regular base.

Adapter Base for Sidewalk Canopy Installation
(optional)

Dismantling guidelines – single unit setup (cont'd)

7- **Continue to hold the unit** and secure it to the base by tightening all bolts to 120 lb-ft (163 N-m) of torque, using a cross-pattern sequence when tightening.

8- Once the base is secured, make sure that hooks are properly engaged on a mast rung and release the motorized unit.

9- Remove the adapter base from the support assembly.

10- Remove the X-braces and disassemble the support assembly.

11- If the unit is to be stored for any significant length of time, refer to p. 89 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Mast Base Plate
(optional)

The optional mast base plate is used to install a P Series motorized unit in areas where space is restricted around the base. The optional mast base plate can be used in any single or multiple units **standard** P Series configuration **with mast ties**. For more information about standard configurations, refer to p. 18 of the *Motorized Unit* section. A P Series installation using an optional mast base plate cannot be raised higher than 250' (76 m).

Installation

1- Before installing the mast base plate, determine where the cribbing will rest. The bearing surface under the cribbing should be level, clear of debris and have the proper bearing capacity. Refer to the *Minimum Bearing Surface Capacities for an Installation with a Mast Base Plate* table (fig. 7.65, p. 86) for guidance. Should the actual bearing capacity be inferior to the values in the table, please seek instructions and recommendations from Hydro Mobile.

2- Make sure that there is no more than one 30" (76 cm) bridge installed on either side of the motorized unit.

3- Make sure that there is a mast section installed on the motorized unit in addition to the mast section welded on the base.

4- Before lifting and moving the motorized unit, make sure all workers have stepped down, that all tools, equipment and loads have been removed from the platform. Prepare the lifting and moving of the motorized unit as described in steps 1 to 4 of the preparation guidelines on p. 30 of the *Motorized Unit* section.

5- Raise the motorized unit up to the second mast section until it is above the mast toggle bolts of the mast section welded on the base.

6- Secure a sling to the top first lifting rung at the back of the top mast section and hold the unit with a crane or a rough terrain forklift. Loosen and flip down the mast toggle bolts joining the second mast section to the mast section welded on the base of the motorized unit.

7- Lift and carefully lower the motorized unit on top of the mast base plate.

8- **Continue to hold the motorized unit** and secure it to the mast base plate with the mast toggle bolts located on the mast base plate. Tighten all toggle bolts to 120 lb-ft (163 N-m) of torque, using a cross-pattern sequence when tightening.

9- **Still holding the motorized unit**, tie the mast to the face of the work. The first tie must be installed at not more than 5' (1,5 m) from the bearing surface. Refer to p. 51 of the *Mast and Mast Ties* section for instructions on how to install mast ties. Refer to the *Mast Tie Schedule* (fig. 7.61, p. 84) for the installation of subsequent tie levels.

WARNING

The **jacks on the base outriggers** are designed to level and stabilize the motorized unit and **must be opened completely** before the start of **dismantling** operations.

On an installation where the unit is not on its regular base and is on an adapter base or a mast base plate, it is **mandatory** to **hold the motorized unit** using a sling and crane or a rough terrain forklift **before removing the last two tie levels**.

Mast Base Plate
(optional)

Installation (cont'd)

10- Once the **first two tie levels are installed**, make sure that the hooks are properly engaged on a mast rung and release the unit. Proceed with the installation of the setup as described in the general guidelines and installation instructions for a standard setup with mast ties starting on p. 19 of the *Motorized Unit* section.

fig. 7.58

Unit must have a sling secured to the top first lifting rung located at the back of the top mast section and be held up by a crane or a rough terrain forklift during installation until the first two tie levels are installed

fig. 7.59

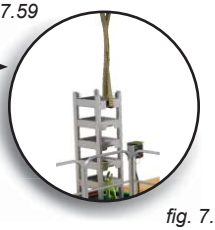
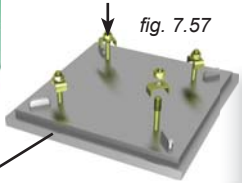


fig. 7.61

Mast toggle bolt

fig. 7.57



Mast base plate

fig. 7.60

Mast Tie Schedule Installation with a Mast Base Plate	
Maximum travel distance above the last tie level	20' (6,1 m) (standard configurations only)
First set between	Base level and 5' (base level and 1,5 m)
Second set between	5' and 10' (1,5 m and 3 m)
All subsequent: every	20' (6,1 m)
Maximum freestanding height allowed	**Not allowed**

Minimum Bearing Surface Capacities Installation with a Mast Base Plate (for static loads)		
Height		**Load under mast**
(ft)	**(m)**	**Reaction (for static load)**
20	6,1	11685 lb
		5300 kg
50	15,2	13,282 lb
		6025 kg
75	22,9	14,552 lb
		6601 kg
100	30,5	15,820 lb
		7176 kg
200	61,0	20,895 lb
		9478 kg
250	76,2	23,433 lb
		10 629 kg

Dismantling guidelines – single unit setup

The following dismantling steps can be used for a **standard** P Series configuration using a mast base plate.

1- Make sure all the equipment necessary for a safe dismantlement of the installation is on hand (slings, crane or rough terrain forklift, etc.). **Make sure the regular motorized unit base is also on hand**.

2- Follow the dismantling instructions appropriate for the configuration **leaving the last two tie levels in place**. For dismantling instructions, refer to the *Motorized Unit* section, starting on p. 25.

3- Before lifting and moving the motorized unit, make sure all workers have stepped down and that all tools, equipment and loads have been removed from the platform.

4- Secure a sling to the top first lifting rung at the back of the top mast section and hold the unit with a crane or a rough terrain forklift. Remove the last two tie levels.

5- **Still holding the motorized unit**, loosen all toggle bolts and clamps holding the unit to the mast base plate.

