User’s Guide

All you need to know about the FRACO hydraulic elevating platform

FRSM-8000
Congratulations!
You are about to use the excellent
FRACO hydraulic elevating work platform system!

Unlike any other platform system on the market today,
FRACO provides you with the ultimate in SAFETY, STABILITY and FLEXIBILITY
while reducing your labour costs by up to 36%.

Due to the advanced technology of FRACO Products,
you can be assured of the OPTIMUM QUALITY in all our products.

FRACO is ISO 9001 registered

The instruction manual and safety rules presented on the following pages will safely guide you
through all the possibilities of this system. The platform cannot be sold or rented without this user's
guide.

FRACO Products Ltd reserves the right to modify the platform or its manual without notice, and
will not assume any responsibility for any damage or injury that may occur.

This FRACO system meets ANSI and OSHA requirements.

If you have any questions, do not hesitate in calling us at:

(450) 658-0094

Canada: 1-800-267-0094
Montréal: (514) 990-7750
U.S.A.: 1-888-FRACO 4 U
1-888-372-2648
or fax us at: (450) 658-8905

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WARNING!
SAFETY IS OUR PRIMARY CONCERN.

For this reason, never remove or alter any part in order to adapt the platform to fit a specific area of the building.

USE ONLY GENUINE FRACO PARTS

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE INSTALLATION

FRACO (and/or its importer/representative) cannot be responsible for any property damage, severe injury or death that may result from failure to comply with the following safety recommendations, local rules and regulations.

Before operating this FRACO System, the following safety rules must be read and fully understood:

1- Mark out, with beacons or barricade tape and forbid the access around the base and the platform. This should be done according to the local rules.
2- If using a gasoline engine, do not work in an explosive environment such as refineries, etc.
3- The operator should be familiar with the user's guide and understand all the functions of the platform.
4- Never assume anything. If you have any questions concerning the operation of the FRACO, STOP! Refer to the proper user's guide. If you are still unsure, do not continue and call FRACO immediately.
5- In order to use, install or dismantle the system, a minimum of 2 people should be on the platform at all times, in case of a breakdown or rescue.
6- The maximum working height is 11.58 m (38 ft) in the freestanding mode when in use and 4 m (12 ft) otherwise.
7- If you need to go higher than 11.58 m (38 ft), you must use anchors. In that case, refer to the user's guide.
8- Always use anchors when you are not using the freestanding base.
9- This platform should be maintained periodically. Refer to the user's guide.
10- In case of an electrical storm, LEAVE the platform.
11- For personal safety, when the wind exceeds 50 km/h (30 mph) do not use, install or dismantle the platform. Make sure that the platform is lowered to the minimum.
12- Note the place where your fire extinguisher is located, and make sure that a certified person verifies it periodically.
13- It is the operator's responsibility to ensure that the load and the number of people allowed on the platform is complied with. (Refer to the standard load distribution chart).
14- This platform should never be specifically used as an elevator.

Always wear your safety harness when installing and dismantling the mast sections, the wall ties and when manipulating the planks when passing the anchors.

Safety harnesses that meet the local safety code must be available at all times for each person on the platform. A safety line, in compliance with the codes and of sufficient length for the working height of the platform must be available at all times on the platform for emergency use only.

Before raising or lowering the FRACO make sure:

1- That the base is properly secured in position and levelled (see the tolerances permitted in the user's guide).
2- That all guardrails are in place.
3- That a visual inspection above and below the platform is carried out, before each vertical movement, to ensure no protrusions will impede or inhibit the proper movement of the FRACO.
4- To verify proper clearance for the walk boards (planks).
5- Not to exceed the freestanding height 11.58 m (38 ft) at the main platform floor from the ground.
6- That the platform has not exceeded the height of the last anchor.
7- That the worker removing the boards to pass the anchors is properly harnessed.
8- That everyone on board is alerted.
9- That the safety material is in the proper place and within reach of the operators.

Honda Gas Engine
Model: GX160-K1QHE
Vibration: 4.0 G Noise level: 74 dB
Operating speed: 3 600 RPM
General view

Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Elevating unit</td>
</tr>
<tr>
<td>2</td>
<td>Mast section</td>
</tr>
<tr>
<td>3</td>
<td>Anchor</td>
</tr>
<tr>
<td>4</td>
<td>Plank-end guardrail</td>
</tr>
<tr>
<td>5</td>
<td>Guardrail bracket</td>
</tr>
<tr>
<td>6</td>
<td>Extension</td>
</tr>
<tr>
<td>7</td>
<td>Side bracket</td>
</tr>
<tr>
<td>8</td>
<td>Freestanding base</td>
</tr>
<tr>
<td>9</td>
<td>Stabilizer</td>
</tr>
<tr>
<td>10</td>
<td>Jack</td>
</tr>
<tr>
<td>11</td>
<td>Wooden jack pad</td>
</tr>
<tr>
<td>12</td>
<td>Hydraulic unit</td>
</tr>
<tr>
<td>13</td>
<td>Outrigger</td>
</tr>
<tr>
<td>14</td>
<td>Access door</td>
</tr>
<tr>
<td>15</td>
<td>Guardrail</td>
</tr>
</tbody>
</table>
This plate is found on the climbing frame and should be visible at all times.

