Owner's Manual

for gas-powered and electrical
unit models F200 and F300

F SERIES

HYDRO MOBILE

ELEVATING EFFICIENCY

Call us for information:
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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 prohibited without the prior written permission of Hydro Mobile..

Revision List

Code / Version	Date	Description
21053002-00000-0 v01	Sept 2017	Changes to control panel section; inclusion of accessories (adapter bases for freestanding installation and installation with sidewalk canopy, monorail, hoist); addition of definitions for competent person and for qualified person; addition of definition of standard configuration; addition of the authorized combination of equipment and accessories for linked configurations and restrictions for unlinked configurations; addition of methods of installation of tie levels with related subdivided instructions for the assembly and for the dismantling of an installation; addition of authorized non standard planking configurations; subdivision of mast tie schedules for each method of installation of tie levels; addition of instructions for the removal of mast sections and of mast ties; addition of wall ties and installation guidelines for authorized wall and floor ties; changes to authorized bridge configurations at opposite ends of unit for specific bridge installations; addition of safety accessories subdivision; addition of multiple mast handler; detailed information about inspection checklists; sample views of checklists, including job survey and installation handover sheet

LEGEND OF ICONS

These icons are used to highlight important information throughout this manual

Information Useful information for safe and easy operation	Warning note An important warning: damage or injury may occur
Useful tip A useful tip to facilitate installation or operation	Wind speed warning An important warning: wind speed conditions must be observed to avoid damage or injury
Type of setup Single unit freestanding installation	Type of setup Single unit installation with mast ties
Type of setup Multiple units freestanding installation	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	
Model F200	F200-0082 and up
Model F300	F300-0100 and up

General Information

F200	19' (5.8 m)/min motorized unit	
F300	38' (11.6 m)/min motorized unit	
Motorized unit serial number		
Manufacturing date		

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Introduction

Dear owner or user:

Thank you for investing in a Hydro Mobile F2 Series mast climbing work platform system (models F200 and F300). The design of these motorized units 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 appropriately trained personnel assemble, operate, dismantle and move your mast climbing work platform system. These qualified 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.

These motorized units were designed in accordance with the following standards: US ANSI A92.9-2011, CAN/CSA B354.9-17, ISO 16369:2007 and EN 1495. Furthermore, these motorized units and the 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, CAN/CSA B354.10-17 and CAN/CSA B354.11-17; and with EN 1495.

To maximize the life expectancy of your equipment and to enjoy years of trouble free operation, this Hydro Mobile system must be serviced according to maintenance schedules and recommendations provided in this manual. It is also advised to refer to the engine or motor user's manual included with the motorized unit.

Should you have any questions or concerns, please contact the nearest authorized service center or Hydro Mobile directly at 888-484-9376 (in the United States) or 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

Warranty

Warranty period

Hydro Mobile, a division of AGF Access Group, Inc., herein referred to as Hydro Mobile, warrants its new F2 Series motorized units (models F200 and F300) to be free from defect of materials and workmanship for a period of 15 months or a maximum of 650 operating hours whichever occurs first from the date of delivery to the authorized distributor.

Hydro Mobile also warrants its new F2 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.

Product registration

In accordance with standards governing mast climbing work platform systems, the owner of a Hydro Mobile F2 Series unit **must register the product with Hydro Mobile within sixty (60) days**. The initial buyer of a Hydro Mobile F2 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) and 36 months for Toshiba electric motors. To have an engine repaired under this warranty, the engine must be brought to an authorized Hydro Mobile distributor or to a Honda or Toshiba authorized 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 prohibited 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 an F2 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 an F2 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).

WARNING

The F2 Series configurations and the methods used to achieve these configurations as 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 distributor/service center.

WARNING

It is **mandatory** to refer to the *Mast Tie Schedule* tables on p. 87 of the *Mast and Mast Ties* section **before the installation** of **any** F2 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. 135 of the *Transport, Storage and Maintenance* section for more information about the job survey form.

Performance and Safety Rules

4- It is **mandatory** to refer to the *Mast Tie Schedule* tables on p. 87 of the *Mast and Mast Ties* section and to the *Load Capacities* section on p. 94 **before the installation** of **any** F2 Series configuration.

5- 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.

6- 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.

7- Make sure the ground or support surface capacity meets with values included in the *Minimum Bearing Surface Capacities* table herein (fig. 1.21, p. 16). Soil compacting, cribbing or shoring can increase bearing capacity. The **jacks on the base extensions** are designed to level the motorized unit and **must not be used to support the load nor the motorized unit**.

8- 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.

9- The F2 Series motorized unit (all models) **must not be used** with any equipment or any accessories not specifically manufactured and rated by Hydro Mobile to be used with F2 Series motorized units. For the use and installation of any such equipment or accessories, contact the distributor/service center.

10- Each F2 Series motorized unit must be equipped with an appropriate fire extinguisher (not supplied). Use the support supplied with the motorized unit to hang the fire extinguisher in a readily accessible location (fig. 1.1, p. 10).

11- Never use a gas-powered motorized unit in a enclosed space due to carbon monoxide emissions or in a place where explosives are stored.

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

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

14- **IMPORTANT**: It is strongly recommended not to use equipment that generates vibrations or reactions on Hydro Mobile platforms.

15- 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**.

16- The F2 Series motorized unit (all models) must not be used on a mast with a height over 500' (152 m).

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

18- 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 p. 132 of the *Transport, Storage and Maintenance* section for more information on inspection and maintenance requirements for F2 Series motorized units and their accessories.

19- 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.

20- 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.**

Performance and Safety Rules

21- **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.

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

23- Each person must access the platform using a safe means of access such as an optional access stairs, a transport platform system, stairways or through an opening in the building. In all cases, transfer must be safe and free from obstruction.

24- The use of appropriate fall protection equipment is **mandatory** 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. Refer to local regulations for more information.

25- When the motorized unit is moving, it is **mandatory** that all workers except the operator stand in an area close to the rear guardrails.

26- 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.

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

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

29- The motorized unit must not be used or operated during an electrical thunderstorm. The motorized unit and its components must not be used as ground for electrical connections.

30- The deposit of loads on the setup must be done with extreme care and under proper supervision. Loads must be distributed on all the bridges of the setup, as prescribed by the load capacities charts. Refer to the *Load Capacities* section on p. 94 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.

31- On a setup using an **F2 Series electrical unit**, it is important to note that in the event of a power outage, it is recommended that all workers remain on the platform as a safety precaution until the power is restored. If the power has not been restored within a reasonable time, the emergency descent system must be used to bring the workers safely back to the nearest safe evacuation point. Refer to p. 43 of the *Safety Devices* section for more information on the use of the emergency descent system.

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
- All loads must be removed from the setup
- It is mandatory to leave all the counterweights applied on the setup in place
- In a freestanding installation, when allowed, the motorized unit must be brought down to base level
- If wind speeds are expected to exceed **102 mph (164 km/h)**, the motorized unit must be brought down to base level

Motorized Unit Overview

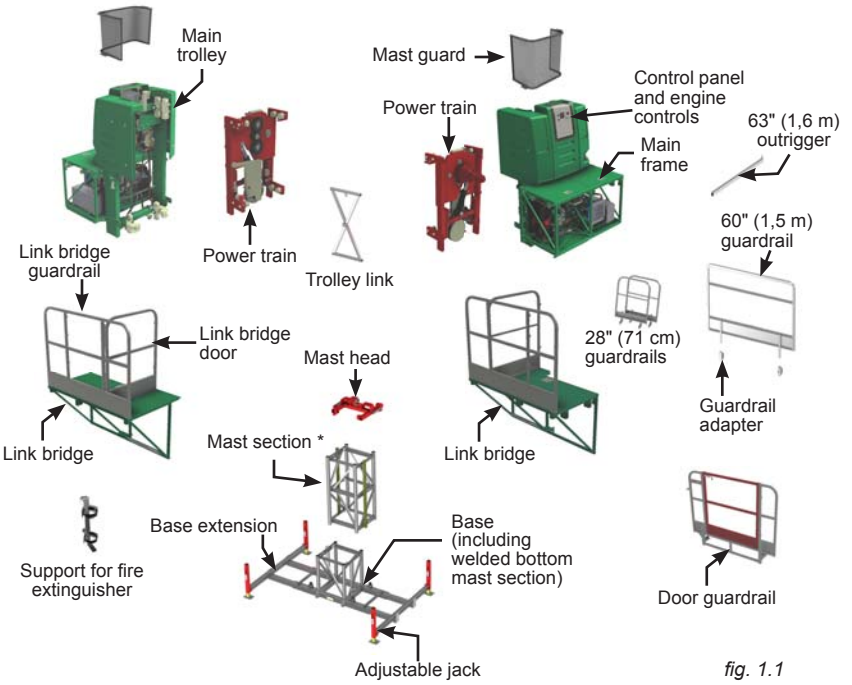


fig. 1.1

** Only one full mast section shipped with each motorized unit.*

The mast configuration represented in the above illustration is for informational purposes only and must not be reproduced without appropriate cribbing under the base pedestal. Models F200 and F300 of the Hydro Mobile F2 Series gas-powered motorized units come equipped with the components shown in fig. 1.1, with features specific to each model, as described below.

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

F200

F200 model basic features

- Mast with two racks
- One power pack
- Two power trains
- Up to 19' (5,8 m)/min climbing speed
- Capacity of up to 9000 lb (4082 kg) at 50' (15,2 m) for a **single mast** installation
- Linked configuration only

F300 model basic features

- Mast with two racks
- Two power packs
- Two power trains
- Up to 38' (11,6 m)/min climbing speed
- Capacity of up to 9000 lb (4082 kg) at 50' (15,2 m) for a **single mast** installation
- Linked or unlinked configuration

F300

Motorized Unit Overview

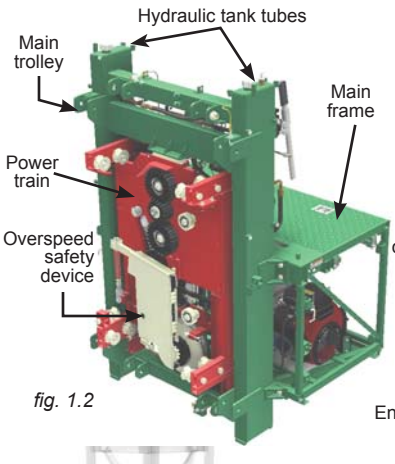


fig. 1.2

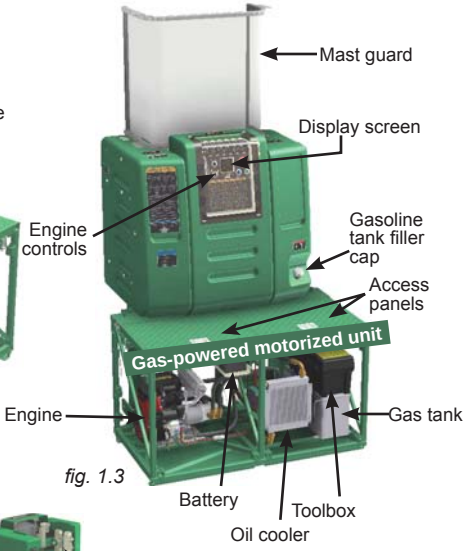
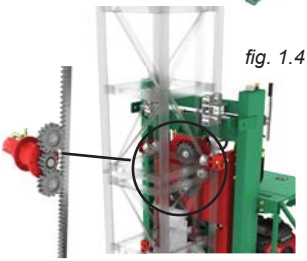


fig. 1.3



Lifting mechanism

fig. 1.4

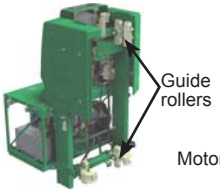


fig. 1.5

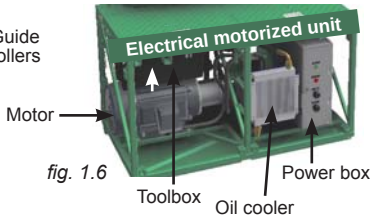


fig. 1.6

fig. 1.7

List of components included with shipped unit	
Qty	**Component**
1	F2 Series motorized unit (gas-powered or electrical) (model F200 or F300)
1	base
2	base extension (left and right)
1	mast section
2	mast guards
1	mast head
2	link bridge guardrail
2	link bridge doors (model F300 only)
1	communication cable (model F300 only) (A0500603-0021)
1 or 2 (according to unit model)	support for fire extinguisher 1x for F200 model 2x for F300 model
1	60" (1,5 m) guardrail
2	28" (72 cm) guardrail
6	guardrail adapter brackets
1	door guardrail
4	63" (1,6 m) outriggers
Note The list of components included with each motorized unit shipped may change without notice.	

fig. 1.8

Toolbox Components	
Quantity	**Description**
2	12.5-oz (370 ml) aerosol cans of grease for rack and pinion
2	bridge installation support brackets
1	Owner's manual
1	Honda engine manual
1	pressure gauge (3000 psi)
1	mast shim
1	15/16" wrench
3	5/8" x 1 1/2" SAE bolts GR5
3	5/8" SAE GR5 square nuts
6	5/8" x 5 1/2" SAE bolts GR8
6	5/8" SAE GR8 nuts
6	5/8" SAE lock washers GR8
3	3/8" SAE toggle pins
3	1/8" x 2 5/8" hitch pin clips
3	plank stop pins
1 or 2 (according to unit model)	cable grip support kit (electrical unit only) 1x for F200 model 2x for F300 model

Motorized Unit Specifications

fig. 1.9

General Specifications		
Dimensions of the motorized unit (as shipped)	On base, with extensions and with link bridges installed	On base, with extensions 99 1/2" x 147 1/4" x 102" (W x L x H) (253 cm x 374 cm x 259 cm)
	On base, with extensions and with link bridges removed	75 1/2" x 147 1/4" x 102" (W x L x H) (192 cm x 374 cm x 259 cm)
Drive system		Rack and pinion drive
Maximum height		Up to 500' (152 m) of mast
Distance between tie levels		Up to a maximum of 45' (13,7 m)
Freestanding height	Up to 48' (15 m) of mast using an optional adapter base for freestanding installation (when allowed)	
Safety devices	**Emergency descent**	Gravity-activated manual descent system
	Overspeed safety device	Independent mechanical device
	Inclinometer (included with twin mast adapter)	Analog electronic angle device

fig. 1.10

Specific Features			
		F200	**F300**
Platform weight (as shipped)	Gas-powered motorized unit	On base 6700 lb (3030 kg)	On base 8400 lb (3810 kg)
	Electrical motorized unit	On base 7200 lb (3266 kg)	On base 9400 lb (4264 kg)
Maximum load capacity	Single mast installation	9000 lb at 50' (4082 kg at 15,2 m)	
	Twin mast installation	15,500 lb at 115' (7031 kg at 35 m)	
Vertical travel speed		Up to 19' (5,8 m) per minute	Up to 38' (11,6 m) per minute
Mast section		**2 racks** 32" x 32" x 60" (81,3 cm x 81,3 cm x 152,4 cm) 365 lb (166 kg) per section	
Bridges	30" (76 cm) (guardrail included)	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) (guardrail included)	61" x 62" x 36" (W x L x H) (1,5 m x 1,6 m x 0,9 m)	
	10' (3 m) (guardrail included)	120" x 62" x 36" (W x L x H) (3 m x 1,6 m x 0,9 m)	
	Twin mast adapter (guardrail sold separately)	32" x 62" x 36" (W x L x H) (0,8 m x 1,6 m x 0,9 m)	

fig. 1.11

Hydraulic Specifications	
Component	**Specifications**
Double gear pump	2 x 7.25 US GPM (27,44 l/min)
Planetary reducer gear oil	Sunoco Challenge GBO 220 (product # 6048-020) **Warning: do not use in planetary reducer brake**
Planetary reducer brake oil	Total Dynatrans MP-AS (product # 406435) **Warning: do not use in planetary reducer gear box**
Hydraulic tank capacity	18 US gal (68,2 l) model F200; 36 US gal (136,2 l) model F300
Hydraulic oil	Shell Naturelle HF-M biodegradable product code 407-214
Oil filter (return)	Mfr. model no. Ikron CSG-100-P10-A)
Oil filter (pressure)	Mfr. model no. Ikron HEK85 20.8-AS-FG101-LC-V

Motorized Unit Specifications

fig. 1.12

Engine Specifications (gas-powered motorized unit)	
Model	Honda GX630
Rated power	20.8 HP @ 3500 rpm
Fuel consumption	1.56 G/hr (6 l/hr)
Spark plug	ZFRSF (NGK)
Oil type	SAE 10W-30
Gasoline tank capacity	10 US gal (38 l)
Oil capacity	1,8 US qt (1,70 l)
Charging system	12 VDC - 17 ampere-hour
Battery	12 VDC
For any other information regarding the use and the maintenance of Honda engines, refer to the Honda user's manual	

fig. 1.13

Motor Specifications (electrical motorized unit)		
	480 V unit	**600 V unit**
Brand	Toshiba	Toshiba
Model	0252SDSR42BP	0252SDSC42BP
Rated power	25 HP (18,5 KW)	25 HP (18,5 KW)
Service factor at full load	1,1	1,1
Rated amperage (nominal)	29A	23A
Power supply – voltage, phase and frequency	480 VAC / 3/60	600 VAC / 3/60
Rotation speed	3600 rpm	3600 rpm

fig. 1.14

Electrical Specifications Requirements for complete F200 unit model and for each side of an F300 unit model			
		480 V unit	**600 V unit**
Lifting power	F200 model Each side of F300 model	25 HP	25 HP
Power consumption (maximum load)	F200 model Each side of F300 model	1 x 32A	1 x 25A
Starting current (per single unit) (peak)	F200 model Each side of F300 model	Up to 181A	Up to 144A
Input power		480 VAC / 3 ph / 60 Hz (± 5%)	600 VAC / 3 ph / 60 Hz (± 5%)
Control voltage		12 VDC	12 VDC
Power outlet for hand tool		1 x 120VAC/20A/60 Hz	1 x 120VAC/20A/60 Hz
Cable up to 500' (152 m)	F200 model Each side of F300 model	1 x 6/4	1 x 8/4

fig. 1.15

Operation Specifications	
Wind exposure	
	Maximum wind speed allowed
During operation	35 mi/h (56 km/h)
During erecting and dismantling, when using weather protection and in freestanding configuration using an optional adapter base for freestanding installation (when allowed)	28 mi/h (45 km/h)
When unit is out of service	102 mi/h (164 km/h) *
* The platform must only be used on a mast whose height does not exceed 500' (152 m).	

Motorized Unit Specifications

fig. 1.16

Weight of Components

UNITS and components

Description	Weight
F300 Motorized unit (gas-powered, as shipped)	8400 lb (3810 kg)
F200 Motorized unit (gas-powered, as shipped)	6700 lb (3030 kg)
F300 Motorized unit (electrical, as shipped)	9400 lb (4264 kg)
F200 Motorized unit (electrical, as shipped)	7200 lb (3266 kg)
Base extension	275 lb (125 kg)
Base with extensions and one full mast section	1235 lb (560 kg)
Trolley link	60 lb (27 kg)
Link bridge (LEFT or RIGHT)	165 lb (75 kg)
Mast guard	30 lb (14 kg)
Mast head	125 lb (57 kg)

BRIDGES (including guardrails)

Description	Weight
30" (76 cm) bridge assembly	290 lb (132 kg)
5' (1,5 m) bridge assembly	390 lb (177 kg)
10' (3 m) bridge assembly	720 lb (327 kg
Swivel bridge assembly	800 lb (363 kg)
Multi purpose bridge	310 lb (141 kg)
Twin mast adapter assembly (without guardrail)	330 lb (150 kg)
30" deck extension (with outrigger)	96 lb (44 kg)
33" deck extension (with outrigger)	102 lb (46 kg)
60" deck extension (with outrigger)	124 lb (56 kg)
Swivel bridge counterweight adapter	175 lb (79 kg)
Swivel bridge outrigger adapter	60 lb (27 kg)

ACCESSORIES

Description	Weight
Access stairs assembly	83 lb (38 kg)
Access stairs handrail	21 lb (10 kg)
Access stairs extension	25 lb (11 kg)
Jib arm complete assembly	140 lb (63 kg)
Jib arm top assembly	108 lb (49 kg)
Jib arm bottom assembly	32 lb (14 kg)
Hoist support structure (including beam; hoist not included)	485 lb (220 kg)
Weather protection – frame assembly	93 lb (45 kg)
Weather protection – X brace (all lengths)	10 lb (4 kg)
Weather protection – frame truss extension	15 lb (7 kg)
Weather protection – frame assembly	85 lb (39 kg)
Weather protection – frame with extension	100 lb (45 kg)
Weather protection – center frame assembly	44 lb (20 kg)
Weather protection – frame truss extension for monorail	17 lb (8 kg)
Junction plate assembly	19 lb (9 kg)
Monorail beam	85 lb (42 kg)
Adapter base for freestanding installation	2500 lb (1134 kg)
Adapter base for sidewalk canopy installation	2000 lb (907 kg)

GUARDRAILS and OUTRIGGERS

Description	Weight
28" (71 cm) guardrail (without adapter bracket)	30 lb (14 kg)
30" (76 cm) guardrail (without adapter bracket)	32 lb (15 kg)
33" (84 cm) guardrail (without adapter bracket)	33 lb (15 kg)
60" (1,5 m) guardrail (without adapter bracket)	50 lb (23 kg)
60" (1,5 m) door guardrail	100 lb (45 kg)
Guardrail adapter bracket	4 lb (2 kg)
Twin mast adapter guardrail	45 lb (20 kg)
Movable guardrail	65 lb (29 kg)
Plank-end guardrail	25 lb (11 kg)
Link bridge guardrail	59 lb (27 kg)
Swivel bridge “A” guardrail	16 lb (7 kg)
Swivel bridge “B” guardrail	42 lb (19 kg)
Swivel bridge “C” guardrail	49 lb (22 kg)
63" (1,6 m) outrigger	17 lb (8 kg)
72" (1,8 m) outrigger	27 lb (12 kg)
84" (2,1 m) outrigger	45 lb (20 kg)
120" (3,04 m) outrigger	55 lb (25 kg)

MASTS and MAST TIES

Description	Weight
Mast assembly (2 racks)	365 lb (166 kg)
Mast assembly (1 rack)	330 lb (150 kg)
Mast tie frame	50 lb (23 kg)
Mast tie 36" (91 cm)	16 lb (7 kg)
Mast tie extension 36" (91 cm)	13 lb (6 kg)
Mast tie extension 60" (1,5 m)	20 lb (9 kg)

fig. 1.17

Typical single unit installation
- One F2 Series motorized unit
- Two (2) 10' (3 m) bridges

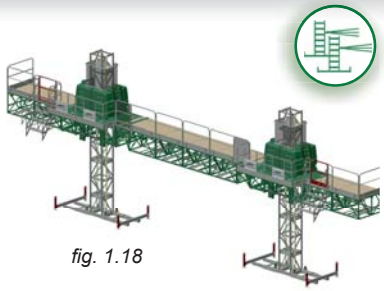


fig. 1.18

Typical multiple unit installation
- Two F2 Series motorized units
- Two (2) twin mast adapters
- Four (4) 10' (3 m) bridges

Note: Access stairs and ramps shown in illustrations above are optional

Dimensions of the Motorized Unit

Note: Unit dimensions are the same for both types of unit, gas-powered or electrical

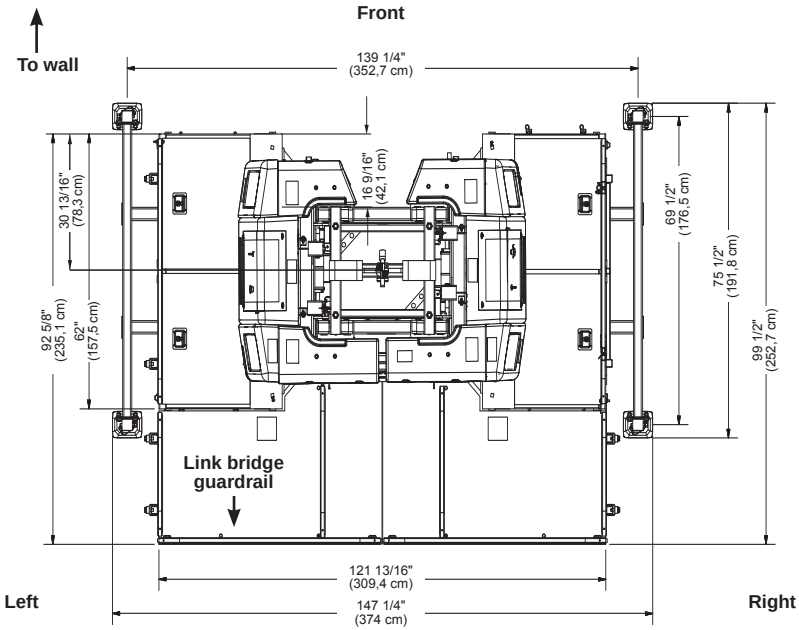


fig. 1.19

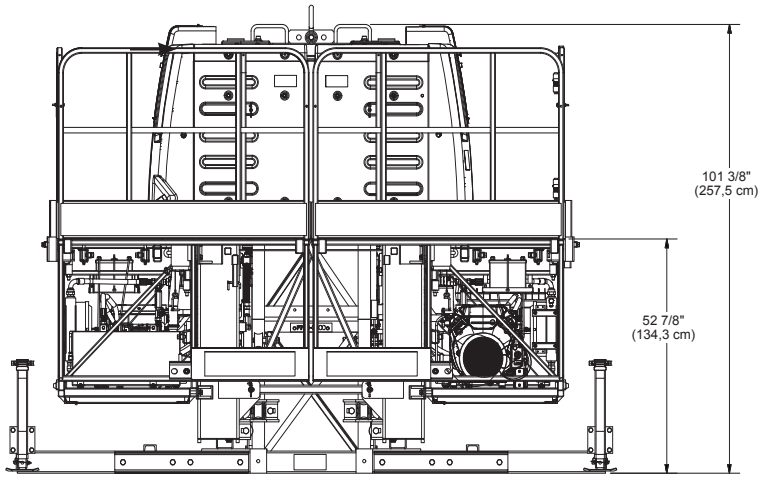


fig. 1.20

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. Appropriate cribbing must be placed under the base 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.).

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 the base 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 base.

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

Minimum Bearing Surface Capacities

Height		Reaction	
ft	m	lb	kg
50	15	28 816	13 071
100	30	32 559	14 769
150	46	36 302	16 466
200	61	40 045	18 164
250	76	43 788	19 862
300	91	47 531	21 560
350	107	51 272	23 257
400	122	55 017	24 955
450	137	58 760	26 653
500	152	62 503	28 351

Note: Reactions shown in this table are for **tied installations only**

Load reactions in table above include a dynamic factor

fig. 1.21

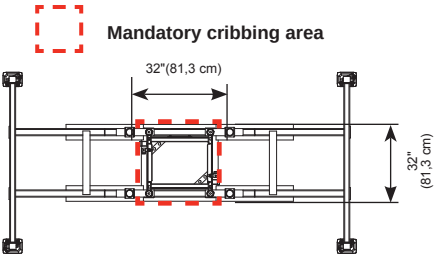


fig. 1.22

WARNING

Make sure the ground or support surface capacity meets with values included in the *Minimum Bearing Surface Capacities* table (fig. 1.21). Soil compacting, cribbing or shoring can increase bearing capacity. Any cribbing product or cribbing method approved by the site engineer can be used to distribute the load on the bearing surface providing it meets the values in the *Minimum Bearing Surface Capacities* table (fig. 1.21). Contact an engineer for assistance.

Recommended cribbing for most bearing surfaces

The plywood and lumber used as cribbing must 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.

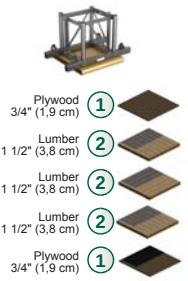
Recommended Cribbing

		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	Lumber 2"x 10" x 40" (5 cm x 25 cm x 102 cm)	12

fig. 1.23

Values shown in the above table are for reference only. Any cribbing that covers the mandatory cribbing area (as shown in fig. 1.22) can be used.

fig. 1.24



Setup and Configurations

General Guidelines

Setups with F2 Series motorized units and bridges require mast ties, unless an optional adapter base for freestanding installation is used. The optional adapter base for freestanding installation can only be used in a standard configuration. A **standard configuration** is a linked installation that **does not require** the use of additional equipment, such as a forward extension bridge, a swivel bridge, a planking configuration wider than three planks, weather protection, a hoist, a monorail or a cantilever reinforcement cable retainer.

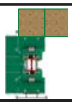
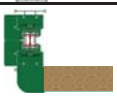
It is **mandatory** to refer to the *Mast Tie Schedule* tables on p. 87 of the *Mast and Mast Ties* section before the installation of any F2 Series configuration, whether freestanding or tied.

It is important to consider that the combined use of equipment and accessories required to achieve a configuration may not be allowed on a same installation. For information on the combination of equipment and accessories allowed for a **linked** configuration, refer to the table in fig. 1.25. For information on the restrictions of equipment and accessories allowed for the cantilever ends of an unlinked configuration (single unit or multiple units), refer to the table in fig. 1.28, p. 18, and to the table in fig. 1.29, p. 18, for the bearing bridge of a multiple units unlinked setup.

The installation of an F2 Series setup with mast ties can be achieved using a **progressive installation method** or through complete **pre-installation of tie levels**. The configuration required by the layout plan and the schedule of installation of mast ties will determine which method of installation is more appropriate. For more information about the methods of installation, refer to p. 20 of this section.

fig. 1.25

Combination of equipment and accessories allowed
LINKED CONFIGURATIONS – SINGLE UNIT and MULTIPLE UNITS

Equipment and accessories used			
	+		• 4 to 8 planks configuration • Hoist and hoist structure
	+		• 4 to 8 planks configuration • Cantilever reinforcement cable retainer
	+		• Hoist • Weather protection *
	+		• Hoist • Monorail
	+		• Weather protection * • Monorail
			• Forward extension **NO OTHER EQUIPMENT OR ACCESSORY ALLOWED**
			• Swivel bridge **NO OTHER EQUIPMENT OR ACCESSORY ALLOWED**

* Tarps and shields used for weather protection must be installed only when all required tie levels have been installed to the top of the mast. On an installation where weather protection is used, the motorized unit is not allowed to travel above the last tie level installed.

Setup and Configurations

General Guidelines

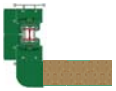
Equipment and accessories allowed or restricted on any cantilever side of an UNLINKED CONFIGURATION (single unit or multiple units) NO COMBINATION IS ALLOWED	
C	
Additional equipment and accessories allowed (only one per cantilever side)	
	Swivel bridge Refer to appropriate diagram in the *Load Capacities* section, starting on p. 94
	Forward extension Refer to appropriate diagram in the *Load Capacities* section, starting on p. 94
	Cantilever reinforcement cable retainer Refer to appropriate diagram in the *Load Capacities* section, starting on p. 94
	4 TO 8 PLANK CONFIGURATION IS NOT ALLOWED
	WEATHER PROTECTION IS NOT ALLOWED
	A HOIST and its STRUCTURE ARE NOT ALLOWED
	A MONORAIL IS NOT ALLOWED

fig. 1.28

Unlinked configurations

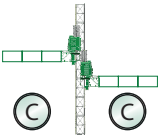


fig. 1.26

Single unit

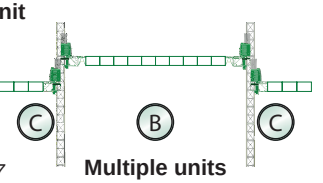


fig. 1.27

Multiple units

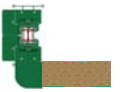
Equipment and accessories allowed or restricted on any bearing bridge of an UNLINKED CONFIGURATION NO COMBINATION IS ALLOWED	
B	
Additional equipment and accessories allowed	
	4 to 8 planks
	Hoist Refer to appropriate diagram in the *Load Capacities* section, starting on p. 94
	Monorail Refer to appropriate diagram in the *Load Capacities* section, starting on p. 94
	Swivel bridge Refer to appropriate diagram in the *Load Capacities* section, starting on p. 94
	WEATHER PROTECTION IS NOT ALLOWED
	A FORWARD EXTENSION IS NOT ALLOWED

fig. 1.29

Setup and Configurations

Safety Guidelines

1- Installation must 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 and mast tie requirements.

3- Before installing the motorized unit, determine where the cribbing under the base will rest. The bearing surface under the cribbing must be level, clear of debris and have the proper bearing capacity (see the *Minimum Bearing Surface Capacities* table, on p. 16). Should the actual bearing capacity be inferior to the values in the table, please seek instructions and recommendations from Hydro Mobile. It is important to note that **the jacks on the lateral base extensions are designed to level the motorized unit and must not be used to support the load nor the motorized unit**.

4- Distance between the front edge of the main frame of the motorized unit and the finished wall must be 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. 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.

5- 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.

6- Unload the motorized unit with a rough terrain forklift or a crane. It is important to consider the weight of the F2 Series to be lifted. Refer to p. 12 of the *Motorized Unit* section for the weights of all F2 motorized unit models, both gas-powered and electrical. For more information about lifting and moving a motorized unit, refer to p. 130 of the *Transport, Storage and Maintenance* section.

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

WARNING
It is important to note that freestanding configurations are not allowed for F2 Series motorized units unless an optional adapter base for freestanding installation is used.

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* tables on p. 87 of the *Mast and Mast Ties* section before the installation of any F2 Series configuration. It is also **mandatory** to refer to the *Load Capacities* section on p. 94 for more information about the loads allowed in a configuration. Review and follow the instructions included in this manual for the installation and use of each accessory and equipment to be installed.

Setup and configurations

Methods of installation

fig. 1.30

Methods of Installation				
	STANDARD INSTALLATION ONLY	STANDARD and NON STANDARD INSTALLATIONS		
Type of installation	(A) Single unit	(B) Single unit	(C) Multiple units	(D) Multiple units
Method of installation of tie levels	Progressive installation	Pre-installation	Pre-installation	Pre-installation
Installation procedure	1. Installation of unit and all cantilevers 2. Progressive installation of tie levels **NOTE: The first two tie levels must be installed before the start of any work**	1. Installation of units and two cantilevers 2. Installation of tie levels to top of work 3. Installation of additional bridges, equipment and accessories	1. Installation of first motorized unit with two cantilevers and complete tie levels to top of work 2. Installation of second motorized unit with two cantilevers and complete tie levels to top of work 3. Installation of bearing bridge structure 4. Installation of additional bridges, equipment and accessories	1. Installation of first motorized unit without any bridges 2. Installation of bearing bridge structure 3. Installation of second motorized unit without any bridges 4. Installation of first two cantilevers 5. Installation of tie levels to top of the work 6. Installation of additional bridges, equipment and accessories
	LINKED CONFIGURATION ONLY	INSTALLATION MUST BE CARRIED OUT IN LINKED CONFIGURATION ONLY Units may be split once all required tie levels are installed to the top of the mast		

Definition of a standard configuration

A standard configuration, referred to throughout this owner's manual and related documentation, is a **linked** installation that does not require the use of additional equipment or accessories, such as a forward extension bridge, a swivel bridge, a planking configuration wider than three planks, weather protection, a hoist, a monorail or a cantilever reinforcement cable retainer.

It is **mandatory** to refer to the *Load Capacities* section on p. 94 for the number of bridges allowed in a standard single unit or multiple units installation.

Standard single unit installation with mast ties – progressive installation

(A) The following installation steps can be used for a **single unit standard configuration only**. For more information about the definition of a standard configuration, refer to the box above. This method can be **used for a linked configuration only**.

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. 17.

2- Align the base of the motorized unit with the face of the work and lower it into position.

3- Using the jacks on the lateral base extensions, level the mast on both its front and side axis, then, if required, use metal shims to make sure that the base sits squarely and level on the cribbing.

Connection of the unit and control panel to the power supply (electrical unit)

4- If the unit used in the setup is an electrical unit, select a power cable appropriate for the height of the mast. Refer to the *Power Cable Selection Chart* on p. 72 of the *Power Pack and Operating Components* section 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 mast, distance from power source, acceptable overall slack in cable).

5- Install and connect the power cable. **This installation must be performed by a certified electrician**. For instructions on the installation of the power cable, refer to the startup preparation instructions on p. 71 of the *Power Pack and Operating Components* section.

Verification of limit switches and screen alerts

6- Pull out the emergency stop button and unlock the display screen. Make sure that the appropriate configuration options have been selected (F4) on the display screen. For information about the functions and alerts of the control panel, refer to p. 77 of the *Control Panel* section.

Setup and configurations

Standard single unit installation with mast ties – progressive installation

Verification of limit switches and screen alerts

7- Inspect the strobe under the main frame and make sure it is working properly.

8- Review the screen alerts and perform a verification of the limit switches. For instructions on how to verify the limit switches, refer to p. 48 of the *Safety Devices* section.

9- If any of the limit switches is not working properly, the unit must be put out of service until it has been inspected and repaired by a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety* section. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

Installation of bridges

10- With the motorized unit to base level and using optional bridge installation support brackets or any other appropriate lifting device such as a crane or a rough terrain forklift, install as many bridges as is required and allowed. For instructions on how to install a bridge, refer to p. 50 of the *Bridges* section. Refer to the *Load Capacities* section on p. 94 for the maximum number of bridges allowed in a setup.

Installation of mast sections and tie levels

11- Using an optional jib arm, a crane or a rough terrain forklift, load mast sections on the motorized unit (see p. 119 of the *Accessories* section for more information on the installation and use of the jib arm). There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.31. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.31. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

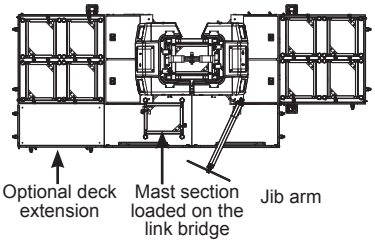


fig. 1.31

Mast sections must be loaded equally on either side of the mast and taken alternately from one side, then the other when installing to ensure good balance. Refer to the *Load Capacities* section on p. 94 for more information about loading the platform.

12- Install mast sections until a first tie level is required. For instructions on how to install mast sections, refer to p. 84 of the *Mast and Mast Ties* section. Refer to p. 86 of the *Mast and Mast Ties* section for instructions on how to install mast ties. For more information about the schedule of installation of tie levels, refer to the *Mast Tie Schedule* tables on p. 87 of the *Mast and Mast Ties* section.

It is important to note that at least two tie levels must be in place before any work can be performed from the platform.

If it is required to load 45' (13,7 m) of mast sections, a ninth mast section can be set on the link bridge of the motorized unit.

Installing an optional deck extension will facilitate the handling of mast sections with the jib arm.