6- To ensure proper stability, **make sure all base outriggers are opened completely on the regular base and that the base is level**. Carefully lower the motorized unit on top of the regular base.

Mast Base Plate
(optional)

Dismantling guidelines – single unit setup (cont'd)

7- **Continue to hold the unit** and secure it to the base by tightening all toggle bolts to 120 lb-ft (163 N-m) of torque, using a cross-pattern sequence when tightening.

8- Once the base is secured, make sure the hooks are properly engaged on a mast rung and release the motorized unit.

9- If the unit is to be stored for any significant length of time, refer to p. 90 of the *Transport, Storage and Maintenance* section for instructions on how to properly store a P Series motorized unit.

Multiple Mast Handler
(optional)

The use of the multiple mast handler will allow the qualified erector/dismantler to install pre-assembled lengths of mast (also referred to as "sticks") and reduce the time required to achieve the installation of the setup.

Installation

1- Pre-assemble a length of mast sections on the ground. Mast sections must be laid down horizontally on the ground. For instructions on the assembly of mast sections, refer to p. 51 of the *Masts and Mast Ties* section. Tighten all bolts to 120 lb-ft (163 N-m).

The length of pre-assembled mast allowed will be equal to the authorized height in feet (meters) between two tie levels for the configuration. Refer to the *Mast Tie Schedule* on p. 51 for information about distances between tie levels.

2- Install the mast handler on the highest step of the lowest mast section of the pre-assembled length of mast (fig. 7.64).

It is important to consider the weight of the pre-assembled length of mast that must be lifted and to make sure to select a sling, chain or cable that can lift that weight. For example, a pre-assembled 20' (6,1 m) length of mast sections will weigh 940 lb (426 kg).

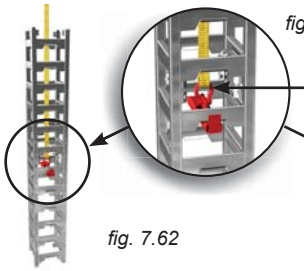


fig. 7.62

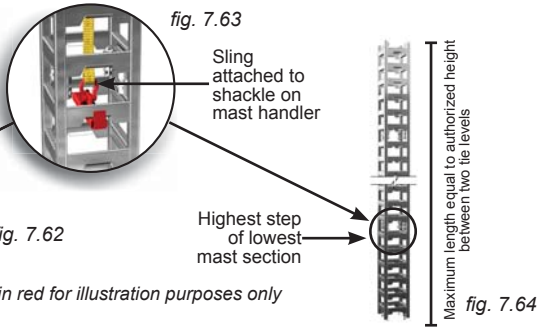


fig. 7.63

Mast handler shown in red for illustration purposes only

fig. 7.64

3- Insert the sling (or chain or cable) through the pre-assembled length of mast and attach the hook to the shackle on the mast handler.

4- Using a crane (or a forklift), carefully lift and lower the pre-assembled length of mast on top of the last mast section installed.

5- Still holding the length of mast, attach the bottom mast section to the top of the mast section already installed. Tighten all bolts to 120 lb-ft (163 N-m).

6- Remove the shackle from the mast handler to release the hook and sling.

7- Remove the mast handler from the mast section.

8- Raise the motorized unit on the newly added length of mast and install the next tie level.

9- Repeat steps 2 to 8 for each pre-assembled length of mast to install, as required and allowed.

Caster Wheels
(optional)

The optional caster wheels are used to manually move a P Series motorized unit or setup on a short distance to a different location. The **maximum length** of a P Series motorized unit setup that can be moved using the optional caster wheels is 27'–5" (8,4 m). Preferably, caster wheels should be used on a **flat, even surface**. Using plywood as ground cover will help when moving a motorized unit or a setup on caster wheels on an uneven surface. It is not recommended to use caster wheels to move a P Series motorized unit or setup on sloped ground.

The relocation of a P Series motorized unit or setup must be carried out with extreme care. It is **mandatory** to remove any installed access bridge, access stairs, forward/back extension bridge, hoist and hoist support structure, and swivel bridge **before** moving a motorized unit setup. It is also **mandatory** to make sure that the weight of the setup is **equally balanced** on each side of the mast before moving a motorized unit setup.

Installation of the caster wheels

1- Before lifting the motorized unit or setup, make sure that all workers have stepped down and that all tools, equipment and loads have been removed from the platform.

2- Remove all the planking, mast ties and mast sections, leaving only one mast section in place. If necessary, remove the access stairs and the access bridge. Make sure that all the guardrails and other components are secure.

3- Secure a sling to the top first lifting rung at the back of the top mast section and slightly lift the unit or setup with a crane or a rough terrain forklift until it no longer touches the ground. Raise the jacks on the base and on the base outriggers **completely**.

4- Using bolt assemblies, install the caster wheels (4). Tighten all bolt assemblies properly.

5- Lower the motorized unit or setup on the bearing surface carefully. The motorized unit or setup is now ready to be moved.

Relocation using caster wheels

1- Before moving the motorized unit or setup, make sure that all workers have stepped down and that all tools, equipment and loads have been removed from the platform.

2- Remove all the planking, mast ties and mast sections, leaving only one mast section in place. If necessary, remove the access stairs and the access bridge. Make sure that all the guardrails and other components are secure.

3- In reference to the plan/layout drawing, establish the position where the motorized unit or setup must be moved to and make sure that there are no obstacles.

4- Make sure that the transport and destination areas are clear of workers and equipment or any obstacle liable to interfere with the operation.

5- Proceed with the installation of the motorized unit or setup in its new location as described in the general guidelines on p. 19 of the *Motorized Unit* section and the following pages.

fig. 7.65

fig. 7.66

Caster wheel (4)

Using the optional caster wheels, the P Series motorized unit can be eased through a 36" (0,9 m) opening in side-to-side movements once the guardrails have all been removed.