Serial number
XX XX XXXX

Model number

Year of fabrication

Platform number

Patent pending no.: 5,368,125
FRSM-8000

Vertical travel speed
0-0.05 ft/s
0-0.05 m/s

Vertical travel speed
0-0.05 ft/s
0-0.02 m/s

Made in Canada
Fabriqué au Canada
Fabricado en Canadá
### Technical data

<table>
<thead>
<tr>
<th>Model number</th>
<th>BFS-8000 (Freestanding base)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall length</td>
<td>12 ft 5 in</td>
</tr>
<tr>
<td>Overall width</td>
<td>8 ft</td>
</tr>
<tr>
<td>Total weight</td>
<td>1 920 lbs</td>
</tr>
<tr>
<td>Ground Base (dimension / weight)</td>
<td>3 ft 2 in x 6 ft 8 in / 455 lbs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model number</th>
<th>FRSM-8000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum length of platform single mast</td>
<td>36 ft 1 in</td>
</tr>
<tr>
<td>Maximum length of platform double mast</td>
<td>105 ft</td>
</tr>
<tr>
<td>Lower Working area width</td>
<td>12 in to 5 ft</td>
</tr>
<tr>
<td>Higher Walking and Loading area</td>
<td>Standard: 5 ft 10 in</td>
</tr>
<tr>
<td></td>
<td>Maximum: 8 ft 2 in</td>
</tr>
<tr>
<td>Lifting speed</td>
<td>3 ft / minute</td>
</tr>
<tr>
<td>Maximum height of the mast (with anchors)</td>
<td>550 ft</td>
</tr>
<tr>
<td>Maximum height of the mast (without anchors)</td>
<td>38 ft</td>
</tr>
<tr>
<td>Minimum ground clearance</td>
<td>1 ft</td>
</tr>
<tr>
<td>HOND A engine</td>
<td>5,5 HP</td>
</tr>
<tr>
<td>Mast section (Dimension / Weight)</td>
<td>12 in x 12 in x 10 ft / 370 lbs</td>
</tr>
<tr>
<td>Elevating unit (Dimension / Weight)</td>
<td>2 ft 4 in x 2 ft 3 in x 10 ft 8 in / 1580 lbs</td>
</tr>
<tr>
<td>Extension section (Dimension / Weight)</td>
<td>3 ft 6 in x 2 ft 3 in x 2 ft 6 in / 250 lbs</td>
</tr>
<tr>
<td></td>
<td>3 ft 6 in x 2 ft 3 in x 3 ft 4 in / 250 lbs</td>
</tr>
<tr>
<td></td>
<td>3 ft 6 in x 2 ft 3 in x 6 ft 8 in / 395 lbs</td>
</tr>
<tr>
<td></td>
<td>3 ft 6 in x 2 ft 3 in x 10 ft / 540 lbs</td>
</tr>
<tr>
<td>Bridge section (Dimension / Weight)</td>
<td>3 ft 6 in x 3 ft 1 in x 15 ft / 1 145 lbs</td>
</tr>
<tr>
<td></td>
<td>3 ft 6 in x 3 ft 1 in x 20 ft / 1 405 lbs</td>
</tr>
<tr>
<td>Central bridge section (Dimension / Weight)</td>
<td>3 ft 6 in x 3 ft 1 in x 20 ft / 1 310 lbs</td>
</tr>
</tbody>
</table>
Part II

Installing the platform
### Minimum distance between masts in double mast configuration with *

<table>
<thead>
<tr>
<th>Bridge type</th>
<th>No 0.75m (2'6&quot;) extension</th>
<th>one 0.75m (2'6&quot;) extension</th>
<th>two 0.75m (2'6&quot;) extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 m (30') bridge</td>
<td>10,03 m (32'11&quot;)</td>
<td>10,80 m (35'5&quot;)</td>
<td>11,56 m (37'11&quot;)</td>
</tr>
<tr>
<td>12 m (40') bridge</td>
<td>13,08 m (42'11&quot;)</td>
<td>13,84 m (45'5&quot;)</td>
<td>14,61 m (47'11&quot;)</td>
</tr>
<tr>
<td>15 m (50') bridge</td>
<td>16,13 m (52'11&quot;)</td>
<td>16,89 m (55'5&quot;)</td>
<td>17,65 m (57'11&quot;)</td>
</tr>
<tr>
<td>18 m (60') bridge</td>
<td>19,18 m (62'11&quot;)</td>
<td>19,94 m (65'5&quot;)</td>
<td>20,70 m (67'11&quot;)</td>
</tr>
</tbody>
</table>