Setup and Configurations

Standard single unit installation with mast ties – progressive installation

Installation of mast sections and tie levels (cont'd)

13- Once the first tie level has been installed, proceed with the installation of mast sections and mast ties, as required. It is important to make sure that **at least two tie levels** are in place.

Installation of the mast head

14- Once the installation of mast sections is complete**,** install the mast head. The mast head must be put back into place every time the installation of mast sections is complete.

Installing and testing the top limit switch

15- Make sure that the top limit trigger plate on the mast head is in a vertical position. If necessary, loosen the thumb screws, flip the trigger vertically and tighten the thumb screws by hand.

16- Test the operation of the top limit switch by raising the unit until the switch reaches the trigger plate. The screen should display an alert for the top limit. If the limit switch is not working properly, call the distributor/service center or the Hydro Mobile technical support team. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

Greasing of the racks and gears

17- Upon initial setup and subsequently after every 8 to 10 hours of cumulative runtime (unit travel up and down the mast), grease must be applied to the gears and to the racks from the top of the mast down. For more information, refer to the daily inspection checklist for this motorized unit. Grease must be allowed to stand for 2-3 hours before the motorized unit is used again. Use an open gear lubricant recommended by Hydro Mobile. Refer to p. 132 of the *Transport, Storage and Maintenance* section for more information on the appropriate lubrication method. Lower the motorized unit to base level, verifying the mast ties and the mast bolts and applying grease, as required, on the way down. Make sure that all bolt assemblies are tightened to the proper torque and are in good condition, and that grease is applied appropriately.

Installation of mast guards

18- Once grease has been applied to the gears and the mast racks, install all mast guards.

Installation of outriggers and planking

19- Adjust the outriggers and install planks, as required and allowed (see p. 111 of the *Accessories* section for more information).

Verification of the setup

20- Make a final verification of the setup before authorizing workers to use the motorized unit. Make sure that all the guardrails are in place and secure (see p. 108 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**.

21- Before authorizing workers to use the motorized unit, perform every step in the daily inspection checklist. It is recommended to fill out the handover sheet each time the setup is modified (addition of mast sections or tie levels, etc.). Refer to p. 133 of the *Transport, Storage and Maintenance* section for more information about the daily inspection checklist and to p. 135 for information about the handover sheet.

WARNING
The mast head must be removed during installation. It is mandatory to put the mast head back into place before resuming operation of the motorized unit.

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

Setup and configurations

Standard single unit installation with mast ties – progressive installation

Adding mast sections and tie levels progressively

22- Whenever it is necessary to add mast sections and/or tie levels, remove the mast guards and the mast head. Install as many mast sections and tie levels as is required and allowed.

23- Put the mast head back into place. Make sure the top trigger plate is positioned properly and in good condition.

24- Apply grease to the racks of any **newly added mast section**, **from the top of the new length of mast down**. Newly applied grease must be allowed to stand for 2-3 hours before the motorized unit can travel up the mast again. Refer to p. 132 of the *Transport, Storage and Maintenance* section for more information on the appropriate lubrication method.

25- Put the mast guards back in place.

26- Perform a verification of the setup as described in steps 20 and 21.

For safety reasons, it is mandatory to make sure that the operation of the top limit switch is verified and to make sure that the mast guards and mast head are put back into place every time mast sections are added to the installation. Grease must be applied to the racks of the newly added length of mast section.

Single unit installation with mast ties – pre-installation

The following installation steps can be used for **standard** and **non-standard configurations of single unit tied installations**. For more information about the definition of a standard configuration, refer to p. 20 of this section. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of this section.

Pre-installation must be performed in a linked configuration only. Once pre-installation is complete, refer to p. 34 of this section for instructions on how to split a motorized unit, if required and allowed.

Positioning the motorized unit

1- Prepare the motorized unit and the area where the setup will be installed as described in the general guidelines (steps 1 through 6, p. 17).

2- Align the base of the motorized unit with the face of the work and lower it into position.

3- Using the jacks on the lateral base extensions, level the mast on both its front and side axis, then, if required, use metal shims to make sure that the base sits squarely and level on the cribbing.

Connection of the unit and control panel to the power supply (electrical unit)

4- If the unit used in the setup is an electrical unit, select a power cable appropriate for the height of the mast. Refer to the *Power Cable Selection Chart* on p. 72 of the *Power Pack and Operating Components* section 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 mast, distance from power source, acceptable overall slack in cable).

5- Install and connect the power cable. **This installation must be performed by a certified electrician**. For instructions on the installation of the power cable, refer to the startup preparation instructions on p. 71 of the *Power Pack and Operating Components* section.

Installation of the first cantilevers

6- Using any appropriate lifting device such as a crane or a rough terrain forklift, **install only one 5' (1,5 m) bridge on each side of the mast**. Refer to the *Bridges* section on p. 50 for instructions on bridge installation.

Setup and Configurations

Single unit installation with mast ties – pre-installation

Verification of limit switches and screen alerts

7- Pull out the emergency stop button and unlock the display screen. Make sure that the appropriate configuration options have been selected (F4) on the display screen. For information about the functions and alerts of the control panel, refer to p. 77 of the *Control Panel* section.

8- Inspect the strobe under the main frame and make sure it is working properly.

9- Review the screen alerts and perform a verification of the limit switches. For instructions on how to verify the limit switches, refer to p. 48 of the *Safety Devices* section.

10- If any of the limit switches is not working properly, the unit must be put out of service until it has been inspected and repaired by a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety* section. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

Installation of mast sections and tie levels

11- Using an optional jib arm, a crane or a rough terrain forklift, load mast sections on the motorized unit (see p. 119 of the *Accessories* section for more information on the installation and use of the jib arm). There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.32. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.32. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

Mast sections must be loaded equally on either side of the mast and taken alternately from one side, then the other when installing to ensure good balance. Refer to the *Load Capacities* section on p. 94 for more information about loading the platform.

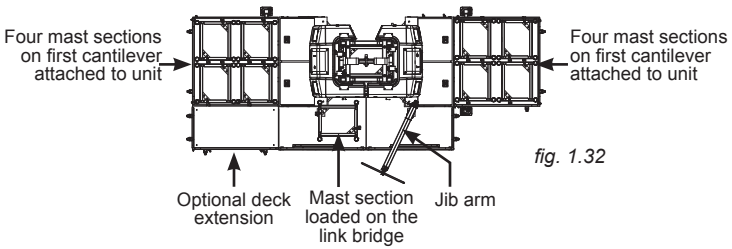


fig. 1.32

12- Install mast sections until a first tie level is required. For instructions on the installation of a mast section, refer to p. 84 of the *Mast and Mast Ties* section. Refer to p. 86 of the *Mast and Mast Ties* section for instructions on how to install mast ties. For more information about the schedule of installation of tie levels, refer to the *Mast Tie Schedule* tables on p. 87 of the *Mast and Mast Ties* section. Proceed with the installation of mast sections until the first two tie levels are in place.

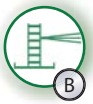
If it is required to load 45' (13,7 m) of mast sections, a ninth mast section can be set on the link bridge of the motorized unit.

Installing an optional deck extension will facilitate the handling of mast sections with the jib arm.

WARNING

During pre-installation, only mast sections can be loaded on the motorized unit and the two cantilevers. It is important to note that no other loads are allowed on the bridges until the pre-installation process is complete.

Setup and configurations



Single unit installation with mast ties – pre-installation

Installation of mast sections and tie levels (cont'd)

13- Once the first tie level has been installed, proceed with the installation of as many mast sections and tie levels as is required by the layout plan and the configuration.

Installation of the mast head

14- Once the installation of mast sections and tie levels is complete, install the mast head.

Installing and testing the top limit switch

15- Make sure that the top limit trigger plate on the mast head is in a vertical position. If necessary, loosen the thumb screws, flip the trigger vertically and tighten the thumb screws by hand.

16- Test the operation of the top limit switch by raising the unit until the switch reaches the trigger plate. The screen should display an alert for the top limit. If the limit switch is not working properly, call the distributor/service center or the Hydro Mobile technical support team. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

Greasing of the racks and gears

17- Upon initial setup and subsequently after every 8 to 10 hours of cumulative runtime (unit travel up and down the mast), grease must be applied to the gears and to the racks, from the top of the mast down. For more information, refer to the daily inspection checklist for this motorized unit. Grease must be allowed to stand for 2-3 hours before the motorized unit is used again. Use an open gear lubricant recommended by Hydro Mobile. Refer to p. 132 of the *Transport, Storage and Maintenance* section for more information on the appropriate lubrication method. Lower the motorized unit to base level, verifying the mast ties and the mast bolts and applying grease, as required, on the way down. Make sure that all bolt assemblies are tightened to the proper torque and are in good condition, and that grease is applied appropriately.

Installation of the mast guards

18- Once grease has been applied to the gears and the mast racks, install all mast guards. Remove and store the jib arm, if necessary.

19- With the unit at base level, install as many additional bridges as is required and allowed. Refer to the *Load Capacities* section on p. 94 for the maximum number of bridges allowed in a setup.

Installation of additional bridges, equipment and accessories

20- Install additional equipment and accessories as is required and allowed. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of this section. For instructions on the installation and use of an extension bridge or a swivel bridge, refer to the *Bridges* section on p. 50. For instructions on the installation and use of any other accessory such as a monorail or weather protection, refer to the *Accessories* section on p. 122.

Installation of outriggers and planking

21- Adjust the outriggers and install planks, as required and allowed (see p. 111 of the *Accessories* section for more information).

Verification of the setup

22- Make a final verification of the setup before authorizing workers to use the motorized unit. Make sure that all the guardrails are in place and secure (see p. 108 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**.

23- 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 p. 133 of the *Transport, Storage and Maintenance* section for more information about the daily inspection checklist and to p. 135 for information about the handover sheet.

Setup and Configurations

Multiple units installation with mast ties – pre-installation

(requires two twin mast adapters – sold separately)

The following installation steps can be used for **standard and non-standard configurations of tied installations with multiple units linked by a bearing bridge**. For more information about the definition of a standard configuration, refer to p. 20 of this section. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of this section.

Pre-installation must be performed in a linked configuration only. Once pre-installation is complete, refer to p. 34 of this section for instructions on how to split a motorized unit, if required and allowed.

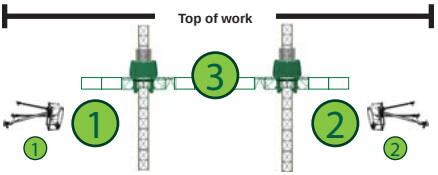


fig. 1.33

Installation of the first motorized unit

Positioning the motorized unit

1- Prepare the motorized unit and the area where the setup will be installed as described in the general guidelines (steps 1 through 6 on p. 17).

2- Align the base of the motorized unit with the face of the work and lower it into position.

3- Using the jacks on the lateral base extensions, level the mast on both its front and side axis, then, if required, use metal shims to make sure that the base sits squarely and level on the cribbing.

Connection of the unit and control panel to the power supply (electrical unit)

4- If the unit used in the setup is an electrical unit, select a power cable appropriate for the height of the mast. Refer to the *Power Cable Selection Chart* on p. 72 of the *Power Pack and Operating Components* section 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 mast, distance from power source, acceptable overall slack in cable).

5- Install and connect the power cable. **This installation must be performed by a certified electrician**. For instructions on the installation of the power cable, refer to the startup preparation instructions on p. 71 of the *Power Pack and Operating Components* section.

Installation of the first cantilevers

6- Using any appropriate lifting device such as a crane or a rough terrain forklift, **install only one 5' (1,5 m) bridge on each side of the mast**. Refer to the *Bridges* section on p. 50 for instructions on bridge installation.

Verification of limit switches and screen alerts

7- Pull out the emergency stop button and unlock the display screen. Make sure that the appropriate configuration options have been selected (F4) on the display screen. For information about the functions and alerts of the control panel, refer to p. 77 of the *Control Panel* section.

8- Inspect the strobe under the main frame and make sure it is working properly.

9- Review the screen alerts and perform a verification of the limit switches. For instructions on how to verify the limit switches, refer to p. 48 of the *Safety Devices* section.

WARNING

It is recommended that two persons handle all rise and descent operations of each motorized unit and that at least **one** of those two persons is a **qualified operator**. It is important to coordinate the motion of motorized units linked by a bearing bridge to keep the structure as level as possible.

Setup and Configurations
Multiple units installation with mast ties – pre-installation
(requires two twin mast adapters – sold separately)

Verification of limit switches and screen alerts (cont'd)

10- If any of the limit switches is not working properly, the unit must be put out of service until it has been inspected and repaired by a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety* section. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

Installation of mast sections and tie levels

11- Using an optional jib arm, a crane or a rough terrain forklift, load mast sections on the motorized unit (see p. 119 of the *Accessories* section for more information on the installation and use of the jib arm). There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.32. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.32. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

Mast sections must be loaded equally on either side of the mast and taken alternately from one side, then the other when installing to ensure good balance. Refer to the *Load Capacities* section on p. 94 for more information about loading the platform.

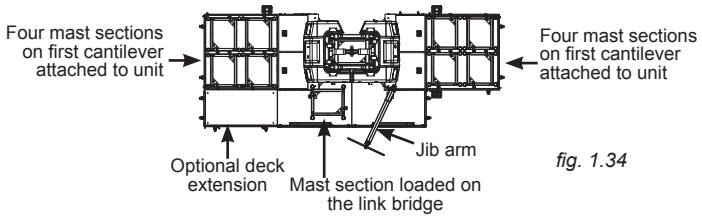


fig. 1.34

12- Install mast sections until a first tie level is required. For instructions on the installation of a mast section, refer to p. 84 of the *Mast and Mast Ties* section. Refer to p. 86 of the *Mast and Mast Ties* section for instructions on how to install mast ties. For more information about the schedule of installation of tie levels, refer to the *Mast Tie Schedule* tables on p. 87 of the *Mast and Mast Ties* section.

13- Once the first tie level has been installed, proceed with the installation of as many mast sections and tie levels as is required by the layout plan and the configuration.

Installation of the mast head

14- Once all required mast sections and tie levels are in place, install the mast head.

Installing and testing the top limit switch

15- Make sure that the top limit trigger plate on the mast head is in a vertical position. If necessary, loosen the thumb screws, flip the trigger vertically and tighten the thumb screws by hand.

16- Test the operation of the top limit switch by raising the unit until the switch reaches the trigger plate. The screen should display an alert for the top limit. If the limit switch is not working properly, call the distributor/service center or the Hydro Mobile technical support team. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

If it is required to load 45' (13,7 m) of mast sections, a ninth mast section can be set on the link bridge of the motorized unit.

Installing an optional deck extension will facilitate the handling of mast sections with the jib arm.

C

Setup and Configurations

Multiple units installation with mast ties – pre-installation
(requires two twin mast adapters – sold separately)

Greasing of the racks and gears

17- Upon initial setup and subsequently after every 8 to 10 hours of cumulative runtime (unit travel up and down the mast), grease must be applied to the gears and to the racks, from the top of the mast down. For more information, refer to the daily inspection checklist for this motorized unit. Grease must be allowed to stand for 2-3 hours before the motorized unit is used again. Use an open gear lubricant recommended by Hydro Mobile. Refer to p. 132 of the *Transport, Storage and Maintenance* section for more information on the appropriate lubrication method. Lower the motorized unit to base level, verifying the mast ties and the mast bolts and applying grease, as required, on the way down. Make sure that all bolt assemblies are tightened to the proper torque and are in good condition, and that grease is applied appropriately.

Installation of the mast guards

18- Once grease has been applied to the gears and the mast racks, install all mast guards. Remove and store the jib arm, if necessary.

2

Installation of the second motorized unit

Positioning and installing the second motorized unit

1- Determine the position of the second motorized unit according to the length of the bearing bridge to be installed.

2- **To determine the length of the bearing bridge**, use the *Distances for a bearing installation* table in fig. 1.35 as a guide or assemble the bearing bridge and measure the overall length of the structure, including the twin mast adapters at each end of the structure. If required, refer to the safety guidelines and to steps 1 through 4 of the instructions for the assembly of a bearing bridge structure on p. 52 of the *Bridges* section.

3- Install the second motorized unit following steps 1 through 18 of the installation instructions for the first motorized unit, starting on p. 26.

Distances for a bearing installation
(approximate distances)

No, of bridges	Distances from center to center of masts	Distances between main frames
10	65' (19,8 m)	55' (16,8 m)
9	60' (18,3 m)	50' (15,2 m)
8	55' (16,8 m)	45' (13,7 m)
7	50' (15,2 m)	40' (12,2 m)
6	45' (13,7 m)	35' (10,7 m)
5	40' (12,2 m)	30' (9,1 m)
4	35' (10,7 m)	25' (7,6 m)
3	30' (9,2 m)	20' (6,1 m)

fig. 1.35

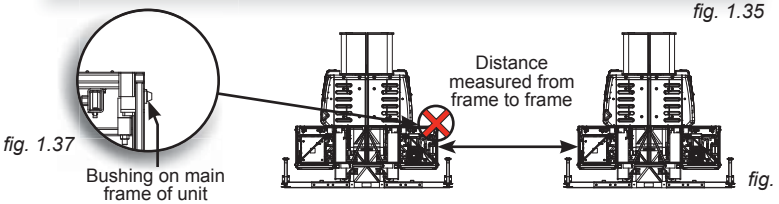


fig. 1.37

fig. 1.36

It's important to make sure that he distance between the two motorized units is measured from **frame to frame** and not from **bushing** (fig. 1.37) **to bushing**.

Setup and Configurations

Multiple units installation with mast ties – pre-installation
(requires two twin mast adapters – sold separately)

Completing the multiple units installation

3

Installation of the bearing bridge structure

1- Make sure the bearing bridge structure has been assembled as described in the assembly instructions on p. 52 of the *Bridges*.

2- Make sure that the twin mast adapters are installed at each end of the bearing bridge structure. For instructions on the installation of a twin mast adapter, refer to p. 52 of the *Bridges* section. It is important to make sure that the locking plates on the twin mast adapters remain in place until the installation of the bearing bridge structure is complete.

3- Proceed with the installation of the bearing bridge structure following the installation instructions on p. 53 of the *Bridges* section. Once the installation of the structure is complete, make sure the lock plates have been unhooked on each twin mast adapter.

Installation of additional bridges, equipment and accessories

4- With the unit at base level, install as many additional cantilevers as is required and allowed. Refer to the *Load Capacities* section on p. 94 for the maximum number of bridges allowed in a setup.

5- Install additional equipment and accessories as is required and allowed. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of this section. For instructions on the installation and use of an extension bridge or a swivel bridge, refer to the *Bridges* section on p. 50. For instructions on the installation and use of any other accessory such as a monorail or weather protection, refer to the *Accessories* section on p. 122.

Installation of outriggers and planking

6- Adjust the outriggers and install planks, as required and allowed (see p. 111 of the *Accessories* section for more information).

Verification of the setup

7- Make a final verification of the setup before authorizing workers to use the motorized unit. Make sure that all the guardrails are in place and secure (see p. 108 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.

8- 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 p. 133 of the *Transport, Storage and Maintenance* section for more information about the daily inspection checklist and to p. 135 for information about the handover sheet.

WARNING

When weather protection is required and allowed, tarps and shields must only be installed once all tie levels are in place up to the top of the work.

WARNING

It is important to make sure to plug in all inclinometers and to enable the inclinometer option on each screen of the bearing bridge installation. It is also essential to perform the 0-degree level adjustment for each inclinometer.

WARNING

It is recommended that two persons handle all rise and descent operations of each motorized unit and that at least **one** of those two persons is a **qualified operator**. It is important to coordinate the motion of motorized units linked by a bearing bridge to keep the structure as level as possible.

Setup and Configurations

Multiple units installation with mast ties – pre-installation
(requires two twin mast adapters – sold separately)

The following installation steps can be used for **standard and non-standard configurations of tied installations with multiple units linked by a bearing bridge**. For more information about the definition of a standard configuration, refer to p. 20 of this section. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of this section.

Pre-installation must be performed in a linked configuration only. Once pre-installation is complete, refer to p. 34 of this section for instructions on how to split a motorized unit, if required and allowed.

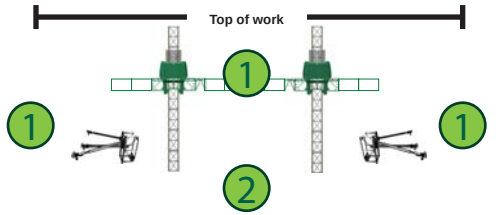


fig. 1.38

Installation of units and bridges

Positioning the first 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. 17 (steps 1 through 6).

2- Align the base of the motorized unit with the face of the work and lower it into position.

3- Using the jacks on the lateral base extensions, level the mast on both its front and side axis, then, if required, use metal shims to make sure that the base sits squarely and level on the cribbing.

Installation of the bearing bridge structure

4- Make sure the bearing bridge structure has been assembled as described in the assembly instructions on p. 52 of the *Bridges*.

5- Make sure that a twin mast adapter is installed at the end of the bearing bridge structure to be attached to the first motorized unit. For instructions on the installation of a twin mast adapter, refer to p. 52 of the *Bridges* section. It is important to make sure that the locking plates on the twin mast adapter remain in place until the installation of the bearing bridge structure is complete.

6- Using a rough terrain forklift, a crane or any other appropriate lifting device, lift the bearing structure, align it with the motorized unit installed and lower it into position.

7- Still holding the motorized unit, bolt the twin mast adapter to the main frame of the first motorized unit. Make sure that the end of the bearing bridge that is not yet bolted to a unit is **supported**.

Positioning the second motorized unit

8- Prepare the second motorized unit and the area where the setup will be installed as described in the general guidelines on p. 17 (steps 1 through 6).

WARNING

It is important to make sure to plug in all inclinometers and to enable the inclinometer option on each screen of the bearing bridge installation. It is also essential to perform the 0-degree level adjustment for each inclinometer.

Setup and Configurations

Multiple units installation with mast ties – pre-installation
(requires two twin mast adapters – sold separately)

Positioning the second motorized unit (cont'd)

9- Align the motorized unit with the end of the bearing bridge structure lower it into position, making sure the base is properly aligned with the face of the work.

10- Using the jacks on the lateral base extensions, level the mast on both its front and side axis, then, if required, use metal shims to make sure that the base sits squarely and level on the cribbing.

Completing the installation of the bearing bridge

11- Bolt the twin mast adapter at the end of the bearing bridge structure to the main frame of the second motorized unit. It is important to make sure that the locking plates on the twin mast adapter remain in place until the installation of the bearing bridge structure is complete.

12- Complete the installation of the bearing bridge structure as described in steps 3 through 6 of the installation instructions on p. 53 of the *Bridges* section.

Installation of the first cantilevers

13- Using any appropriate lifting device such as a crane or a rough terrain forklift, **install only one 5' (1,5 m) bridge** at the cantilever end of each motorized unit.

Connection of the units and control panels to the power supply (electrical unit)

14- If the units used in the setup are electrical units, select the appropriate power cables for the height of the setup. Refer to the *Power Cable Selection Chart* on p. 72 of the *Power Pack and Operating Components* section for help with the selection of the power cables. Make sure that the overall length of each cable is sufficient for the installation (height of setup, distance from power source, acceptable overall slack in cable).

15- Install and connect the power cables. **This installation must be performed by a certified electrician**. For instructions on the installation of power cables, refer to the startup preparation instructions on p. 71 of the *Power Pack and Operating Components* section.

Verification of limit switches and screen alerts

16- Pull out the emergency stop button and unlock the display screen. Make sure that the appropriate configuration options have been selected (F4) in the control panel. For information about the functions and alerts of the control panel, refer to p. 77 of the *Control Panel* section.

17- Inspect the strobe under the main frame and make sure it is working properly.

18- Review the screen alerts and perform a verification of the limit switches. For instructions on how to verify the limit switches, refer to p. 48 of the *Safety Devices* section.

19- If any of the limit switches is not working properly, the unit must be put out of service until it has been inspected and repaired by a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety* section. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

WARNING
It is important to verify limit switches and screen alerts on both motorized units **as simultaneously as possible**.

WARNING
It is recommended that two persons handle all rise and descent operations of each motorized unit and that at least **one** of those two persons is a **qualified operator**. It is important to coordinate the motion of motorized units linked by a bearing bridge to keep the structure as level as possible.

D

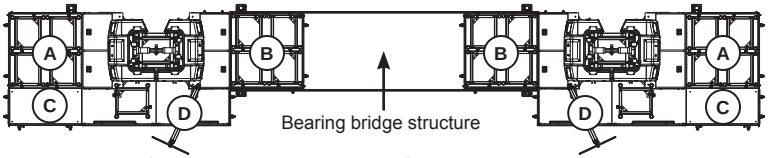
Setup and Configurations

Multiple units installation with mast ties – pre-installation
(requires two twin mast adapters – sold separately)

Installation of mast sections and tie levels

20- Using an optional jib arm, a crane or a rough terrain forklift, load mast sections on **each motorized unit** (see p. 119 of the *Accessories* section for more information on the installation and use of the jib arm). There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of each motorized unit, as shown in fig. 1.39. It is recommended to install an optional deck extension on the first cantilever attached to each unit and the first bridge of the bearing bridge structure close to each unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.39. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.



(A) Four mast sections on first cantilever attached to unit
(B) Four mast sections on first bridge of the bearing bridge structure
(C) Optional deck extension installed on the opposite side of the jib arm
(D) Jib arm installed on the opposite side of the deck extension

fig. 1.39

Mast sections must be loaded equally on either side of each mast and taken alternately from one side, then the other when installing to ensure good balance. Refer to the *Load Capacities* section on p. 94 for more information about loading the platform.

21- Install mast sections until a first tie level is required. For instructions on the installation of a mast section, refer to p. 84 of the *Mast and Mast Ties* section. Refer to p. 86 of the *Mast and Mast Ties* section for instructions on how to install mast ties. For more information about the schedule of installation of tie levels, refer to the *Mast Tie Schedule* tables on p. 87 of the *Mast and Mast Ties* section.

22- Once the first tie level has been installed on both motorized units, proceed with the installation of as many mast sections and tie levels **on each motorized unit** as is required by the layout plan and the configuration.

Installation of the mast heads

23- Install the mast head on top of the last mast section **on each motorized unit**.

Installing and testing the top limit switches

24- Make sure that the top limit trigger plate on the mast head is in a vertical position **on each motorized unit**. If necessary, loosen the thumb screws, flip the trigger vertically and tighten the thumb screws by hand.

25- Test the operation of the top limit switches by raising the motorized units until the switches reach the trigger plates. Each screen should display an alert for the top limit. If any of the limit switches is not working properly, call the distributor/service center or the Hydro Mobile technical support team. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

If it is required to load 45' (13,7 m) of mast sections, a ninth mast section can be set on the link bridge of the motorized unit.

Installing an optional deck extension will facilitate the handling of mast sections with the jib arm.

WARNING

During pre-installation, only mast sections can be loaded on the motorized unit and the two cantilevers. It is important to note that no other loads are allowed on the bridges until the pre-installation process is complete.

Setup and Configurations

Multiple units installation with mast ties – pre-installation
(requires two twin mast adapters – sold separately)

Greasing of the racks and gears

26- Upon initial setup and subsequently after every 8 to 10 hours of cumulative runtime (unit travel up and down the mast), grease must be applied to the gears and to the racks of **each motorized unit**, from the top of the mast down. For more information, refer to the daily inspection checklist for this motorized unit. Grease must be allowed to stand for 2-3 hours before the motorized units are used again. Use an open gear lubricant recommended by Hydro Mobile. Refer to p. 132 of the *Transport, Storage and Maintenance* section for more information on the appropriate lubrication method. Lower the motorized unit to base level, verifying the mast ties and the mast bolts on **each motorized unit** and applying grease, as required, on the way down. Make sure that all bolt assemblies are tightened to the proper torque and are in good condition, and that grease is applied appropriately.

Installation of the mast guards

27- Once grease has been applied to the gears and mast racks on **both motorized units**, install all mast guards. Remove and store each jib arm, if necessary.

Completing the installation – additional equipment and accessories

Installation of additional bridges, equipment and accessories

28- With the unit at base level, install as many additional cantilevers as is required and allowed. Refer to the *Load Capacities* section on p. 94 for the maximum number of bridges allowed in a setup.

29- Install additional equipment and accessories as is required and allowed. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of this section. For instructions on the installation and use of an extension bridge or a swivel bridge, refer to the *Bridges* section on p. 50. For instructions on the installation and use of any other accessory such as a monorail or weather protection, refer to the *Accessories* section on p. 108.

Installation of outriggers and planking

30- Adjust the outriggers and install planks, as required and allowed (see p. 111 of the *Accessories* section for more information).

Verification of the setup

31- Make a final verification of the setup before authorizing workers to use the motorized units. Make sure that all the guardrails are in place and secure (see p. 108 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 of guardrails or face guardrail supports is mandatory.

32- Before authorizing workers to use the motorized units, perform every step in the daily inspection checklist. If required, fill out the handover sheet to complete the installation. Refer to p. 133 of the *Transport, Storage and Maintenance* section for more information about the daily inspection checklist and to p. 135 for information about the handover sheet.

WARNING

It is recommended that two persons handle all rise and descent operations of each motorized unit and that at least **one** of those two persons is a **qualified operator**. It is important to coordinate the motion of motorized units linked by a bearing bridge to keep the structure as level as possible.

Setup and Configurations

Splitting a motorized unit (applicable to model F300 only)

The following steps must be performed by a **qualified erector/dismantler**. For more information about the definition of a qualified erector/dismantler, refer to p. 7 of the *Performance and Safety* section.

Only **model F300** of the F2 Series motorized units can be used in an **unlinked** mode. The trolley link can be removed **only once the installation has been completely installed to the top of the work**, following the method of installation appropriate for the configuration.

Removal of the trolley link

1- Make sure that the platform has been installed following the installation guidelines described in the *Motorized Unit* section on p. 17, and that it can be operated safely.

2- Raise the motorized unit above base level by 2' to 3' (0,6 m to 0,9 m).

3- Remove the plastic hoods on either side of the mast (fig. 1.40).

4- Disconnect both ends of the communication cable between the two control panels. Store the cable properly.

5- Disconnect the quick connect hose (used for an emergency descent) (see fig. 1.42). Protect the end of the hose and tie it to the trolley link.

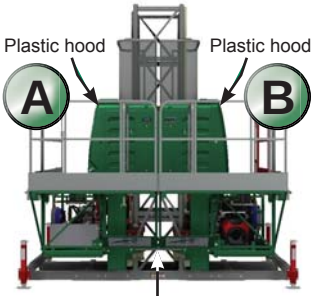


fig. 1.40

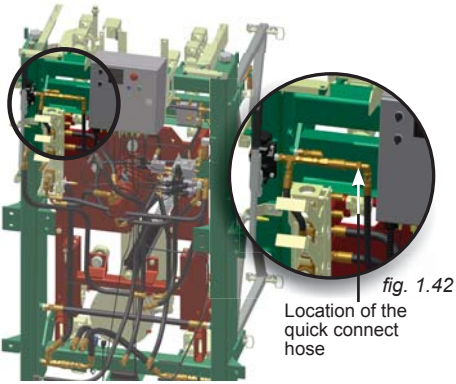


fig. 1.41

fig. 1.42

fig. 1.43

6- On one of the display screens, scroll to the configuration options menu (fig. 1.43). Select "UNLINKED" in the LINK OPTION box and the "ENABLE" option in the LINK DOOR box.

7- Repeat step 6 on the other control panel.

8- Close both link bridge doors.

Setup and Configurations

Splitting a motorized unit (applicable to model F300 only)

Removal of the trolley link (cont'd)

9- **On one side of the motorized unit only** (shown as "A" in fig. 1.44 for illustration purposes only), disconnect the cable connected to the trolley link sensor located at the top of the main trolley.

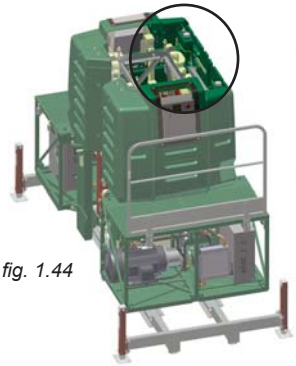


fig. 1.44

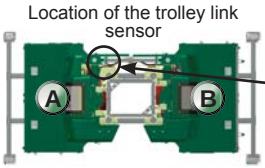


fig. 1.45

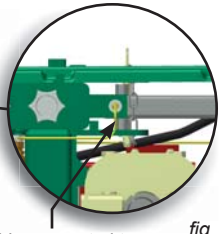


fig. 1.46

10- Remove the hitch pin assemblies **on that side only** (shown as "A" in fig. 1.45.

11- Carefully raise that side of the unit to have enough clearance to remove the trolley link (about 6" to 12" or 15 cm to 30 cm).

12- Support the trolley link and remove the remaining hitch pin assemblies. Remove the trolley link and store it properly.

13- Reconnect the trolley link proximity switch disconnected in step 9.

14- On the display screen, scroll to the inputs page and make sure that the LINK DOOR is detected but not the trolley link.

15- Proceed in reverse order to relink both sides of the motorized unit.

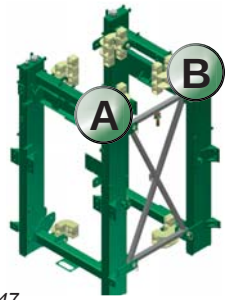


fig. 1.47

Trolley link

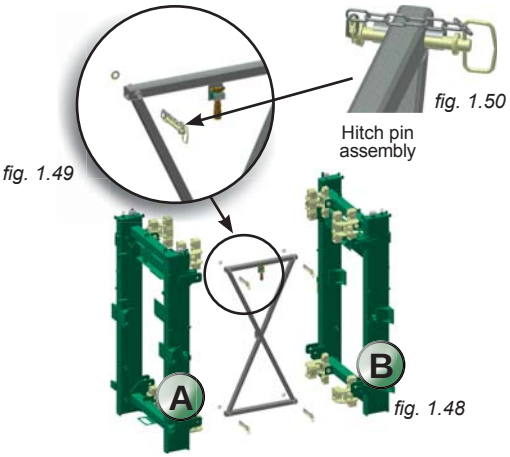


fig. 1.49

fig. 1.50

Hitch pin assembly

fig. 1.48

Setup and Configurations

Dismantling an installation

SAFETY comes first. It is essential that the **dismantling** of an F2 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 the *Performance and Safety* section.

Safety guidelines for dismantling an installation

1- Make sure that all the equipment necessary for a safe dismantlement of the installation is on hand (slings, crane or rough terrain forklift, etc., as required).
2- Inspect all safety devices (overspeed safety device, inclinometers in a bearing bridge configuration, emergency descent, etc.) and make sure that they are working properly.
3- It is important to note that any installed **monorail must not be used** during dismantling operations.
4- Tarps and shields used for weather protection **must be removed before the start of dismantling operations**.
5- Perform every step in the daily inspection checklist. Refer to p. 133 of the *Transport, Storage and Maintenance* section for more information about the daily inspection checklist.
6- If any motorized unit was used in an unlinked configuration, make sure the trolley link is put back into place **before the start of dismantling operations**.
7- Make sure to choose the dismantling method appropriate for the installation.

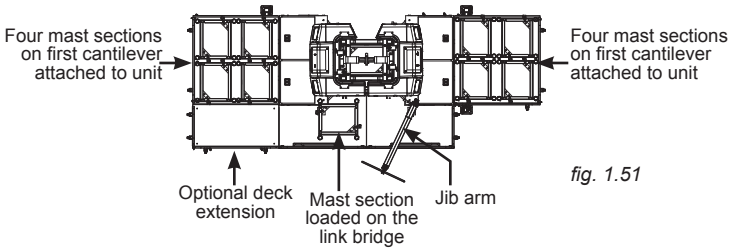


fig. 1.51

Dismantling a standard single unit installation with mast ties

A The following dismantling steps can be used for a **single unit configuration installed following method of installation "A"**. Refer to p. 20 of this section for more information about method of installation "A".

1- Prepare the installation as described in the safety guidelines for dismantling an F2 Series installation above.
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 properly tightened, that all anchor bolts are in place and in good condition and that mast ties are properly tied to the face of the work.

WARNING
If any motorized unit was used in an unlinked configuration, it is **mandatory** to make sure that the trolley link is put back into place **before the start of dismantling operations**.

Setup and Configurations

Dismantling a standard single unit installation with mast ties

3- Make sure the motorized unit is at the top of the work. Lower the motorized unit to base level, removing mast sections and mast ties on the way down, **leaving two tie levels in place**. Refer to p. 85 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 91 of the *Mast and Mast Ties* section for instructions on how to remove mast ties.

4- **Mast sections must be stored and evenly distributed on each side of the mast to ensure good balance**. There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.51, p. 36. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.51, p. 36. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

If required, use a crane to remove mast sections from the two 5' (1,5 m) bridges attached to the unit to avoid any overloads. Refer to the *Load Capacities* section on p. 94 of for more information about loads allowed on an installation.

5- When **only two tie levels are remaining**, it is important to **proceed with extreme care** to make sure that the stability of the motorized unit is not compromised during the operation.

Once the stability of the motorized unit has been secured, proceed with the removal of the last mast sections and tie levels.

Before removing the last two tie levels, it is **critical** to make sure that the **base configuration** of the motorized unit is **consistent with the tie schedule used** for the installation of that motorized unit.

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

7- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails.

8- Remove all installed bridges on each side of the motorized unit.

9- If the unit used in the setup is an electrical motorized unit, disconnect the power cable from the motorized unit and the power source. **This operation must be performed by a certified electrician**. Store the power cable properly.

10- If the unit is to be stored for any significant length of time, refer to p. 131 of the *Transport, Storage and Maintenance* section for instructions on how to properly store an F2 Series motorized unit.

Dismantling a single unit installation with mast ties

B The following dismantling steps can be used for a **single unit configuration installed following method of installation "B"**. Refer to p. 23 of this section for more information about method of installation "B".

1- Prepare the installation as described in the safety guidelines for dismantling an F2 Series installation, on p. 36.

2- Bring the motorized unit to base level and remove all loads from the platform.

3- With the unit at base level, remove any installed equipment or accessory (such as wider planking configuration, swivel bridge, forward/back extension bridge, monorail, weather protection, etc.).

WARNING

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

Setup and Configurations

Dismantling a standard single unit installation with mast ties

4- Remove all bridges installed, leaving **only one 5' (1,5 m) bridge at each cantilever end** of the motorized unit.

5- 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 properly tightened, that all anchor bolts are in place and in good condition and that mast ties are properly tied to the face of the work.

WARNING

Before the start of dismantling operations of a setup installed following installation method "B", it is **mandatory** to uninstall any equipment, accessory or bridge, leaving **only one** 5' (1,5 m) bridge attached at each end of the motorized unit.