Hoist Support Assembly
(optional)

The optional hoist support assembly can be installed on P Series bridges and is designed to be used with an electric hoist with a maximum lifting capacity of 1000 lb (454 kg) (lifting capacity based on a hoist weighing 250 lb or 113 kg).

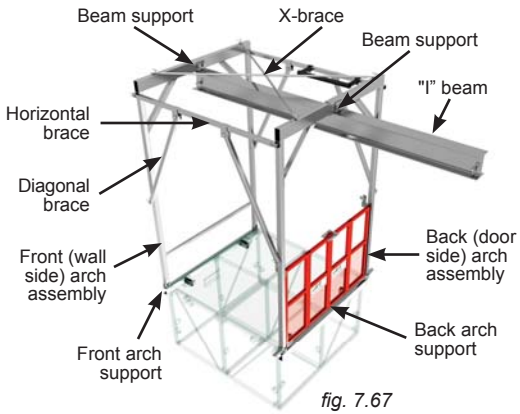


fig. 7.67

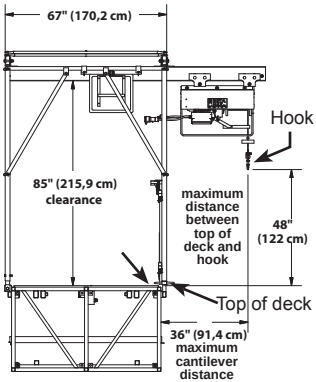


fig. 7.68

Note: The maximum distance between the deck and the hook shown in fig. 7.68 is based on the use of a Betamax Leo hoist.

Installation

1- The hoist assembly must be installed on the first bridge closest to the motorized unit. Refer to p. 67 of the *Load Capacities* section for more information on the allowed location and load capacities of a setup equipped with a hoist and its support assembly.

2- Insert the back arch support (fig. 7.67) into the outrigger pockets on the bridge. Do not tighten the outrigger pocket bolts completely at this point.

3- Insert the front arch support in the outrigger pockets on the bridge. Do not tighten the outrigger pocket bolts completely at this point.

4- Slide the back side arch assembly onto the threaded rods of the back arch support.

5- Slide the front side arch assembly onto the front arch support. Insert the pivot bolts into the forks to secure the arch in place. Make sure the locking bolts are in place.

6- Install the two horizontal braces on top of the mounting pins to link the front and back arches together. Secure the braces to the arches with hitch pins.

7- Install the four diagonal braces to make the assembly more rigid. Secure the braces to the horizontal braces and to the arches with hitch pins.

8- Slide the I beam in the assembly and secure to the front and back arches with bolt assemblies. Make sure to use a 9' (2,7 m) W6x9 beam.

9- Install the X-brace over the mounting pins on top of the assembly. Secure to the front and back arches with hitch pins.

10- Make sure the assembly is plumb on all its axis, front and back. **Tighten all bolt assemblies properly**.

11- Install the electrical hoist (not supplied) as per the manufacturer's instructions.

Weather Protection for Bridges
(optional)

Weather protection can increase work efficiency by protecting workers, material and equipment against adverse climatic conditions. A weather protection structure allows users to fasten tarpaulins quickly. The weight of the weather protection structure and its accessories must be deducted from the load capacities of the setup.

It is important to note that weather protection can only be installed on **standard configurations**. For more information about standard configurations, refer to p. 18 of the *Motorized Unit* section. It is **mandatory** to read and understand the safety guidelines before installing weather protection.

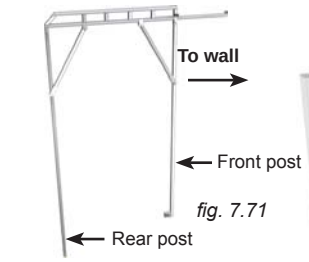


fig. 7.71

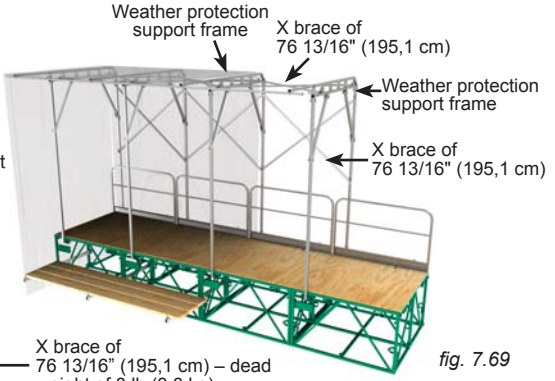


fig. 7.69

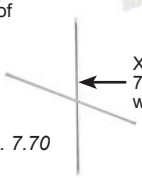


fig. 7.70

Safety guidelines

1- The use of weather protection is not allowed on a freestanding installation.

2- Weather protection is allowed only in a standard configuration.

3- An installation requiring the use of weather protection must be tied to the face of the work. In addition, tie levels must be installed all the way to the top of the installation before the start of any work. Traveling above the last tie point is not allowed in an installation equipped with weather protection.

4- The use of weather protection is not allowed when wind speeds exceed 28 mph (45 km/h).

5- Weather protection must not be used when work is performed on an open air structure.

6- When not in use, a platform equipped with weather protection must be brought down to base level.

7- Refer to p. 51 of the *Mast and Mast Ties* section for more information about the schedule for the installation of tie levels for a setup equipped with weather protection.

Installation

1- Insert the front post of a support frame in the guardrail pocket of the bridge. Secure in place with a toggle pin and tighten the pocket bolt.

2- Insert the rear post of the support frame in the tube behind the guardrail on the other side of the bridge (fig. 7.70).

3- Repeat steps 1 and 2 to install a support frame on the following bridge.

4- Secure the two support frames by installing X-braces (fig. 7.70) on top and in the back of the structure.

5- Repeat steps 1 through 4 to install a support structure every 5' (1,5 m). In a cantilever configuration, the last frame installed will be on the 30" (76 cm) bridge attached to the unit.