### Standard distance between masts in double mast configuration with *

<table>
<thead>
<tr>
<th>Bridge type</th>
<th>No 0.75m (2'6&quot;) extension</th>
<th>one 0.75m (2'6&quot;) extension</th>
<th>two 0.75m (2'6&quot;) extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 m (30') bridge</td>
<td>10,24 m (33'7&quot;)</td>
<td>11,00 m (36'1&quot;)</td>
<td>11,76 m (38'7&quot;)</td>
</tr>
<tr>
<td>12 m (40') bridge</td>
<td>13,28 m (43'7&quot;)</td>
<td>14,05 m (46'1&quot;)</td>
<td>14,81 m (48'7&quot;)</td>
</tr>
<tr>
<td>15 m (50') bridge</td>
<td>16,33 m (53'7&quot;)</td>
<td>17,09 m (56'1&quot;)</td>
<td>17,85 m (58'7&quot;)</td>
</tr>
<tr>
<td>18 m (60') bridge</td>
<td>19,38 m (63'7&quot;)</td>
<td>20,14 m (66'1&quot;)</td>
<td>20,90 m (68'7&quot;)</td>
</tr>
</tbody>
</table>

### Maximum distance between masts in double mast configuration with *

<table>
<thead>
<tr>
<th>Bridge type</th>
<th>No 0.75m (2'6&quot;) extension</th>
<th>one 0.75m (2'6&quot;) extension</th>
<th>two 0.75m (2'6&quot;) extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 m (30') bridge</td>
<td>10,44 m (34'3&quot;)</td>
<td>11,20 m (36'9&quot;)</td>
<td>11,96 m (39'3&quot;)</td>
</tr>
<tr>
<td>12 m (40') bridge</td>
<td>13,49 m (44'3&quot;)</td>
<td>14,25 m (46'9&quot;)</td>
<td>15,01 m (49'3&quot;)</td>
</tr>
<tr>
<td>15 m (50') bridge</td>
<td>16,54 m (54'3&quot;)</td>
<td>17,30 m (56'9&quot;)</td>
<td>18,06 m (59'3&quot;)</td>
</tr>
<tr>
<td>18 m (60') bridge</td>
<td>19,58 m (64'3&quot;)</td>
<td>20,35 m (66'9&quot;)</td>
<td>21,11 m (69'3&quot;)</td>
</tr>
</tbody>
</table>

*The bridge arms must be extended from 5 cm (2") to 20 cm (8").

---

**WARNING**

WHEN USING AN EXTENSION OF 4 m (13'4") OR 5m (16'8") ON A BRIDGE, YOU **MUST** HAVE A 0.75m (2'6") EXTENSION ON THE OTHER SIDE OF THE SAME UNIT.
Installing the FRACO platform

Verify the ground weight bearing capacity and make sure that it can support the base and the platform:

<table>
<thead>
<tr>
<th>Mast height</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 46 m (150 ft)</td>
<td>&gt; 72 kN/m² (1500 lbs/sq. ft.)</td>
</tr>
<tr>
<td>46 m (150 ft) and higher</td>
<td>To be determined for each project</td>
</tr>
</tbody>
</table>

When using the standard ground base: (see page II-3)

1- Start by levelling the ground with a maximum of 10 cm (4”) of material (crushed stone is recommended).

2- Measure the exact distance "L" between the base and the wall, taking into account all obstacles that the platform will have to go around. Also take into account the mast-to-mast distance when using a double mast configuration (see page II-1).

<table>
<thead>
<tr>
<th>Installation type</th>
<th>Distance &quot;L&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>0.86 m (34&quot;) for 2 planks</td>
</tr>
<tr>
<td>Other possibilities</td>
<td>1.12 m (44&quot;)</td>
</tr>
<tr>
<td></td>
<td>1.37 m (54&quot;)</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.63 m (64&quot;) for 5 planks</td>
</tr>
</tbody>
</table>

3- Install the FRACO system (elevating unit and base) perfectly perpendicular to the wall at the appropriate "L" distance.

4- Make sure that the mast is perfectly vertical and that the base is level and stable.

When using the freestanding base: (see page II-4)

1- Measure the exact distance "L" between the base and the wall, taking into account all obstacles that the platform will have to go around. Also take into account the mast-to-mast distance when using a double mast configuration (see page II-1).

<table>
<thead>
<tr>
<th>Installation type</th>
<th>Distance &quot;L&quot;</th>
<th>Distance &quot;D&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>43 cm (17&quot;)</td>
<td>25 cm (10&quot;)</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.19 m (47&quot;)</td>
<td>MANDATORY</td>
</tr>
</tbody>
</table>

**Always install wooden jack pads under stabilizer jack plates**

2- Install the freestanding base perfectly perpendicular to the wall with the appropriate "L" and "D" distances.

3- Extend the stabilizers of the base as much as possible (rear ones 1.22 m (48") and the front ones at distance "D") . Lower the jacks onto the jack pads (see instructions on the stabilizers).

4- Level the base with a bubble level.

5- Make sure that the mast is perfectly vertical and that the base is level and stable.
Installing the elevating unit
Ground base

1. Make a bed of crushed stone exceeding the base by a minimum of 25 mm (1").

2. Install the elevating unit perfectly perpendicular to the wall.

Use the appropriate "L" distance (page II-2).
Installing the elevating unit

Freestanding base

1. Deploy the rear stabilizers to 1,20 m (48”).
2. Deploy the front stabilizers to 0,25 m (10”).
3. Place the 4 wooden jack pads under the stabilizers.
4. Place the freestanding base perfectly perpendicular to the wall using the appropriate "L" and "D" distances (page II-2).
5. Level the base using the jack handle and the stabilizers.