6- Lower the motorized unit to base level, removing mast sections and mast ties on the way down, **leaving two tie levels in place**. Refer to p. 85 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 91 of the *Mast and Mast Ties* section for instructions on how to remove mast ties.

7- **Mast sections must be stored and evenly distributed on each side of the mast to ensure good balance**. There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.51, p. 36. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.51, p. 36. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

If required, use a crane to remove mast sections from the two 5' (1,5 m) bridges attached to the unit to avoid any overloads. Refer to the *Load Capacities* section on p. 94 of for more information about loads allowed on an installation.

8- When **only two tie levels are remaining**, it is important to **proceed with extreme care** to make sure that the stability of the motorized unit is not compromised during the operation

Once the stability of the motorized unit has been secured, proceed with the removal of the last mast sections and tie levels.

Before removing the last two tie levels, it is **critical** to make sure that the **base configuration** of the motorized unit is **consistent with the tie schedule used** for the installation of that motorized unit.

9- Remove any remaining loads (mast sections, mast ties) from the platform and make all workers step down.

10- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails.

11- Remove the 5' (1,5 m) bridges attached at each end of the unit.

12- If the unit used in the setup is an electrical motorized unit, disconnect the power cable from the motorized unit and the power source. **This operation must be performed by a certified electrician**. Store the power cable properly.

13- If the unit is to be stored for any significant length of time, refer to p. 131 of the *Transport, Storage and Maintenance* section for instructions on how to properly store an F2 Series motorized unit.

WARNING

If any motorized unit was used in an unlinked configuration, it is **mandatory** to make sure that the trolley link is put back into place **before the start of dismantling operations**.

WARNING

During dismantling, only mast sections can be loaded on the two 5' (1,5 m) cantilevers attached to the unit. It is important to note that no other loads are allowed on the bridges until the dismantling process is complete.

Setup and Configurations

Dismantling a multiple units installation with mast ties

The following dismantling steps can be used for a **multiple units configuration installed following method of installation "C"**. Refer to p. 26 of this section for more information about method of installation "C".

1- Prepare the installation as described in the safety guidelines for dismantling an F2 Series installation, on p. 36.

2- Bring the motorized units to base level and remove all loads from the platform.

3- With the units at base level, remove any installed equipment (such as wider planking configuration, swivel bridge, forward/back extension bridge).

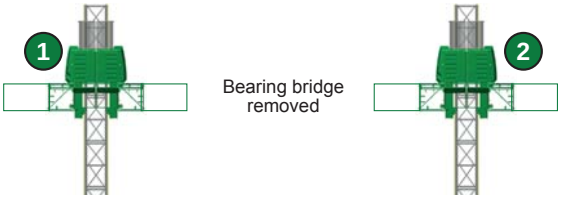


fig. 1.52

Only **one** 5' (1,5 m) bridge at **each** cantilever end

Only **one** 5' (1,5 m) bridge at **each** cantilever end

WARNING

Before the start of dismantling operations of a setup installed following installation method "C", it is **mandatory** to uninstall any equipment, accessory or bridge, leaving **only one** 5' (1,5 m) bridge attached at each end of the motorized unit.

4- Remove any installed accessory (such as monorail, weather protection, etc.).

5- Remove **all installed bridges** on each motorized unit, including the bearing bridge structure, leaving **only one 5' (1,5 m) bridge attached at each cantilever end of each motorized unit** (see 1 and 2 in fig. 1.52). Refer to p. 53 for instructions on the dismantling of a bearing bridge structure.

6- 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 properly tightened, that all anchor bolts are in place and in good condition and that mast ties are properly tied to the face of the work.

7- Lower the motorized unit to base level, removing mast sections and mast ties on the way down, **leaving two tie levels in place**. Refer to p. 85 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 91 of the *Mast and Mast Ties* section for instructions on how to remove mast ties.

8- **Mast sections must be stored and evenly distributed on each side of the mast to ensure good balance**. There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.51, p. 36. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.51, p. 36. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

If required, use a crane to remove mast sections from the two 5' (1,5 m) bridges attached to the unit to avoid any overloads. Refer to the *Load Capacities* section on p. 94 of for more information about loads allowed on an installation.

WARNING

It is recommended that two persons handle all rise and descent operations of each motorized unit and that at least **one** of those two persons is a **qualified operator**. It is important to coordinate the motion of motorized units linked by a bearing bridge to keep the structure as level as possible.

Setup and Configurations

Dismantling a multiple units installation with mast ties

9- When **only two tie levels are remaining**, it is important to **proceed with extreme care** to make sure that the stability of the motorized unit is not compromised during the operation.

Once the stability of the motorized unit has been secured, proceed with the removal of the last mast sections and tie levels.

Before removing the last two tie levels, it is **critical** to make sure that the **base configuration** of each motorized unit is **consistent with the tie schedule used** for the installation of that motorized unit.

10- Remove any remaining loads (mast sections, mast ties) from the platform and make all workers step down.

11- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails.

12- Remove the 5' (1,5 m) cantilevers attached at each end of the unit.

13- If a unit used in the setup is an electrical motorized unit, disconnect the power cable from the motorized unit and the power source. **This operation must be performed by a certified electrician**. Store the power cable properly.

14- Repeat steps 7 through 14 for the second motorized unit.

15- If a unit used in the setup is to be stored for any significant length of time, refer to p. 131 of the *Transport, Storage and Maintenance* section for instructions on how to properly store an F2 Series motorized unit.

Dismantling a multiple units installation with mast ties

The following dismantling steps can be used for a **multiple units configuration installed following method of installation "D"**. Refer to p. 30 of this section for more information about method of installation "D".

1- Prepare the installation as described in the safety guidelines for dismantling an F2 Series installation, on p. 36.

2- Bring the motorized units to base level and remove all loads from the platform.

3- With the unit at base level, remove any installed equipment or accessory (such as wider planking configuration, swivel bridge, forward/back extension bridge, monorail, weather protection, etc.).

WARNING

Before the start of dismantling operations of a setup installed following installation method "D", it is **mandatory** to uninstall any equipment, accessory or bridge, leaving **only one** 5' (1,5 m) bridge attached at the cantilever end of each motorized unit, leaving the bearing bridge structure in place (fig. 1.53, p. 41).

4- Remove **all installed cantilevers** on each motorized unit (see 1 and 2 in fig. 1.53, p. 41), leaving **only one 5' (1,5 m) bridge attached at each cantilever end of each motorized unit**.

WARNING

If any motorized unit was used in an unlinked configuration, it is **mandatory** to make sure that the trolley link is put back into place **before the start of dismantling operations**.

Setup and Configurations

Dismantling a multiple units installation with mast ties

5- 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 properly tightened, that all anchor bolts are in place and in good condition and that mast ties are properly tied to the face of the work.

6- Lower the motorized units to base level, removing mast sections and mast ties on the way down, **leaving two tie levels in place on each motorized unit**. Refer to p. 85 of the *Mast and Mast Ties* section for instructions on how to remove and transport mast sections. Refer to p. 91 of the *Mast and Mast Ties* section for instructions on how to remove mast ties.

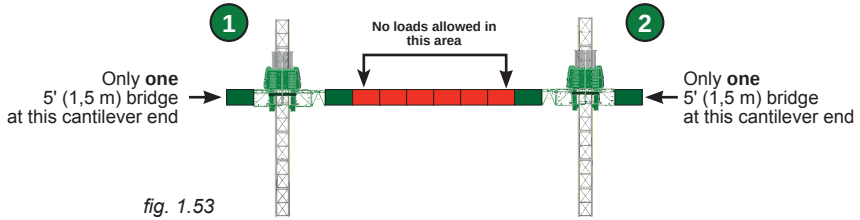


fig. 1.53

WARNING

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

7- Mast sections must be stored and evenly distributed on each side of the mast to ensure good balance. There can be up to a **maximum of four mast sections on each side of the mast at a time**.

A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.54. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.54. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

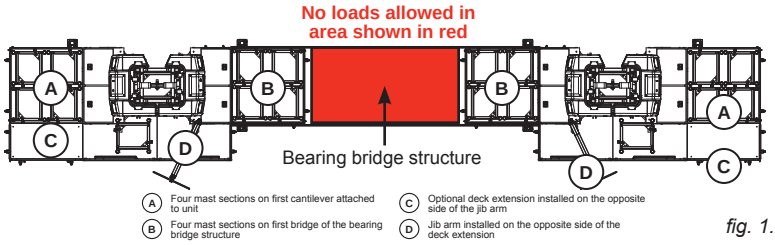


fig. 1.54

If required, use a crane to remove mast sections from the two 5' (1,5 m) bridges attached to the unit to avoid any overloads. Refer to the *Load Capacities* section on p. 94 of for more information about loads allowed on an installation.

WARNING

During dismantling, only mast sections can be loaded on the two 5' (1,5 m) cantilevers attached to the unit and on the first bridge of the bearing bridge structure at each end, as shown in fig. 1.54). It is important to note that no other loads are allowed on the bridges until the dismantling process is complete.

Setup and Configurations

Dismantling a multiple units installation with mast ties

8- When **only two tie levels are remaining**, it is important to **proceed with extreme care** to make sure that the stability of the motorized units is not compromised during the operation.

Once the stability of each motorized unit has been secured, proceed with the removal of the last mast sections and tie levels **on each motorized unit**.

Before removing the last two tie levels, it is **critical** to make sure that the **base configuration** of each motorized unit is **consistent with the tie schedule used** for the installation of that motorized unit.

9- Remove any remaining loads (mast sections, mast ties) from the platform and make all workers step down.

10- Remove all planking, push in all outriggers and secure in place. Remove and store all guardrails.

11- Remove the bearing bridge structure. Refer to p. 53 for instructions on the dismantling of a bearing bridge structure.

12- Remove the 5' (1,5 m) cantilevers attached to each unit.

13- If a unit used in the setup is an electrical motorized unit, disconnect the power cable from the motorized unit and the power source. **This operation must be performed by a certified electrician**. Store the power cable properly.

14- If a unit used in the setup is to be stored for any significant length of time, refer to p. 131 of the *Transport, Storage and Maintenance* section for instructions on how to properly store an F2 Series motorized unit.

WARNING

It is recommended that two persons handle all rise and descent operations of each motorized unit and that at least **one** of those two persons is a **qualified operator**. It is important to coordinate the motion of motorized units linked by a bearing bridge to keep the structure as level as possible.

Safety Devices

Emergency Descent Control System

In the event of an engine failure, a shortage of gasoline (for gas-powered units), a power outage (for electrical units) or broken parts, use the gravity-activated emergency descent control system to bring the motorized unit safely down to the **nearest safe evacuation point**. It is important to note that the emergency descent system must not be used in the event of damages to a gear box, a brake, a gear, an idler or if there is a major hydraulic leak.

WARNING

The F2 Series emergency descent system must not be used in the event of damages to a gear box, a brake, a gear, an idler or if there is a major hydraulic leak.

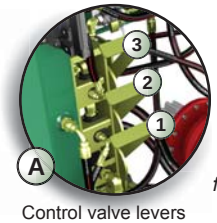


fig. 2.2

Control valve levers

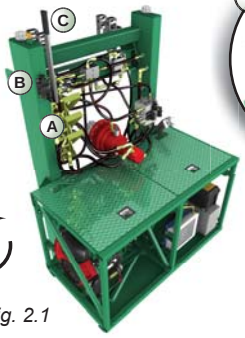


fig. 2.1

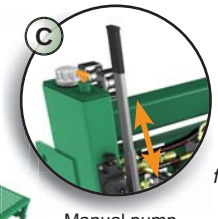


fig. 2.4

Manual pump

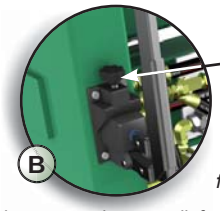


fig. 2.3

Knob on manual pump relief valve

fig. 2.5

Location of emergency descent control valve levers and manual pump

Emergency descent procedure for a single unit installation

1- Make sure the engine is shut down. On an **F300 unit model used in a linked configuration**, make sure that both engines are shut down.

2- Before using the emergency descent control system check the hydraulic oil level to make sure it is in the FULL range on the dipstick. The emergency descent system **must not be used if there is a major hydraulic leak**. On an **F300 unit model used in a linked configuration**, make sure to verify both sides of the unit.

3- Perform a visual inspection of gears, pinions and rollers and other parts of the structure to make sure that they are clear of debris and that there are no signs of damages that could prevent the emergency descent system from operating normally. The emergency descent system **must not be used if the gear system is damaged**. In case of doubt, contact a qualified technician to seek advice. For the definition of a qualified technician, refer to p. 7 of the *Performance and Safety Rules* section.

4- Pull the emergency stop button to power on the control panel and log in. On an **F300 unit model used in a linked configuration**, power on either control panel.

5- Review all screen alerts and make sure that there is no high oil temperature alert displayed. Make sure also that the overspeed safety device is not engaged. For more information about the control panel and the alerts displayed, refer to the *Control Panel* section, on p. 74.

WARNING

If the **emergency descent must be interrupted**, open the manual pump relief valve by turning the knob **counterclockwise** or lift the upper control valve lever ("3", in fig. 2.2) to release the hydraulic pressure. On an F300 unit model used in a **linked configuration**, this step can be performed on either side of the mast. In a multiple units configuration, immediately stop the descent of the unit at the operating end of the bearing structure.

Safety Devices
Emergency Descent Control System

Emergency descent procedure for a single unit installation (cont'd)

6- If there is a high oil temperature alert on the screen or if high oil temperature is suspected, let the oil cool down sufficiently before initiating the emergency descent procedure.

7- Once the oil level and temperature have been verified and are appropriate, lift and remove the plastic hood on the left-hand side of the control panel (fig. 2.5, p. 43) to access the control valve levers and the manual pump. On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

8- Under normal operating conditions, all three control valve levers are in the UP position. To activate the emergency descent system, pull all three levers down, beginning with the bottom lever (see sequence illustrated in fig. 2.2, p. 43). On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

9- Once all three levers are down, close the manual pump relief valve by turning the knob clockwise (fig. 2.3, p. 43). On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

10- Build up hydraulic pressure by operating the pump handle back and forth **throughout** the emergency descent (fig. 2.4, p. 43). On an **F300 unit model used in a linked configuration**, perform this step on **either side of the mast**. The motorized unit will descend at a speed between 5' (1,5 m) and 10' (3 m) a minute.

11- If the **emergency descent must be interrupted**, open the manual pump relief valve by turning the knob **counterclockwise** or by lifting the upper control valve lever ("3" in fig. 2.2, p. 43) to release the hydraulic pressure. On an **F300 unit model used in a linked configuration**, perform this step on **either side** of the mast.

12- To reactivate the emergency descent, close the manual pump relief valve again (see step 9 above). On an **F300 unit model used in a linked configuration**, perform this step on **the side where the relief valve was opened** (see step 11).

13- Once the motorized unit has been brought safely to the **nearest evacuation point**, open the manual pump relief valve by turning the knob counterclockwise and raise all three levers, starting from the top. Replace the plastic hood and secure in place. The engine cannot be started if all or any of the levers of the control valves are down. On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

Emergency descent procedure for a multiple units installation

1- Make sure that the engine is still running at the operating end of the structure (see "A" in fig. 2.6, p. 45). **Perform the following steps at the end of the structure that cannot be operated normally** (see "B" in fig. 2.6, p. 45).

2- Perform steps 1 through 10 of the emergency descent procedure for a single mast installation at the **end of the structure** that cannot be operated normally (see "B" in fig. 2.6, p. 45).

3- Make sure the engine is shut down. On an **F300 unit model used in a linked configuration**, make sure that both engines are shut down.

4- Before using the emergency descent control system check the hydraulic oil level to make sure it is in the FULL range on the dipstick. The emergency descent system **must not be used if there is a major hydraulic leak**. On an **F300 unit model used in a linked configuration**, make sure to verify both sides of the unit.

5- Perform a visual inspection of gears, pinions and rollers and other parts of the structure to make sure that they are clear of debris and that there are no signs of damages that could prevent the emergency descent system from operating normally. The emergency descent system **must not be used if the gear system is damaged**. In case of doubt, contact a qualified technician to seek advice. For the definition of a qualified technician, refer to p. 7 of the *Performance and Safety Rules* section.

6- Pull the emergency stop button to power on the control panel and log in. On an **F300 unit model used in a linked configuration**, power on either control panel.

7- Review all screen alerts and make sure that there is no high oil temperature alert displayed. Make sure also that the overspeed safety device is not engaged. For more information about the control panel and the alerts displayed, refer to the *Control Panel* section, on p. 74.

WARNING

The emergency descent system must be inspected and tested when and as required by the daily/weekly inspection schedule for this motorized unit.

Safety Devices
Emergency Descent Control System

Emergency descent procedure for a multiple units installation (cont'd)

8- If there is a high oil temperature alert on the screen or if high oil temperature is suspected, let the oil cool down sufficiently before initiating the emergency descent procedure.

9- Once the oil level and temperature have been verified and are appropriate, lift and remove the plastic hood on the left-hand side of the control panel (fig. 2.5, p. 43) to access the control valve levers and the manual pump. On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

10- Under normal operating conditions, all three control valve levers are in the UP position. To activate the emergency descent system, pull all three levers down, beginning with the bottom lever (see sequence illustrated in fig. 2.2, p. 43). On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

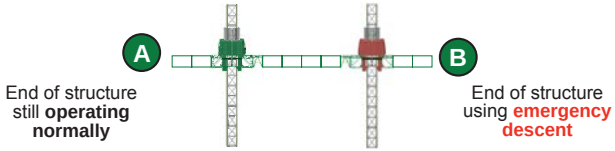


fig. 2.6

11- Once all three levers are down, close the manual pump relief valve by turning the knob clockwise (fig. 2.3, p. 43). On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

12- Build up hydraulic pressure by operating the pump handle back and forth **throughout** the emergency descent (fig. 2.5, p. 43). On an **F300 unit model used in a linked configuration**, perform this step on **either side of the mast**. The motorized unit will descend at a speed between 5' (1,5 m) and 10' (3 m) a minute.

13- As the end of the bearing structure in emergency descent begins to descend at a speed of about 10' (3 m) a minute, select **first speed** on the control panel at the **operating end of the bearing structure** to bring that side down **as simultaneously as possible**.

It is important to note that the inclinometer is disabled on the unit using the emergency descent system. While the inclinometer should work at the operating end, it is **crucial** to visually monitor the descent of the structure and to make sure that the structure remains as level as possible.

14- If the **emergency descent must be interrupted**, immediately stop the unit at the **operating end** of the structure ("A", in fig. 2.6). On the unit at the end using the emergency descent ("B", in fig. 2.6), open the manual pump relief valve by turning the knob **counterclockwise** or by lifting the upper control valve lever ("3" in fig. 2.2, p. 43) to release the hydraulic pressure. On an **F300 unit model used in a linked configuration**, this step can be performed on **either side of the mast**.

15- To reactivate the emergency descent, close the manual pump relief valve again (see step 11 above). On an **F300 unit model used in a linked configuration**, perform this step on **the side where the relief valve was opened** (see step 14).

16- Once the structure has been brought safely to the **nearest evacuation point**, open the manual pump relief valve by turning the knob counterclockwise and raise all three levers, starting from the top. Replace the plastic hood and secure in place. The engine cannot be started if all or any of the levers of the control valves are down. On an **F300 unit model used in a linked configuration**, perform this step on **both sides of the mast**.

WARNING

If the **emergency descent must be interrupted**, open the manual pump relief valve by turning the knob **counterclockwise** or lift the upper control valve lever ("3", in fig. 2.2) to release the hydraulic pressure. On an F300 unit model used in a **linked configuration**, this step can be performed on either side of the mast. In a multiple units configuration, immediately stop the descent of the unit at the operating end of the bearing structure.

Safety Devices

Overspeed Safety Device

Every Hydro Mobile F2 Series motorized unit (models F200 and F300) is equipped with two overspeed safety devices. This safety feature is designed to prevent the motorized unit from falling and is triggered automatically. This device will immobilize the motorized unit instantly.

The overspeed safety device is protected by two safety seals to guarantee the end user that the safety device has not been tampered with or altered in any way by an unauthorized person. Each manufactured safety seal is given a unique serial number which is kept on record by Hydro Mobile. These seals can only be removed for recertification of the overspeed safety device by Hydro Mobile and will be replaced by new seals once the recertification is complete.

The overspeed safety device cannot be engaged on at will, except for inspection purposes by a qualified technician. Any other activation of the overspeed safety device must be investigated by a qualified technician. For the definition of a qualified technician, refer to p. 7 of the *Performance and Safety Rules* section.

Activation of an overspeed safety device

In the event of an activation of an overspeed safety device, the operator must contact a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section.

All precautions must be immediately taken to ensure the safe return of all workers to the nearest evacuation point, according to the evacuation plan (see step 20 on p. 8 of the *Performance and Safety* section).

Once an overspeed safety device is engaged, the motorized unit will stop. The screen on the control panel will display an alert and prevent operation until a qualified technician has inspected the motorized unit and performed all the necessary actions to allow safe operation to resume.

Inspection and maintenance of an overspeed safety device

Each overspeed safety device must be inspected and tested following the appropriate inspection schedule. For more information on inspection and maintenance schedules, refer to p. 132 of the *Transport, Storage and Maintenance* section.

WARNING

Once the overspeed safety device is engaged, all precautions must be taken to ensure the safe return of all workers to the nearest evacuation point, according to the evacuation plan. Operation of the motorized unit can only be resumed after a qualified technician has inspected the motorized unit and performed all the necessary actions to allow safe operation to resume.

Inclinometer

Used only in bearing bridge configurations, the inclinometer is located on the twin mast adapter and must **absolutely** be connected to the control panel. The inclinometer will detect any ± 2-degree or ± 5-degree slope of the structure and the screen will display an alert message to warn the operator and stop the operation. For more information on the installation and use of a twin mast adapter, see p. 52 of the *Bridges* section. For more information about alert messages, see p. 77 of the *Control Panel* section.

Connection

1- Make sure the twin mast adapter is properly bolted to the main frame. Refer to p. 52 of the *Bridges* section for more information on the installation and use of a twin mast adapter.

2- Connect the female end of the inclinometer extension cable to the inclinometer.

3- Lift both power pack access panels on the main frame and lift and remove both lateral plastic hoods next to the control panel. Lift and remove the plastic hood housing the control panel.

4- Run the inclinometer extension cable through the bottom part of the main frame. Connect the extension cable in inclinometer port 1 under the control panel.

5- Replace the plastic hoods and secure the lateral panels.

6- Activate the inclinometer 1 port on the display screen and perform the adjustment of the 0-degree level position, as described in the instructions on p. 47.

7- Repeat steps 1 through 6 for the inclinometer at the other end of the bearing bridge structure.

Safety Devices

Inclinometer

Detection of a ± 2-degree slope

1- When the motorized unit is moving, if the inclinometer detects a slope of ± 2 degrees, a signal is automatically sent to the control panel and the ± 2-degree alert is displayed.

2- **On an F300 unit model**, **during ascent at second (high) speed**, the screen on the control panel of the motorized unit that is at the highest level in the configuration will display an alert (>2DEG NEG) and automatically shift the unit to first (low) speed while the lowest side (>2DEG POS displayed on the screen of that unit) will continue to rise at second (high) speed until the structure is brought back to level. If the structure is rising at first (low) speed, the highest motorized unit will stop completely until the structure is back to level.

During ascent, if the highest motorized unit is a **model F200**, the screen on the control panel will display an alert and automatically **stop** the unit. **The unit will resume ascent** only when the structure is brought back to level.

3- **On an F300 unit model**, **during descent at second (high) speed**, the screen on the control panel of the motorized unit that is at the lowest level in the configuration will display an alert (>2DEG POS) and automatically shift the unit to first (low) speed while the highest side (>2DEG NEG displayed on the screen of that unit) will continue to descend at second (high) speed until the structure is brought back to level. If the structure is descending at first (low) speed, the lowest motorized unit in the configuration will stop completely until the structure is back to level.

During descent, if the lowest motorized unit is a **model F200**, the screen on the control panel will display an alert and automatically **stop** the unit. **The unit will resume descent** only when the structure is brought back to level.

Detection of a ± 5-degree slope

1- When the motorized unit is moving, if the inclinometer detects a slope of ± 5 degrees, a signal is automatically sent to the control panel and the ± 5-degree alert is displayed.

2- **During ascent**, the motorized unit that is at the highest level in the configuration (>5DEG NEG displayed on the screen of the control panel) will automatically **stop** and **resume ascent** only when the structure is brought back to level.

3- **During descent**, the motorized unit that is at the lowest level in the configuration (>5DEG POS displayed on the screen of the control panel) will automatically **stop** and **resume descent** only when the structure is brought back to level.

4- If the inclinometer or its connection is defective, the motorized unit will not operate. In that case, call a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section.

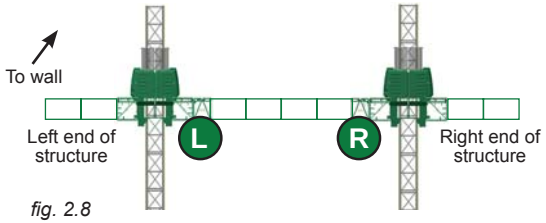


fig. 2.8

Adjustment of the 0° level position

fig. 2.7

1- Make sure the bearing bridge structure is level.

2- Activate the display screen of the control panel and select the inputs/outputs section (F3) on the main menu screen.

3- Navigate to the page where the inclinometer level readings are displayed (fig. 2.7).

4- Loosen the adjustment bolt on the inclinometer sensor located on the left-hand side of the bearing bridge (“L” in fig. 2.8).

5- Move the sensor until a 0.00 reading is displayed in the inclinometer input field on the screen. Tighten the bolt to secure the sensor in place.

6- Repeat steps 2 through 5 to adjust the inclinometer sensor located at the right-hand side of the bearing bridge (“R” in fig. 2.8).

Safety Devices

Inclinometer

Testing the inclinometer

1- Make sure the motorized unit is at 5' to 10' (1,5 m to 3 m) above base level.

2- Make sure that the bearing bridge structure is level and that the inclinometers are connected properly at both ends of the structure.

3- Raise the motorized unit located at the LEFT END of the bearing bridge installation. If the inclinometer is working properly, the motorized unit will stop completely when the structure has reached a 5-degree slope. Monitor the operation and make sure that the motorized unit stops when the >5DEG NEG alert is displayed on the screen of the control panel.

4- Bring the structure back to level. Lower the motorized located at the LEFT END of the bearing bridge installation. If the inclinometer is working properly, the motorized unit will stop completely when the structure has reached a 5-degree slope. Monitor the operation and make sure that the motorized unit stops when the >5DEG POS alert is displayed on the screen of the control panel.

5- Make sure the bearing bridge structure is level and repeat steps 2 and 3 at the RIGHT END of the structure.

Verification of limit switches and screen alerts

1- Pull out the emergency stop button and unlock the display screen (fig. 5.1, p. 74). Make sure that the appropriate configuration options have been selected (F4) in the control panel. For information about the functions and alerts of the control panel, refer to p. 77 of the *Control Panel* section

2- Make sure that the control panel does not detect any event that would prevent the safe and appropriate operation of the unit. It is important to note that when the motorized unit is at base level and resting on its buffers, the screen should display an alert for the bottom final limit (BFL).

3- With the motorized unit at base level, test the top final limit switch by placing a metallic object in front of it. If the switch is working properly, the top final limit alert should no longer be displayed on the screen.

If mast sections are installed, move back the sensor from the rack. If the switch is working properly, the top final limit alert should be displayed on the screen.

4- Remove the mast head and install one mast section. Refer to p. 84 of the *Mast and Mast Ties* section for instructions on the installation of mast sections. The top final limit alert should no longer be displayed on the display screen.

5- Test the bottom final limit switch (the mechanical switch) by activating its lever. If the switch is working properly, the bottom final limit alert should be displayed on the screen when the lever is triggered.

6- Test the bottom limit switch by lowering the unit to base level. If the bottom limit switch is working properly, the corresponding alert should be displayed on the screen.

7- With the motorized unit still about 6" (15,2 cm) above base level (and with the top limit alert still not displayed on the screen), test the top limit switch by placing a metal object in front of it. The top/bottom limit alert should be displayed on the screen.

8- If any of the limit switches is not working properly, call a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section. For more information about limit switches and their corresponding alerts, refer to p. 77 of the *Control Panel* section.

Safety Devices

Fall Protection

The use of fall protection equipment is **mandatory** for all workers on an F2 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 must be inspected before each use and be replaced if found or suspected 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.

The use of fall protection equipment is **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.

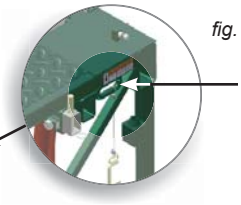
1- Using the designated tie point (chain link) on the main frame of the motorized unit (fig. 2.9), an optional fall arrest bracket installed on two guardrails (fig. 2.12) or a cross-arm anchorage strap tied to two guardrails (fig. 2.13), secure the fall protection equipment. Tie points are designed to 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). Only 30" (76 cm), 33" (84 cm) or 60" (1,6 m) **standard guardrails** can be used as tie points; it is prohibited to use a swivel bridge guardrail, a door guardrail, a movable guardrail, a plank-end guardrail or a face guardrail bracket as a tie point. It is mandatory to make sure that the guardrail used as a tie point is properly fastened.

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

fig. 2.9

Not more than one worker per tie point

fig. 2.10



Chain link on main frame structure

fig. 2.11

Designated tie points on the unit (chain links on each side)

fig. 2.12

Fall arrest bracket

fig. 2.13

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

Not more than one worker per tie point

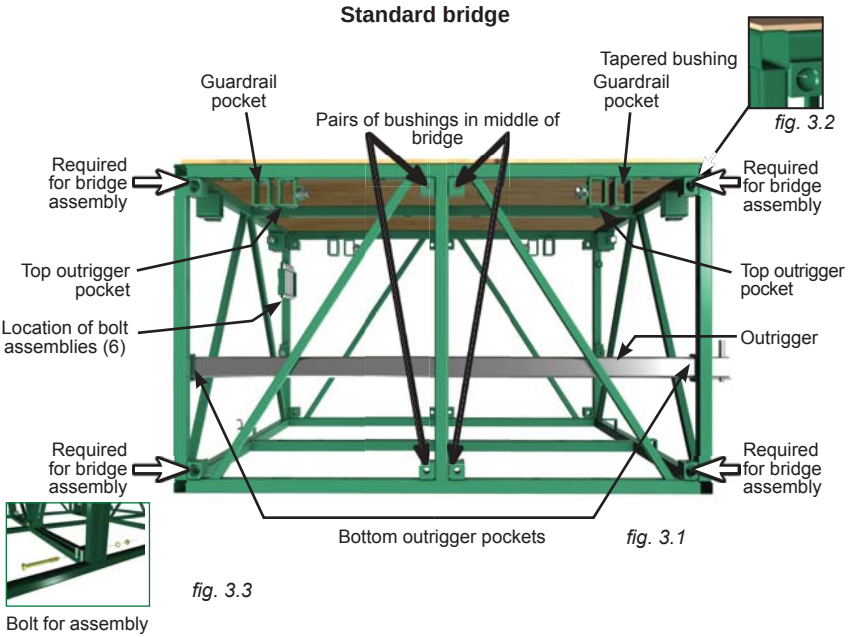


fig. 3.2

fig. 3.1

Bolt for assembly

fig. 3.3

Installation of a bridge

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

2- Assemble both structures 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. 3.4). 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.

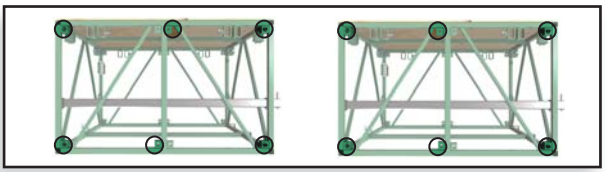


fig. 3.4

Storage of a bridge

1- Inspect the structure of the bridge, including the inside of the open-end tubes, for any sign of damage or distortion. Clean the bridge and its components thoroughly to limit the effects of any corrosive agent.

2- Bridges must not be stored directly on the ground. Make sure to place sufficient cribbing under the bottom chords to prevent damages to the bottom of the structure.

3- Avoid storing the bridge in a location with direct exposure to aggressive or corrosive materials in the surroundings.

Bridges

Bridge Types

5' (1,5 m) bridge

fig. 3.5

Dimensions	60" x 62" x 35 13/16" (152,4 cm x 158 cm x 91 cm)
Weight (includes weight of guardrail)	390 lb (177 kg)
Guardrail	1x 60" (1,5 m) – 58 lb (26 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)

30" (76 cm) bridge

fig. 3.6

Dimensions	30 1/2" x 62" x 35 13/16" (77,4 cm x 158 cm x 91 cm)
Weight (includes weight of guardrail)	290 lb (132 kg)
Guardrail	1x 30" (76 cm) – 40 lb (18 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)

10' (3 m) bridge

fig. 3.7

Dimensions	120" x 62" x 35 13/16" (305 cm x 158 cm x 91 cm)
Weight (includes weight of guardrail)	720 lb (327 kg)
Guardrail	2x 60" (1,5 m) – 58 lb (26 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)

Twin mast adapter

fig. 3.8

Dimensions	30 3/8" x 62" x 35 13/16" (77,2 cm x 158 cm x 91 cm)
Weight (includes weight of guardrail)	375 lb (170 kg)
Guardrail	1x twin mast adapter guardrail – 45 lb (20 kg)
Accessories	Inclinometer
Bolt and nut set	12x 5/8" x 5 1/2" long (GR8)

Swivel bridge

fig. 3.9

Dimensions	67 7/8" x 62" x 39 1/2" (172,4 cm x 158 cm x 100,3 cm)
Weight (includes weight of guardrail)	800 lb (363 kg)
Guardrail	1x swivel bridge guardrail – 107 lb (49 kg)
Bolt and nut set	6x 5/8" x 5 1/2" long (GR8)

Multi-purpose bridge

fig. 3.10

Dimensions	33 1/4" x 62" x 35 13/16" (84,5 cm x 158 cm x 91 cm)
Weight (includes weight of guardrail)	330 lb (170 kg)
Guardrail	1x 33" (81 cm) – 41 lb (19 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 sets	4x 5/8" x 4 1/2" long (GR8) 6x 5/8" x 5 1/2" long (GR8)

Bridges

Cantilever

Installation

1- Make sure that inclinometer options 1 and 2 are disabled on the screen.
2- Using any appropriate lifting device such as a crane or a rough terrain forklift, bolt a bridge assembly to the motorized unit on one side of the mast. Refer also to p. 50 of this section for instructions on the installation of a bridge. It is important to note that optional bridge support brackets cannot be used to bolt a bridge assembly to the main frame of the motorized unit.
3- Bolt a second bridge assembly to the motorized unit, on the other side of the mast. For the second bridge assembly and subsequent bridges allowed to be installed, optional bridge support brackets may be used to lift the bridge to be installed. For more information about the use of optional bridge installation support brackets, refer to p. 110 of the *Accessories* section.
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 must be equal on both sides of a cantilever installation**. Refer to the *Load Capacities* section on p. 94 for information on the number of bridges allowed in a cantilever 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 **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 recommended that two persons handle all rise and descent operations of each motorized unit and that at least **one** of those two persons is a **qualified operator**. It is important to coordinate the motion of motorized units linked by a bearing bridge to keep the structure as level as possible. Refer to p. 7 of the *Performance and Safety* section for the definition of a qualified operator.
3- Daily verification and testing of all the inclinometers must be performed before operating the motorized units (as part of the daily inspection).

Assembly of a bearing bridge structure

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. 50 of this section.
5- Complete the assembly of the bearing bridge structure using as many bridges as is required and allowed. Refer to p. 96 of the *Load Capacities* section for information on the number of bridges allowed in a bearing bridge configuration.

Installation of a twin mast adapter

1- Lift and position the first twin mast adapter so that the inclinometer is on the **bearing** side of the structure, **opposite** to the main frame (fig. 3.11, p. 52).

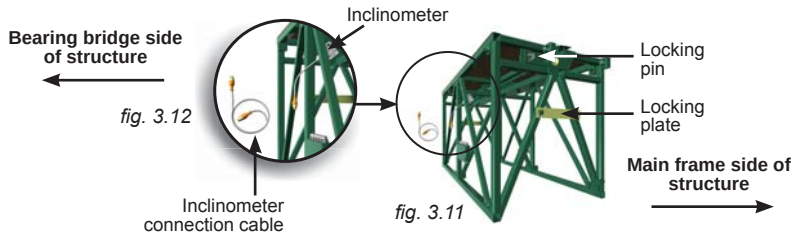


fig. 3.12

fig. 3.11

Bridges

Bearing Bridge

Installation of a twin mast adapter (cont'd)

2- Align the twin mast adapter with the bearing bridge structure using the tapered bushings (see fig. 3.2).

3- Assemble both structures 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. 3.13). Tighten all bolt assemblies to a torque of 120 lb-ft (163 N-m)..

4- Repeat steps 1 through 3 to attach the second twin mast adapter at the other end of the bearing bridge structure. **The locking pins, tabs or plates must not be unhooked or unlocked at this point**.

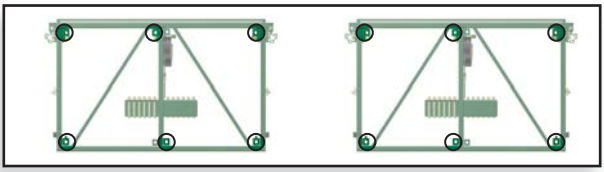


fig. 3.13

The first bridge bolted to the twin mast adapter must not be a 30" (76 cm) bridge as the 30" (76 cm) guardrail will interfere with the twin mast adapter guardrail.

Installation of the bearing bridge structure

1- Using a rough terrain forklift, a crane or any other appropriate lifting device, lift the bearing bridge structure and lower it into position, between the two motorized units.

2- Bolt each twin mast adapter to the main frame of a motorized unit. If the welded stoppers on the bottom bushings of the main frame and the twin mast adapter prevent proper alignment, the twin mast adapter is not correctly positioned.

Make sure to unlock the locking pins, tabs or plates on each twin mast adapter. Failure to do so could result into serious damages.

3- Connect each inclinometer to the control panel. For more information on the use and installation of the inclinometer, see p. 46 of the *Safety Devices* section.

4- Enable the inclinometer option on each screen of the bearing bridge installation. Refer to p. 82 of the *Control Panel* section for instructions on how to enable the inclinometer option.

5- Perform the 0-degree level adjustment for each inclinometer. Refer to p. 47 of the *Safety Devices* section for instructions on the 0-degree level adjustment procedure.