Monorail
(optional)

Using the same support structure as the weather protection system, the monorail system allows loads of up to 1000 lb (454 kg) to be moved safely along the installation. The monorail system can be used on setups with a maximum planking configuration of three planks wide.

It is important to note that only one monorail installation per motorized unit setup is allowed. The weight of the monorail structure and its accessories must be deducted from the load capacities of the setup. Refer to the *Load Capacities* section on p. 60 to avoid overloading the platform.

Safety guidelines

1- The use of a monorail is allowed only in a standard configuration and is not allowed on a freestanding installation.

2- An installation requiring the use of a monorail must be tied to the face of the work. In addition, tie levels must be installed all the way to the top of the installation before the start of any work. Traveling above the last tie point is not allowed in an installation equipped with a monorail.

3- Refer to p. 53 of the *Mast and Mast Ties* section for more information about wind speeds and to p. 51 for the schedule of installation of tie levels for a setup equipped with a monorail.

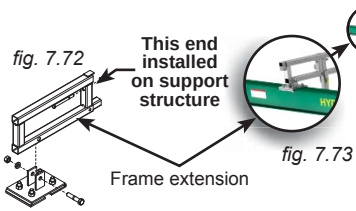


fig. 7.72

fig. 7.73

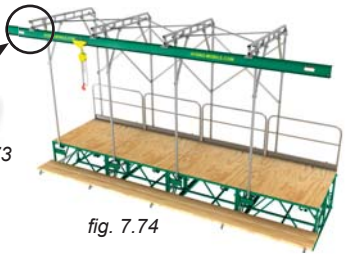


fig. 7.74

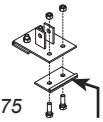


fig. 7.75

Installation

1- To install the monorail support structure, follow steps 1 through 5 of the installation instructions for the weather protection structure, on p. 88 of this section.

2- Insert the connecting tube of the frame extension in the bottom tube of the top part of the support structure. Secure in place with a bolt assembly.

3- Loosen all four bolts on a monorail bracket (fig. 7.74) to slacken the attachment plates on the bottom. Bolt the monorail bracket to the frame extension installed in step 2.

4- Repeat steps 2 and 3 for each monorail beam attachment assembly required by the installation (combination of a frame extension and a monorail bracket).

5- Once all monorail beam attachments are secure, slide the top of monorail beams between the attachment plates on the monorail brackets, using monorail beam plates to join beams together.

6- Secure the monorail beams in place by tightening the four bolts holding the attachment plates on each of the monorail brackets.

7- Make sure that the monorail beam does not overhang by more than 4' (1,2 m), as shown in fig. 7.76.

8- Slide the trolley on the monorail beam.

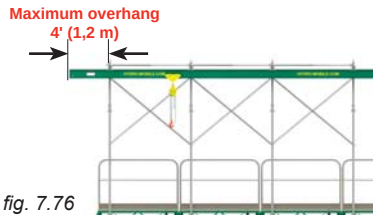


fig. 7.76


fig. 7.77

Maximum capacity of 1000 lb (454 kg)

Transport and Storage

Preparation of the motorized unit for transport

1- Dismantle the motorized unit setup following the appropriate guidelines. For any standard configuration using a motorized unit with its regular base, follow the dismantling guidelines starting on p. 25 of the *Motorized Unit* section. For a setup equipped with an adapter base for a sidewalk canopy installation, refer to p. 82 for the appropriate dismantling instructions. Refer to the dismantling guidelines on p. 84 for a setup using a mast base plate.

2- Once the setup has been dismantled and the unit is at base level, turn off the engine.

3- Open the engine access panel and move the engine gasoline valve lever to the OFF position.

fig. 8.1

4- Store the control post following the instructions on p. 46 of the *Power Pack and Components* section.

fig. 8.2

5- Fold down the rear platform.

fig. 8.3

6- Remove the jacks (4) on the base outriggers and store them in their storage area on the unit by securing them to the pockets provided. Once all four jacks are removed, fold back the base outriggers against the unit and secure in place.

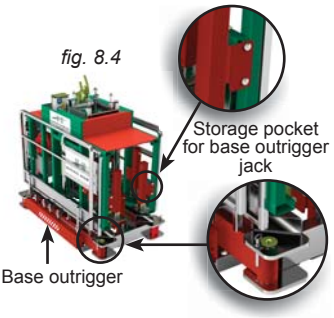


fig. 8.4

Transport and Storage

Preparation of the motorized unit for transport (cont'd)

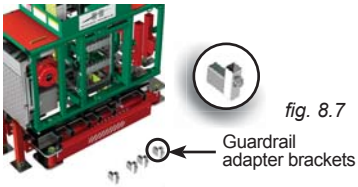


fig. 8.7

7- Remove the guardrail adapter brackets from the three 28" (71 cm) guardrails. Store the guardrail adapter brackets in the horizontal pockets located in the middle on the base of the unit, four on the right side of the unit (fig. 8.6) and two on the left side of the unit (fig. 8.7). Make sure not to use the outermost pockets. Secure each adapter bracket in place with a toggle pin.