If you have to go over the maximum freestanding height and use anchors, close the 4 stabilizers to the minimum. The maximum height for a freestanding base with anchors is 30,5 m (100’).

Use the appropriate "L" and "D" distances (see page II-2).
Installing the elevating unit

Freestanding base

1. Assemble a 9,15 m (30’) mast on the ground and add mast couplers at the end of each mast section (DETAIL-A) (3 in total).
2. Install the 9,15 m (30’) mast on the freestanding base so that the couplers are facing away from the wall. FIGURE 1
3. Assemble the elevating unit with a 9,15 m (30’) mast. (12,20 m (40’) of total mast)
4. Install the elevating unit on the freestanding base. FIGURE 2
5. Bolt the mast couplers to join the two masts together.
6. Tighten the bolts between the mast and the freestanding base.

You must tighten the bolts between the base and the mast only after you install the mast coupler.

Installation

FIGURE 1

Mast coupler
20490094

FIGURE 2
Hydraulic unit

Installation

1- Place the hydraulic unit in the adapters on the elevating unit.
2- Lock the hydraulic unit in place with two Ø19 mm X 100 mm (Ø3/4” x 4”) pins and cotter pins.
Extension

Installation

1- Install the extension on the hooks of the hydraulic unit or on the hooks of another extension.

2- Bolt the extension to the hydraulic unit or to another extension using two Ø19 mm x 64 mm (Ø3/4" x 2 1/2") bolts.

IMPORTANT

- Make sure you do not have more than 3 m (10’) of difference between the extensions during the installation.
- When you are done, there can be a maximum difference of 1 m (3’4”) between the extensions.
- The maximum extension length is 5 m (16’8”).

©FRACO Products Ltd   FRSM-8000 user’s guide   09/2002
1-Assemble the bridge to the desired length using the "Bridge assembly" chart. THE MAXIMUM LENGTH OF A BRIDGE IS 18.29 M (60').

2-Bolt all the bridge sections together using two Ø25 mm X 57 mm (Ø1" X 2 1/4") bolts on the top of the bridge and four Ø25 mm X 230 mm (Ø1" X 9") bolts on the bottom of the bridge.

<table>
<thead>
<tr>
<th>Type of bridge</th>
<th>4.6 m (15') section</th>
<th>6.1 m (20') section</th>
<th>6.1 m (20') central section</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.14 m (30')</td>
<td>2</td>
<td></td>
<td></td>
<td>1 041 kg</td>
</tr>
<tr>
<td>10.67 m (35')</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1 159 kg</td>
</tr>
<tr>
<td>12.19 m (40')</td>
<td></td>
<td>2</td>
<td></td>
<td>1 277 kg</td>
</tr>
<tr>
<td>15.24 m (50')</td>
<td>2</td>
<td></td>
<td></td>
<td>1 636 kg</td>
</tr>
<tr>
<td>16.76 m (55')</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1 755 kg</td>
</tr>
<tr>
<td>18.29 m (60')</td>
<td>2</td>
<td></td>
<td>1</td>
<td>1 873 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of bridge</th>
<th>6,10 m (20')</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,10 m (20') bridge section</td>
<td>15020053</td>
<td>1 041 kg</td>
</tr>
<tr>
<td>4,57 m (15') bridge section</td>
<td>15020064</td>
<td>1 050 kg</td>
</tr>
<tr>
<td>6,10 m (20') central bridge section</td>
<td>15020075</td>
<td>1 041 kg</td>
</tr>
</tbody>
</table>
Bridge

With the installation of a 1m, 2 m or 3 m (3'4", 6'8" or 10') extension

Installation

1- Insert the bridge arms in the hooks of the elevating unit
2- Install the locks to secure the bridge arms and lock them with a safety pin.

IMPORTANT

Never use a 0.75 m (2'6") extension section with a 1 m, 2 m or 3 m (3'4", 6'8" or 10') extension.

Before the installation of a bridge, proceed to the installation of the first anchor on both elevating units (see part IV)
### Bridge

**With the installation of a 4 m or 5 m (13'4 or 16'8") extension**

#### Installation

1. Install a 0.75 m (2'6") extension. (see page II-7)
2. Bolt the 0.75 m (2'6") extension to the elevating unit with 2 bolts. (see page II-7)
3. Insert the bridge arms in the hooks of the 0.75 m (2'6") extension section. (DETAIL-A)
4. Install the locks to secure the bridge arms and lock them with a safety pin. (DETAIL-A)
5. Install the extension as shown on page II-7.

---

#### IMPORTANT

The 0.75 m (2'6") extension is necessary when using 4 m (13'4") or longer extension.