6- Install a twin mast adapter guardrail on each twin mast adapter and secure in place.

Dismantling a bearing bridge structure

1- Make sure the bearing bridge structure is at base level.

2- Make sure that all cantilevers have been removed. Completely unload the working platform and make workers step off the structure.

3- Disconnect the inclinometers at both ends of the bearing structure and disable the inclinometer options on each screen.

4- Replace the locking pins, tabs or plates on each twin mast adapters.

5- Using a rough terrain forklift, a crane or any other appropriate lifting device, support the bearing bridge structure. Unbolt the twin mast adapters from the main frames of the motorized units.

6- Slightly raise the bearing bridge and lower it on the ground to dismantle it.

Bridges

Forward Extension Bridge

(optional)

The extension bridge (used on the front of a motorized unit setup) is assembled using a regular bridge, two outriggers and three forward extension plate assemblies. Refer to p. 99 of the *Load Capacities* section for the load capacities and the appropriate positioning of a forward extension bridge in a setup.

fig. 3.14

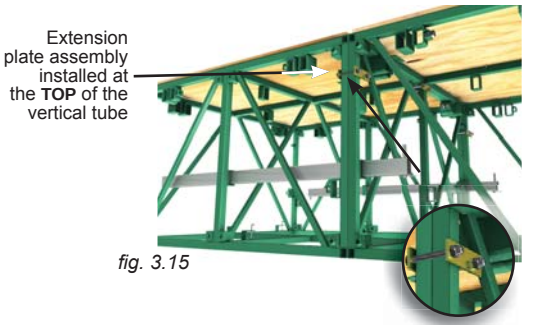


fig. 3.15

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

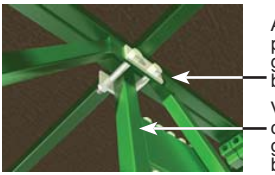


fig. 3.17

Connection of two new generation bridges

fig. 3.16

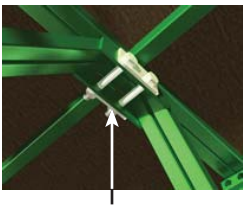


fig. 3.18

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 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. 3.15). 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. 3.18). Secure with bolt assemblies.

5- Tighten all the bolts on the outrigger pockets and on the extension plates to a torque of 30 lb-ft (41 N-m).

Bridges

Forward Extension Bridge

Installation (cont'd)

6- Install the appropriate guardrails on the forward extension.

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. 113 of the *Accessories* section.

For more information on the load capacities of forward extensions, refer to p. 99 of the *Load Capacities* section.

Bridge Deck Extension

(optional)

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

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.

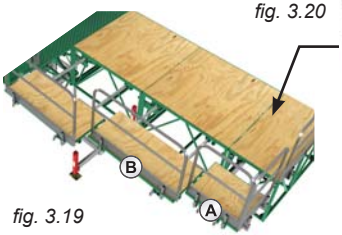


fig. 3.19

fig. 3.20

Outrigger

fig. 3.22

33" (84 cm) bridge deck extension
used on 33" (84 cm) multi purpose bridge

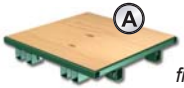


fig. 3.21

30" (76 cm) bridge deck extension
used on 30" (76 cm) bridge

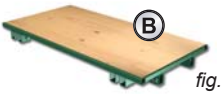


fig. 3.23

60" (1,5 m) bridge deck extension
used on 5' (1,5 m) or 10' (3 m) bridge

Bridges

Swivel Bridge
(optional)

The swivel bridge allows creating 0° to 45° configurations, as well as corner (90°) configurations. Certain configurations may require the use of the optional outrigger support system and the optional counterweight adapter. Weather protection must not be used on an installation using a swivel bridge.

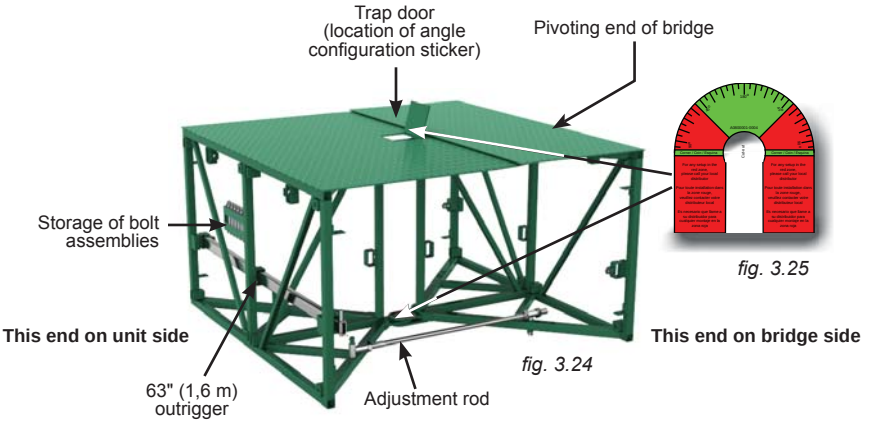


fig. 3.24

fig. 3.25

Installation

1- Using the tapered bushings, align the swivel bridge with the main frame of the motorized unit.

If the welded stoppers on the bottom trusses of the main frame and the swivel bridge prevent proper alignment, the swivel bridge is not correctly positioned.

2- Attach the swivel bridge to the main frame and make sure all the bolt assemblies are tightened and secure. For instructions on the installation of a bridge, refer to steps 1 and 2 of the standard installation instructions, on p. 50.

3- Proceed with the installation of the setup following the method of installation appropriate for the configuration. For more information about methods of installation, refer to p. 20 of the *Motorized Unit* section.

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).

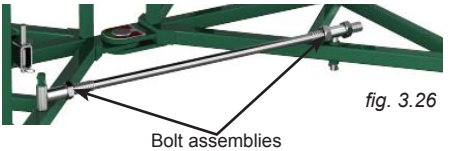


fig. 3.26

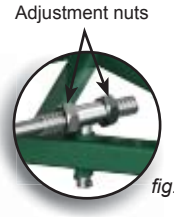


fig. 3.27

Bridges

Swivel Bridge

Angle adjustment (cont'd)

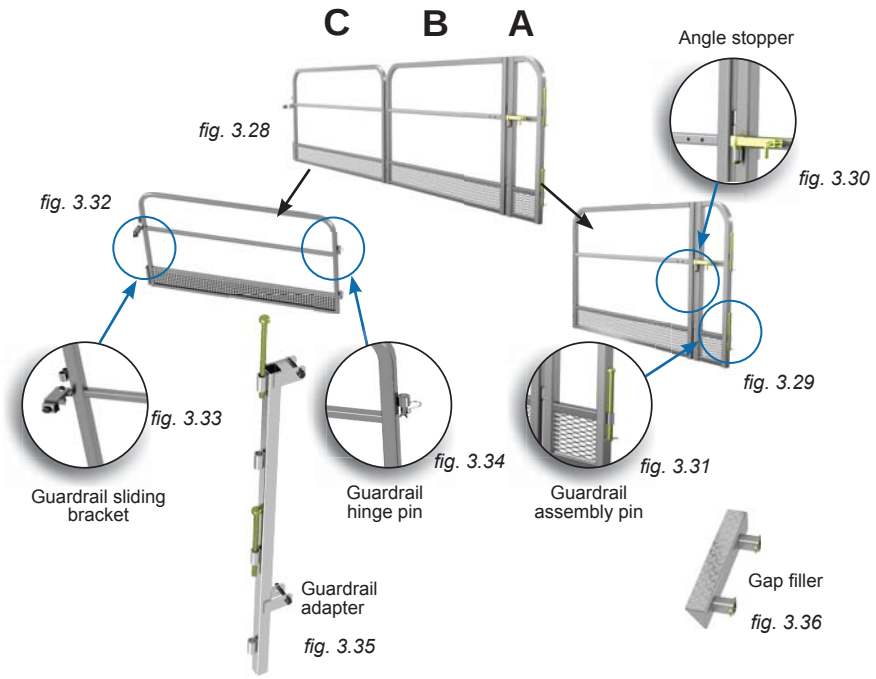
2- Position the swivel bridge installation at the desired angle by turning the adjustment nut. Refer to the angle sticker located under the trap door on the bridge deck or on the pivot pin at the bottom of the bridge (fig. 3.24, p. 56) to make sure the installation is at an appropriate angle. A swivel bridge configuration must only be installed at an angle between 0 and 45 degrees or at exactly 90 degrees. For any configuration between 45 and 90 degrees (red areas on the angle configuration sticker), contact the distributor/ service center or the Hydro Mobile technical support team.

Installation of swivel bridge guardrails

Swivel bridge installations require the use of special guardrails, included with each shipped swivel bridge. The installation of guardrails on a swivel bridge will depend on the angle of the configuration. Guardrails used in the configuration will also be different whether the swivel bridge is used in a **cantilever** or a **bearing bridge** installation.

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

It is important to note that swivel bridge guardrails must not be used to tie a lifeline.



WARNING

Swivel bridge guardrails must not be used to tie a lifeline.

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. 56).

2- Lock the angle pivot between parts “A” and “B” of the swivel bridge guardrail assembly at 0° using the angle stopper (fig. 3.37).

3- Align the plates of the guardrail adapter (fig. 3.38) with the **side** of the 28" (71 cm) guardrail on the link bridge of the 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 28" (71 cm) guardrail and secure in place with guardrail assembly pins (fig. 3.38).

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

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

7- Overlap part “C” of the swivel bridge guardrail assembly on the 60" (1,5 m) guardrail and secure in place by tightening the bolt on the sliding bracket (fig. 3.37).

8- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 108 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**.

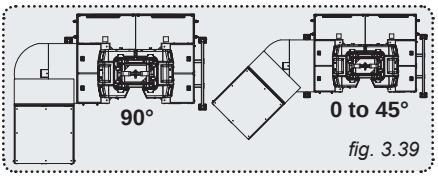


fig. 3.39

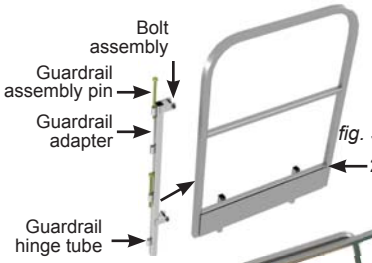


fig. 3.38

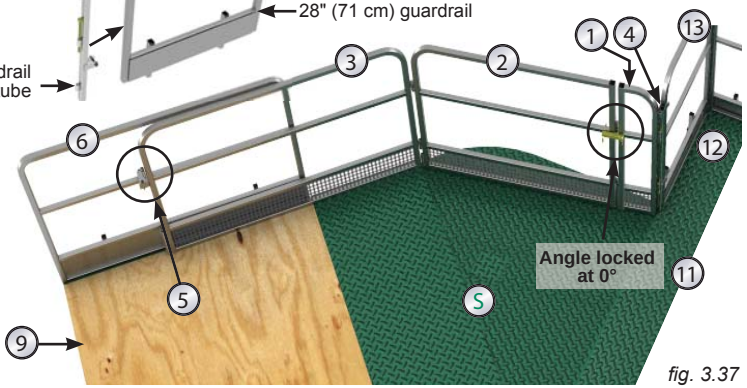


fig. 3.37

Front 0 to 45° cantilever configurations

LEGEND

1. Part “A” of swivel bridge guardrail assembly
2. Part “B” of swivel bridge guardrail assembly
3. Part “C” of swivel bridge guardrail assembly
4. Guardrail adapter
5. Sliding bracket to secure guardrails together
6. Standard 60" (1,5 m) guardrail
7. Twin mast adapter guardrail
8. Gap filler
9. 5' (1,5 m) bridge
10. Twin mast adapter
11. Motorized unit
12. Link bridge
13. Standard 28” (71 cm) guardrail

S. Swivel bridge

Note: Not all components are required for each configuration

Bridges
Swivel Bridge Guardrails
Cantilever Configurations

Back 0 to 45° cantilever configurations

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. 56).

2- Lock the angle pivot between parts “A” and “B” of the swivel bridge guardrail assembly at 90° using the angle stopper (fig. 3.40).

3- Align the plates of the guardrail adapter (fig. 3.38, p. 58) with the **side** of the 28" (71 cm) guardrail on the link bridge of the 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 28” (71 cm) guardrail and secure in place with guardrail assembly pins (fig. 3.38, p. 58).

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

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

7- Overlap part “C” of the swivel bridge guardrail assembly on the 60" (1,5 m) guardrail and secure in place by tightening the bolt on the sliding bracket (fig. 3.40).

8- Verify and make sure to remove any gap there may be on the deck.

9- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 108 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**.

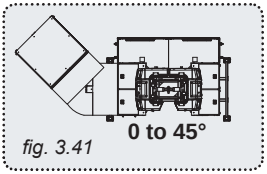


fig. 3.41

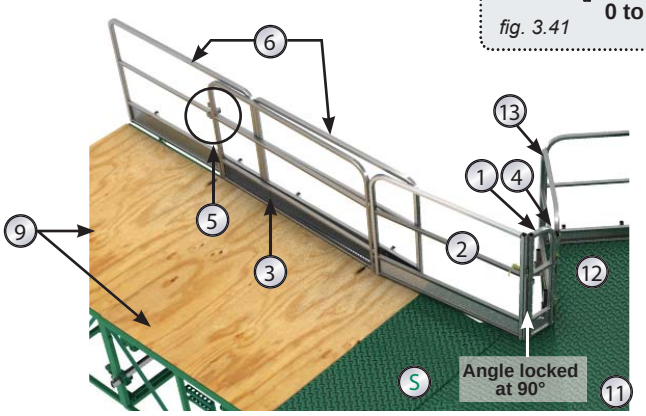


fig. 3.40 **Back 0 to 45° cantilever configurations**

LEGEND

1 Part “A” of swivel bridge guardrail assembly	5 Sliding bracket to secure guardrails together	9 5' (1,5 m) bridge	13 Standard 28” (71 cm) guardrail
2 Part “B” of swivel bridge guardrail assembly	6 Standard 60" (1,5 m) guardrail	10 Twin mast adapter	S Swivel bridge
3 Part “C” of swivel bridge guardrail assembly	7 Twin mast adapter guardrail	11 Motorized unit	**Note**: Not all components are required for each configuration
4 Guardrail adapter	8 Gap filler	12 Link bridge	

Bridges
Swivel Bridge Guardrails
Cantilever Configurations

Back 90°cantilever configuration

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. 56).
2- Part “B” of the swivel bridge guardrail assembly is not required for 90° back cantilever configurations. Separate all three parts (“A”, “B” and “C”) of the swivel bridge guardrail assembly, if necessary.
3- Assemble part “A” and “C” of the swivel bridge guardrail assembly.
4- Align the plates of the guardrail adapter (fig. 3.44) with the **front** of the 60" (1,5 m) guardrail on the link bridge of the unit and secure in place with bolts.
5- Align the tubes on the swivel bridge guardrail assembly with the tubes on the adapter on the 60" (1,5 m) guardrail and secure in place with guardrail pins (fig. 3.43).
6- Install the gap filler (fig. 3.42) to fill the gap on the deck. Secure in place with gravity lock pin.
7- Install a 60" (1,5 m) regular guardrail on the bridge attached to the swivel bridge.
8- Overlap part “C” of the swivel bridge guardrail assembly on the 60” (1,5 m) guardrail and secure in place by tightening the bolt on the sliding bracket (fig. 3.42).
9- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 108 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**.

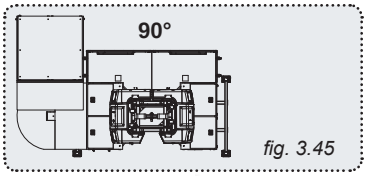


fig. 3.45

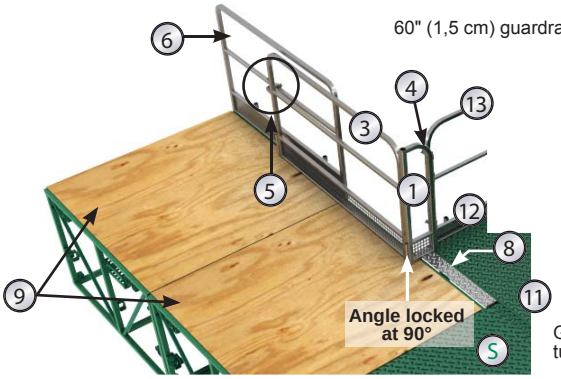


fig. 3.42

Back 90° cantilever configuration

fig. 3.43

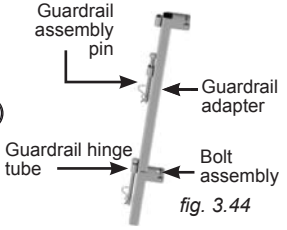


fig. 3.44

WARNING

It is important to verify and make sure to remove any gap there may be on the platform. Cover gaps by adjusting guardrails or by using plywood, planking or any other strong material. Secure the material in such a way that it remains in place and does not impede safe circulation on the deck. It is also important to make sure that all guardrails are properly secured.

Bridges
Swivel Bridge Guardrails
Bearing Bridge Configurations

Front bearing configurations – 0° to 45° angle

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. 56).
2- Lock the angle pivot between parts “A” and “B” of the swivel bridge guardrail assembly at 0° using the angle stopper (fig. 3.46).
3- Align the plates of the guardrail adapter (fig. 3.44, p. 60) with the **side** of the 28" (71 cm) guardrail on the link bridge of the 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 28" (71 cm) guardrail and secure in place with guardrail assembly pins (fig. 3.44, p. 60).
5- Install the twin mast adapter guardrail on the twin mast adapter.
6- Slide part “C” of the swivel bridge guardrail behind the assembly of parts “A” and “B”, as shown in fig. 3.46, and secure one end to the assembly of parts “A” and “B” using the sliding bracket (fig. 3.46).
7- Using guardrail assembly pins, secure the other end of part “C” of the swivel bridge guardrail assembly to the twin mast adapter guardrail (fig. 3.46).
8- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 108 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**.

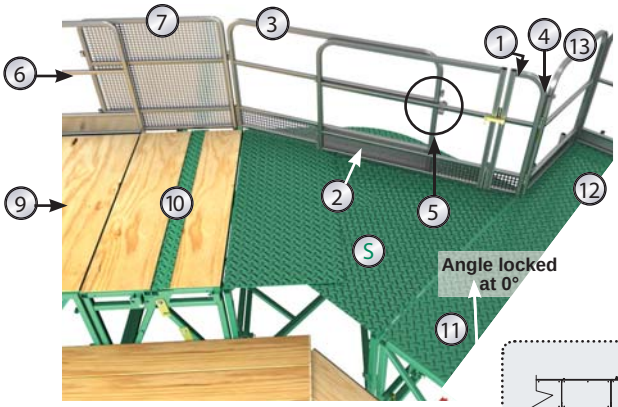


fig. 3.46 **Front 45° bearing configuration**

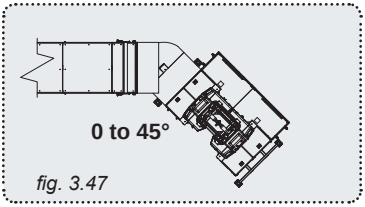


fig. 3.47

LEGEND

1 Part “A” of swivel bridge guardrail assembly	5 Sliding bracket to secure guardrails together	9 5' (1,5 m) bridge	13 Standard 28” (71 cm) guardrail
2 Part “B” of swivel bridge guardrail assembly	6 Standard 60" (1,5 m) guardrail	10 Twin mast adapter	S Swivel bridge
3 Part “C” of swivel bridge guardrail assembly	7 Twin mast adapter guardrail	11 Motorized unit	**Note**: Not all components are required for each configuration
4 Guardrail adapter	8 Gap filler	12 Link bridge	

Bridges

Swivel Bridge Guardrails

Bearing Bridge Configurations

Front bearing configuration – 90° angle

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. 56).

2- Part “A” of the swivel bridge guardrail assembly is not required for 90° front bearing configurations. Separate all three parts (“A”, “B” and “C”) of the swivel bridge guardrail assembly, if necessary.

3- Align the plates of the guardrail adapter (fig. 3.44, p. 60) with the **side** of the 28" (71 cm) guardrail on the link bridge of the unit and secure in place with bolts.

4- Install part “B” of the swivel bridge guardrail assembly **backwards** (as shown in fig. 3.48) and align its hinge tubes with the hinge tubes on the adapter on the 28" (71 cm) guardrail on the link bridge of the unit. Secure in place with guardrail pins (fig. 3.44, p. 60)

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

6- Install the twin mast adapter guardrail on the twin mast adapter.

7- Secure part “C” of the swivel bridge guardrail assembly to the twin mast adapter guardrail.

8- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 108 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**.

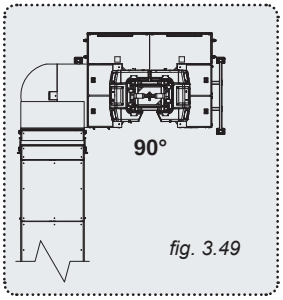
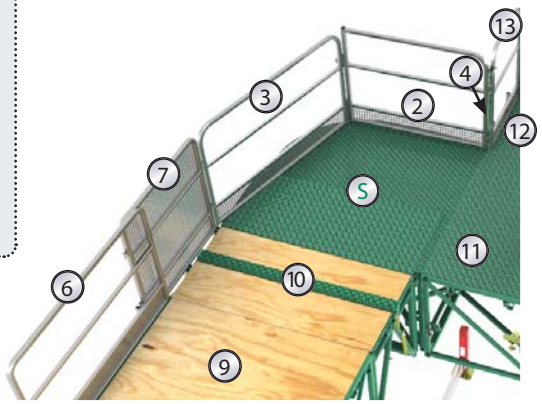


fig. 3.49



Front 90° bearing configuration *fig. 3.48*

LEGEND

1 Part “A” of swivel bridge guardrail assembly	5 Sliding bracket to secure guardrails together	9 5' (1,5 m) bridge	13 Standard 28” (71 cm) guardrail
2 Part “B” of swivel bridge guardrail assembly	6 Standard 60" (1,5 m) guardrail	10 Twin mast adapter	S Swivel bridge
3 Part “C” of swivel bridge guardrail assembly	7 Twin mast adapter guardrail	11 Motorized unit	**Note**: Not all components are required for each configuration
4 Guardrail adapter	8 Gap filler	12 Link bridge	

Bridges

Swivel Bridge Guardrails

Bearing Bridge Configurations

Back bearing configurations – 0 to 45° angle

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. 56).

2- Part “C” of the swivel bridge guardrail assembly is not required for 0 to 45° back bearing configurations. Lock the angle pivot between parts “A” and “B” of the swivel bridge guardrail assembly at 90° using the angle stopper (fig. 3.50).

3- Align the plates of the guardrail adapter (fig. 3.44, p. 60) with the **side** of the 28" (71 cm) guardrail on the link bridge of the 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 28" (71 cm) guardrail and secure in place with guardrail assembly pins (fig. 3.44, p. 60).

5- Install the twin mast adapter guardrail on the twin mast adapter.

6- Verify and make sure to remove any gap there may be on the platform.

7- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 108 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.**

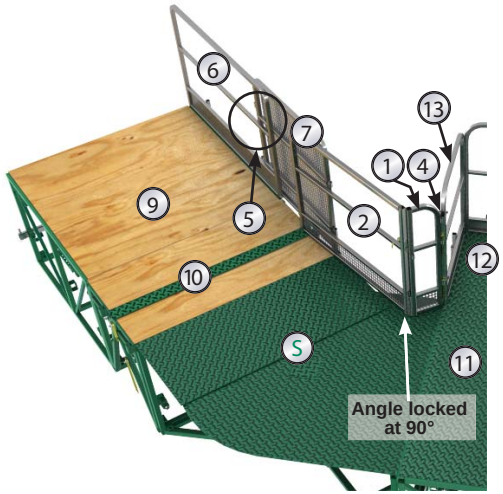


fig. 3.50 **Back 45° bearing configuration**

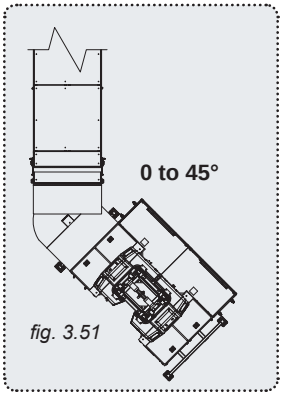


fig. 3.51

WARNING

It is important to verify and make sure to remove any gap there may be on the platform. Cover gaps by adjusting guardrails or by using plywood, planking or any other strong material. Secure the material in such a way that it remains in place and does not impede safe circulation on the deck. It is also important to make sure that all guardrails are properly secured.

Bridges

Swivel Bridge Guardrails

Bearing Bridge Configurations

Back bearing configuration – 90° angle

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. 56).
2- Part “B” of the swivel bridge guardrail assembly is not required for 90° back bearing configurations. Separate all three parts (“A”, “B” and “C”) of the swivel bridge guardrail assembly, if necessary.
3- Assemble part “A” and “C” of the swivel bridge guardrail assembly.
4- Align the plates of the guardrail adapter (fig. 3.43, p. 60) with the **front** of the 60" (1,5 m) guardrail on the link bridge of the unit and secure in place with bolts.
5- Align the hinge tubes on the swivel bridge guardrail assembly with the hinge tubes on the adapter on the 28" (71 cm) guardrail and secure in place with guardrail assembly pins (fig. 3.38, p. 58).
6- Install the gap filler (fig. 3.52) to fill the gap on the deck. Secure in place with gravity lock pin.
7- Install a 60" (1,5 m) regular guardrail on the bridge attached to the swivel bridge.
8- Overlap part “C” of the swivel bridge guardrail assembly on the 60" (1,5 m) guardrail and secure in place by tightening the bolt on the sliding bracket (fig. 3.52).
9- Make sure all the necessary guardrails are in place and secure (see the *Accessories* section on p. 108 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**.

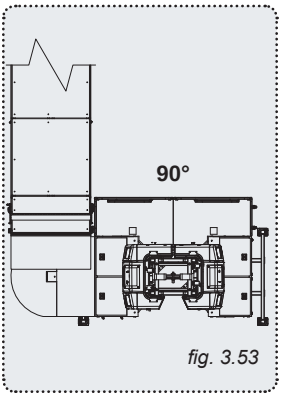


fig. 3.53

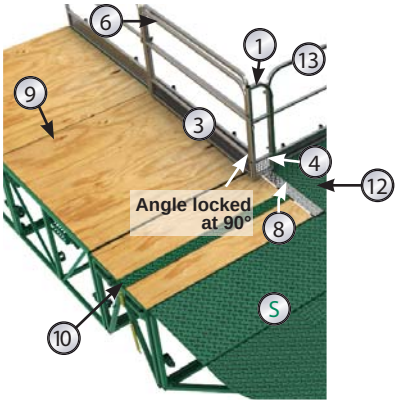


fig. 3.52 **Back 90° bearing configuration**

LEGEND

1 Part “A” of swivel bridge guardrail assembly	5 Sliding bracket to secure guardrails together	9 5' (1,5 m) bridge	13 Standard 28” (71 cm) guardrail
2 Part “B” of swivel bridge guardrail assembly	6 Standard 60" (1,5 m) guardrail	10 Twin mast adapter	S Swivel bridge
3 Part “C” of swivel bridge guardrail assembly	7 Twin mast adapter guardrail	11 Motorized unit	**Note**: Not all components are required for each configuration
4 Guardrail adapter	8 Gap filler	12 Link bridge	

Bridges

Swivel Bridge Counterweight Adapter
(optional)

The optional counterweight and adapter for the installation of a counterweight bridge are designed to be used in a swivel bridge 90° front cantilever configuration to increase the capacity of the forward cantilevers used in the setup. The counterweight adapter is required to attach a counterweight bridge to the swivel bridge. The use of a counterweight for any other swivel bridge configuration is not advantageous and should not be considered.

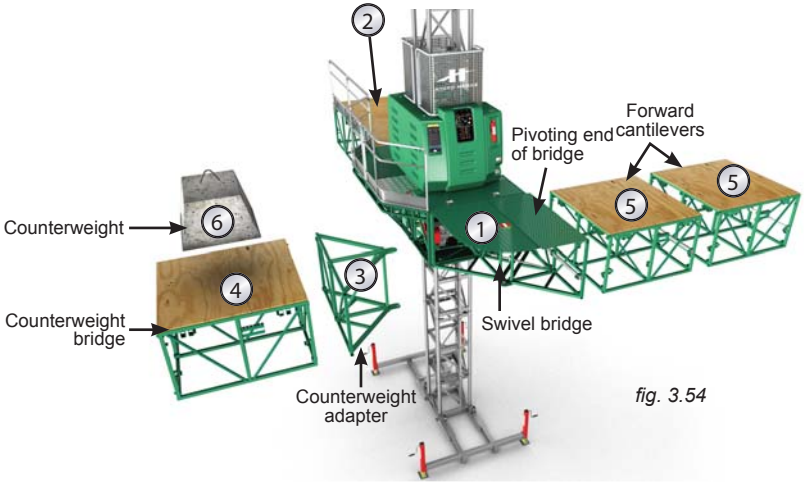


fig. 3.54

Recommended order of installation:

1 Swivel bridge
2 Cantilever on opposite side of mast
3 Counterweight adapter
4 Counterweight bridge
5 Forward cantilevers (as required and allowed)
6 Counterweight (according to applicable load capacity chart)

Installation

1- Make sure that there are no bridges installed except for the swivel bridge and the cantilever on the other side of the mast.

2- Make sure that the end of the swivel bridge that is not bolted to the main frame (pivoting end, fig. 3.54) is supported so the two halves of the swivel bridge remain together.

3- Remove the lock bolt from the top pivot pin (fig. 3.56, p. 66). It is not necessary to remove the lock bolt from the bottom pivot pin.

4- Lift out the top pivot pin until it clears the top part of the pivot structure and it is possible to align the hole in the top plate of the counterweight adapter. It is not necessary to remove the pivot pin completely. Lift out the bottom pivot pin (fig. 3.57, p. 66) until it is possible to insert the bottom plate (forked) of the counterweight adapter around the pivot pin.

Bridges

Swivel Bridge Counterweight Adapter
(optional)

Installation (cont'd)

5- Slide in the bottom plate of the counterweight adapter around the bottom pivot pin and align the hole of the top plate with the top pivot pin. Replace the top pivot pin.

6- Replace the lock bolt of the top pivot pin and tighten to secure.

7- Secure the counterweight adapter to the frame of the swivel bridge with bolt assemblies to lock it into position (fig. 3.59).

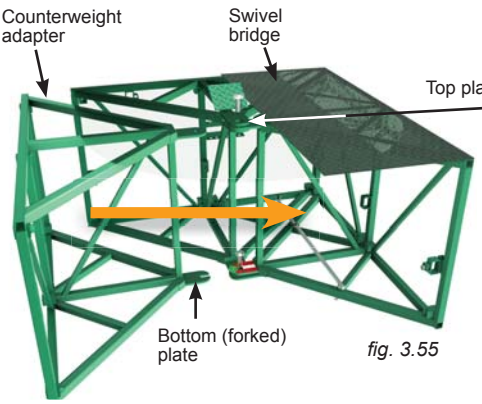


fig. 3.55

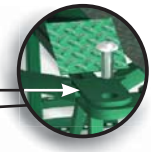


fig. 3.56

Top pivot pin

fig. 3.57

Bottom pivot pin

8- Bolt a standard 5' (1,5 m) bridge to the counterweight adapter as described in steps 1 and 2 of the installation instructions for a standard bridge, on p. 50 of the *Bridges* section.

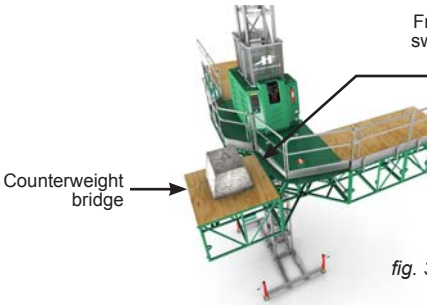


fig. 3.58

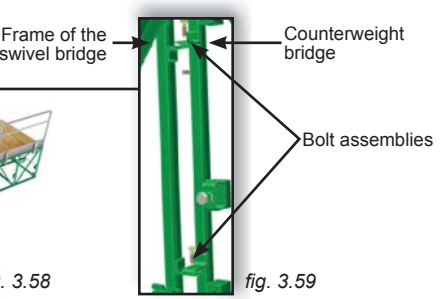


fig. 3.59

9- Install forward cantilevers, as required and allowed (fig. 3.54, p. 65). Refer to the *Load Capacities* section on p. 94 for the number of bridges allowed in a configuration.

10- Apply the counterweight on the installed bridge. For information on the type of counterweight to apply, refer to p. 102 of the *Load Capacities* section.

11- Secure counterweight onto bridge structure and identify as counterweight not to be moved or modified.

Bridges

Swivel Bridge Outrigger Support Assembly
(optional)

The outrigger support assembly is designed to be used as a plank support structure in swivel bridge back configurations (0 to 45° and 90°).

0 to 45° configurations

fig. 3.60

fig. 3.61

Outrigger support assembly

90° configuration

fig. 3.62

fig. 3.63

Outrigger support assembly stored inside swivel bridge (transport position)

Installation

1- Make sure that the end of the swivel bridge that is not bolted to the main frame (pivoting end, fig. 3.54, p. 65) is supported so the two halves of the swivel bridge remain together.

2- Remove the lock bolt from the top pivot pin (fig. 3.65). It is not necessary to remove the lock bolt from the bottom pivot pin.

3- Lift out the top pivot pin until it clears the top part of the pivot structure and it is possible to align the hole in the top plate of the outrigger support assembly. It is not necessary to remove the pivot pin completely. Lift out the bottom pivot pin (fig. 3.66) until it is possible to insert the bottom plate around the pivot pin of the outrigger support assembly.

4- Slide in the bottom plate of the outrigger support assembly around the bottom pivot pin and align the hole of the top plate with the top pivot pin. Insert the pivot pin.

5- Tighten the top lock bolt to secure the top pivot pin.

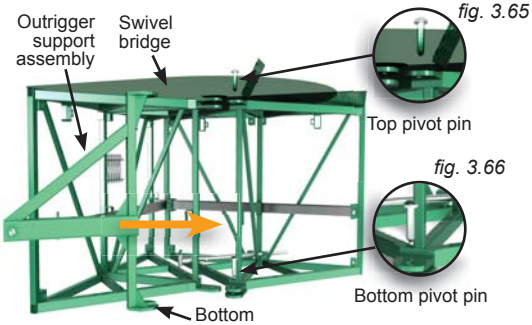


fig. 3.64

fig. 3.65

Top pivot pin

fig. 3.66

Bottom pivot pin

fig. 3.67

Bridges

Swivel Bridge Outrigger Support Assembly
(optional)

Installation (cont'd)

6- Slide two 84" (2,1 m) outriggers in the outrigger support and secure them in place with bolt assemblies (fig. 3.68). Slide two swivel cross boxes on the outriggers installed in this step.

7- Install 63" (1,6 m) outriggers where required, according to the planking configuration. It may be required to cut the outriggers installed close to the outrigger support assembly to an appropriate size (fig. 3.68). Slide a standard cross box on each of the outriggers installed in this step.

fig. 3.68

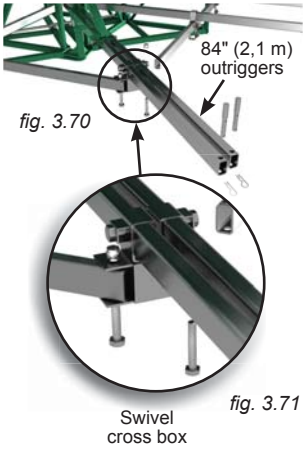


fig. 3.70

fig. 3.71

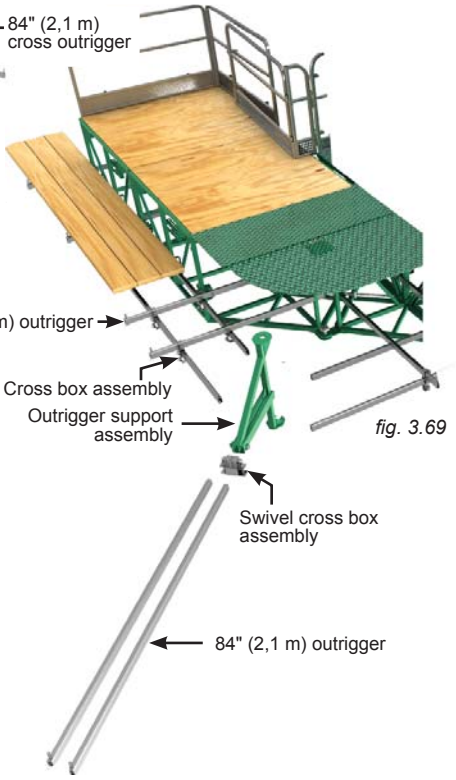


fig. 3.69

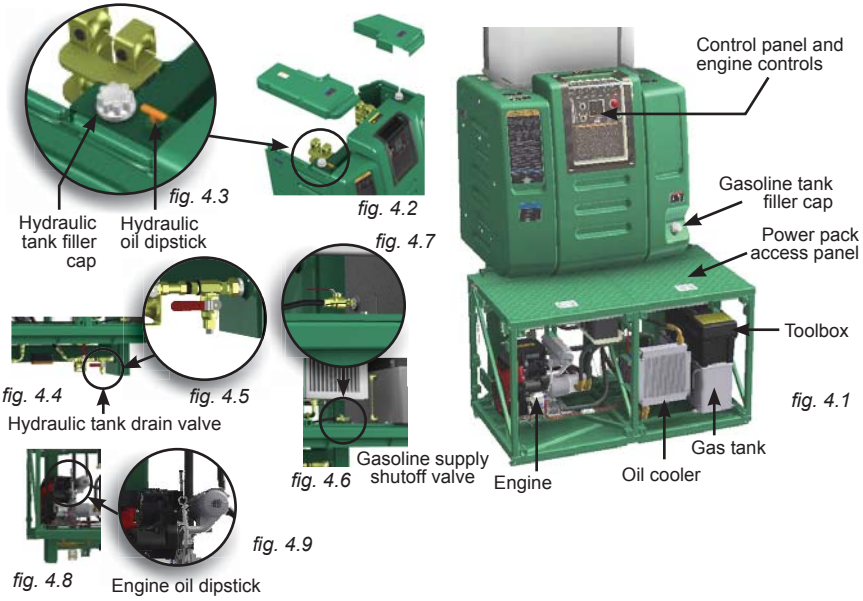
8- Slide 84" (2,1 m) cross outriggers in the standard cross boxes installed in step 7 (fig. 3.68). These outriggers must be perpendicular to the 63" (1,6 m) outriggers.