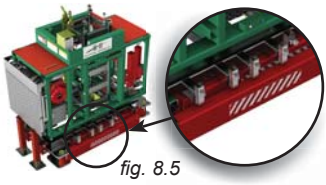


fig. 8.5

Storage pockets
on base

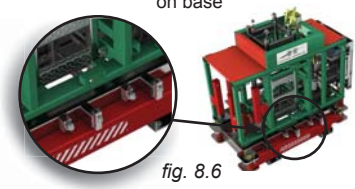
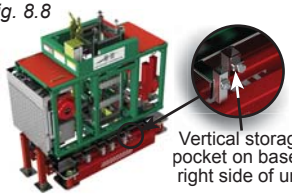


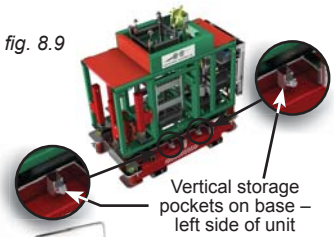
fig. 8.6

fig. 8.8



8- Insert the leg of a 28" (71 cm) guardrail in the vertical storage pocket located on the base on the right side of the unit (fig. 8.9), making sure that the guardrail leg is facing toward the unit. Tighten the bolt on the pocket to secure the guardrail in place. Store the other two 28" (71 cm) guardrails on the other side of the unit (fig. 8.10), inserting one of their legs in one of the vertical storage pockets provided. Secure both guardrails properly.

fig. 8.9



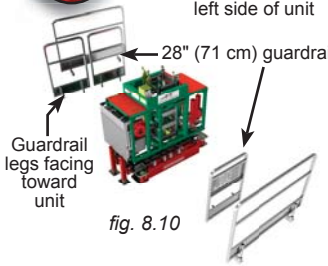
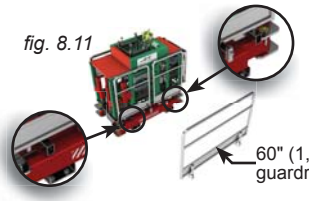


fig. 8.10

Transport and Storage

Preparation of the motorized unit for transport (cont'd)

fig. 8.11



Horizontal storage pockets on base on left side of unit

9- Insert the legs of a 60" (1,5 m) guardrail (with adapters attached) in the horizontal storage pockets located on the base on the left side of the unit (fig. 8.11). Secure the guardrail in place by tightening the bolt on each pocket. Repeat on the other side of the unit to store the other 60" (1,5 m) guardrail (fig. 8.12).

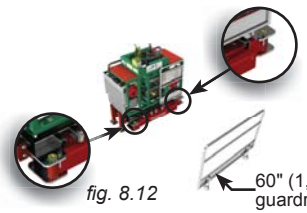
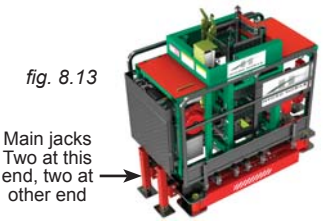


fig. 8.12

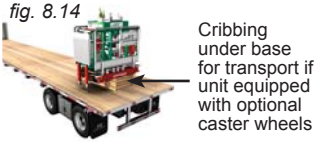
Horizontal storage pockets on base on right side of unit

fig. 8.13



10- Once all guardrails are stored and secured, lower the main jacks completely (fig. 8.13) or until the motorized unit rests on the optional caster wheels, if installed. If the motorized unit will be trucked on the road and is **equipped with optional caster wheels**, make sure the unit is **not resting on them** by placing sufficient wood cribbing under the base (fig. 8.14).

fig. 8.14



11- Refer to p. 30 of the *Motorized Unit* section for more information on the lifting and transport of a motorized unit.

Storage of the motorized unit

1- Follow all the steps included in the preparation procedure for the transport of the unit.

2- If the motorized unit is to be stored for any significant length of time, disconnect the battery.

3- Before storing the motorized unit, make sure to place sufficient cribbing under the base to prevent freezing water from causing damages to the bottom of the structure. If the unit is equipped with caster wheels, place additional cribbing to make sure the wheels are completely off the bearing surface and will not be damaged in any way.

WARNING
Before transporting or storing a motorized unit, make sure that the gasoline valve lever has been turned OFF. Disconnect the battery if the motorized unit is to be stored for any significant length of time.

Inspections and Maintenance

Proper maintenance and service will warrant safe, economical, and trouble-free operation of a P Series motorized unit and its accessories. In order to ensure operational safety and avoid failures, the owner must make sure that all the scheduled inspection and maintenance operations have been effectively and timely carried out according to the inspection and maintenance schedules recommended for P Series motorized units and their accessories.

Blank copies of the daily inspection checklist must be available on job sites at all times to be filled out when daily and weekly inspection operations are carried out. Maintenance and inspection logs must be kept on record for warranty and safety purposes.

Copies of all maintenance and inspection checklists can be obtained by contacting the distributor/service center or the Hydro Mobile technical support team or downloaded directly from the Hydro Mobile website at www.hydro-mobile.com.

Daily and Weekly Inspections and Maintenance

Each Hydro Mobile motorized unit and its accessories must be submitted to daily (or before every working shift) and weekly inspections and maintenance operations performed by the qualified user/operator.

Daily and weekly inspection operations are only necessary when the motorized unit and its accessories are in use. The owner and/or user is responsible for all inspection and maintenance operations. Before being first used on a job site, a P Series motorized unit and its accessories must be inspected effectively and timely, according to the schedules recommended for P Series motorized units and their accessories.

Maintenance and inspection logs must be kept on record for warranty and safety purposes. Blank copies of the daily inspection checklist must be available on job sites at all times to be filled out when daily and weekly inspection operations are carried out. The notes and comments form must be used to indicate any discrepancy or any item found to be not acceptable. Any discrepancy must be reported to the owner/user and appropriate corrective action must be taken immediately. Corrective actions must be performed by qualified personnel.

Inspection and maintenance of the cylinder hook

To ensure safe and trouble-free operation of the cylinder hook, it is **mandatory** to inspect it **as per the maintenance schedule**. A worn rubber must be replaced immediately, before operating the motorized unit. A worn and defective rubber will prevent the cylinder hook from working correctly and engage properly on mast rungs.

1- Hold the cylinder firmly (fig. 8.15) and pull the hook all the way back.

2- Let go of the hook and verify its position.

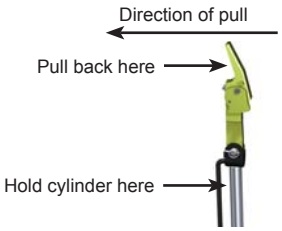


fig. 8.15

Inspections and Maintenance

Daily and Weekly Inspections and Maintenance

Inspection and maintenance of the cylinder hook (cont'd)

3- The hook **must not lean** towards or away from the mast, but stand up straight as in "B" in fig. 8.16. If the position of the hook is as in "A" or "C" in fig. 8.16, the rubber must be replaced immediately.