**Before the installation of a bridge, proceed to the installation of the first anchor on both elevating units (see part IV)**

---

#### DETAIL-A

- Bridge
- 0.75 m (2'6") bridge extension
- 4 m (13'4") or 5 m (16'8") extension
- Locking pin
Outrigger

Installation

1 - Make sure that the Ø9 mm (Ø3/8") bolt is in place before installing the outriggers. (DETAIL-A)
2 - Install the outriggers in the lower or upper adapters. (DETAIL-B)
3 - Make sure that there is no more than 2,13 m (7') between the outriggers.
4 - Install a pin with washer in each outrigger and secure with a cotter pin. (DETAIL-C)
5 - Adjust the outrigger so that there is 6 cm (2"1/2) between it and the wall. (DETAIL-D)

IMPORTANT

The outriggers cannot be deployed more than 2,13 m (7').
Side bracket

Installation

1-Insert the side bracket in the adapter. (DETAIL-A)

2-Lock the side bracket with a Ø19 mm X 100 mm (Ø3/4" X 4") pin and a cotter pin. (DETAIL-B)
Guardrail bracket

Installation

1-Install the guardrail bracket in the hooks at the end of the last extension section.

2-Secure the guardrail bracket and the side bracket with Ø19 mm X 150 mm (Ø3/4" X 6") pins and 2 cotter pins.
Flooring

Installation

1. Install the flooring on the side brackets in order to cover the entire circulation zone.
2. Lock the flooring with a U-lock and a safety pin.

Flooring used regarding the length of platform

<table>
<thead>
<tr>
<th>Platform length</th>
<th>Flooring</th>
<th>1 m x 0.71 m (3'4'' x 28'')</th>
<th>2 m x 0.71 m (6'8'' x 28'')</th>
<th>2 m x 0.71 m notched (6'8'' x 28'' notched)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 m (3'4'') extension</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 m (6'8'') extension</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 m (10') extension</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 m (13'4'') extension</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5 m (16'8'') extension</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>9.14 m (30') bridge</td>
<td>1</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>10.67 m (35') bridge</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.19 m (40') bridge</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.24 m (50') bridge</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.76 m (55') bridge</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.29 m (60') bridge</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Guardrail

Installation

1-Install the guardrail in the side bracket and the guardrail bracket.

2-Install the guardrails wherever there might be a risk of falling.

1 m (3'4'') guardrail 17490023

60 cm (23'') guardrail 17490012
Extensible guardrail & anti-skid steel plate

Installation

**Extensible guardrail**
1. Install the extensible guardrail on the existing guardrails where there are gaps.
2. Lock the extensible guardrail with 2 safety pins.
3. The safety pins must be re-installed each time the extensible guardrail is moved.

**Anti-skid plate**
1. Install the anti-skid plate on the gaps created by the bridge arms.
2. Secure them with screws or nails on one side only, to allow movement of the bridge arms.

Legend:
- Extensible guardrail
- Anti-skid plate
- Safety pin

<table>
<thead>
<tr>
<th>Extensible guardrail</th>
<th>17490034</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-skid steel plate</td>
<td>20490319</td>
</tr>
<tr>
<td>70 cm (28&quot;)</td>
<td></td>
</tr>
<tr>
<td>100 cm (40&quot;)</td>
<td></td>
</tr>
</tbody>
</table>

**DETAIL-A**
**Plank tie**

**Installation**

1. Install the plank ties so that they hold the outriggers and the planks together.

2. Nail or screw the plank ties to the planks so that they do not move.

**Warning**

Never place any load on the planks at any time.

Use only #1 category spruce or equivalent* having dimensions of 50 mm X 250 mm (2” x 1 0”) 350 kg/m² (71.5 lbs/pi²) for a span less than 1.80 m (6’).

*Use only planks approved by the local authorities.

---

**Plank-end guardrail**

**Installation**

1. Install the plank-end guardrails at the end of the work zone planks.

2. Secure them with screws or nails.

3. Place plank-end guardrails wherever there might be a risk of falling.

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FRSM-8000 user's guide 09/2002
II-17
Extension turnbuckle

The extension turnbuckle is necessary for the 4 m (13'4") and longer extension.

1-Install the extension turnbuckle short part on the upper hooks of the elevating unit. (DETAIL-A)

2-Install the extension turnbuckle long part on the side bracket adapter with a Ø19 mm X 140 mm (Ø3/4" X 5 1/2") bolt. (DETAIL-B-C)

3-Join the long and short part of the extension turnbuckle with a Ø16 mm X 75 mm (5/8" X 3") pin and a cotter pin. (DETAIL-D)

4-Tighten the extension turnbuckle.

See DETAILS on page II-19
Extension turnbuckle (DETAILS)

DETAIL-A

Extension turnbuckle short part

Upper hook of the elevating unit

DETAIL-B

Extension turnbuckle long part

Ø19 mm X 140 mm
(Ø3/4" X 5 1/2") bolt

DETAIL-C

Extension turnbuckle long part

Ø19 mm X 140 mm
(Ø3/4" X 5 1/2") bolt

DETAIL-D

Cotter pin

Ø16 mm X 75 mm
(Ø5/8" X 3") pin
Part III

Options/Miscellaneous
Outrigger guardrail

Installation

1-Install the outrigger guardrail at all the places required to prevent any risk of falling

2-Lock the outrigger guardrail with pins with washers and cotter pins.