9- Complete the outrigger installation by sliding 84" (2,1 m) outriggers in the swivel cross boxes installed in step 6 (fig. 3.69).

10- Tighten the bolt assemblies on all cross boxes and make sure all the outriggers are secure.

Power Pack and Components

Gas-powered unit



Startup preparation instructions

1- Make sure that the motorized unit has been installed following the installation guidelines described in the *Motorized Unit* section on p. 17, and that it can be operated safely. Make sure also that the overspeed safety device is not engaged. For more information on the overspeed safety device, refer to p. 46 of the *Safety Devices* section.

2- Check the hydraulic oil level to make sure it is in the FULL range on the dipstick. If necessary, remove the left plastic hood next to the control panel (fig. 4.2) and replenish with hydraulic oil. It is important to use a hydraulic oil recommended by Hydro Mobile.

3- Check the gasoline level and refill if necessary. During the operation of the motorized unit, if the low gasoline level alert is displayed on the screen of the control panel (see p. 77 of the *Control Panel* section), the gasoline tank must be refilled immediately.

4- Lift the left power pack access panel and check the engine oil level (fig. 4.8). If necessary, refill in accordance with the specifications in the Honda engine user's manual.

5- Lift the right power pack access panel and turn the gasoline supply shutoff valve to the ON (operating) position, in line with the hose (fig. 4.6).

6- For a configuration using an F300 unit model, perform steps 1 through 5 for each side.

7- If the motorized unit is brand-new, was transported from one job site to another or was stored for a significant length of time, connect the battery.

8- If the motorized unit is used in cold weather, it is recommended to use the optional hydraulic oil heater/recirculator. For instructions on the use of the optional hydraulic oil heater/recirculator, refer to p. 128 of the *Accessories* section.

NOTE
If the motorized unit is used in cold weather, it is recommended to use the optional hydraulic oil heater/recirculator.

Power Pack and Components

Gas-powered unit

Motorized unit startup procedure

1- Prepare the motorized unit and the engine by following the startup preparation instructions on p. 69.

2- Pull out the emergency stop button (fig. 4.10) to power on the display screen. If the display screen does not turn on after a short period of time, make sure the battery is plugged in and that it has enough voltage. If the display screen still does not turn on, call a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section.

3- Once powered on, unlock the display screen as described in the instructions on p. 76 of the *Control Panel* section.

4- Lower the throttle control lever at 3/4 of the way (fig. 4.10).

5- If the engine is cold, push and hold the choke button.

6- Push and hold the start button to crank the engine until it starts (hold for no more than 10 seconds at a time).

fig. 4.10

7- Release the choke button once the engine has started. In cold weather, hold the choke button a little longer.

8- Lower the throttle control lever all the way down to reach maximum RPM. In cold weather, let the engine run at full throttle for a few minutes to warm up the hydraulic system.

9- On model F300 or in a configuration using more than one motorized unit, repeat steps 1 through 8. In a linked configuration using model F300 it is mandatory to start both engines.

10- If the motorized unit is used in a multiple unit configuration, make sure that the inclinometer has been connected into the control panel and that the inclinometer option has been enabled on the display screen. For instructions on enabling options on the display screen, refer to p. 82 of the *Control Panel* section.

Engine shutdown procedure

1- Bring the motorized unit to the desired work level or down to base level.

2- If the motorized unit was used in a multiple unit configuration, make sure that no slope alert is displayed on the display screen and that the structure is level.

3- Push the throttle control lever all the way up (idle position) and let the engine run at idle for 1 minute.

4- In order to avoid unauthorized operation of the motorized unit, perform the following steps to lock the control panel:

a. Return to the main menu on the display screen

b. Press **twice** on the OK button under the display screen to reach the access code entry screen

c. Press on one of the bottom left buttons to log out of the screen

5- Push in the emergency stop button to shut down the engine and turn off the control panel.

NOTE
If the motorized unit is used in cold weather, it is recommended to install and use the optional hydraulic oil heater/recirculator.

Power Pack and Components

Gas-powered unit

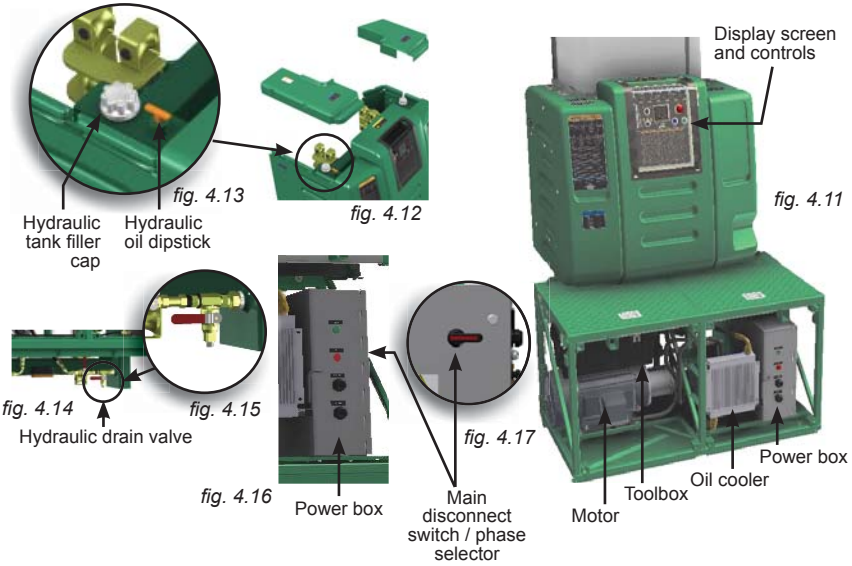
Engine shutdown procedure (cont'd)

6- At the end of the working shift or if the motorized unit will not be used for a significant length of time, turn the gasoline shutoff valve to the OFF position (fig. 4.6, p. 69).

7- Before transporting or storing the motorized unit for any significant length of time, make sure the battery is disconnected. For more information on the transport and storage of a motorized unit, refer to p. 131 of the *Transport, Storage and Maintenance* section.

8- For a configuration using an F300 unit model, perform steps 1 through 7 for each side.

Electrical unit



Startup preparation instructions

1- Make sure that the motorized unit has been installed following the installation guidelines described in the *Motorized Unit* section, on p. 17, and that it can be operated safely. Make sure also that the overspeed safety device is not engaged. For more information on the overspeed safety device, refer to p. 46 of the *Safety Devices* section.

2- Select a power cable that is suitable for the height of the mast. Make sure that the overall length of the cable is sufficient for the installation (height of mast, distance from power source, acceptable overall slack in cable). Refer to the *Power Cable Selection* chart on p. 72 to select the appropriate power cable for the installation. Contact certified electrician if a cable longer than 800' (244 m) is required.

3- Attach an open mesh grip at the bottom of a vertical tube on the bridge (fig. 4.18, p. 72). Run the cable through the open mesh grip.

Power Pack and Components

Electrical unit

Startup preparation instructions (cont'd)

4- Attach an open mesh grip at the bottom of a vertical tube on the bridge (fig. 4.18). Run the cable through the open mesh grip.

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

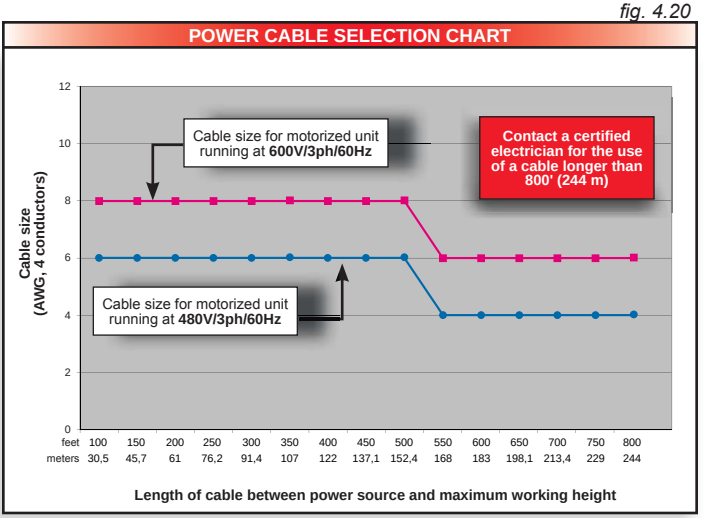
fig. 4.19 *fig. 4.18*

6- Check the hydraulic oil level to make sure it is in the FULL range on the dipstick. If necessary, remove the left plastic hood next to the control panel (fig. 4.12, p. 71) and replenish with hydraulic oil. It is important to use a hydraulic oil recommended by Hydro Mobile.

7- For a configuration using an F300 unit model, perform steps 1 through 5 for each engine.

8- If the motorized unit is used in cold weather, it is recommended to install and use the optional hydraulic oil heater/recirculator. For instructions on the installation and use of the optional hydraulic oil heater/recirculator, refer to p. 128 of the *Accessories* section.

fig. 4.20



NOTE
If the motorized unit is used in cold weather, it is recommended to install and use the optional hydraulic oil heater/recirculator.

Power Pack and Components

Electrical unit

Motorized unit startup procedure

1- Prepare the motorized unit by following the startup preparation instructions, on p. 71.

2- Connect the power cable to the motorized unit and to a safe and reliable power 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. Refer to p. 13 of the *Motorized Unit* section for more information on the input power range.

3- Turn on the main disconnect switch on the power box (fig. 4.17, p. 71).

4- Pull out the emergency stop button to power on the display screen.

If the display screen does not turn on after a short period of time, make sure that the power cable is properly connected to both the power source and to the motorized unit. If the cable is connected, verify the phase selector (fig. 4.17, p. 71) and make sure the appropriate phase has been selected. The phase selector should be at the left (1) or right (2) position. The phase selector is in the middle (0) position when the unit is powered off.

fig. 4.21

Note: The F2 Series control panel layout is the same for both gas-powered and electrical units; some controls, such as the choke button, are disabled for the electrical unit

If the display screen still does not turn on, push in the emergency stop button, turn off the main disconnect switch and contact a certified electrician.

5- Once powered on, unlock the display screen as described in the instructions on p. 76 of the *Control Panel* section.

6- Push the start button to start the motor.

7- On model F300 or in a configuration using more than one motorized unit, repeat steps 1 through 6. In a linked configuration using model F300 it is mandatory to start both motors.

8- If the motorized unit is used in a multiple units configuration, make sure that the inclinometer has been connected to a port into the control panel and that the inclinometer option has been enabled on the display screen. Refer to the *Safety Devices* section on p. 46 for information about the inclinometer. For instructions on enabling options on the display screen, refer to p. 82 of the *Control Panel* section.

Motorized unit shutdown procedure

1- Bring the motorized unit to the desired work level or down to base level.

2- If the motorized unit was used in a multiple units configuration, make sure that no slope alert is displayed on the display screen and that the structure is level.

3- In order to avoid unauthorized operation of the motorized unit, perform the following steps to lock the control panel:

a. Return to the main menu on the display screen

b. Press **twice** on the OK button under the display screen to reach the access code entry screen

c. Press on one of the bottom left buttons to log out of the screen

4- Push in the emergency stop button to shut down the motor and turn off the control panel.

5- At the end of the working shift or if the unit will not be used for a significant length of time, turn off the main disconnect switch on the power box.

6- Before transporting or storing the unit for any significant length of time, refer to instructions on p. 129 of the *Transport, Storage and Maintenance* section.

Control Panel

The control panel is the brain behind the Hydro Mobile F2 Series system. The F2 Series control panel (models F200 and F300, gas-powered or electrical) is a combination of manual controls and a color non touch screen. Driven by a computer system programmed to detect and analyze every signal and react accordingly, the display screen will notify the operator of any important event and display appropriate instructions to respond to the alert (see figures below as well as descriptions and instructions included in the *Screen Alerts and Instructions* in the following pages). Instructions and descriptions on the control panel are displayed in three operating languages (English, French and Spanish). Screen displays and instructions are in English, French and Spanish.

It is **mandatory** to comply with the instructions included in the following pages for the operation of the control panel and to take prompt corrective action when required. For any event other than those described in this manual, contact a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section.

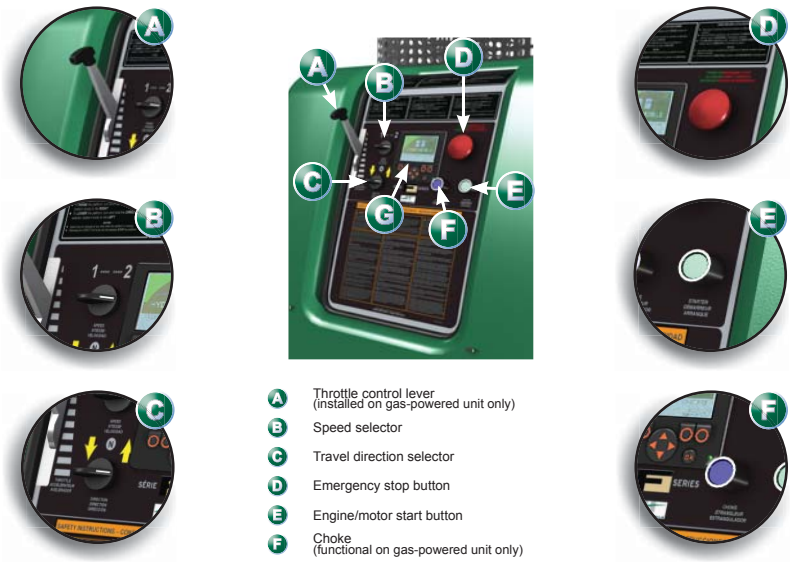


fig. 5.1

Display screen

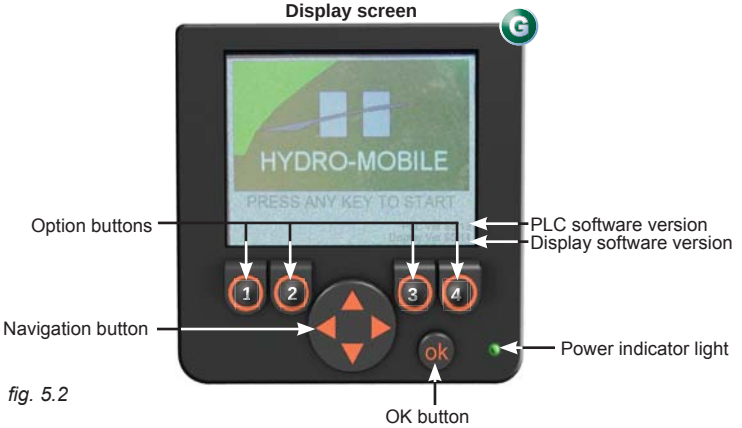


fig. 5.2

Control Panel

fig. 5.3

Control panel controls – gas-powered motorized unit		
Control	**Description**	**Action to be performed**
Throttle control lever	Controls the engine speed.	Pull down 3/4 of the way to start engine. Pull down all the way at full throttle for operation. Pull all the way up at idle before shutting down the engine; engine must be left at idle for at least 1 minute before shutdown.
Speed selector	Controls the speed of the motorized unit.	On unit model F300, select 1 for first (low) speed or 2 for second (high) speed. On unit model F200, speed selector is disabled.
Travel direction selector	Controls the travel direction of the motorized unit.	Select and hold the selector toward the up arrow to raise the motorized unit. Select and hold the selector toward the down arrow to lower the motorized unit. The selector is in the neutral position by default.
Emergency stop button	Powers on the control panel when pulled. Shuts down the engine and turns off the control panel when pushed.	Pull to power on or push to shut down.
Engine start button	Starts the engine.	Push and hold to start up the engine (hold for no more than 10 seconds at a time). Release once engine has started.
Choke	Activates the choke.	If the engine is cold, push in and hold while starting the engine.

fig. 5.4

Control panel controls – electrical motorized unit		
Control	**Description**	**Action to be performed**
Speed selector	Controls the speed of the motorized unit.	On unit model F300, select 1 for first (low) speed or 2 for second (high) speed. On unit model F200, speed selector is disabled.
Travel direction selector	Controls the travel direction of the motorized unit.	Select and hold the selector toward the up arrow to raise the motorized unit. Select and hold the selector toward the down arrow to lower the motorized unit. The selector is in the neutral position by default.
Emergency stop button	Powers on the control panel when pulled. Shuts down the motor and turns off the control panel when pushed.	Pull to power on or push to shut down.
Motor start button	Starts the motor.	Push to start up the motor.

On an F300 unit model used in a linked configuration, with **both engines or motors at full operating speed**, the control panel will automatically analyze and balance the hydraulic pressure values on both sides of the mast by reducing the oil pressure on the “faster” side. This could translate into slight jolts that may be experienced by the operator or the workers and is no cause for alarm. If there is still concern, seek advice from a qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section.

Control Panel

Screen alerts and instructions

Unlocking the display screen

1- Pull out the emergency stop button.

2- On a **gas-powered** motorized unit, if the display screen does not turn on after a short period of time, make sure that the battery is plugged in.

On an **electrical unit**, if the display screen does not turn on after a short period of time, make sure that the power cable is properly connected to both the power source and to the motorized unit. If the cable is connected, verify the phase selector and make sure the appropriate phase has been selected. The phase selector should be at the left (1) or right (2) position. The middle (0) position is neutral and will prevent the unit and panel from powering on. If the display screen still does not turn on, turn off the main disconnect switch and contact a certified electrician.

3- Once the panel is powered on, press on any key under the display screen to activate it.

4- Once on the access code entry page, it is possible to change the display language by pressing the rightmost button (button 4 on the illustration below).

5- If an event is detected by the panel, the ALM rectangle will blink (above button 3 in fig. 5.5) to indicate it. The display screen must be unlocked to display the alert info screen.

6- To enter the operating access code (default “10”), press on the OK button. Once the input box is blinking, use the UP and DOWN arrows (on the navigation button) to change the value, then press OK to unlock the display screen. The default operating access code can be changed by the qualified erector/dismantler or the qualified technician.

7- Once unlocked, the screen displays the main menu page. Press on the appropriate option button to go to the selected option.

Unlocking the display screen

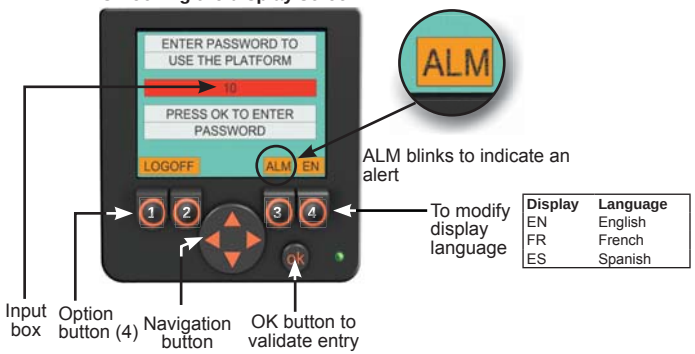


fig. 5.5

Main menu screen

fig. 5.6

Screen	Description	Access level
F1 – Status info	Information on the status of the current configuration of the unit and its components (door sensors, inclinometer, total runtime hours, etc.)	Operator
F2 – Alarms	Information on any event detected by the control panel that could prevent the unit and its components to operate safely	Operator
F3 – Inputs and outputs	Status of various controls, sensors and switches linked to input and output ports	Operator
F4 – Configuration	Screens allowing the modification of certain configuration options for the unit or the installation (enabling door sensors, enabling inclinometers, modifying user-level password, resetting maintenance runtime counter, etc.)	Erector/ Dismantler (level 1)
Pressing twice on OK button	Entry-level access page to log out and lock panel	Operator

Control Panel

Screen alerts and instructions

F1 – Status info

Access level: Operator

This two-page section displays general information about the current configuration of the unit and the installation.

1- Press F1 on the main menu screen (button 1 on the main menu screen display example in fig. 5.6, p. 76).

2- Change display pages with the option buttons (buttons 1 and 2 in fig. 5.8).

3- Press the BACK button (button 4 in fig. 5.8) to return to the main menu page.

Screen 1 of Status Info

fig. 5.7

Screen 2 of Status Info

fig. 5.8

Note: Numbers on the above option buttons are displayed as an example only.

F2 – Alerts

Access level: Operator

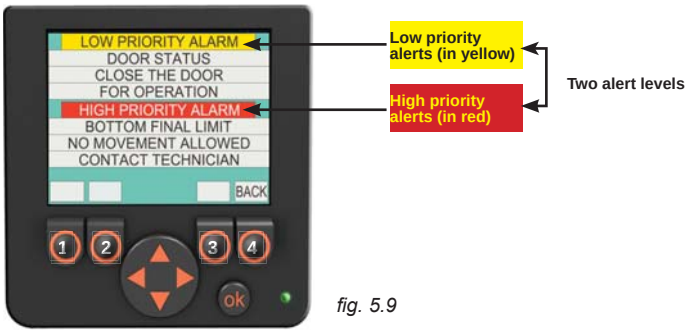


fig. 5.9

Note: Numbers on the above option buttons are displayed as an example only. Actual messages displayed may differ from picture.

This section displays events detected by the control panel that could compromise the safe operation of the unit and its components. **If there is more than one alert, the screen will display the pages alternately**.

Once an event is detected, the ALM rectangle (fig. 5.8) will blink to signal an alert. This section may also be reached at all times by pressing on the ALM button (button 3 in fig. 5.8).

Press the BACK button (button 4 in the example in fig. 5.8) to return to the main menu screen.

MINOR ALERTS				
Alert	**Event**	**Action**	**UP travel**	**DOWN travel**
10 FOOT STOP 3 SEC STOP TO VERIF ALL CLEAR UNDER PLATFORM	Going **DOWN**, unit stops for 3 seconds	Make sure there are no interferences under the platform Used in transport platform configurations	ALLOWED	NOT ALLOWED
BOTTOM LIMIT UPWARD TRAVEL ONLY	Going **DOWN**, unit stops	Bottom limit reached; only upward travel allowed	ALLOWED	NOT ALLOWED
DOOR STATUS CLOSE THE DOOR FOR OPERATION	Unit stops	Check all doors on the installation and make sure they are closed properly	NOT ALLOWED	NOT ALLOWED
LINK DOOR CLOSE THE DOOR FOR OPERATION	Unit stops	Check link bridge doors and make sure they are closed properly	NOT ALLOWED	NOT ALLOWED
INCL L > 2DEG POS GO UP OR DOWN TO LEVEL	Going **UP**, unit keeps moving Going **DOWN** see ①	No action required; motion of unit is adjusted automatically	ALLOWED	ALLOWED (F300 restricted to 1st speed)
INCL L > 2DEG NEG GO UP OR DOWN TO LEVEL	Going **UP**, see ② Going **DOWN**, unit keeps moving	No action required; motion of unit is adjusted automatically	ALLOWED (F300 restricted to 1st speed)	ALLOWED
INCL R > 2DEG POS GO UP OR DOWN TO LEVEL	Going **UP**, unit keeps moving Going **DOWN**, see ①	No action required; motion of unit is adjusted automatically	ALLOWED	ALLOWED (F300 restricted to 1st speed)
INCL R > 2DEG NEG GO UP OR DOWN TO LEVEL	Going **UP**, see ② Going **DOWN**, unit keeps moving	No action required; motion of unit is adjusted automatically	ALLOWED (F300 restricted to 1st speed)	ALLOWED
①	F200 unit model: unit keeps going DOWN F300 unit model: unit keeps going DOWN at 1st speed			
②	F200 unit model: unit keeps going UP F300 unit model: unit keeps going UP at 1st speed			

fig. 5.10

MINOR ALERTS				
Alert	**Event**	**Action**	**UP travel**	**DOWN travel**
TOP LIMIT DOWNWARD TRAVEL ONLY	Going **UP**, unit stops	Top limit reached; only downward travel allowed	NOT ALLOWED	ALLOWED
LOW GAS LEVEL RETURN TO BASE LEVEL TO REFUEL (gas-powered unit only)	Warning only	Return to base level to refuel	ALLOWED	ALLOWED
ELEC PHASE DETECTOR INTERCHANGE TWO PHASES FROM THE MAIN POWER (electrical unit only)	Unit stops	See ①	NOT ALLOWED	NOT ALLOWED
TROLLEY LINK VERIFY LINK CONFIG	Unit stops	See ②	NOT ALLOWED	NOT ALLOWED
TROLLEY LINK VERIFY COMM CABLE REMOTE PANEL OFFLINE (F300 unit model only)	Unit stops when communication is used	Make sure remote panel is online or that communication cable is plugged into both control panels	NOT ALLOWED	NOT ALLOWED
REMOTE PANEL ALARM SEE REMOTE PANEL	Event depends on alarm on remote panel	Make sure remote panel is online or see local alarm on remote panel	Will depend on alarm on remote panel	Will depend on alarm on remote panel

①	Unit equipped **with** phase selector: select another phase with phase selector switch Unit **without** phase selector: call certified electrician **All units**: check motor overload light on power box; if light is lit, reset motor overload
②	Make sure that the link option is set according to the current configuration; seek advice from qualified E&D personnel or qualified technician

fig. 5.11

Control Panel

Screen alerts and instructions

F2 – Alerts – gas-powered and electrical units

MAJOR ALERTS				
Alert	**Event**	**Action**	**UP travel**	**DOWN travel**
FINAL BOTTOM LIMIT UPWARD TRAVEL ONLY VERIFY BOTTOM LIMIT	Going **DOWN**, unit stops	Inspect BOTTOM LIMIT switch and make sure it is working properly; see also ①	ALLOWED	NOT ALLOWED
FINAL TOP LIMIT DOWNWARD TRAVEL ONLY VERIFY TOP LIMIT	Going **UP**, unit stops	Inspect TOP LIMIT switch and make sure it is working properly; see also ①	NOT ALLOWED	ALLOWED
INCL 1 > 5DEG POS AUTO CORRECTION	Going **DOWN**, unit stops	Bring structure back to level	ALLOWED	NOT ALLOWED
INCL 1 > 5DEG NEG AUTO CORRECTION	Going **UP**, unit stops	Bring structure back to level	NOT ALLOWED	ALLOWED
INCL 2 > 5DEG POS AUTO CORRECTION	Going **DOWN**, unit stops	Bring structure back to level	ALLOWED	NOT ALLOWED
INCL 2 > 5DEG NEG AUTO CORRECTION	Going **UP**, unit stops	Bring structure back to level	NOT ALLOWED	ALLOWED
①	If the bottom or top limit switch is defective or if problem persists, unit must be put out of service; seek advice from a qualified technician			

fig. 5.12

MAJOR ALERTS				
Alert	**Event**	**Action**	**UP travel**	**DOWN travel**
OIL HIGH TEMP 1ST SPEED ALLOWED ONLY OIL HAS TO COOL DOWN	F200 unit model: unit stops F300 unit model: travel is allowed UP or DOWN but restricted to 1st speed	Let engine or motor idle to allow faster cooling of hydraulic oil If problem persists seek advice from qualified technician	F200 unit model: not allowed F300 unit model: allowed but restricted to 1st speed	F200 unit model: not allowed F300 unit model: allowed but restricted to 1st speed
OIL LOW LEVEL VERIFY OIL LEVEL	Unit stops	Check hydraulic oil level and replenish, if necessary If problem persists seek advice from qualified technician	NOT ALLOWED	NOT ALLOWED
OIL PRESS <150PSI OIL PRESS <150PSI	Unit stops	Will reset after 10 seconds If problem persists seek advice from qualified technician	NOT ALLOWED	NOT ALLOWED
UP SLOW OVER PRESS VERIF LOAD DISTRIBUTION	Unit stops	Will reset after 10 seconds Maximum pressure exceeded for 1st speed GOING UP Check overloads on platform	NOT ALLOWED	NOT ALLOWED
UP FAST OVER PRESS VERIF LOAD DISTRIBUTION	Unit stops	Will reset after 10 seconds Maximum pressure exceeded for 2nd speed GOING UP Check overloads on platform	NOT ALLOWED	NOT ALLOWED
DOWN SLOW OVER PRESS VERIF LOAD DISTRIBUTION	Unit stops	Will reset after 10 seconds Maximum pressure exceeded for 1st speed GOING DOWN Check overloads on platform	NOT ALLOWED	NOT ALLOWED
DOWN FAST OVER PRESS VERIF LOAD DISTRIBUTION	Unit stops	Will reset after 10 seconds Maximum pressure exceeded for 2nd speed GOING DOWN Check overloads on platform	NOT ALLOWED	NOT ALLOWED
DIFF OVER PRESS VERIF LOAD DISTRIBUTION OR RPM OF BOTH ENGINES (gas-powered unit, F300 model only)	Unit stops	Will reset after 10 seconds Maximum pressure difference between local and remote exceeded Check load distribution or rpm of both engines	NOT ALLOWED	NOT ALLOWED
OVERSPEED DEVICE CONTACT TECHNICIAN TO RESET THE UNIT	Unit stops; engine or motor shuts down	Overspeed safety device has engaged; platform must be evacuated and unit inspected by a qualified technician	NOT ALLOWED	NOT ALLOWED
EMERGENCY DESC INITIATE PROCEDURE TO LOWER THE UNIT	Unit stops; engine or motor shuts down	Emergency descent initiated; engine or motor cannot be started	NOT ALLOWED	NOT ALLOWED

fig. 5.13

Control Panel

Screen alerts and instructions

F3 – Inputs and outputs

Access level: Operator

This section displays information about the various controls, sensors and switches linked to the input and output ports of the control panel. A black circle will indicate that the control panel receives a signal from a sensor or sends a signal to an actuator. Other information will be displayed in values. These pages are mainly useful for troubleshooting operations to provide information on the condition of the unit and the setup to a remote qualified technician.

fig. 5.14

fig. 5.15

fig. 5.16

Note: Numbers on the above option buttons are displayed as an example only.

1- Press the F3 button on the main menu page (button 3 in fig. 5.6, p. 76).
2- Change display pages with the option buttons (buttons 1 and 2 in fig. 5.14).
3- Press the BACK button (button 4 in fig. 5.14) to return to the main menu page.

F4 – Configuration

Access level: Erector / Dismantler

This five-page section includes: one access code entry page for this section (accessible only to the qualified erector/dismantler) and three pages for the modification of setup configuration options, including enabling the inclinometer. The last page of the section is an access code entry page giving access to options available only to a qualified technician.

1- Press the F4 button on the main menu page (button 4 in fig. 5.6, p. 76).
2- On the access code entry page, press on the OK button. Once the input box is blinking, use the UP and DOWN arrows (on the navigation button) to change the value (access code available only to the qualified erector/dismantler), then press OK to access the configuration options section pages.
3- Change display pages with the option buttons (buttons 1 and 2 in fig. 5.14).
4- Use the UP and DOWN arrows on the navigation button to reach the box to be modified.
5- Press the OK button to select the box to be modified.
6- Once the selected box is blinking, use the UP and DOWN arrows on the navigation button to change the value displayed in the box.
7- Press the OK button to confirm the change.
8- Press the BACK button (button 4 in fig. 5.14) to return to the main menu page. Access to the configuration options section will automatically be deactivated once the user leaves the section. The access code to access this level will need to be entered again.

Control Panel

Screen alerts and instructions

F4 – Configuration

Access level: Erector / Dismantler

fig. 5.17

fig. 5.18

fig. 5.19

Note: Numbers on the above option buttons are displayed as an example only.

fig. 5.20

Option	Choice	Description
PROGRAM	200 / 300	Option to select model of unit used in current configuration F200 select 200 F300 select 300
LINK OPTION	LINKED / UNLINKED / TWIN COM	F200 must be set to **LINKED at all times** F300 **LINKED** when unit is used in a linked configuration **UNLINKED** when unit is used in an unlinked configuration **TWIN COM** when two units are used in a bearing bridge configuration and must be controlled by a single operator using a communication cable
LINK DOOR	ENABLE / DISABLE	F200 **DISABLE** default setting unless a switched door is required F300 **DISABLE** when unit is used in a linked configuration **ENABLE** when unit is used in an unlinked configuration
DOOR SWITCH	ENABLE / DISABLE	**DISABLE** default setting used when no switched door is required **ENABLE** used when a switched door is required
ELECTRIC MODE	ENABLE / DISABLE	**ENABLE** when control panel is used on an electrical unit **DISABLE** when control panel is used on gas-powered unit
INCLINOMETER 1	ENABLE / DISABLE	**DISABLE** when unit is used in a single unit configuration **ENABLE** when unit is used in a bearing bridge configuration and inclinometer on the twin mast adapter is plugged into INCLINOMETER 1 port on the panel
INCLINOMETER 2	ENABLE / DISABLE	**DISABLE** when unit is used in a single unit configuration **ENABLE** when unit is used in a bearing bridge configuration and inclinometer on the twin mast adapter is plugged into INCLINOMETER 2 port on the panel
OPERATOR PWD	VALUE	Option available to qualified E&D personnel to modify operator (entry level) password
RESET RUNTIME	NORMAL / RESET	Option to reset the runtime counter of the unit
PASSWORD	ENABLE / DISABLE	Option to enable or disable the operator password (entry level); when DISABLED, other means must be put in place to prevent unauthorized operation when the operator is not present
INACTIVITY	VALUE	Delay time in seconds after which the screen will return to alarms page if no buttons are pressed
LEVEL 1		Option available to qualified E&D personnel to modify Level 1 E&D password

Mast sections

The handling, installation and removal of mast sections must be performed with care to avoid mishaps that may lead to safety issues. Mast sections loaded on the platform using a crane or a rough terrain forklift **must be loaded equally on either side of the mast to ensure good balance**.

Installation of mast sections

1- Make sure that the motorized unit is positioned properly. Refer to p. 17 of the *Motorized Unit* section for more information.

2- Refer to applicable local regulations governing distances between the mast climbing work platform system and electrical lines.

3- Remove the mast head (fig. 6.2).

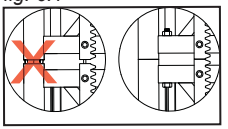
4- Using an optional jib arm (see p. 119 of the *Accessories* section) or any other appropriate lifting device such as a crane or a rough terrain forklift, raise the next mast section and insert it on top of the bottom mast section.

5- Make sure the spring pins on the racks are properly aligned and that the mast sections are connected together (fig. 6.1).

6- Using 1"-8 x 8" GR8 bolts and 1" GR8 lock nuts, bolt all four corners together, making sure the bolt heads are facing down. Tighten the four bolt and nut assemblies to 150 lb-ft (203 N-m) of torque to secure the mast section in place.

7- Repeat steps 4 through 6 for each mast section.

fig. 6.1



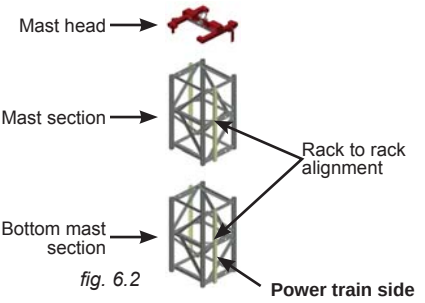


fig. 6.2

8- Make sure that the racks are sufficiently greased along the whole length of the mast. On **initial setup and subsequently after every 8 to 10 hours of cumulative runtime** (with unit traveling up and down the mast), grease must be applied to the racks and gears, from the top of the mast down. For more information, refer to the daily inspection checklist for this motorized unit. **Grease must be allowed to stand for 2-3 hours** before the motorized unit is used again. Use an open gear lubricant recommended by Hydro Mobile. Refer to p. 132 of the *Transport, Storage and Maintenance* section for more information on the appropriate lubrication method.

9- Install the mast head on the last mast section and keep it in place until the setup is dismantled.

WARNING
Failure to grease the gears and the mast racks properly and in a timely fashion may cause premature wear of rack and pinion and provoke down time, even lead to serious injury or death.

Mast sections can be pre-assembled in sections to speed up assembly when using a crane. It is imperative to comply with local regulations for the lifting and handling of equipment. The length of pre-assembled mast allowed will be equal to the authorized height of mast in feet (meters) between two tie levels for the configuration, according to the selected method of installation and the mast tie schedule specific to that method of installation.

Mast sections

Loading mast sections on the platform

1- Mast sections can be loaded on the platform using an optional jib arm, a crane or a rough terrain forklift (see p. 119 of the *Accessories* section for more information on the installation and use of the jib arm).

2- There can be up to a **maximum of four mast sections on each side of the mast at a time**. A ninth mast section can be loaded on the link bridge of the motorized unit, as shown in fig. 1.32. It is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side **opposite** to the jib arm, as shown in fig. 1.32. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

3- Mast sections must be loaded equally on either side of the mast and taken alternately from one side, then the other when installing to ensure good balance. Refer to the *Load Capacities* section on p. 94 for more information about loading the platform.

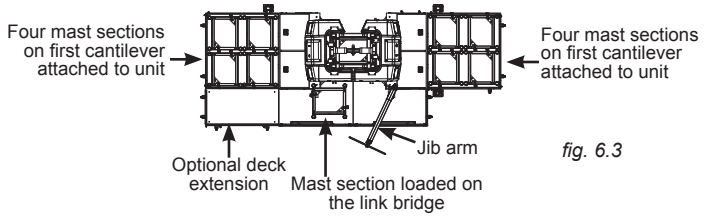


fig. 6.3

Removal and transport of mast sections

1- Remove the mast head (fig. 6.2, p. 84).

2- Remove the bolt assemblies on all four corners.

3- Using an optional jib arm (see p. 119 of the *Accessories* section) or any other appropriate lifting device such as a crane or a rough terrain forklift, lift the mast section to be removed. If mast sections must be stored on the platform, refer to the loading instructions above.

4- Mast sections can be removed and carried in pre-assembled lengths (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. 116 of the *Accessories* section.

5- Mast sections must be stored on a flat surface away from work areas and construction traffic, vertically or horizontally lying on a side which has no rack.

Mast Ties

General guidelines

1- Freestanding configurations are not allowed for F2 Series motorized units unless an optional adapter base for freestanding installation is used. For instructions on the installation and use of an optional adapter base for freestanding installation, refer to p. 117 of the *Accessories* section.

2- The pre-installation of mast ties consists in the installation of all mast sections and tie levels necessary to reach the full height of the mast, as required and allowed, **before beginning normal operation of the setup**. The pre-installation of tie levels is mandatory for all F2 Series installations. Only a single unit **standard** installation can be installed using a progressive method of installation of tie levels. For more information about methods of installation and standard installations, refer to p. 20 of the *Motorized Unit* section.

3- Determine the mast tie components and the quantity required of each according to the installation method appropriate for the installation, the number of planks required and allowed for the configuration and the height of the mast. For more information about methods of installation, see p. 20 of the *Motorized Unit* section.

4- Determine the **location of perpendicular mast ties** according to the configuration. For instructions on how to determine the location of perpendicular mast ties, refer to p. 88 of this section.