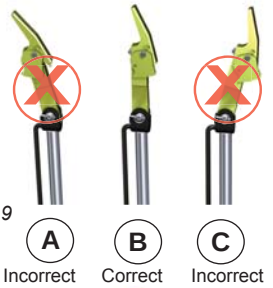


fig. 8.19

Replacement of the rubber of the cylinder hook

1- Remove the linch pin and slide out the clevis pin (GR8) (fig. 8.17). Lift the hook from the cylinder.

2- Remove the defective rubber.

3- Cut **slight** beveled edges lengthwise on the replacement rubber (see fig. 8.18) so that it fits snugly against the welding tracks at the bottom of the pocket.

4- Insert the replacement rubber in the top part of the cylinder. Slide in the hook and verify that the holes in the hook and the holes in the top part of the cylinder align properly, with no more than 1/16" to 1/8" (1,6 mm to 3,2 mm) of play. **The rubber must be lightly compressed**. Trim the bottom part of the rubber until the holes align correctly.

5- Once the rubber fits correctly, replace the hook and secure it in place with the clevis and linch pins.

6- Test the operation of the cylinder hook as described in steps 1 through 3 of the inspection instructions.

fig. 8.20

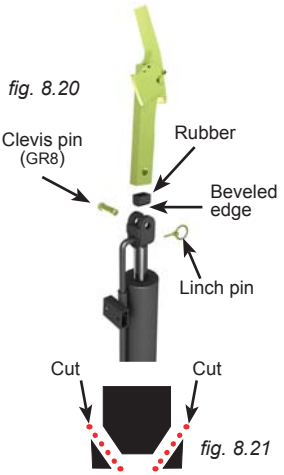


fig. 8.21

Cut beveled edges on the replacement rubber only deep enough for fitting

Greasing the mast carriage guide rollers

To ensure safe and trouble-free operation, it is **mandatory** to grease each mast carriage roller (16) as part of the **weekly** inspection and maintenance operations.

A proper greasing will extend the life expectancy of the rollers. Rollers (shown in red in fig. 8.20) must be greased using only Prolab GS1000 grease.

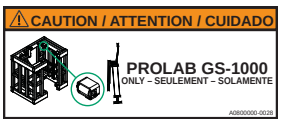


fig. 8.16

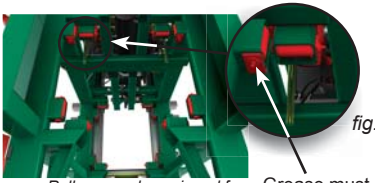


fig. 8.17 *Rollers are shown in red for illustration purposes only*

fig. 8.18 Grease must be applied here on each roller (16)

Inspections and Maintenance

Daily and Weekly Inspections and Maintenance

Greasing the base outriggers

To ensure safe and trouble-free operation, it is **mandatory** to grease each base outrigger as part of the **weekly** inspection and maintenance operations. Base outriggers must be greased using only Prolab GS1000 grease.

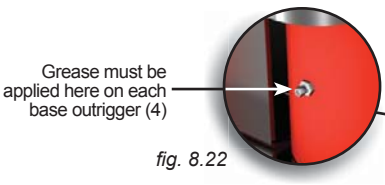


fig. 8.22

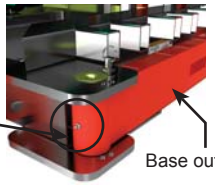


fig. 8.23

Inspecting and greasing the safety hooks

The safety hooks are an important part of the safety mechanism of the P Series mast climber and must be able to move freely at all times and be in appropriate working condition. To ensure the proper operation of safety hooks, they must be inspected and greased as part of the **weekly** inspection and maintenance operations.

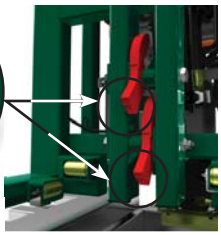
1- Inspect each safety hook (2) to make sure that there is no indication of a drop of the unit. If there are signs of a drop, each safety hook must be thoroughly inspected by a **qualified technician**. It is mandatory to replace any triggered safety hook and its pivot bolt immediately before resuming operation of the unit. **The replacement of a safety hook must be performed by the qualified technician**.

2- Inspect each safety hook to make sure that there is no indication of excessive grease. If there are signs of excessive grease, a **qualified technician** must take the safety hook apart and clean it properly.

3- Apply grease to each safety hook (2) as part of the **weekly** inspection and maintenance operation. Safety hooks must be greased using only Prolab GS1000 grease.

fig. 8.25

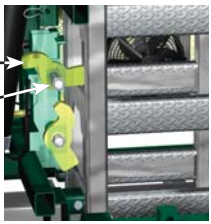
Grease must be applied here on each safety hook (2)



Safety hooks are shown in red for illustration purposes only

fig. 8.24

fig. 8.26



Any triggered safety hook and its pivot bolt must be replaced immediately before resuming operation of the unit

Inspections and Maintenance

Frequent Inspections and Maintenance

Frequent inspections must be performed by a qualified technician. For more information about qualified technicians, refer to p. 7 of the *Motorized Unit* section.

Each Hydro Mobile motorized unit must be submitted to a frequent inspection performed every three months by a qualified technician (see box above).

Maintenance and inspection logs must be kept on record for warranty and safety purposes. Blank copies of the frequent inspection checklist must be filled out when frequent inspection operations are carried out. The notes and comments form must be used to indicate any discrepancy or any item found to be not acceptable. Any discrepancy must be reported to the owner/user and appropriate corrective action must be taken immediately. Corrective actions must be performed by a qualified technician.