3-Insert 50 mm X 100 mm (2" X 4") planks in the outrigger guardrails and secure them with screws or nails.

**WARNING**

Never place any load on the planks at any time
Outrigger tie
Always use 2 outrigger ties for each additional outrigger

**Installation**

1. Install 2 outrigger ties on the previously installed outriggers.
2. Secure the ties with Ø19 mm X 100 mm (Ø3/4” X 4”) pins and lock them with cotter pins.
3. Install pins with washers on the new outriggers. (page II-11)
4. Place planks on the new work area.

**WARNING**

Never place any load on the planks at any time.

Installation only permitted for 1 m to 4m (3’4” to 13’4”) extensions
Single mast locking system

Installation

1-Insert an outrigger lock on the outrigger furthest from the mast.
2-Insert the wheel at the end of the outriggers with outrigger locks.
3-Lock the wheel with a pin with washer and a cotter pin. (DETAIL-A)
4-Adjust the distance between the wheel and the wall to 3 cm (1 "1/4).
5-Tighten the bolt on the outrigger lock. (DETAIL-B)
Self-erecting system

Installation

1-On the ground:
   A-Assemble the 3 self-erecting tubes.
   B-Lock each self-erecting tube with 2 pins with washer 36 mm (14") and 2 cotter pins.
   C-Install the winch support and secure with a safety pin.

2-Install the self-erecting system on the hydraulic unit. (DETAIL-A)

3-Lock the self-erecting system with 4 bolts 12mmØ x 250mm (1/2"Ø x 10")

4-Follow the instructions on page IV-1 for the mast installation.

WARNING

When using a self-erecting system, the total permissible load is 1 818 kg (4 000 lbs) uniformly distributed and including workers.
Part IV

Mast and anchor installation
Erection of a mast

Installation
1-Join the male and female sections.
2-Bolt them together with 4 bolts.

Torque = 240 Newton*Meter
(180 foot-pound)

IMPORTANT
1-Do not add more than 3 mast sections (4 mast sections total) to the FRACO system. The maximum freestanding height is 11.58 m (38').

2-Use a fork lift, a boom truck or a FRACO self erecting system to install the masts.

3-Check to make sure that the holes for the anchors are on the same side on each mast section.

Do not exceed the following vertical tolerances
- 1.25 cm (1/2") for a 3 m (10') mast.
- 2 cm (3/4") for a 6 m (20') mast.
- 2.5 cm (1") for the maximum mast height.
**IMPORTANT**

1- With a ground base, the first anchor must be installed before:
   - Elevating the platform
   - Placing any load on the platform

2- Load the platform only with the mast sections required to reach the next anchor.

3- In a work situation, the platform must never go above the last anchor.*

**FIRST ANCHOR:**

6 m (20') maximum from the ground

**OTHER ANCHORS:**

Maximum 6 m (20') between the anchors

*-TO INSTALL THE ANCHORS ONLY, it is permitted to exceed the last anchor by 6 m (20') with a load less than 1 364 kg (3 000 lbs), two men and tools when the first anchor is installed.*
Anchor assembly

- The length of the central tube may vary depending on the needs.
- The turnbuckle may be extended with turnbuckle extention.
# Minimum anchor opening relative to the distance from the wall

<table>
<thead>
<tr>
<th>Central tube length</th>
<th>H (min)</th>
<th>H (max)</th>
<th>W (min) 30°</th>
<th>W (std) 45°</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,61 m (2')</td>
<td>0,76 m (2'6&quot;)</td>
<td>1,19 m (3'11&quot;)</td>
<td>0,48 m (1'7&quot;)</td>
<td>0,81 m (2'8&quot;)</td>
</tr>
<tr>
<td>0,91 m (3')</td>
<td>1,07 m (3'6&quot;)</td>
<td>1,50 m (4'11&quot;)</td>
<td>0,94 m (3'1&quot;)</td>
<td>1,42 m (4'8&quot;)</td>
</tr>
<tr>
<td>1,22 m (4')</td>
<td>1,37 m (4'6&quot;)</td>
<td>1,80 m (5'11&quot;)</td>
<td>1,17 m (3'10&quot;)</td>
<td>2,03 m (6'8&quot;)</td>
</tr>
<tr>
<td>1,52 m (5')</td>
<td>1,68 m (5'6&quot;)</td>
<td>2,11 m (6'11&quot;)</td>
<td>1,52 m (5')</td>
<td>2,69 m (8'10&quot;)</td>
</tr>
<tr>
<td>1,83 m (6')</td>
<td>1,98 m (6'6&quot;)</td>
<td>2,41 m (7'11&quot;)</td>
<td>1,88 m (6'2&quot;)</td>
<td>3,25 m (10'8&quot;)</td>
</tr>
</tbody>
</table>

![Diagram](image-url)
How to level the mast with the anchors

TYPE #1: Adjust the distance on both sides between the platform and the wall.
TYPE #2: Levelling the mast from left to right.
TYPE #3: Levelling the mast from front to back.