Mast Ties

Installation of standard mast ties

1- Align the holes on the mast tie frame with the holes on the mast section. Attach the mast tie frame to the mast section with assemblies of 1/2"-13 x 1 1/2" hex bolts (GR8), flat washers (GR8), lock washers (GR8) and 1/2"-13 (GR8) nuts (fig. 6.6). Tighten all bolt assemblies to a torque of 80 lb-ft (108 N-m).

2- Choose the appropriate anchoring system. For more information about wall tie reactions, refer to p. 92 of this section.

3- Refer to fig. 6.14, p. 88 for the recommended order of installation of mast ties. Anchor the appropriate wall tie bracket to the building structure.

4- If a mast tie extension is required by the configuration, refer to the installation instructions on p. 89 in this section.

5- Attach a rigid dual clamp to the vertical tube of the mast tie frame. Make sure that the clamp is tightened to 60 lb-ft (80 N-m) of torque.

6- Align the mast tie between the rigid dual clamp on the mast tie frame and the wall tie.

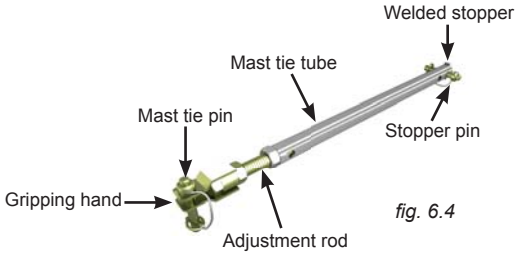


fig. 6.4

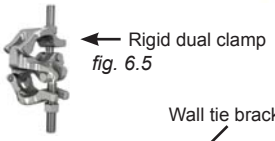


fig. 6.5

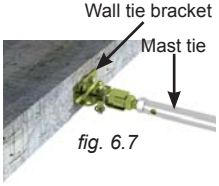


fig. 6.7

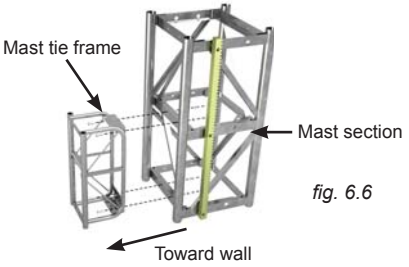


fig. 6.6

WARNING
When using mast ties without welded stoppers, use a bolt, a pin or a rigid dual clamp as a stopper at the extremity of the mast tie tube attached to the mast tie frame.

7- Insert the mast tie into the dual clamp and pin the gripping hand to the wall tie. Tighten the rigid dual clamp to 60 lb-ft (80 N-m) of torque.

8- Adjust the length of the adjustment rod until the mast is plumb on both its front and side axis.

9- Install additional rigid dual clamps to secure the mast tie if required. Refer to p. 89 of this section for more information about mast tie extensions and additional **rigid** dual clamps. Make sure all clamps are tightened to a torque of 60 lb-ft (80 N-m).

10- Repeat steps 5 through 9 for the other two mast ties.

Mast Ties

fig. 6.8

Methods of Installation				
Type of installation	(A) **Single unit**	(B) **Single unit**	(C) **Multiple units**	(D) **Multiple units**
Method of installation of tie levels	Progressive installation	Pre-installation	Pre-installation	Pre-installation
Installation procedure	• Installation of unit (without tie levels) • Progressive installation of tie levels NOTE: The first two tie levels must be installed before the start of any work	• Complete installation of unit (tie levels to top of work)	• Complete installation of first unit (tie levels to top of work) • Complete installation of second unit (tie levels to top of work) • Installation of bearing bridge structure	• Installation of first unit (without tie levels) • Installation of bearing bridge structure • Installation of second unit (without tie levels) • Installation of tie levels to top of work on both units
Equipment and accessories	NOT ALLOWED	**Without** equipment or accessories	**With** equipment or accessories	With or without equipment and accessories	With or without equipment and accessories
Tie schedule(s) appropriate for the installation	1	2	3	3	4

WARNING
It is important to note that **freestanding configurations are not allowed** for F2 Series motorized units unless an optional adapter base for freestanding installation is used.

fig. 6.9

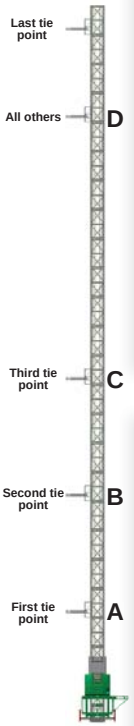


fig. 6.11

Mast Tie Schedule Unit without lateral base extensions				
	1	2	3	4
A (from under base)	NOT ALLOWED	10' (3 m)	10' (3 m)	10' (3 m)
B (from A)	NOT ALLOWED	20' (6,1 m)	20' (6,1 m)	20' (6,1 m)
C (from B)	NOT ALLOWED	30' (9,1 m)	30' (9,1 m)	30' (9,1 m)
D (from C)	NOT ALLOWED	45' (13,7 m)	45' (13,7 m)	30' (9,1 m)
Height of mast above last tie level with **two tie levels in place**	NOT ALLOWED	20' (6,1 m)	5' (1,5 m)	5' (1,5 m)
Height of mast above last tie level with **one tie level in place**	NOT ALLOWED	10' (3 m)	NOT ALLOWED	NOT ALLOWED
Height of mast above last tie level for an **UNLINKED INSTALLATION**	NOT ALLOWED	5' (1,5 m)	5' (1,5 m)	5' (1,5 m)

fig. 6.10

Mast Tie Schedule Unit with lateral base extensions				
	1	2	3	4
A (from under base)	10' (3 m)	20' (6,1 m)	20' (6,1 m)	20' (6,1 m)
B (from A)	10' (3 m)	30' (9,1 m)	30' (9,1 m)	30' (9,1 m)
C (from B)	20' (6,1 m)	45' (13,7 m)	45' (13,7 m)	30' (9,1 m)
D (from C)	20' (6,1 m)	45' (13,7 m)	45' (13,7 m)	30' (9,1 m)
Height of mast above last tie level with **two tie levels in place**	20' (6,1 m)	20' (6,1 m)	5' (1,5 m)	5' (1,5 m)
Height of mast above last tie level with **one tie level in place**	10' (3 m)	10' (3 m)	NOT ALLOWED	NOT ALLOWED
Height of mast above last tie level for an **UNLINKED INSTALLATION**	NOT ALLOWED	5' (1,5 m)	5' (1,5 m)	5' (1,5 m)

Mast Ties

Location of perpendicular mast ties according to configuration

Each type of configuration shown below requires the installation of additional rigid dual clamps. Refer to p. 89 of this section for more information about the installation of additional rigid dual clamps.

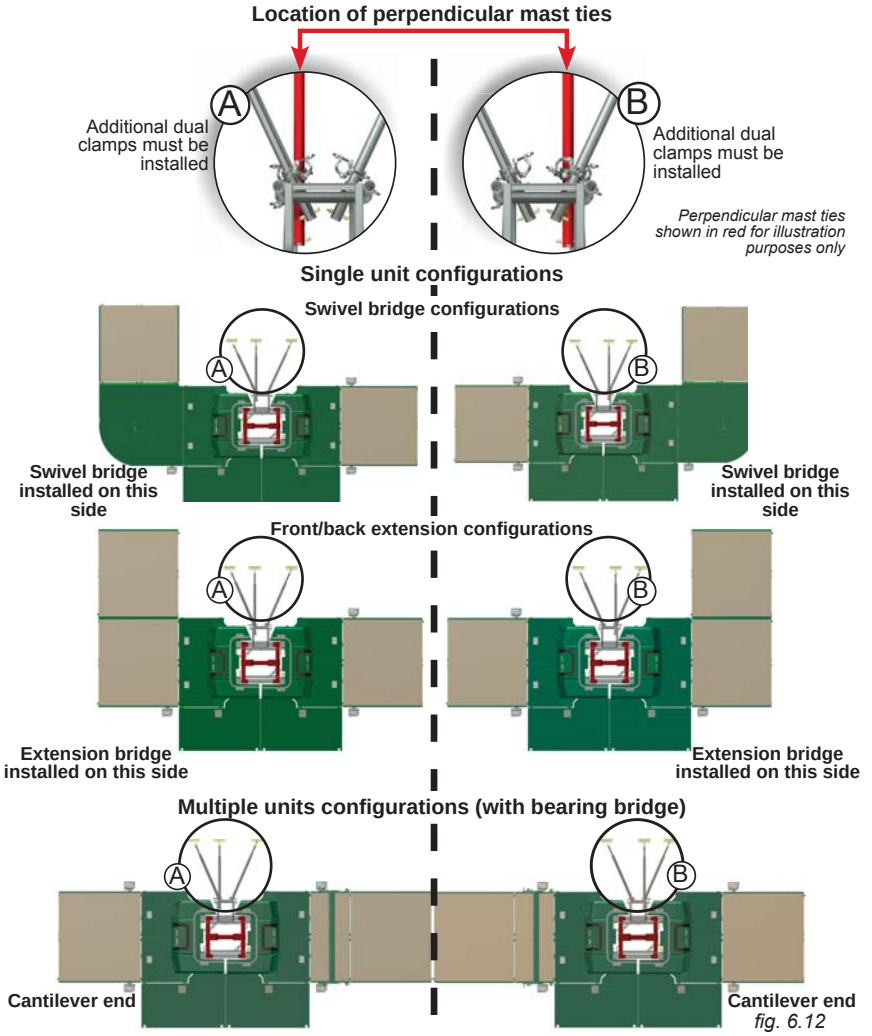


fig. 6.12

Applies to all multiple units configurations (with bearing bridge) used with or without equipment or accessories.

Recommended order of installation:

1. Perpendicular mast tie to be installed first
2. Opposite angled mast tie to be installed second (angled at 25°)
3. Third mast tie to tighten the tie installation (angled at 25°)

fig. 6.14

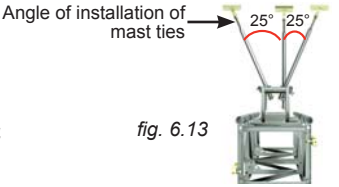


fig. 6.13

Mast Ties

Installation of mast ties with extensions

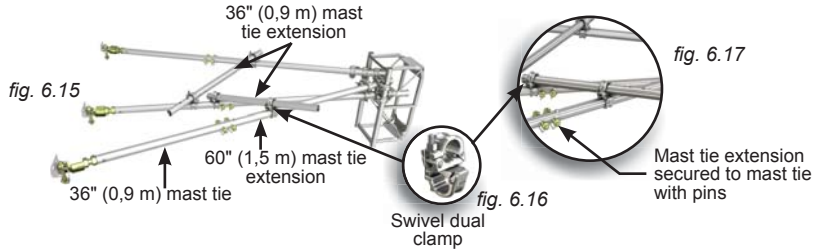
In a configuration requiring the use of mast tie extensions, it is important to note that only **one mast tie extension per mast tie is allowed** (a maximum of 60" or 1,5 m). It is **mandatory** to use mast tie braces and additional rigid dual clamps for such tie configurations. For any other mast tie configuration not shown in this owner's manual, contact a qualified person or the distributor/service center. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section.

1- Insert a mast tie extension into the tube of a 36" (0,9 m) mast tie. Secure in place with two pins (fig. 6.17).

2- Install all the rigid dual clamps required and adjust the mast tie. For more information, refer to the installation instructions for standard mast ties on p. 86 and for additional dual clamps hereafter.

3- Repeat steps 1 and 2 for the other two mast ties. Once all mast ties are installed, brace the mast ties by installing 36" (0,9 m) mast tie extension tubes secured to the mast tie assemblies with swivel dual clamps (fig. 6.16).

4- Make sure all clamps are tightened to 60 lb-ft (80 N-m) of torque.

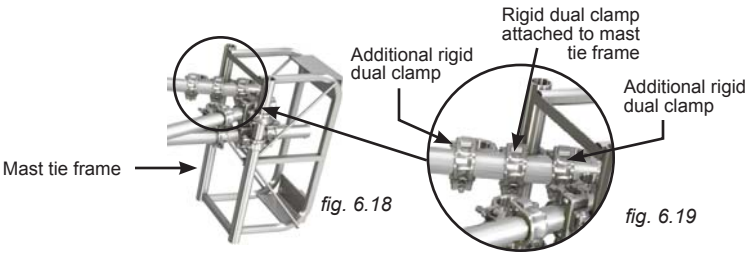


Installation of additional rigid dual clamps to secure the mast tie

In a bearing bridge configuration using either mast tie extensions, forward bridge extensions, a swivel bridge, a hoist, weather protection, a 4 to 8 plank configuration, unlinked setups, etc., the tension / compression is highly increased. In such situations, it is **mandatory** to attach an additional rigid dual clamp **behind** and **in front** of the rigid dual clamp attached to the mast tie frame (see fig. 6.18).

1- Install the first rigid dual clamp on the vertical tube of the mast tie frame (fig. 6.19). Attach the mast tie to the rigid dual clamp. Tighten the clamp to 60 lb-ft (80 N-m) of torque.

2- Lock the installed rigid dual clamp in place by installing additional rigid dual clamps in front and behind as shown in fig. 6.19.



WARNING

It is important to verify each mast tie of an installation that has been exposed to winds exceeding 102 mph (164 km/h).

Mast Ties

Pre-installation of mast tie levels

Mast tie requirements according to plank configuration

0-3 planks

fig. 6.21

4-5 planks

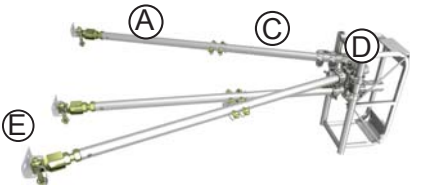


fig. 6.20

6-8 planks

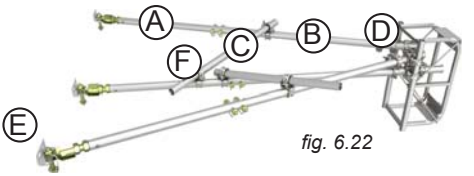


fig. 6.22

fig. 6.23

MAST TIE REQUIREMENTS FOR PLANK CONFIGURATION				
Ref	**Component**	**0-3 PLANKS**	**4-5 PLANKS**	**6-8 PLANKS**
A	36" (91,4 cm) mast tie assembly	3	3	3
B	60" (1,5 m) mast tie extension assembly			3
C	36" (91,4 cm) mast tie extension assembly		3	2
D	rigid dual clamps	3	9	9
E	wall tie brackets	3	3	3
F	swivel dual clamps			4
Note: The quantity of rigid dual clamps required will vary according to the type of configuration.				

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
- All loads must be removed from the setup
- It is mandatory to leave all the counterweights applied on the setup in place
- In a freestanding installation, when allowed, the motorized unit must be brought down to base level
- If wind speeds are expected to exceed **102 mph (164 km/h)**, the motorized unit must be brought down to base level

Mast Ties

Removal of mast ties

1- Remove any installed diagonal brace.

2- Beginning with one of the angled mast ties (see the “1” in the recommended order of removal, in fig. 6.25), loosen the mast tie to release the tension. Make sure that all tension (or compression) is completely released.

3- Unpin the mast tie from the wall tie.

4- Remove all dual clamps holding the mast tie. Remove and store the mast tie.

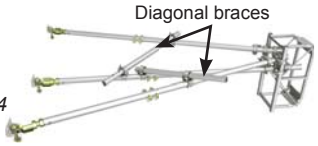


fig. 6.24

fig. 6.25

Order of removal of mast ties

5- Repeat steps 2 through 4 with the remaining ties, following the recommended order of removal as shown in fig. 6.25.

6- Remove the bolt assemblies holding the mast tie frame to the mast section. Remove and store the mast tie frame.

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.

Anchoring System

Installation of wall ties

Before attaching masts to the building using the mast tie system, anchor fasteners or any other attachment used to attach wall tie brackets must be installed on a solid part of the building structure able to sustain the loads to be imposed. Concrete slabs, columns, steel beams, relief angles and other structural elements can be used provided they can sustain the tension / compression and shear force of the anchoring installation, as described below. It is recommended to refer to the site engineer to validate the capacity of the structure on which the anchoring system will be installed.

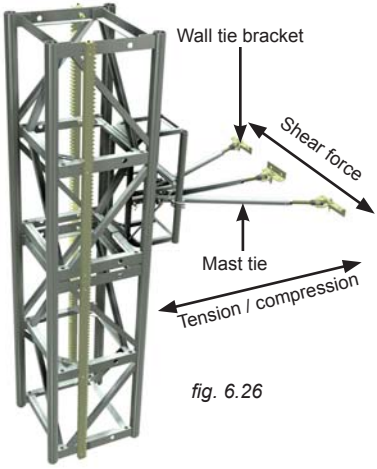


fig. 6.26

Installation of wall tie brackets

fig. 6.27

Each anchor fastener shown in fig. 6.27 must be able to sustain appropriate tension / compression and shear force for the application. Refer to p. 92 of this section for more information. A minimum of six anchor fasteners is required.

Masts and Mast Ties

Anchoring System

Wall tie reactions

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 vertical or horizontal type (fig. 6.34 and fig. 6.35), 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 a **vertical anchoring installation** and 1500 lb (680 kg) of tension / compression and 3000 lb (1361 kg) of shear force for a **horizontal anchoring installation**.

Wall tie types

There are 4 types of wall ties that can be used – welded, fixed, re-usable (centered or offset) and for horizontal/vertical installation. As the installation is rising, install the wall ties as per the appropriate mast tie schedule (see p. 87).

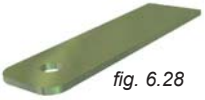


fig. 6.28

Welded wall tie

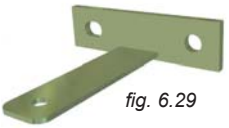


fig. 6.29

Fixed wall tie
(4" or 10 cm only)

fig. 6.30

Re-usable wall tie
(offset)

fig. 6.31

Wall tie for horizontal or vertical anchoring installation

fig. 6.32

Re-usable wall tie
(centered)

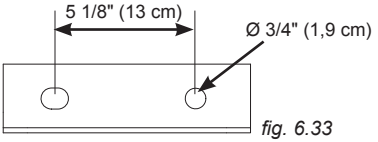


fig. 6.33

Wall tie bracket template

fig. 6.34

Vertical anchoring installation

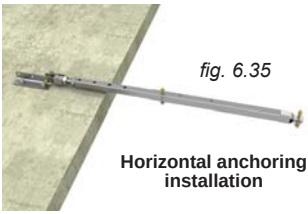


fig. 6.35

Horizontal anchoring installation

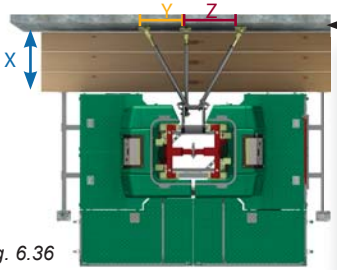


fig. 6.36

fig. 6.37

Wall tie distance for a vertical anchoring installation

Number of planks	X in (cm)	Y in (cm)	Z in (cm)
–	7" (17,8 cm)	5" (12,7 cm)	13 1/2" (34,3 cm)
1	17" (43,2 cm)	9 1/2" (24,1 cm)	18 1/2" (47 cm)
2	27" (68,6 cm)	14" (35,6 cm)	23" (58,4 cm)
3	37" (94 cm)	19" (48,3 cm)	27 1/2" (68,9 cm)

Distances above are given as a reference only.

Masts and Mast Ties

Anchoring System

Installation guidelines for horizontal anchoring

Horizontal anchoring can only be installed at a 0° angle from horizontal. Wall ties used for horizontal anchoring installations must be able to sustain 1500 lb (680 kg) of tension/ compression and 3000 lb (1361 kg) of shear force.

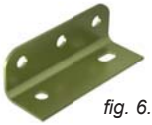


fig. 6.38

Type of wall tie used for horizontal anchoring installations

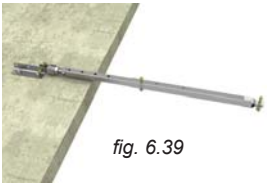


fig. 6.39

Installation guidelines for fixed wall ties

Fixed wall ties must be installed on a wall between two layers of brick (fig. 6.40). 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**.

The gaps between the anchoring structure and the back of the brick wall must not be greater than 1 1/2" (3,8 cm), as shown in fig. 6.41.

fig. 6.40

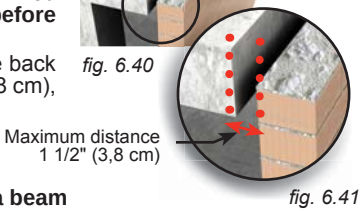


fig. 6.41

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. 6.42. The welding electrode used must be E70-XX series.

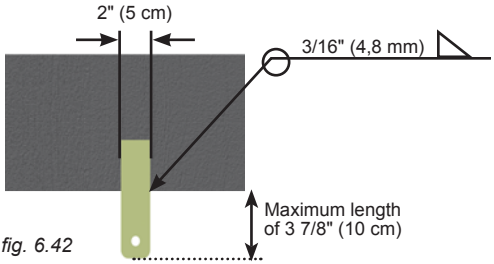


fig. 6.42

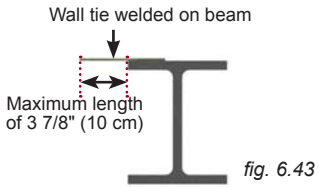


fig. 6.43

Installation guidelines for a re-usable wall tie

Used mainly for masonry construction projects, the re-usable wall tie is installed in a wall cavity.

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

fig. 6.44

Installation of the re-usable wall tie

WARNING

It is important to consider that fixed or reusable wall ties must **only be used for vertical** anchoring installations, **not horizontal**.

Load Capacities

Load capacity calculation 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, the **length of cantilevers** on either side of the unit must be **equal at all times**. The loads must be applied on the platform as evenly distributed as possible.

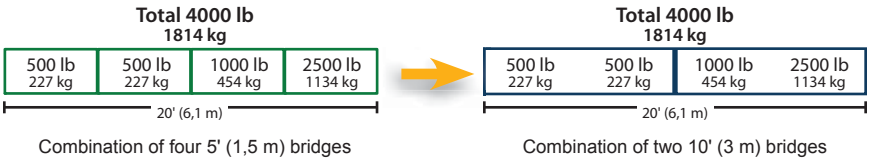
4- There must be a **maximum** number of workers for each installation, calculated as follows: overall length of installation divided by 15' (4,6 m) and rounded **up, PLUS** two workers for each motorized unit in the installation, with at least one of those two workers being a qualified operator of an F2 Series motorized unit and its accessories. For example, on a setup with an overall length of 92' 9" (28,3 m), the calculation would be: 92' 9" / 15 (or 28,3 m / 4,6 m) rounded up to **7**, PLUS **two** workers **for each** motorized unit (in this case, two units) = **4**, resulting in a **maximum of 11 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.

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

6- **In a multiple unit linked setup equipped with weather protection, the maximum length of cantilevers allowed on either side of the setup is 15' (4,6 m). Weather protection is not allowed in an unlinked configuration.**

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

8- 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.



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

Combination of two 10' (3 m) bridges

fig. 6.1

9- 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 47' 6" (14,5 m) bearing bridge, the load capacities of a 50' (16 m) bearing bridge would be used.

WARNING

To ensure safety at all times on a mast climbing work platform system, bridges must not be loaded beyond their maximum rated load capacities. Overloading or incorrectly positioning loads on a mast climbing work platform system could result in serious injury or death.

In a multiple unit linked setup equipped with weather protection, the maximum length of cantilevers allowed on either side of the setup is 15' (4,6 m). Weather protection is not allowed in an unlinked configuration.

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

Load Capacities

Single unit linked installation

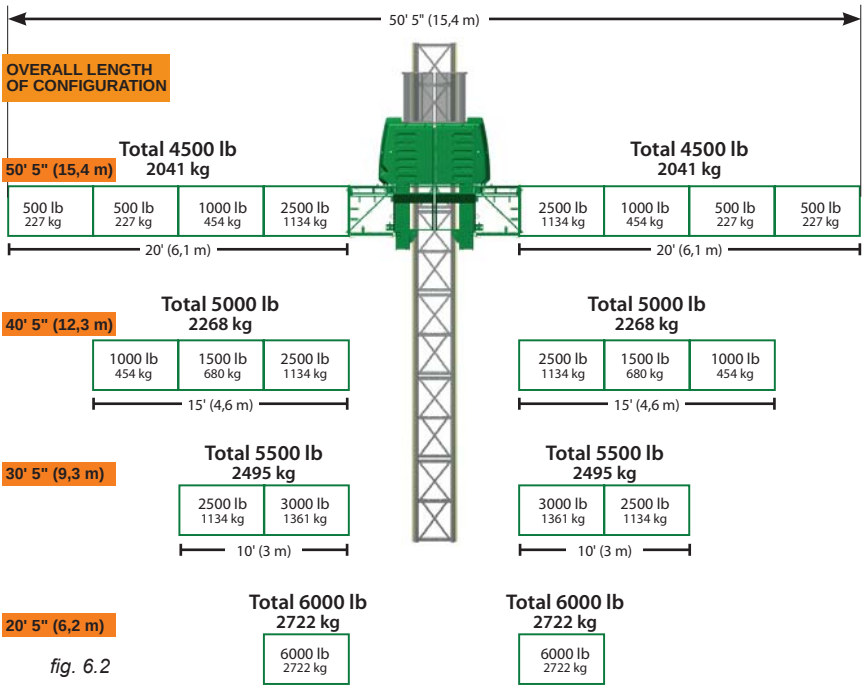


fig. 6.2

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 92' 9" (28,3 m) installation

92' 9" (28,3 m) / 15' (4,6 m), rounded **up** → **7**

+

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

Total of workers allowed on installation → **11**

LEGEND

5' (1,5 m) bridge assembly

Length of bridge setup

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Load Capacities

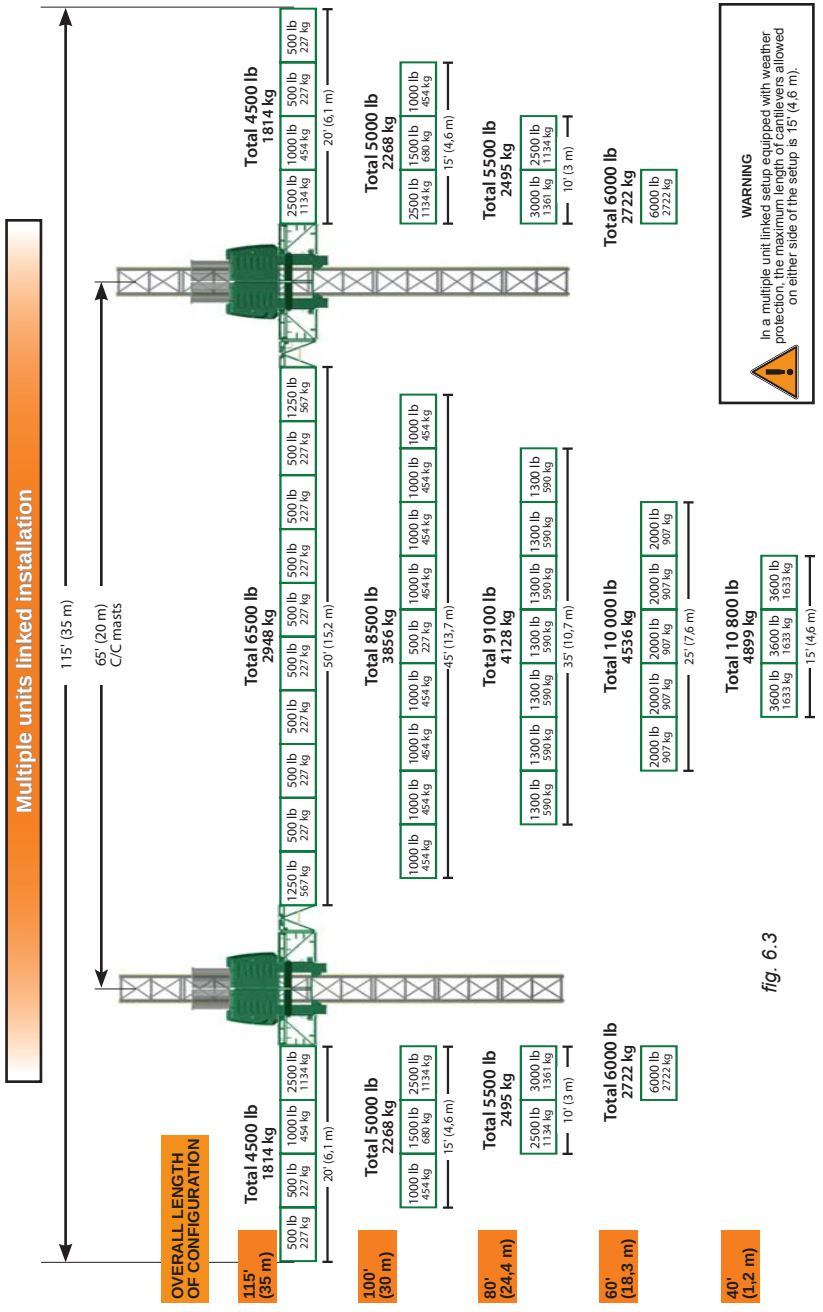


fig. 6.3

Load Capacities

Single unit – Unlinked installation (F300 unit model only)

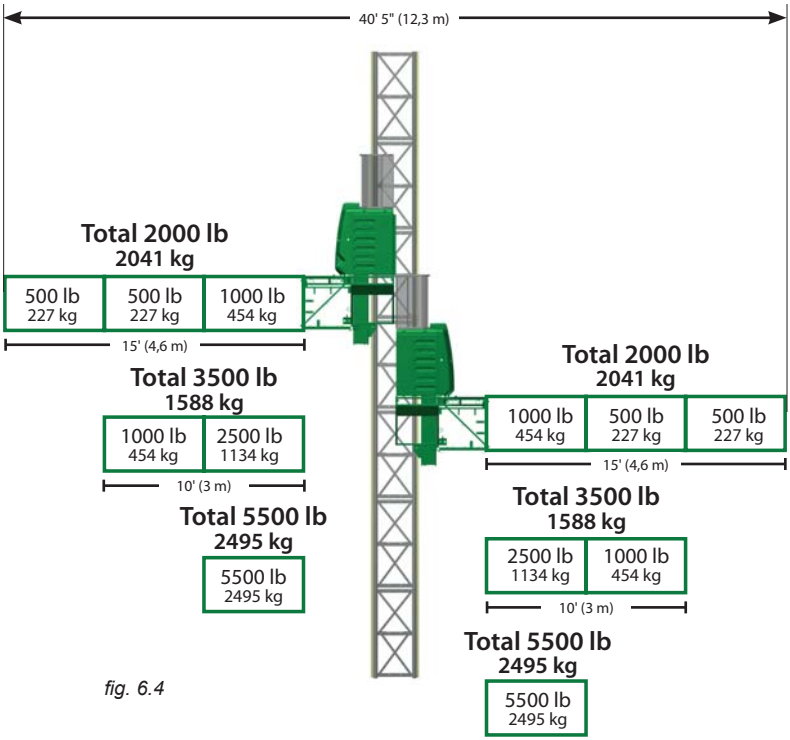


fig. 6.4

WARNING
The use of weather protection is **NOT ALLOWED** for unlinked installations.

LEGEND

5' (1,5 m) bridge assembly

Length of bridge setup

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Load Capacities

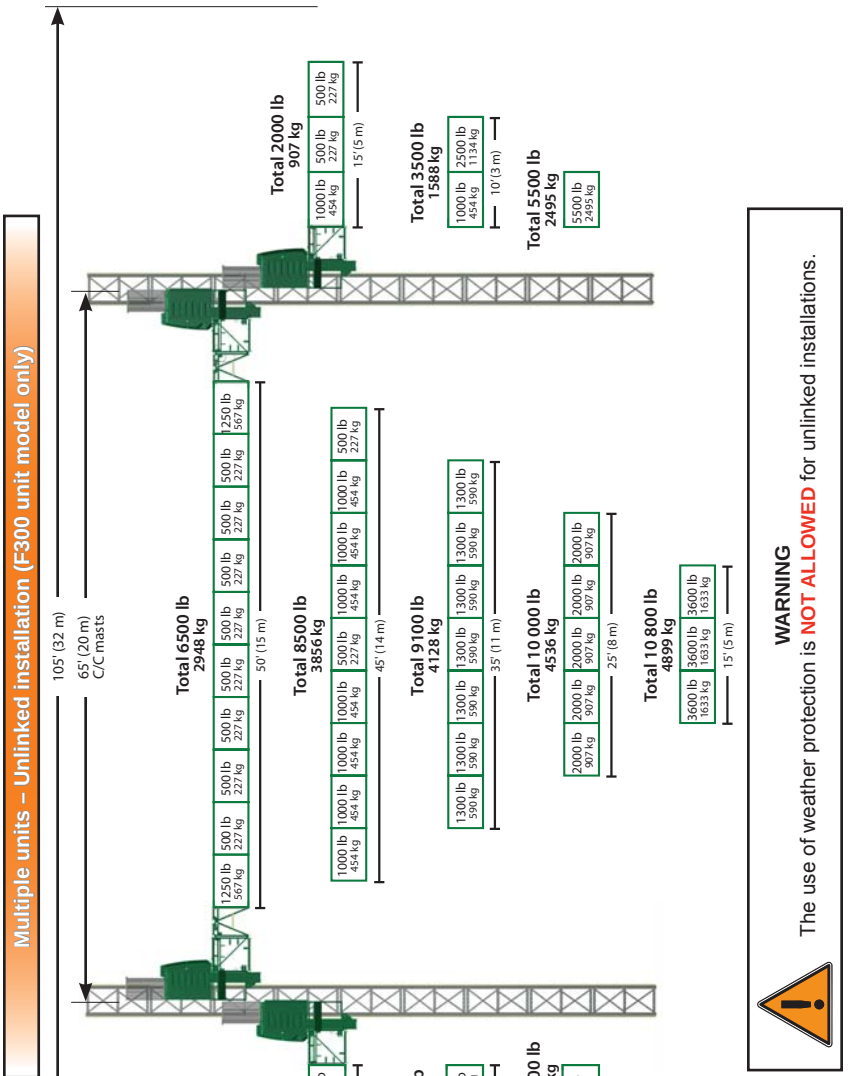


fig. 6.5

Load Capacities

Forward extension installation using a standard bridge (linked or unlinked)

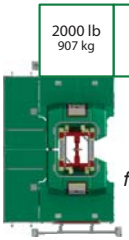


fig. 6.6

At this end, it is mandatory to install a bridge. The **only bridge configurations allowed at this end** are the following:

Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration

— OR —

any forward extension configuration shown in this chart.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

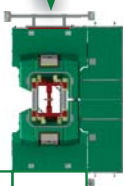


fig. 6.7

500 lb 227 kg	1000 lb 454 kg	2000 lb 907 kg

WARNING
The use of weather protection is **NOT ALLOWED** for forward extension installations.

Forward extension installation using a multi purpose bridge (linked or unlinked)

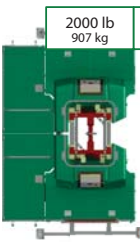


fig. 6.8

At this end, it is mandatory to install a bridge. The **only bridge configurations allowed at this end** are the following:

Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration

— OR —

any forward extension configuration shown in this chart.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

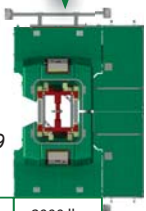


fig. 6.9

500 lb 227 kg	1000 lb 454 kg	2000 lb 907 kg

WARNING
The use of weather protection is **NOT ALLOWED** for forward extension installations.

Swivel bridge installation – Single unit (0-45 degrees) – (linked or unlinked)

At this end, it is mandatory to install a bridge. The **only bridge configurations allowed at this end** are the following:

Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration

— OR —

any swivel bridge configuration shown in this chart.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

WARNING
The use of weather protection is **NOT ALLOWED** for swivel bridge installations.

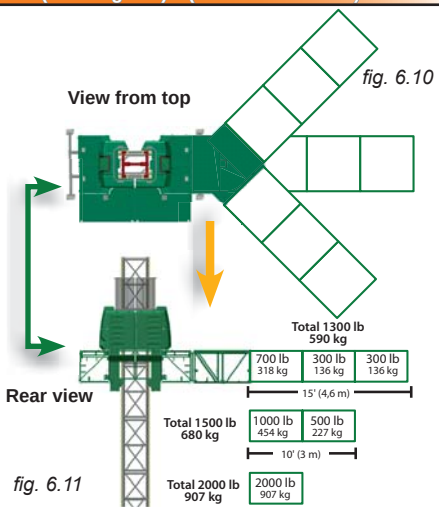


fig. 6.10

fig. 6.11

Load Capacities

Swivel bridge installation – Single unit (90 degrees) (linked or unlinked)

At this end, it is mandatory to install a bridge.
The **only bridge configurations allowed at this end** are the following:
Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration

— OR —

any swivel bridge configuration shown in this chart.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

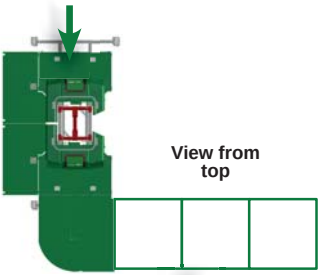


fig. 6.12

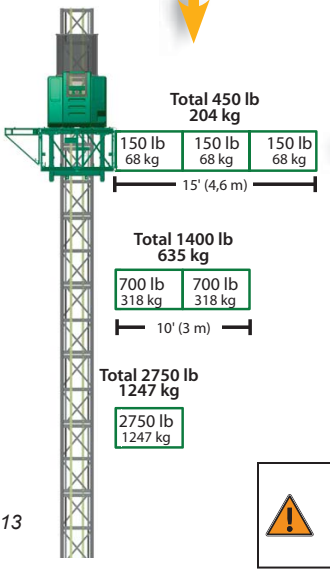


fig. 6.13

WARNING
The use of weather protection is **NOT ALLOWED** for swivel bridge installations.