All inspection and maintenance steps included in the daily inspection checklist must be performed before the frequent inspection and maintenance steps.

It is recommended to use replacement parts manufactured by or recommended by Hydro Mobile. The use of substitute parts could not only void the warranty covering this motorized unit and its components but cause serious damages that could lead to injury or death. It is recommended to replenish and grease components only with fluids and lubricants recommended by Hydro Mobile.

Annual Inspections and Maintenance

Annual inspections must be performed by a qualified technician. For more information about qualified technicians, refer to p. 7 of the *Motorized Unit* section.

Each Hydro Mobile motorized unit must be submitted to an annual inspection performed by a qualified technician (see box above). This annual inspection must be carried out no later than 13 months after the previous annual inspection.

Maintenance and inspection logs must be kept on record for warranty and safety purposes. Blank copies of the annual inspection checklist must be filled out when annual inspection operations are carried out. The notes and comments form must be used to indicate any discrepancy or any item found to be not acceptable. Any discrepancy must be reported to the owner/user and appropriate corrective action must be taken immediately. Corrective actions must be performed by a qualified technician.

It is recommended to use replacement parts manufactured by or recommended by Hydro Mobile. The use of substitute parts could not only void the warranty covering this motorized unit and its components but cause serious damages that could lead to injury or death. It is recommended to replenish and grease components only with fluids and lubricants recommended by Hydro Mobile.

Inspections and Maintenance

Copies of inspection and maintenance checklists shown below can be obtained by contacting the distributor/service center or the Hydro Mobile technical support team or downloaded directly from the Hydro Mobile website at www.hydro-mobile.com.

Daily inspection checklist

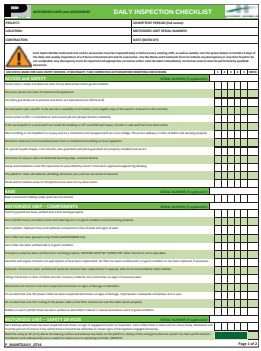

DAILY INSPECTION CHECKLIST

fig. 8.27

Frequent inspection checklist

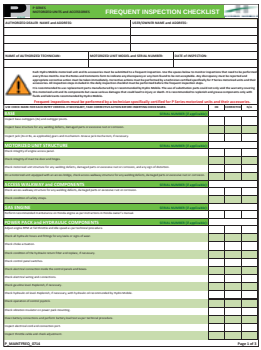

FREQUENT INSPECTION CHECKLIST

fig. 8.28

Annual inspection checklist

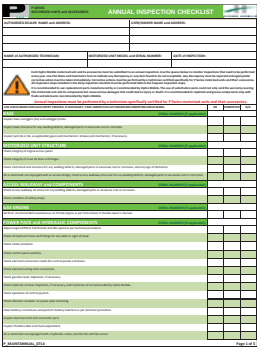

ANNUAL INSPECTION CHECKLIST

fig. 8.29

Copies of the job survey checklist and the handover checklist shown below can be obtained by contacting the distributor/service center or the Hydro Mobile technical support team or downloaded directly from the Hydro Mobile website at www.hydro-mobile.com.

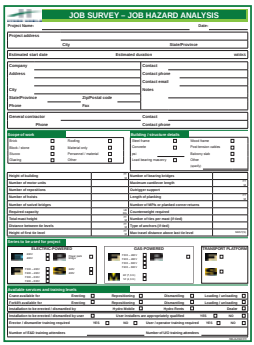

JOB SURVEY – JOB HAZARD ANALYSIS

fig. 8.30

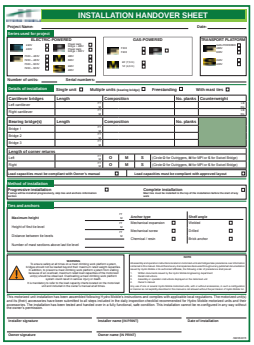

INSTALLATION HANDOVER SHEET

fig. 8.31

Inspections and Maintenance

Electrical Diagram for V6 units

8 - TRANSPORT, STORAGE AND MAINTENANCE

Inspections and Maintenance

Electrical Diagram for V6 units

THIS ELECTRICAL DIAGRAM APPLIES TO UNITS BEARING ONE OF THE FOLLOWING SERIAL NUMBERS:

- PU-0832 and up

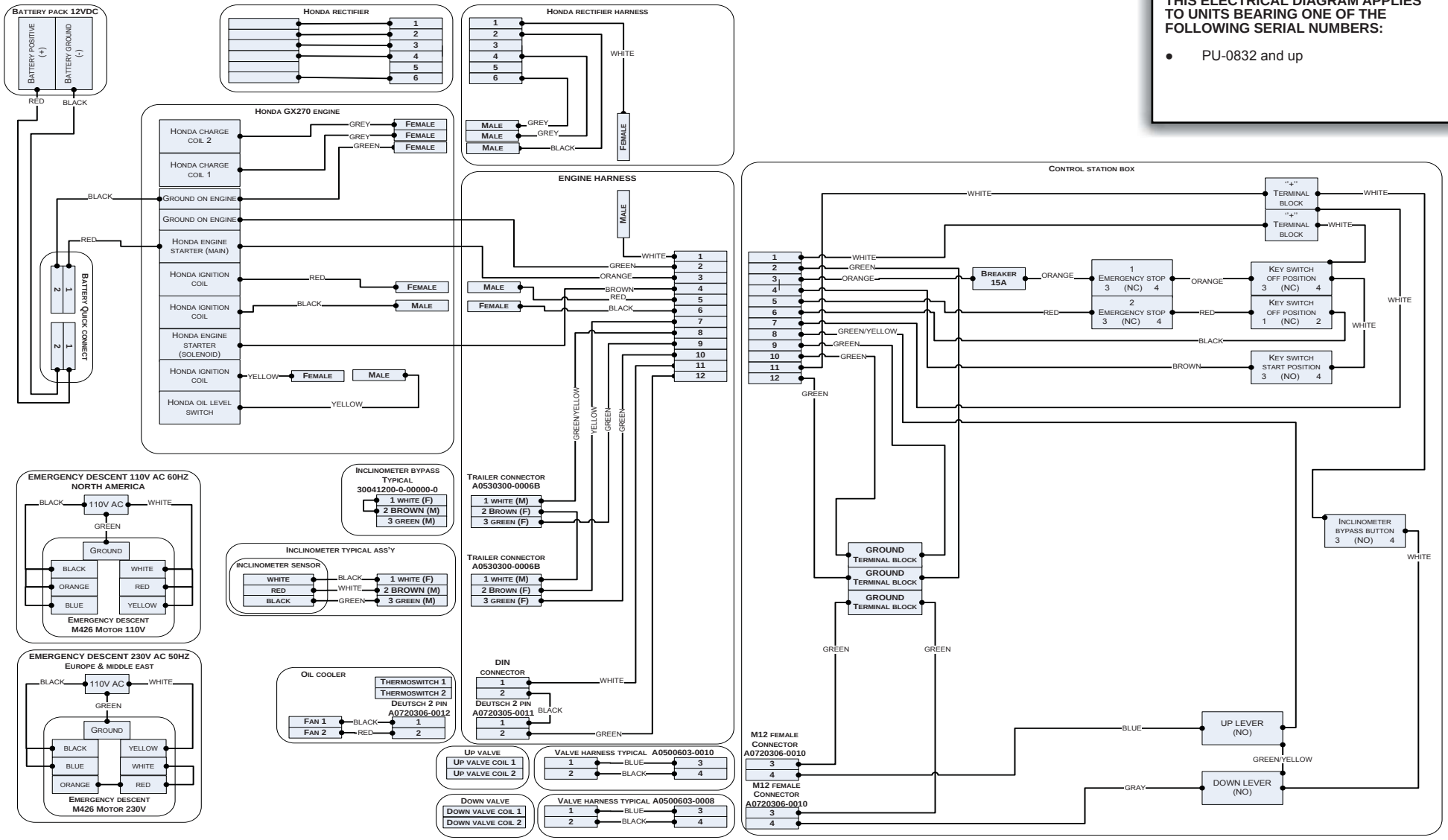


fig. 8.32

Inspections and Maintenance

Hydraulic Diagram V6

# ITEM	CODE	DESCRIPTION
1	11031400-K-02000-0	ENGINE HONDA 9 HP KIT - M2
2	A0411500-0009	ENGINE HYDRAULIC GEAR PUMP PLP 10-8 (P)
3	A0470203-0009	VALVE CHECK CVT-04-SAE
4	A0470204-0001	VALVE RELIEF CARTRIDGE TYPE (RV5-10)
5	A0470210-0006	VALVE DIRECTIONAL ELECTRIC 12VDC - P
6	A0580000-0001	CYLINDER 3 1/2x23 1/2x1 1/2
7	A0470200-0000	VALVE COUNTERBALANCE SUN 3000 PSI(W/CAP)
8	11018102-0-00000-0	CYLINDER ASS'Y - M2
9	30031202-0-00000-0	HYDRAULIC OIL COOLER ASS'Y 2015 KBV
10	30031600-0-01000-0	EMERGENCY ELEC. MOTOR 110V SUB ASS'Y - P
11	A0471704-0003	12 SAE PORT FILTER HOUSING
12	A0410000-0004	ENGINE FILTER ELEMENT (MP FILTRI)

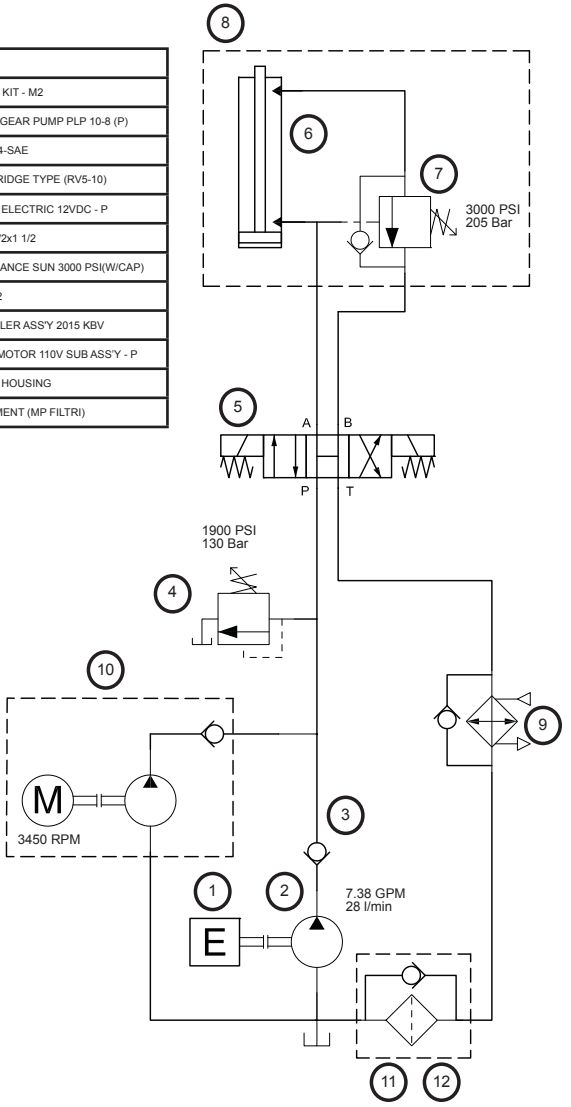


fig. 8.33

THIS HYDRAULIC DIAGRAM APPLIES TO UNITS EQUIPPED WITH A HONDA GX270 ENGINE BEARING ONE OF THE FOLLOWING UNIT SERIAL NUMBERS:

- PU-0832 and up