Situations
A-Move the central tube to the left.
B-Move the central tube to the right.
C-Shorten the right turnbuckle and extend the left one.
D-Shorten the left turnbuckle and extend the right one.
E-Extend both turnbuckles and the central tube.
F-Shorten both turnbuckles and the central tube.
Anchor bolted to an angle iron

**WARNING:** Before making any modification to a structural component, have an engineer approve it.

**Installation**

1. Install the wall tie and the central tube.
2. Locate the place to drill the holes for the turnbuckles using page IV-4.
3. Level the mast using the turnbuckles. (adjustment TYPE #2 & #3)
4. Drill a hole in the angle iron for the central tube. (adjustment TYPE #1)
5. Make sure all the pins are in place and are secured by cotter pins.
6. Lock the anchor in putting the turnbuckles in tension and the central tube in compression.
Anchor bolted to a structural H-beam

WARNING: Before making any modification to a structural component, have an engineer approve it.

Installation

1-Install the wall tie and the central tube.
2-Locate the place to drill the holes for the turnbuckles using page IV-4.
3-Level the mast using the turnbuckles. (adjustment TYPE #2 & #3)
4-Drill a hole in the structural H-beam for the central tube. (adjustment TYPE #1)
5-Make sure that all the pins are in place and are secured by cotter pins.
6-Lock the anchor in putting the turnbuckles in tension and the central tube in compression.
Anchor for a concrete structure or beam

Installation:
1- Install the wall tie and the central tube.
2- Locate the place to install the concrete anchors for the turnbuckles using page IV-4.
3- Plumb the mast using the turnbuckles. (adjustment TYPE #2 & #3)
4- Install the concrete anchor for the central tube. (adjustment TYPE #1)
5- Make sure that all the pins are in place and are secured by cotter pins.
6- Lock the anchor in putting the turnbuckles in tension and the central tube in compression.

The concrete must have a resistance of 35 MPa minimum.

Ø16 mm x 127 mm (Ø5/8” x 5”)
Wedge bolt or approved equivalent
Horizontal anchor for concrete structure

Installation:

1-Install the wall tie and the central tube.
2-Locate the place to install the concrete anchors for the turnbuckles using page IV-4.
3-Level the mast using the turnbuckles. (adjustment TYPE #2 & #3)
4-Install the horizontal anchor for the central tube. (adjustment TYPE #1)
5-Make sure that all the pins are in place and are secured by cotter pins.
6-Lock the anchor in putting the turnbuckles in tension and the central tube in compression.

The concrete must have a resistance of 35 MPa minimum.
Anchor welded to an angle iron

WARNING: Before making any modification to a structural component, have an engineer approve it.

Installation

1-Install the wall tie and the central tube.
2-Locate the place to weld the plates for the turnbuckles using page IV-4.
3-Level the mast using the turnbuckles. (adjustment TYPE #2 & #3)
4-Weld the plate for the central tube on the angle iron. (adjustment TYPE #1)
5-Make sure that all the pins are in place and are secured by cotter pins.
6-Lock the anchor in putting the turnbuckles in tension and the central tube in compression.
Anchor welded to a structural H-beam

**WARNING**: Before making any modification to a structural component, have an engineer approve it.

**Installation**

1. Install the wall tie and the central tube.
2. Locate the place to weld the plates for the turnbuckles using page IV-4.
3. Plumb the mast using the turnbuckles. (adjustment TYPE #2 & #3)
4. Weld the plate on the structural H-beam for the central tube. (adjustment TYPE #1)
5. Make sure that all the pins are in place and are secured by cotter pins.
6. Lock the anchor in putting the turnbuckles in tension and the central tube in compression.
Anchoring box for concrete floor

Installation:

1- Install the concrete anchoring box with 3 Quick bolts at each plate.*
2- Install the central tube in the holes already drilled on the angle iron.
3- Install the turnbuckles in the holes already drilled on the angle iron.
4- Make sure that all the pins are in place.
5- Lock the pins with cotter pins.
6- Lock the anchor in putting the turnbuckles in tension and the central tube in compression.

*- You do not have to use the inner Quick bolt on each plate.

Ø 16 mm × 127 mm
(Ø 5/8" × 5") Wedge bolt
or approved equivalent
Adjustable anchor for H-beam

WARNING: The strength of the H-beam must be verified by an engineer

Installation:

1-Install the wall tie and the central tube.
2-Install the adjustable anchors for the turnbuckles using page IV-4.
3-Level the mast using the turnbuckles. (adjustment TYPE #2 & #3)
4-Install the adjustable anchor for the central tube. (adjustment TYPE #1)
5-Make sure that all the pins are in place and are secured by cotter pins.
6-Lock the anchor in putting the turnbuckles in tension and the central tube in compression.
Part V

Operating the platform
Standard weight distribution
Single mast configuration

Working zone - 5 workers
Traveling zone - 1 worker

Total permissible load is 3,636 kg (8,000 lbs) including workers
The load must be uniformly distributed on the platform.
The loading zone is located within 2 m (7') on both sides of the elevating unit.