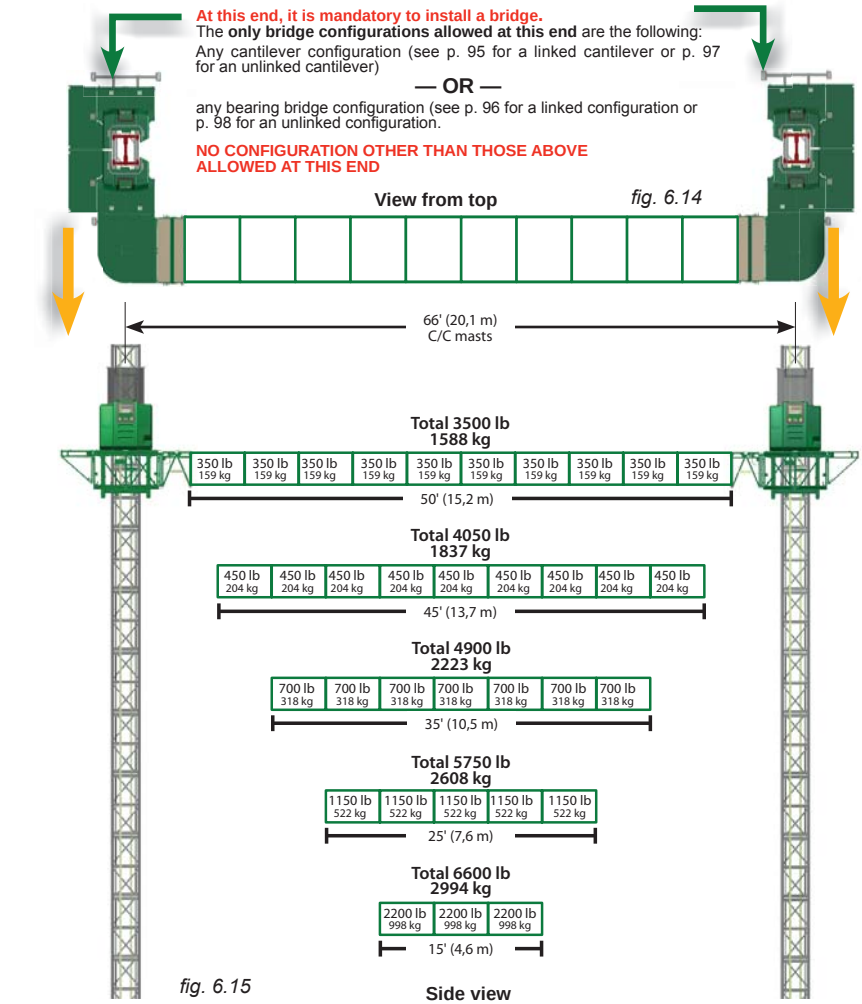
LEGEND

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

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Load Capacities

Swivel bridge installation – Multiple units (linked or unlinked)



The configurations illustrated in fig. 6.15 (above) require the use of two motorized units and two optional twin mast adapters in addition to the swivel bridges.

WARNING
The use of weather protection is **NOT ALLOWED** for swivel bridge installations.

LEGEND

5' (1,5 m) bridge assembly

Length of bridge setup

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Load Capacities

Swivel bridge installation with counterweight adapter – three bridges (linked or unlinked)

At this end, it is mandatory to install a bridge. The **only bridge configurations allowed at this end** are the following:

Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration.

— OR —

any swivel bridge configuration shown in this chart.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

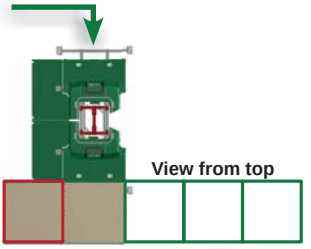
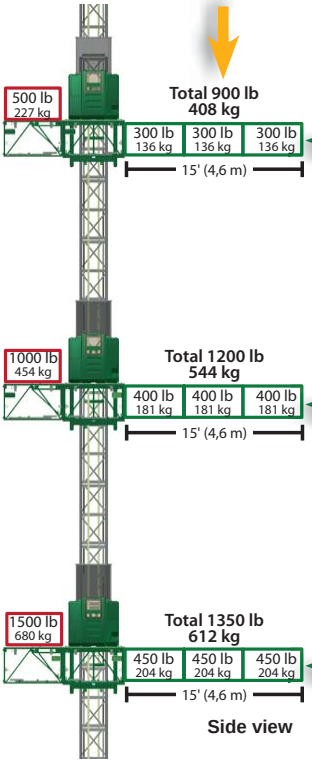


fig. 6.16



Total of 900 lb (408 kg) **evenly distributed** on three bridges
OR
600 lb (272 kg) on **one** of the three bridges

Total of 1200 lb (544 kg) **evenly distributed** on three bridges
OR
800 lb (363 kg) on **one** of the three bridges

Total of 1350 lb (612 kg) **evenly distributed** on three bridges
OR
950 lb (431 kg) on **one** of the three bridges

fig. 6.17

WARNING
The use of weather protection is **NOT ALLOWED** for swivel bridge installations.

LEGEND

5' (1,5 m) bridge assembly

Length of bridge setup

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Load Capacities

Swivel bridge installation with counterweight adapter – two bridges (linked or unlinked)

At this end, it is mandatory to install a bridge. The **only bridge configurations allowed at this end** are the following:

Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration.

— OR —

any swivel bridge configuration shown in this chart.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

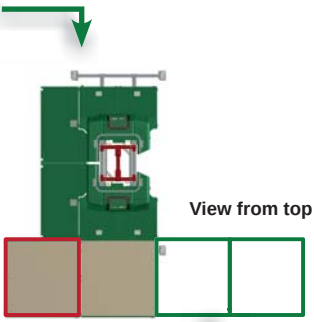


fig. 6.18

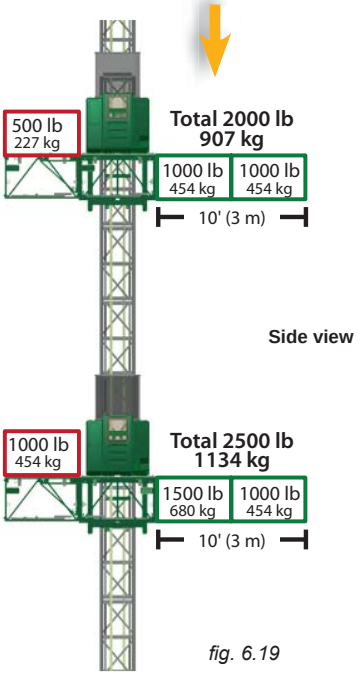


fig. 6.19

WARNING
The use of weather protection is **NOT ALLOWED** for swivel bridge installations.

LEGEND

5' (1,5 m) bridge assembly

Length of bridge setup

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Load Capacities

Hoist installation – Single unit linked setup

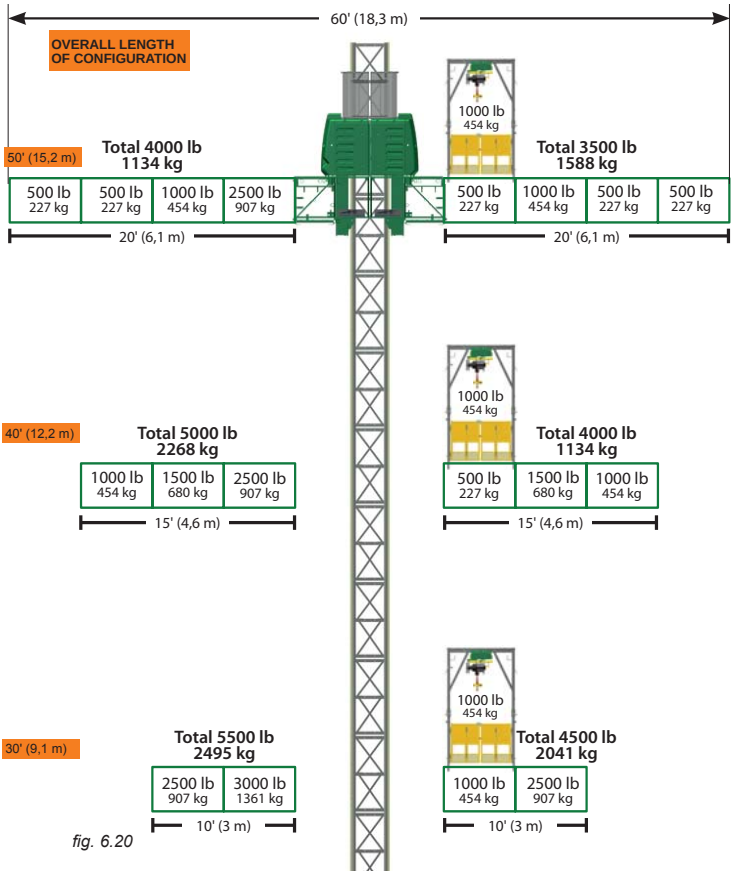


fig. 6.20

The configurations illustrated in fig. 6.20 (above) require the use of an optional hoist support structure. Load capacities shown above are based on the use of an electric hoist weighing 250 lb (113,4 kg).

LEGEND

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

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Hoist installation – Multiple units setup (linked or unlinked)

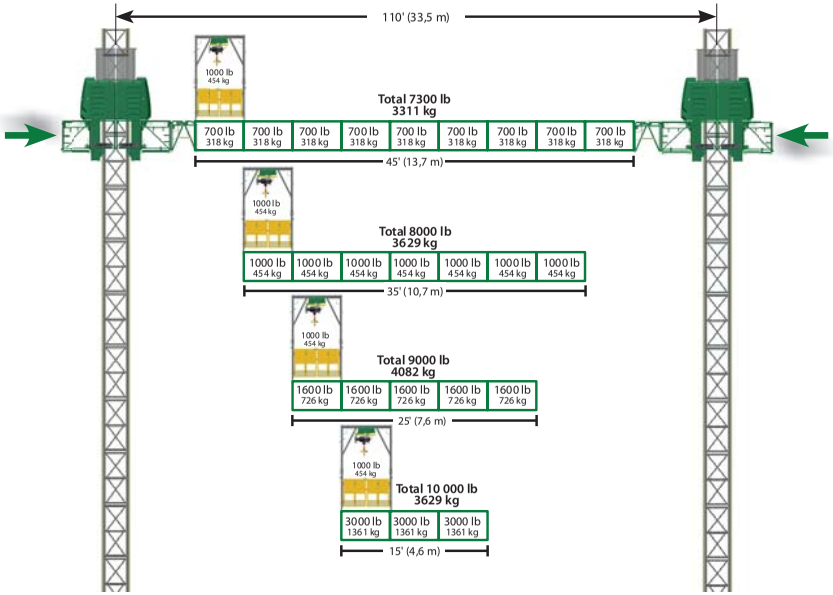
At this end, it is mandatory to install a bridge. The **only bridge configurations allowed at this end** are the following:

Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END



At this end, it is mandatory to install a bridge. The **only bridge configurations allowed at this end** are the following:

Any cantilever configuration (see p. 95 for a linked cantilever or p. 97 for an unlinked cantilever)

— OR —

any bearing bridge configuration (see p. 96 for a linked configuration or p. 98 for an unlinked configuration.

NO CONFIGURATION OTHER THAN THOSE ABOVE ALLOWED AT THIS END

The configurations illustrated in fig. 6.21 (above) require the use of two motorized units, two optional twin mast adapters and an optional hoist structure. Load capacities shown above are based on the use of an electric hoist weighing 250 lb (113,4 kg).

fig. 6.21

Load Capacities

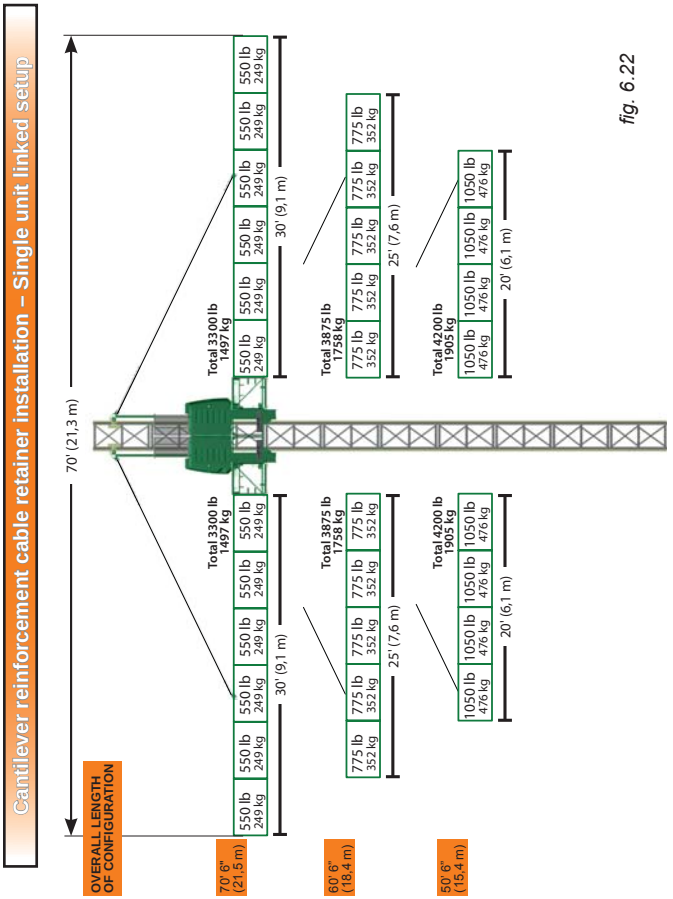


fig. 6.22

The configurations illustrated in fig. 6.22 (above) require the use of an optional cantilever reinforcement cable retainer kit.

LEGEND

5' (1,5 m) bridge assembly

Length of bridge setup

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Cantilever reinforcement cable retainer installation – Single or multiple unit setup (unlinked)

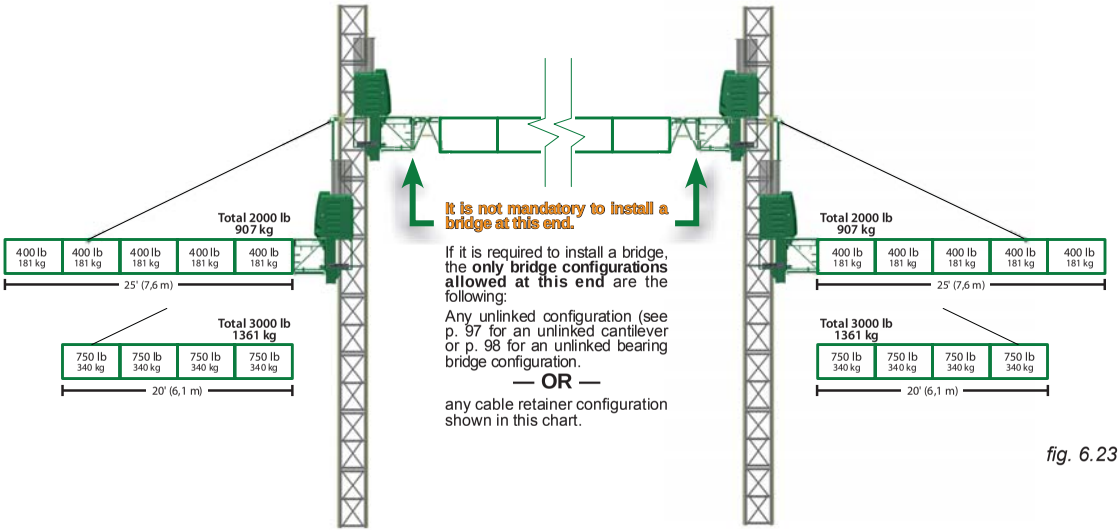


fig. 6.23

The configurations illustrated in fig. 6.23 (above) require the use of an optional cantilever reinforcement cable retainer kit.

WARNING

The use of weather protection is **NOT ALLOWED** for installations equipped with cantilever reinforcement cable retainers. Installations equipped with cantilever reinforcement cable **must be brought back down to base level when not in use.**

LEGEND

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

To ensure safety at all times, refer to load calculation guidelines and warnings on p. 94.

Safety Accessories

SAFETY comes first. While most hazards that may occur when operating an F2 Series motorized unit setup can be avoided by using extreme care and common sense, safety accessories, such as appropriate guardrails and plank support outriggers, must be used to ensure security and compliance to local regulations 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 a standard bridge guardrail

1- Slide a guardrail adapter L bracket (fig. 8.2) in each of the two guardrail pockets at the top of the bridge (see fig. 3.1, p. 50 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. 8.3).

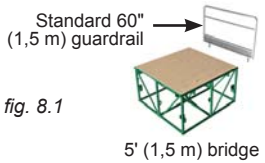


fig. 8.1

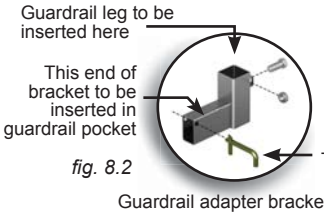


fig. 8.2

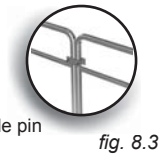


fig. 8.3

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 (ex. recess in a wall, end of a building, etc.). On all F2 Series motorized units and bridges, the face guardrail supports can be installed at the **bottom** or **top** outrigger position.

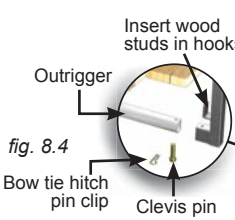


fig. 8.4

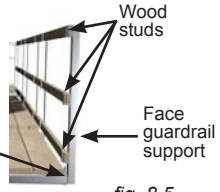


fig. 8.5

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 bow tie 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.

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.

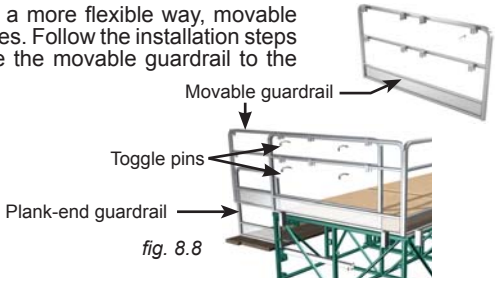


fig. 8.8

Plank-End Guardrail

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**.

Overlapped plank-end guardrails

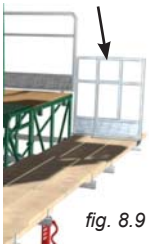


fig. 8.9

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

fig. 8.10

Plank-end guardrail

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.

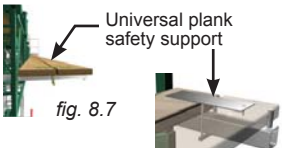


fig. 8.7

fig. 8.6

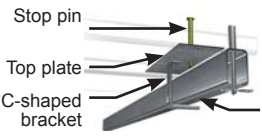


fig. 8.11

Installation

1- Lift and hold the stop pin (fig. 8.11) and slide the plank safety support between two planks.
2- Secure the C-shaped bracket around the outrigger and release the stop pin.
3- Using screws or nails, secure the top plate of the plank safety support to the planks (fig. 8.11).

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 door guardrail by sliding the guardrail legs in the guardrail pockets on the bridge. Secure the door guardrail with two toggle pins.
2- Slide the top part of the stairs into the top outrigger pockets (fig. 8.13).
3- Unfold the stair brace.
4- Secure the stair brace to the bottom truss of the bridge (fig. 8.12) 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 is greater than what is allowed by local regulations, it is mandatory to install one or more optional extension stairs (fig. 8.12). A **maximum** of three (3) extension stairs is allowed per access stairs installation.

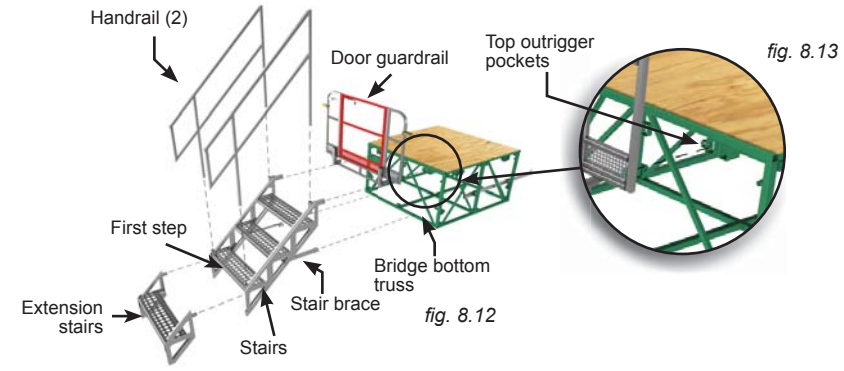


fig. 8.12

fig. 8.13

Bridge Installation Support Brackets

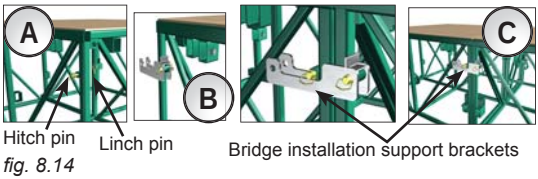


fig. 8.14

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. Bridge installation support brackets must not be used to install a 10' (3 m) bridge.

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. Bridge installation support brackets **must not be used to install a 10' (3 m) bridge**.

Outriggers

Outriggers can be installed on two levels on F2 Series motorized units and bridges, top and bottom. Plank support outriggers are not designed to support the weight of material.

Plank support outriggers must be installed no more than 5' (1,5 m) from one another. The size and number of outriggers required will vary according to the planking configuration. Planking configurations of four to eight planks will require the use of additional, optional components such as thicker or longer outriggers and cross boxes. Refer to the *Outrigger Selection* table (fig. 8.15) for more information about the size and number of outriggers required for each planking configuration. Refer also to p. 112 for more information on the installation and use of doubled outriggers.

For any outrigger configuration other than those described in this owner's manual, contact the distributor/service center.

Planking configurations

Outrigger Selection		
Planking configuration	**Outrigger size**	
3 planks (standard configuration)	**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**
6 planks	**2 1/2" x 1 1/2" x 1/4" x 120" (6,4 cm x 3,8 cm x 0,6 cm x 305 cm)**	**DOUBLED**
7 planks	**2 1/2" x 1 1/2" x 1/4" x 120" (6,4 cm x 3,8 cm x 0,6 cm x 305 cm)**	**DOUBLED**
8 planks	**2 1/2" x 1 1/2" x 1/4" x 120" (6,4 cm x 3,8 cm x 0,6 cm x 305 cm)**	**DOUBLED**

fig. 8.15

Planking configuration guidelines

Planking configuration – width allowed on installation			
Number of planks	**Motorized unit**	**Bearing bridge**	**Cantilever(s)**
0 to 3 planks	100% of total width	100% of total width	100% of total width
4 to 8 planks	100% of total width	50% of total width	Max width 5' (1,5 m)

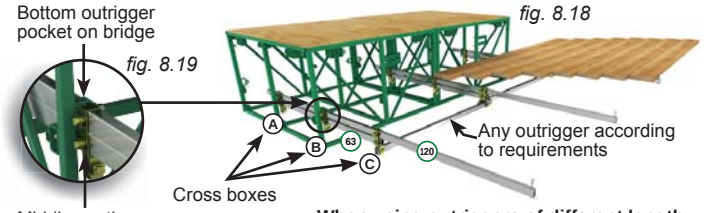
fig. 8.16

fig. 8.17

Outriggers

Doubled outriggers
(optional)

Planking configurations of six, seven and eight planks wide require the use of doubled outriggers and optional cross boxes. A doubled outrigger can be a combination of a longer, thicker outrigger doubled with a standard 63" (1,6 m) or 72" (1,8 m) outrigger. Refer to the *Outrigger Selection* table on p. 111 for more information on the outrigger size required for each planking configuration.



When using outriggers of different length, it is important to make sure the longest one is used on top of the shortest one

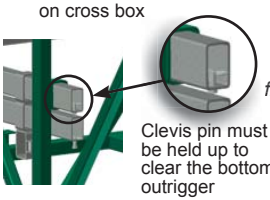


fig. 8.21

View from back of bridge

fig. 8.20

Outriggers Required For Doubling	
Ref	**Outrigger**
63	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)
120	2 1/2" x 1 1/2" x 1/4" x 120" (6,4 cm x 3,8 cm x 0,6 cm x 305 cm)

Installation

1- Remove the clevis pin and the plank stop pin from the **longest** outrigger (fig. 8.18). Insert the outrigger in the bottom outrigger pocket located on the front truss of the motorized unit or bridge.

2- Slide the **top section** of a cross box on the back of the outrigger (“A” in fig. 8.18). Push the outrigger into the bottom outrigger pocket located on the middle truss of the motorized unit or bridge.

3- Slide the **top section** of a second cross box on the front of the outrigger (“B” in fig. 8.18) until it is snug against the front outrigger pocket (fig. 8.19).

4- Remove the clevis pin and the plank stop pin and slide the second outrigger into the **middle section** of all the cross boxes until its rear end is in by about 6" (15 cm) from the rear end of the top outrigger.

5- Insert a clevis pin into the top outrigger (fig. 8.22) and pull it up until its head is snug against the outrigger.

6- Still holding up the clevis pin on the top outrigger, pull out the bottom outrigger until both outriggers are even (fig. 8.21). Secure the clevis pin on the top outrigger with a hitch pin clip. Insert a clevis pin in the bottom outrigger and secure it in place with a hitch pin clip.

7- Slide the **top section** of a third cross box on the front of the top and bottom outriggers until it is even with the end of the bottom outrigger (fig. 8.22).

8- Repeat steps 1 through 7 for each doubled outrigger required.

9- Once all required doubled outriggers are installed, slide a cross outrigger through the bottom section of the cross boxes on the end of the doubled outriggers (fig. 8.18).

10- Tighten the bolts on all the outrigger pockets and on the top and middle sections of the cross boxes to a torque of 30 lb-ft (41 N-m).

A doubled outrigger can be a combination of a longer, thicker outrigger doubled with a standard 63" (1,6 m) or 72" (1,8 m) outrigger.

Outriggers

Cross Boxes
(optional)

Cross boxes are used to install auxiliary outriggers, as required when planking the inside corner of a forward extension or the recessed area in a wall. Cross boxes are also used when doubling outriggers is required.

Installation

1- Remove the clevis pin, hitch pin clip and plank stop pin (fig. 8.17, p. 111) from two outriggers.

2- Slide a cross box on the back and the front of each of the two outriggers. Replace the clevis pin, hitch pin clip and plank stop pin on each outrigger and tighten the pocket bolts on both outriggers.

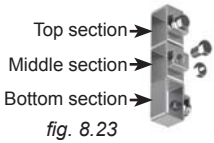
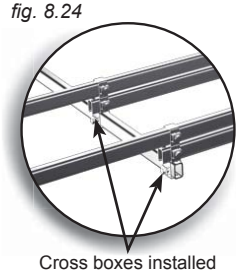


fig. 8.23

fig. 8.24


Cross boxes installed on the front of two outriggers

3- Slide the cross outriggers through the cross boxes until they are halfway through.

4- Install a cross box on each cross outrigger and extend each outrigger in position.

5- Slide auxiliary outriggers through the cross boxes on the cross outriggers until they are in position. Secure them in place with a clevis pin and a hitch pin clip. Install a plank stop pin in each of the auxiliary outriggers.

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

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

Non Standard Planking Configurations

Special planking configurations may be required according to job site requirements, to install planking in areas not covered by standard planking. **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.

Non Standard Planking Configuration #1

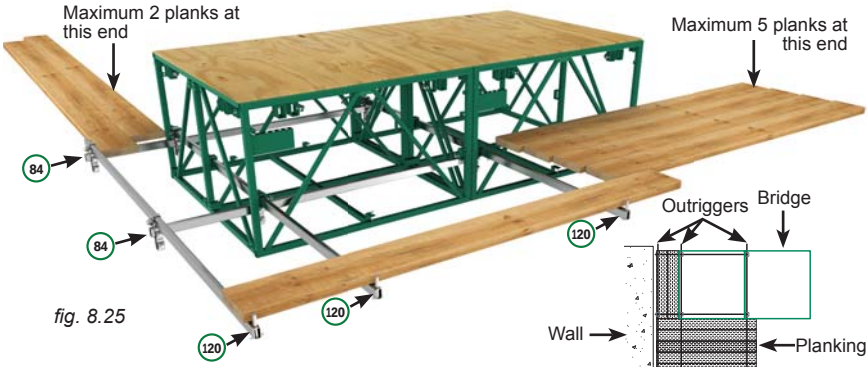


fig. 8.25

fig. 8.26

Outriggers Required for Non Standard planking Configuration #1		
Ref	**Quantity**	**Outrigger**
84	2	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)
120	3	2 1/2" x 1 1/2" x 1/4" x 120" (6,4 cm x 3,8 cm x 0,6 cm x 305 cm)

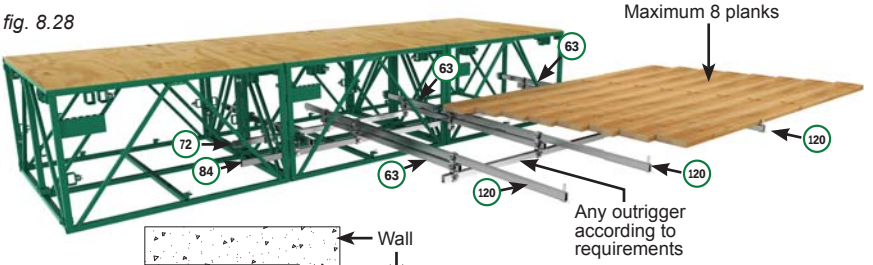
fig. 8.27

Outriggers

Non Standard Planking Configurations

Non Standard Planking Configuration #2

fig. 8.28



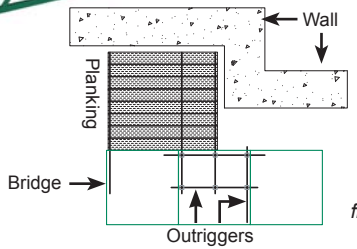


fig. 8.29

This planking configuration can be used for planking recessed areas

Outriggers Required for Non Standard planking Configuration #2		
Ref	**Quantity**	**Outrigger**
63	3	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)
72	1	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)
84	1	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)
120	3	2 1/2" x 1 1/2" x 1/4" x 120" (6,4 cm x 3,8 cm x 0,6 cm x 305 cm)

fig. 8.30

Non Standard Planking Configuration #3

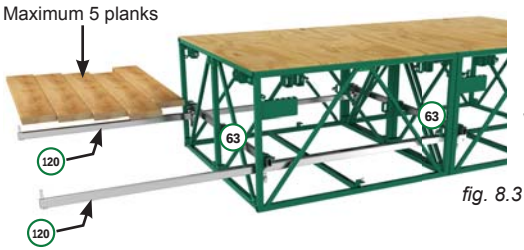


fig. 8.31

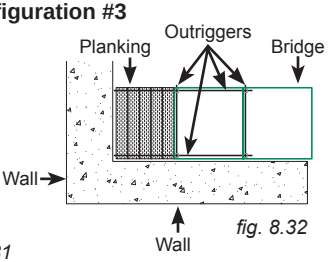


fig. 8.32

Outriggers Required for Non Standard planking Configuration #3		
Ref	**Quantity**	**Outrigger**
63	2	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)
120	2	2 1/2" x 1 1/2" x 1/4" x 120" (6,4 cm x 3,8 cm x 0,6 cm x 305 cm)

fig. 8.33

Outriggers

Outriggers – Top position
(optional)

Outriggers used at the top position can be installed either from the **front** or the **back** of the motorized unit or the bridge.

In a configuration where 63" (160 cm) outriggers are used at the **top** position only, the maximum width of planking allowed is **three** planks. In a configuration where 63" (160 cm) outriggers are used at both the **top** and **bottom** position (fig. 8.34), the maximum width of planking allowed at the **top** position is **two** planks. Refer to the *Outrigger Selection* table and the planking configuration guidelines on p. 111 for more information.

Each outrigger installed at the top position has a maximum capacity of 265 lb (120 kg) and can be used for workers and material.

Installation

1- Remove the clevis pin and the plank stop pin (fig. 8.17, p. 111) and slide the outrigger in the top outrigger pockets on the motorized unit or the bridge, leaving no more than 21" (50,8 cm) protruding from the structure if bottom outriggers are installed, or no more than 31" (53 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).

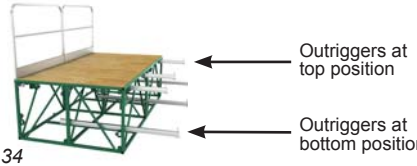


fig. 8.34

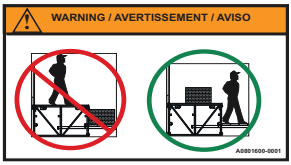


fig. 8.35

Outriggers – Bottom position

Outriggers used at the bottom position can be installed either from the **front** or the **back** of the motorized unit or the bridge. Each outrigger at the bottom position can be used by **workers only** (including personal tools and equipment). The bottom outriggers **cannot be used** to store material, tools, equipment or to support any other load. In a configuration where 63" (160 cm) outriggers are used at the **bottom** position, the maximum width of planking allowed is **three** planks. Refer to the *Outrigger Selection* table and the planking configuration guidelines on p. 111 for more information.

Installation

1- Remove the clevis pin and the plank stop pin (fig. 8.17, p. 111). Slide the outrigger in the bottom outrigger pockets on the motorized unit or the bridge, leaving no more than 31" (78,7 cm) protruding from the structure. 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 bolt to a torque of 30 lb-ft (41 N-m).

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 assembly of the mast.

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. 84 of the *Mast and Mast Ties* section. Tighten all bolts to 150 lb-ft (203 N-m).

The length of pre-assembled mast allowed will be equal to the authorized height of mast in feet (meters) between two tie levels for the configuration, according to the selected method of installation and the mast tie schedule specific to that method of installation.

For more information about methods of installation, refer to p. 20 of the *Motorized Unit* section. Refer also to the *Mast Tie Schedule* tables on p. 87 for information about distances between tie levels.

2- Install the multiple mast handler on the middle step of the second mast section of the pre-assembled length of mast (fig. 8.38).

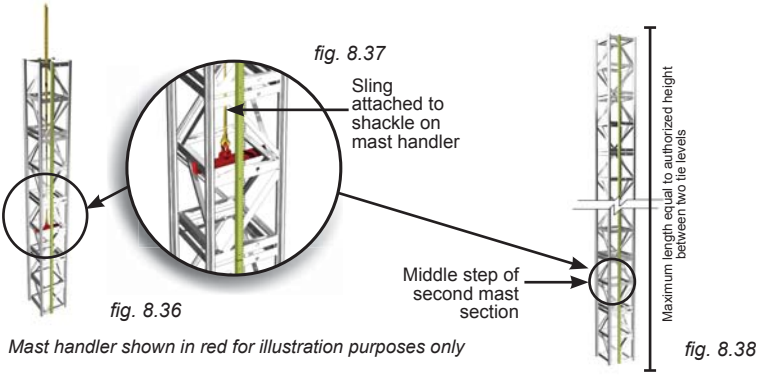


fig. 8.36

fig. 8.37

Mast handler shown in red for illustration purposes only

fig. 8.38

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 length of two-rack mast sections (9 mast sections) will weigh 3285 lb (1490 kg).

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. For instructions on the assembly of mast sections, refer to p. 84 of the *Mast and Mast Ties* section. Tighten all bolts to 150 lb-ft (203 N-m).

6- Remove the shackle from the mast handler to release the hook and sling. Monitor the release of the sling to avoid potential interferences.

7- Remove the multiple mast handler from the mast section.

8- Raise the motorized unit on the newly added length of mast, making sure that mast bolts are tightened at the proper torque while rising.

9- Install the next tie level.

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

Adapter Base for Freestanding Installation
(optional)

The optional adapter base for freestanding installation is used when an F2 Series setup requires a freestanding configuration. Freestanding F2 Series configurations **are only allowed for linked standard single unit installations**. For the definition of a standard installation, refer to p. 20 of the *Motorized Unit* section.

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. 1.21, p. 16 for guidance.

Installation of the adapter base

1- Installation must 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 adapter base, determine if there are obstacles and what are the cribbing requirements.

3- Before installing the adapter base, determine where the cribbing under the base and jacks will rest (see fig. 8.39). Use the *Authorized Height for a Freestanding Installation with Adapter Base* table on p. 118 of this section as a guide to determine the appropriate extension of the base outriggers and the location of cribbing.

The bearing surface under the cribbing must be level, clear of debris and have the proper bearing capacity (see the *Minimum Bearing Surface Capacities* table on p. 16). Should the actual bearing capacity be inferior to the values in the table, please seek instructions and recommendations from the distributor/service center. It is important to note that **the jacks on the adapter base are designed to level the motorized unit and must not be used to support the load nor the motorized unit**.

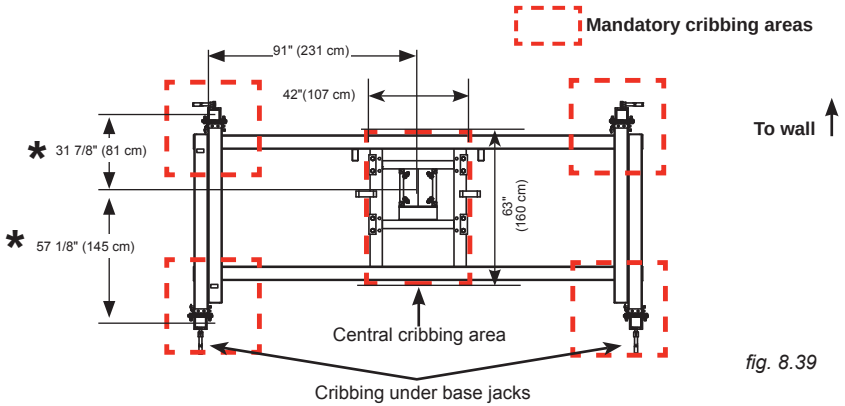


fig. 8.39

* Distances will vary according to the length of base outrigger extension required for the installation. Refer to the *Authorized Height for a Freestanding Installation with Adapter Base* table, on p. 118 of this section.

Installation of the motorized unit on the adapter base

1- Make sure the adapter base is installed properly, as described in the installation instructions above.

2- Make sure that there is one mast section installed on the motorized unit and that the mast head is in place.

3- Using a rough terrain forklift or a crane, support the motorized unit using the shackle located on top of the mast head. For instructions on lifting the motorized unit, refer to p. 130 of the *Transport, Storage and Maintenance* section.

If an electrical unit is used, it is important to lift and move it with extreme precaution, making sure the power cable remains clear of obstacles and is never too taut.

WARNING
When using access stairs on a setup using an adapter base for freestanding installation, it is important to install an additional stair extension.

Adapter Base for Freestanding Installation
(optional)

Installation of the motorized unit on the adapter base (cont'd)

4- Remove the 3/4" bolt assemblies to take away both lateral extensions from the base of the motorized unit.

5- Lift the motorized unit and carefully lower it on the adapter base for freestanding installation, making sure to align it properly.

6- **Still holding the motorized unit**, raise the unit until it is halfway up the second mast section.

7- Secure the base of the motorized unit to the adapter base using the 1" (GR8) bolt assemblies (8) supplied with the plates on the adapter base. Tighten the bolts to 100 lb-ft (136 N-m) of torque.

The F2 Series base is assembled with 3/4" bolt assemblies while the adapter base for freestanding installation is assembled with 1" bolt assemblies (8). It is recommended to have the appropriate tools at hand when removing the lateral base extensions and assembling the adapter base for freestanding installations.