IMPORTANT

Never place any load on the work zone or the traveling zone.
Total permissible load is 7 273 kg (16 000 lbs) including workers.
The load must be uniformly distributed on the platform.
The loading zone is located with in 2 m (7') on both sides of the elevating unit.
How to raise the platform

1-Push on lever "A" until the claws hook onto the next mast cross bars.
2-Pull on lever "A" until the safety assembly passes the next mast cross bars.
4-Repeat steps 1 to 3 until you have reached the desired height.

At the end of the raising operation make sure that the safety assembly rests on a mast cross bar. The height of the platform (floor of platform) must never exceed the last anchor.
How to lower the platform

Precautions to take before making any vertical movement with the platform

1- Tie yourself to an anchoring point or to the elevating unit and remove the planks that might interfere with the anchors.
2- Check to make sure that the platform trajectory is clear of all obstacles.
3- Do not use the platform if the wind exceeds 50 km/h (30mph).

Utilisation

1- Push lever "A" to release the claws from the mast.
2- Lower lever "B" to open the claw and hold it.
3- Pull lever "A" until the claws clear the bars they were on.
4- Let go of lever "B".
5- Pull lever "A" until the claws hook up to the other bars and release the safety assembly.
6- Press on the pedal to release the safety assembly.
7- Push lever "A" to lower the platform.
8- Release the pedal to engage the safety assembly.
9- Keep pushing lever "A" until the safety assembly stops on a mast cross bar.
10- Repeat steps 1 to 9 until you reach the desired height.

At the end of the lowering operation make sure that the safety assembly rests on a mast cross bar
Dismantling the mast, anchors and platform

Warning:

Do not dismantle the mast by sections longer than 12m (40') when using a forklift, crane or a boom truck and 3 m (10') sections when using the self-erecting system.

Steps:

1. Unload the platform. When dismantling the platform, the weight must be minimized to 275 kg (600 lbs) 2 men and tools.

2. If there are anchors, remove them by 12m (40') mast section maximum.

3. Lower the platform until it is below the junction of the last section to be dismantled AND UNDER THE HIGHEST ANCHOR REMAINING.

4. Attach the top of the mast section to be dismantled to a forklift, boom truck or crane BEFORE taking off the 4 tower bolts.

5. Remove the mast sections measuring no longer than 12 m (40') maximum.

The platform must never be above the last remaining anchor unless you are dismantling anchors or mast sections.

6. Repeat steps 2 to 5 until the platform reaches the lowest anchor.

***Always leave the last anchor in place (maximum 6 m (20') above the ground)***

On the ground:

7. Take off the guardrails, wood decking, side brackets, plank ties, planks and outriggers. Then, remove the extensions and bridge from the elevating unit.

8. Take off the last remaining anchor, the last mast section and the elevating unit.

IMPORTANT:

These instructions concern the dismantling of a regular FRACO FRSM-6000 platform using a crane, boom truck or forklift. If you still have any questions, please contact your FRACO representative.
Moving the platform

Steps:

1- To dismantle the mast sections, follow the steps 1 to 6 on page V-5 Dismantling the mast, anchors and platforms.

On the ground

Single mast configuration

2- Once the platform is on the ground, remove the last anchor.

3- Strap the top of the last mast section and move the platform.

4- Reinstall the platform base by following the instructions on pages II-1 to II-4.

Double mast configuration

5- Once the platform is on the ground, remove all gardrail and flooring on the extensions and the 3 flooring boards at the center of the bridge.

6- Remove the extensions and the bridge.

7- Remove the remaining anchors and move the tower guards to the new location by following the instructions on page II-1 to II-4.

8- Reinstall the bridge, extensions, flooring and gardrails.

Important:
These instructions concern the moving of a platform on the ground. Moving the platform when it is not on the ground is a special operation that requires the approval of FRACO or other competent personnel. If you still have any questions, please contact your FRACO representative.
Maintenance

The frequency and the importance of the maintenance depend on the national codes, the builder's specifications, the operating conditions and frequency of use. Normally, it is not necessary to dismantle parts for regular maintenance, except if there are doubts about reliability or safety. Removing hoods, opening inspection holes or lowering the platform to its transport position are not considered as dismantling operations.

**Daily**  
*Daily inspection sheet*

- Lock the motor support with a padlock to prevent any unauthorized intrusion;
- Verify the level of the mast with a 1 m (3') level (both directions);
- Check the level in the engine gas tank, having a capacity of 6 liters (1.5 gallon);
- Clean all deposits of cement or dry mortar that could hinder the proper operation of the platform.

**Weekly**

- Check the engine oil level;
- Check the hydraulic pipes for leaks;
- Check for any metal distortions on parts such as extensions, mast sections, base, hooks, etc. which could have been damaged by improper handling.
- Check the condition of the different springs

**Monthly**  
*Preventive maintenance sheet*

- Verify hydraulic oil level (SAE 32 or HVI 36)

**Annual**

- General painting  
  or
- Retouch places exposed to rust.