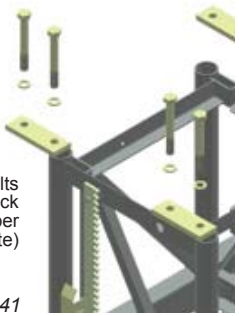


fig. 8.41

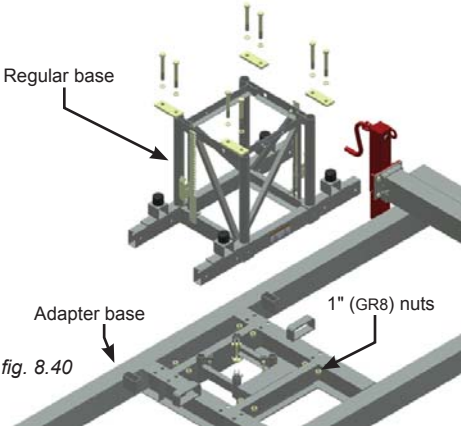
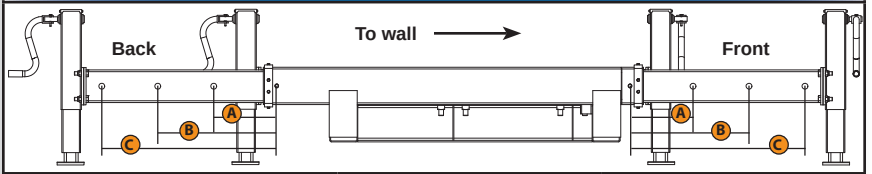


fig. 8.40

8- Once the base is secured, release the motorized unit.

9- Proceed with the installation of the unit by following the instructions for a standard single unit configuration starting on p. 20 of the *Motorized Unit* section. Make sure that the outriggers on the adapter base are extended according to the height of the mast, as is required and allowed. Refer to the *Authorized Height of Freestanding Installation* table (fig. 8.42) as a guide for the appropriate extension of the outriggers.

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)	28' (9 m)	3
B	20" (51 cm)	38' (12 m)	3
C	30" (76 cm)	48' (15 m)	3

fig. 8.42

Jib Arm
(optional)

The optional F2 Series jib arm is used to install or remove mast sections. The jib arm can be used with an interchangeable manual or electrical winch. With a maximum lifting capacity of 400 lb (182 kg), the jib arm must not be used to lift any material other than **one mast section at a time**. Furthermore make sure that mast sections are equally distributed at all times on either side of the mast so the structure is not thrown out of balance.

1- With the motorized unit at base level, remove the toggle pin and lift the cover plate of the jib arm pocket on the link bridge of the motorized unit (fig. 8.43).
2- Slide the jib arm assembly into the jib arm pocket until it completely covers the pivot pin on the jib arm support plate, inside the link bridge.
3- Attach the mast handler to the cable hook at the upper end of the jib arm (fig. 8.44).
4- Insert the mast handler at a cross angle under the top bar of the mast section and raise the mast section with the jib arm on top of the bottom mast section. Bolt the mast section in place (see p. 84 of the *Mast and Mast Ties* section).
5- Remove the mast handler from the top of the mast section **before** moving the platform.
6- Repeat steps 4 and 5 for each mast section to be installed until the setup is complete. Make sure to install mast ties as required and prescribed. For more information about mast ties, refer to p. 85 of the *Mast and Mast Ties* section.
7- Make sure the mast head is installed on top of the last mast section of the setup.
8- Once the setup is complete and the motorized unit has been brought back to base level, remove the mast handler and the jib arm.
9- Replace the cover plate on the jib arm pocket.

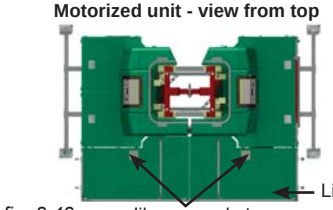


fig. 8.43

fig. 8.45

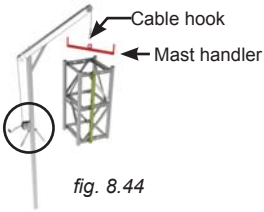


fig. 8.44

WARNING
The jib arm has a maximum lifting capacity of 400 lb (182 kg) and must not be used to lift any material other than **one mast section at a time**. It is also important to remove the mast handler from the top of the mast section **before** moving the platform.

Maximizing the use of a single jib arm on a motorized unit

To maximize the use of a single jib arm, it is recommended to install an optional deck extension on one of the first cantilevers attached to the unit to facilitate the handling of mast sections with the jib arm. The deck extension must be installed on the side opposite to the jib arm, as shown in fig. 8.46. For information about the use and installation of an optional deck extension, refer to p. 55 of the *Bridges* section.

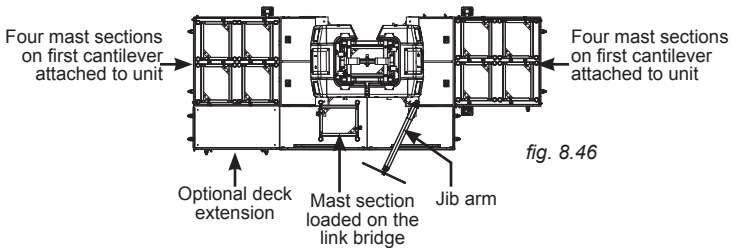


fig. 8.46

Hoist Support Assembly
(optional)

The optional hoist support assembly can be installed on F2 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).

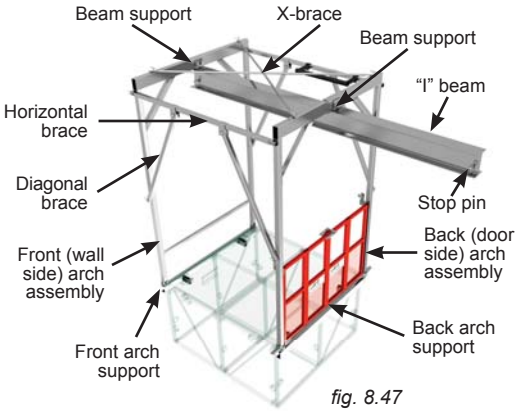


fig. 8.47

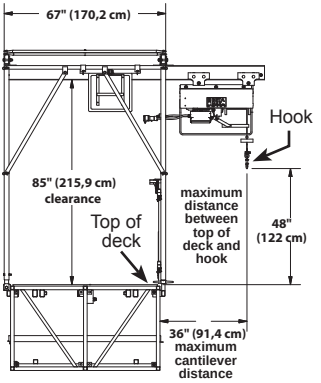


fig. 8.48

Installation

1- The hoist assembly must be installed on the first bridge closest to the motorized unit. Refer to p. 104 and p. 105 of the *Load Capacities* section for more information on the allowed location and load capacities of a hoist and its support assembly.

2- Insert the back arch support (fig. 8.47) 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.

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- Remove the stop pin and install the electrical hoist (not supplied) as per the manufacturer's instructions. Replace the stop pin.

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.

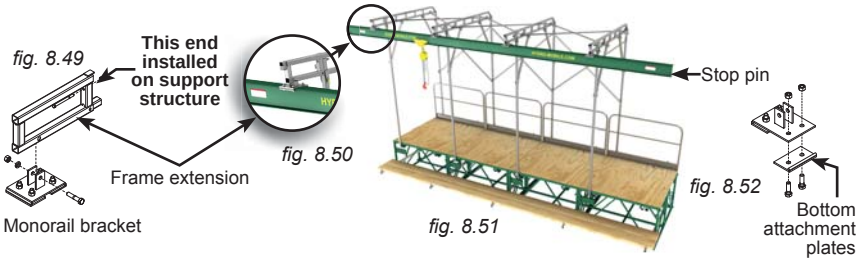
The weight of the monorail structure and its accessories must be deducted from the load capacities of the setup. Refer to p. 14 of the *Motorized Unit* section for the weight of the monorail structure and its accessories. Refer also to the *Load Capacities* section on p. 94 to avoid overloading the platform.

Safety guidelines

1- The use of a monorail is not allowed on a freestanding installation. It is also important to consider that the combined use of equipment and accessories may not be allowed on a same installation. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of the *Motorized Unit* section.

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. 90 of the *Mast and Mast Ties* section for more information about wind speeds and to p. 87 for the appropriate schedule of installation of tie levels for a setup equipped with a monorail.



Installation

1- To install the monorail support structure, follow steps 1 through 5 of the installation instructions for the weather protection structure, on p. 122 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. 8.49) to release the attachment plates on the bottom. Bolt the monorail bracket to the frame extension installed in step 2.

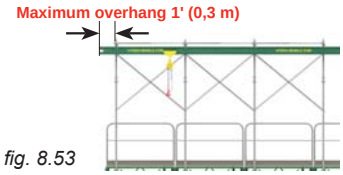
4- Repeat steps 2 and 3 for each monorail beam attachment assembly required by the installation (combination of a frame extension and a monorail bracket).

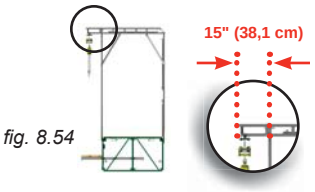
5- Once all monorail beam attachments are secure, slide the top of monorail beams between the attachment plates on the monorail brackets, using monorail beam plates to join beams together.

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 1' (0,3 m), as shown in fig. 8.53.

8- Remove the stop pin and slide the trolley on the monorail beam. Replace the stop pin.





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. For the weight of the weather protection structure and its accessories, refer to p. 14 of the *Motorized Unit* section. Refer also to the *Load Capacities* section on p. 94 to avoid overloading the platform. It is **mandatory** to read and understand the safety guidelines before installing weather protection.

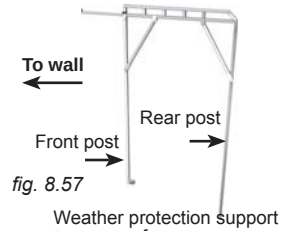


fig. 8.57

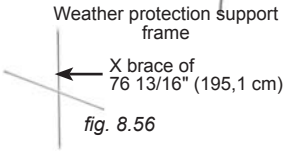


fig. 8.56

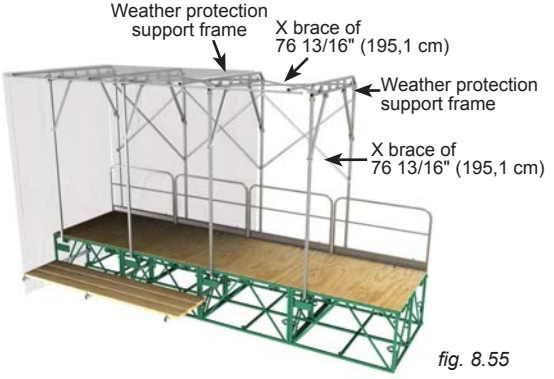


fig. 8.55

Safety guidelines

1- The use of weather protection is not allowed on a freestanding installation. It is also important to consider that the combined use of equipment and accessories may not be allowed on a same installation. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of the *Motorized Unit* section.

2- Weather protection is allowed only in a linked configuration. The use of equipment or accessories may not allowed in combination with the use of weather protection. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of the *Motorized unit* section.

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** and **before installing any tarps** on the weather protection structure. 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. 87 of the *Mast and Mast Ties* section for the appropriate schedule for the installation of tie levels for a setup equipped with weather protection.

Installation

1- Insert the rear post of the support frame in the tube behind the guardrail on the other side of the bridge (fig. 8.57).

2- 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.

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. 8.56) 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).

Cantilever reinforcement cable retainer
(optional)

The optional cantilever reinforcement cable retainer is used when longer cantilevers are required on an installation. Whereas the total loads permitted in a configuration must usually be concentrated close to the motorized unit, the bridge reinforcement cables and the retaining device allow the distribution of the loads over the entire length of the cantilever, thus increasing load capacity at the end of the cantilever.

Safety guidelines

1- The use of a cantilever reinforcement cable retainer installation is not allowed on freestanding configurations.
2- When a reinforcement cable retainer is used in a cantilever setup, the top cable retainer bracket must never be above the last tie level installed.
3- The use of equipment or accessories may not allowed in combination with the use of a cantilever reinforcement cable retainer. For more information about the combined use of equipment and accessories in an installation, refer to the tables for the combinations allowed and the restrictions in linked and unlinked configurations on p. 17 and p. 18 of the *Motorized Unit* section.
4- For more information on the maximum number of bridges allowed for installations using cantilever reinforcement cable retainers, refer to p. 106 and p. 107 of the *Load Capacities* section.
5- On an installation using a cantilever reinforcement cable retainer, the maximum number of workers allowed on the cantilever is **two**.
6- A motorized unit equipped with a cantilever reinforcement cable retainer **must be brought down to base level when not in use**.

WARNING
When a cantilever reinforcement cable retainer is used on an unlinked setup, the maximum length of cantilever allowed is 25' (8 m).

Installation

1- Make sure that the cables are in good condition, free of kinks, twists, etc.
2- Make sure that the motorized unit has been installed following the installation guidelines described in the *Motorized Unit* section, starting on p. 17, and that it can be operated safely. It is **mandatory** to **pre-install all tie levels** up to the top of the work **before** installing the optional cantilever reinforcement cable retainer.

fig. 8.58

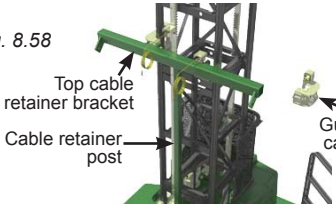


fig. 8.59

fig. 8.60

Area on top tube of main trolley where post of cable retainer will be attached

fig. 8.61

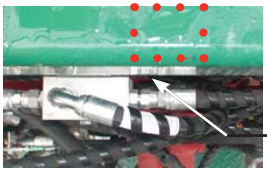


fig. 8.62

Attachment bolt will be installed through here

fig. 8.63

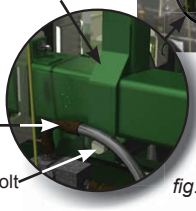


fig. 8.64

Cantilever reinforcement cable retainer
(optional)

Installation (cont'd)

3- Remove one of the two guide shoes (fig. 8.59) located on the top cable retainer bracket (fig. 8.60).

4- Position the bottom of the post of the cable retainer in the middle of the top tube on the main trolley (fig. 8.64).

5- Re-install the guide shoe removed in step 2.

6- Using a 5/8" x 6 1/2" bolt, attach the post of the cable retainer to the top tube on the main trolley. It may be required to change the angle of the hydraulic hose that is close to the top tube of the main trolley to allow the positioning and bolting of the cable retainer (fig. 8.61, p. 123).

7- Run the connecting cables for the two limit switches of the cantilever reinforcement cable retainer through the structure of the main trolley up to the control panel, making sure the cables remain clear of any moving parts.

8- Locate the TOP LIMIT and TOP F. LIMIT ports under the control panel. Unplug the cables connected to these two ports, making sure they are properly labeled according to their function.

9- Connect the cables for the two limit switches of the cantilever reinforcement cable retainer in the appropriate port, according to their function. Test the operation of each of the limit switches by placing a metal object in front of it and make sure that the display screen indicates the proper detection.

fig. 8.65

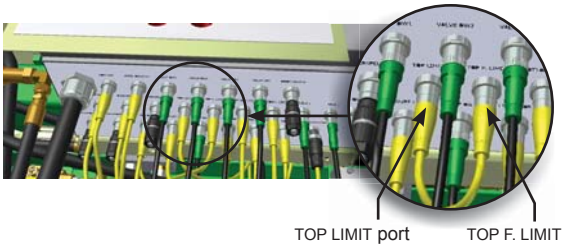


fig. 8.66

10- The cables must be secured in place with tie wraps to avoid any risk of damage when the unit is moving along the mast.

11- Install the turnbuckles, cables and shackles on the top bracket. Turnbuckles must be extended to their maximum length.

12- Install the bottom cable retainer bracket against the center diagonal brace of the fourth bridge and attach the cable shackles (installed at one end of the cables, as shown in fig. 8.68) to the bottom cable retainer bracket.

13- Adjust the turnbuckles so the cables become slightly taut. The cables will be taut when the end of this cantilever begins to rise.

14- Before loading the bridges, refer to the appropriate load capacity charts on p. 106 and p. 107 of the *Load Capacities* section.

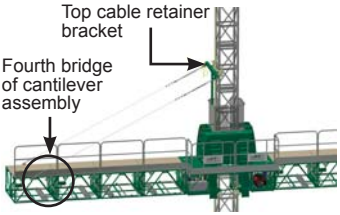


fig. 8.67

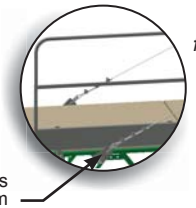


fig. 8.68

Adapter Base for Sidewalk Canopy Installation
(optional)

The optional adapter base for sidewalk canopy installation is used to install an F2 Series motorized unit at 10' (3 m) above the bearing surface, as part of a sidewalk canopy installation. The adapter base for sidewalk canopy installation can be used in any single or multiple units F2 Series configuration **with mast ties**. An F2 Series motorized unit **must not be used** on mast with a height **over 400' (152 m)**.

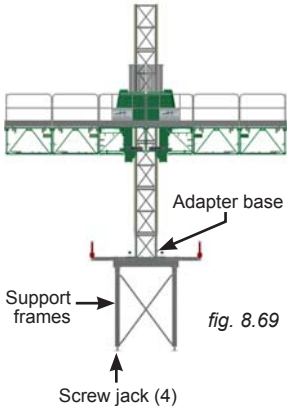


fig. 8.69

fig. 8.70

Minimum Bearing Surface Capacities Installation with a Sidewalk Canopy		
Height		Load under each screw jack
(ft)	(m)	Reaction
50	15,2	15 408 lb
		6989 kg
100	30,5	17 280 lb
		7838 kg
200	61	21 023 lb
		9536 kg
300	91,4	24 766 lb
		11 234 kg
400	121,9	28 509 lb
		12 931 kg

fig. 8.71

Installation of the adapter base

1- Installation must 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 support frames, determine if there are obstacles and what are the cribbing requirements. Before installing the support frames, determine where the cribbing and the jacks will rest.

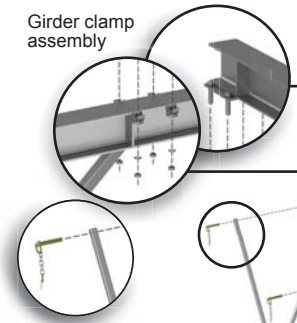


fig. 8.75

fig. 8.76

fig. 8.73

fig. 8.72

fig. 8.74

fig. 8.77

Adapter Base for Sidewalk Canopy Installation
(optional)

Installation of the adapter base (cont'd)

3- The bearing surface under the support frames must be level, clear of debris and have a bearing capacity sufficient to support the load under each screw jack. 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.). When required, appropriate cribbing must be placed under each screw jack on the legs of each support frame to distribute the load.

4- Typically, for an installation without any planking, the support frames for the adapter base will be installed at 6" (15 cm) from the face of the wall.

5- 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. 8.72, p. 125).

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

7- Loosen the retaining bolt on each leg of the frames (fig. 8.70, p. 125) to release the screw jacks.

8- Using a rough terrain forklift or a crane, lift and position the adapter base on top of the support frame assembly. Refer to the table in fig. 8.79 to determine the distance between the mounting flange on the adapter base and the front edge of the support frame assembly. The adapter base will be moved back by 10" to 12" (25 cm to 30 cm) from the front edge of the support frame assembly for each plank required by the configuration (as shown in fig. 8.78). If necessary, install the support frame assembly further back from the face of the wall for larger planking configurations (see step 1 and fig. 7.104). Use the *Outrigger Selection* table on p. 111 as a guide for planking configurations.

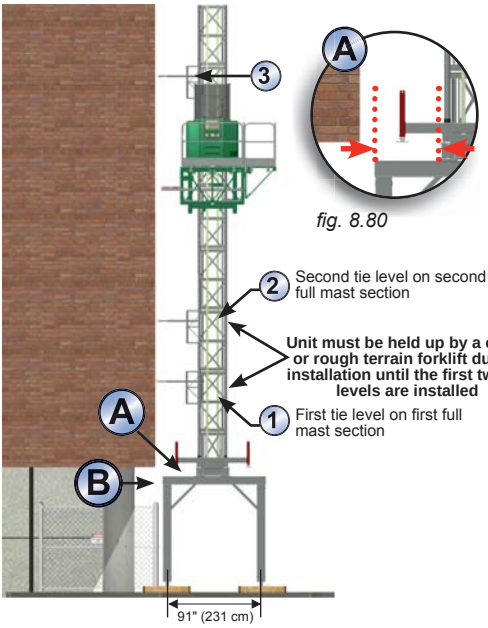


fig. 8.78

Unit on adapter base for sidewalk canopy installation with two-plank configuration

fig. 8.80

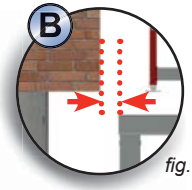


fig. 8.81

Clearance between wall and frame assembly must be 6" (15 cm)

fig. 8.79

Number of planks	Distance "A"
0	15" (38 cm)
1	25" (64 cm)
2	35" (89 cm)
3	45" (114 cm)

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

WARNING

Once the unit is installed on the adapter base, it is **mandatory** to install the **first three tie levels** before proceeding with the installation.

Adapter Base for Sidewalk Canopy Installation
(optional)

Installation of the adapter base (cont'd)

9- Secure the adapter base to the support frame assembly by tightening each girder clamp assembly (fig. 8.74, p. 125) to a torque of 108 lb-ft (147 N-m).
10- Verify the level of the adapter base, if necessary. Adjust the level using the screw jacks on the support frame assembly or by adding cribbing.

Installation of the motorized unit on the adapter base

1- Make sure the adapter base is installed properly, as described in the installation instructions, starting on p. 125.
2- Add one full mast section on the motorized unit (to have a total of two full mast sections) and put the mast head into place.
3- Raise the motorized unit up by 2' (0,6 m).
4- Using a rough terrain forklift or a crane, support the motorized unit using the mast head. For instructions on lifting the motorized unit, refer to p. 130 of the *Transport, Storage and Maintenance* section.

If an electrical unit is used, it is important to lift and move it with extreme precaution, making sure the power cable remains clear of obstacles and is never too taut.

5- Lift and carefully lower the motorized unit on top of the adapter base.
6- **Continue to hold the motorized unit** and secure the base of the motorized unit to the adapter base using plate assemblies supplied with the adapter base. Tighten the bolts to 100 lb-ft (136 N-m) of torque.
7- **Still holding the motorized unit**, install **the first tie level on the first full mast section** ("1" in fig. 8.78, p. 126) to secure the mast to the face of the work.
8- **Continue to hold the motorized unit** and install the second tie level on the second full mast section ("2" in fig. 8.78, p. 126).
9- **Once the first two tie levels are installed**, release the unit.
10- Install **four** additional mast sections and install a **third tie level** at 20' (6 m) **above the second one** ("3" in fig. 8.78, p. 126).
11- Proceed with the installation steps as described in the method of installation appropriate for the configuration. For more information about methods of installation, refer to p. 20 of the *Motorized Unit* section.

Dismantling guidelines

1- Make sure all the equipment necessary for a safe dismantlement of the installation is on hand (slings, chains, crane or rough terrain forklift, etc.).
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. 36.
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- Remove all installed bridges.
5- Using a rough terrain forklift or a crane, **support the motorized unit**. Refer to p. 130 of the *Transport, Storage and Maintenance* section for instructions on the lifting of a motorized unit. Remove the last two tie levels on each mast.

If an electrical unit is used, it is important to lift and move it with extreme precaution, making sure the power cable remains clear of obstacles and is never too taut.

6- **Still holding the motorized unit**, remove the plate assemblies holding the base of the unit on top of the adapter base. **Make sure the lateral base extensions are in place**.
7- Carefully lift the motorized unit off the sidewalk canopy frame and lower it the ground.
8- Release the motorized unit.

Hydraulic oil heater / recirculator
(optional)

The optional hydraulic oil heater/recirculator is an addition to the normal F2 Series hydraulic circuit to warm up the hydraulic oil before operating the motorized unit. Warming up the hydraulic oil will allow smooth operation and avoid damages and premature wear to the equipment. The optional hydraulic oil heater/recirculator shortens the warm-up time required and facilitates the operation of the equipment.

It is recommended to use the oil heater / recirculator when the temperature is below 32°F (0°C).

Using the oil heater/recirculator

1- Prepare and start the engine as described in the preparation and startup instructions on p. 69, for a gas-powered unit and on p. 71 for an electrical unit.

2- Let the engine run at full throttle for about five minutes to allow it to reach operating temperature and warm up the pump.

3- Once the engine and pump are warmed up, turn the oil heater/recirculator switch to the ON position (fig. 8.83). At this point, the sound of the engine will change as it will now be under load.

If the engine stalls, it has not been allowed sufficient time to warm up. Start the engine again and let it run at full throttle until it is warmed up properly before turning on the heater/recirculator.

Until the oil has warmed up inside the gear box and throughout the whole hydraulic system, there may be high pressure alerts on the display screen and users on the platform may experience jolts when the unit moves up or down the mast.

fig. 8.82

fig. 8.83

4- The typical run time of the oil heater/recirculator will depend on the oil temperature as well as the ambient (outdoor) temperature. The oil heater/recirculator will warm up the oil at an average rate of 6°F/min (3,33°C /min). The minimum oil temperature required to ensure problem-free operation is around 60°F (15°C).

For an ambient (outdoor) temperature of 0°F (-17°C), the heater/recirculator must be used for around 10 minutes to warm up the oil to 60°F (15°C). If the heater/recirculator fails to warm up the oil sufficiently, contact a qualified technician or the distributor/ service center. For more information about qualified technicians, refer to p. 7 of the *Performance and Safety Rules* section.

5- Once the oil has reached the appropriate temperature, turn off the heater/recirculator switch to the OFF position.

6- Resume normal operation.

Transport and Storage

Preparation of the motorized unit

1- Follow the dismantling guidelines appropriate to the installation. Refer to p. 36 of the *Motorized Unit* section for more information on dismantling an installation.

2- Make sure the motorized unit is at base level. Push in all the outriggers and lock them in place.

3- Secure all motorized unit guardrails for transport. On unit model F300, secure the link bridge doors for transport.

4- If required, remove the access stairs and railings and store each component properly.

5- Make sure that all plastic panels are secured in place.

6- Loosen the bolt of the bottom limit switch trigger located on the last (bottom) mast section and lower the switch trigger all the way down.

7- If the motorized unit was used in an unlinked configuration (unit model F300 only), make sure to replace the trolley link. Refer to p. 34 of the *Motorized Unit* section for instructions on how to put the trolley link back into place.

8- If the unit used in the setup is gas-powered, make sure that the gasoline valve lever has been turned off and disconnect the battery. On unit model F300, verify both power packs.

If the unit used in the setup is electrical unit, disconnect the power cable. This must be performed by a certified electrician. On unit model F300, verify both power packs.

9- Using the emergency descent, lower the motorized unit until it rests on the buffers mounted on the base.

fig. 9.1

Buffers on base

fig. 9.2

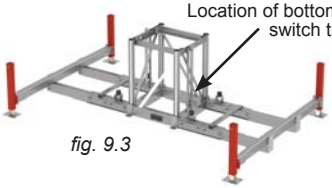
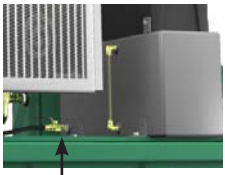


fig. 9.3



Location of gas lever

fig. 9.4

WARNING

Before transporting or storing a gas-powered F2 Series motorized unit, make sure that all gasoline levers have been turned off and that all batteries have been disconnected.

When storing an F2 Series motorized unit, there must be sufficient cribbing under the base to prevent freezing water from causing damages to the bottom of the structure.

Transport and Storage

Lifting and moving of motorized unit or a setup

The lift and relocation of an F2 Series motorized unit or setup must be carried out with extreme care, using proper certified lifting equipment.

It is **mandatory** to refer to and comply with the capacities and limitations of the lifting device as specified by the manufacturer. It is important to consider the total weight that must be lifted. Refer to p. 14 of the *Motorized Unit* section for the weight of a motorized unit and other components.

Lifting by the forklift pockets on the mast head

1- Prepare the motorized unit as described in the preparation instructions above.

2- Insert the forks in the forklift pockets located on the mast head (fig. 9.5).

3- Lift and transport the motorized unit over to its destination area.

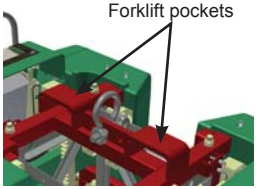


fig. 9.5

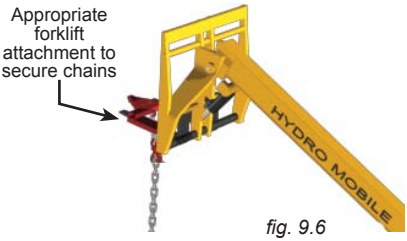


fig. 9.6

Lifting by the shackle on the mast head

This method can be used to lift and transport a motorized unit or a cantilever setup. The maximum width of setup that can be lifted and transported is 50' (15,2 m) with a maximum height of mast of 18' (5,5 m) for a **gas-powered motorized unit** and 30' (9 m) with a maximum height of mast of 18' (5,5 m) for an **electrical motorized unit**. Any cantilever setup being lifted and transported must be of **equal length on either side of the mast**.

The lifting capacity of the mast head **must be observed at all times** (see fig. 9.7).

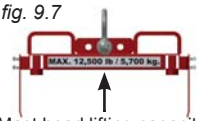
1- Prepare the motorized unit as described in the preparation instructions on p. 129.

2- Make sure the shackle is positioned properly on the mast head and secure.

On an F300 motorized unit model, the shackle must be positioned in the center hole, as shown in fig. 9.8.

On an F200 motorized unit model, the shackle must be positioned in the hole located on the same side as the control panel, as shown in fig. 9.9.

fig. 9.7



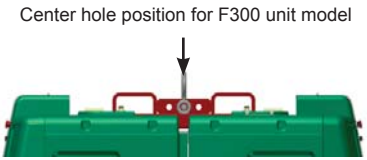


fig. 9.8

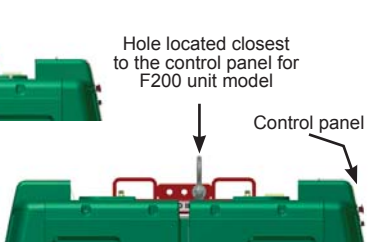


fig. 9.9

Transport and Storage

Lifting and moving of motorized unit or a setup

Lifting by the shackle on the mast head (cont'd)

3- Slip a chain or sling through the shackle of the mast head (fig. 9.5). Secure the chain or sling to the forks of a rough terrain forklift. Make sure to use an appropriate forklift attachment to secure the chain or sling (shown in red in fig. 9.6).

4- Make sure that two workers, wearing proper personal protection (PPE), are standing on the ground using tag lines to help stabilize the structure during the lift, transport and landing of the motorized unit.

5- Lift and transport the motorized unit or setup over its destination area.

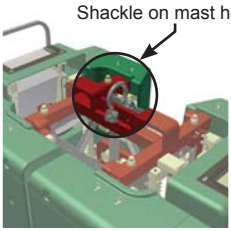


fig. 9.10

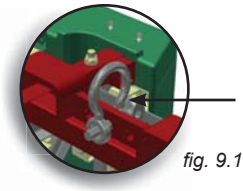


fig. 9.11

Storage of the motorized unit

1- Inspect the structure of the motorized unit for any sign of damage or distortion. Clean the motorized unit thoroughly to limit the effects of any corrosive agent.

2- Prepare the motorized unit as described in the preparation steps on p. 129.

3- Before storing the motorized unit, make sure to place sufficient cribbing under the base to prevent damages to the bottom of the structure.

4- Choose an appropriate storage location. Avoid storing the motorized unit in a location with direct exposure to aggressive or corrosive materials in the surroundings.

Storage of a bridge

1- Inspect the structure of the bridge, including the inside of the open-end tubes, for any sign of damage or distortion. Clean the bridge and its components thoroughly to limit the effects of any corrosive agent.

2- Bridges must not be stored directly on the ground. Make sure to place sufficient cribbing under the bottom chords to prevent damages to the bottom of the structure.

3- Avoid storing the bridge in a location with direct exposure to aggressive or corrosive materials in the surroundings.

Storage of mast sections

1- Inspect the structure of each mast section, including the inside of the open-end tubes, for any sign of damage or distortion. Clean each mast section and its components thoroughly to limit the effects of any corrosive agent.

2- Mast sections must be stored on a flat surface away from work areas and construction traffic, vertically or horizontally lying on a side which has no rack.

3- Avoid storing mast sections in a location with direct exposure to aggressive or corrosive materials in the surroundings.

Inspections and Maintenance

Proper maintenance and service will warrant safe and trouble-free operation of an F2 Series motorized unit and its accessories. In order to ensure operational safety and avoid failures, the owner and/or user 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 for F2 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 downloaded directly from the Hydro Mobile website at www.hydro-mobile.com.

Greasing of gears and racks

A proper and timely greasing of the gears and the racks is critical to guarantee performance and longevity of the Hydro Mobile F2 Series mast climber system. It is important to understand that not all open gear greases and lubricants offer equal levels of quality and performance. Consequently, only open gear grease recommended by Hydro Mobile must be used on Hydro Mobile equipment.

Application frequency must be based on the installation and the cumulative runtime use of the equipment. However, the gears and racks must typically be greased after **every 8 to 10 hours of operation** (with unit traveling up and down the mast).

Gears and racks on a typical mast climber with a duty cycle of 25% will require to be greased on a weekly basis.

8 hrs/day * 5 days * 25% duty cycle = 10 hrs

Higher duty cycle operation will require greasing to be more frequent. For example, use of the F2 Series mast climber in a transport platform application in 100% duty cycle will **increase greasing requirements** to up to once a day.

The greasing of the racks and gears must be done with care, using an open gear lubricant recommended by Hydro Mobile.

At the end of the working shift, grease must be applied to the gears and to the racks from the **top of the mast down**. **Grease must be allowed to stand for 2-3 hours** before the motorized unit is used again (travel up and down the mast).

fig. 9.12

Recommended open gear lubricants	
Manufacturer	**Part number**
Prolab	OG-700
Petron Corporation	Gear Shield NC

Old grease expelled out of the gear meshing must be **cleaned off** on a regular basis. The rack must be visually inspected at the end of each working shift and grease must be applied if needed.

Any grease accumulation found on **any part of the overspeed safety device** must be reported immediately and the **motorized unit must immediately be put out of service** until the overspeed safety device has been inspected and cleaned by a qualified technician or an appropriately qualified person. For the definition of a qualified person, refer to p. 7 of the *Performance and Safety Rules* section.

WARNING

Grease must never be applied to any part of the overspeed safety device.

Inspections and Maintenance

Daily and Weekly Inspections and Maintenance

Daily and weekly inspections must be performed by a qualified operator. For more information about qualified operator, refer to p. 7 of the *Performance and Safety Rules* section.

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. For more information about a qualified user/operator, refer to p. 7 of the *Performance and Safety Rules* section.

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, an F2 Series motorized unit and its accessories must be inspected effectively and timely, according to the schedules for F2 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 competent person and appropriate corrective action must be taken immediately. Corrective actions must be performed by qualified personnel.

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 *Performance and Safety Rules* section.

Each Hydro Mobile motorized unit must be submitted to a frequent inspection performed **every three months** by a qualified technician.

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 competent person and appropriate corrective action must be taken immediately. Corrective actions must be performed by a qualified technician. For more information about qualified technicians, refer to p. 7 of the *Performance and Safety Rules* section.

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.

Inspections and Maintenance

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 *Performance and Safety Rules* section.

Each Hydro Mobile motorized unit must be submitted to an annual inspection performed by a qualified technician. 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 competent person and appropriate corrective action must be taken immediately. Corrective actions must be performed by a qualified technician. For more information about qualified technicians, refer to p. 7 of the *Performance and Safety Rules* section.

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.

Recertification of the Overspeed Safety Device

The overspeed safety device is the main safety component on Hydro Mobile F2 Series motorized units. Each overspeed safety device must be submitted to a factory rebuild and recertification no later than every 5 years.

The F2 Series overspeed safety device is a unit sealed by Hydro Mobile and must not be opened, modified or tampered with under any circumstances. If an overspeed safety device shows signs of tampering or if the tamper-proof seals are missing, the overspeed safety device must be factory recertified.

The dismantling and installation of an overspeed safety device must only be performed by a qualified technician.

Drop tests of the motorized unit must be performed only by a qualified technician.

For more information about qualified technicians, refer to p. 7 of the *Performance and Safety Rules* section.

Inspections and Maintenance

Samples of Checklists

Copies of the inspection and maintenance checklist shown below can be obtained by contacting the distributor/service center or downloaded directly from the Hydro Mobile website at www.hydro-mobile.com.

Daily inspection checklist

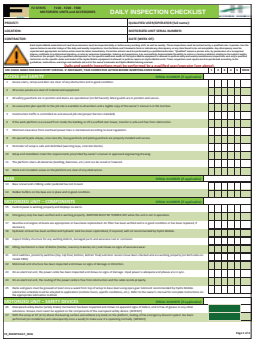

DAILY INSPECTION CHECKLIST

fig. 9.16

Frequent inspection checklist

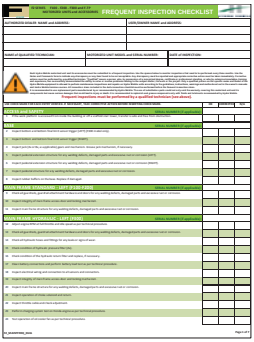

FREQUENT INSPECTION CHECKLIST

fig. 9.17

Annual inspection checklist

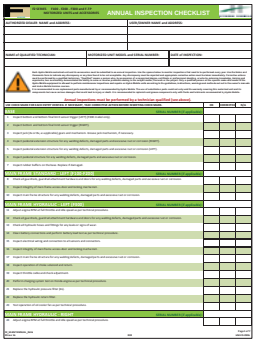

ANNUAL INSPECTION CHECKLIST

fig. 9.13

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.

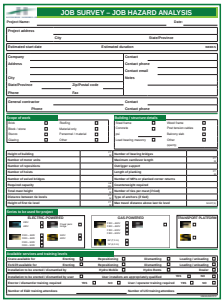

JOB SURVEY - JOB HAZARD ANALYSIS

fig. 9.14

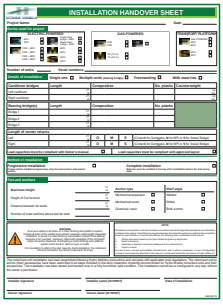

INSTALLATION HANDOVER SHEET

fig. 9.15