

USER'S MANUAL

Transport platform

SEP
SERIES



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1. Foreword

1.1. Revision table

Revision N°	Description	Date (yyyy-mm-dd)
00	First issue	2017-09-29
01	Revision for first installation and test	2017-11-08
02	Revision after first installation and test	2017-12-12

1.2. Documents and applicable standards

- CSA B354.12-17 - Design, calculations, safety requirements, and test methodology for mast climbing transport platforms (MCTPs)
- CSA B354.13/14-17 - Safe use and best practices for mast climbing transport platforms (MCTPs)/ Training for mast climbing transport platforms (MCTPs)
- ANSI/SIA A92.10 – 2008 – American National standard for transport platforms

Other documentation:

- Installation manual (RD-7243-MA-002)
- Parts book (RD-7243-MA-003)
- Safety device reset procedure SD2 (emergency centrifugal brake)

1.3. Manual Content

This manual presents all the **important** and **necessary** information to safely and economically work with the platform. The present manual supposes that the platform is equipped with all available options.

Read the present manual attentively, upon reception, before proceeding to installation and servicing. Take time to observe all **notes** and pay particular attention to the **safety instructions**.

1.3.1. What does this manual contain?

The present manual contains advice, observations and instructions concerning;

- Intended use and fields of application
- Inherent and residual risks
- Safety
- Technical data
- Installation requirements
- Operations
- Faults; causes and corrections
- Maintenance
- Customer service

1.3.2. Who must consult this manual?

- Installers and operators working on the machine
- The machine's maintenance staff (cleaning/maintenance)

1.3.3. Manual exclusions

- This manual **is not** an installation guide. The installation manual is a separated document (RD-7243-MA-002) delivered with the machine.
- This manual **is not** a repair guide! You will not find any instructions concerning repair work in this manual. If needed, consult the FRACO technical department.

1.3.4. To consider for resale

In case of resale of the platform, it is very important to transmit all original documentation to the buyer; (User's manual, Installation manual, Parts book) as well as all the inspection sheets and log book.

2. Safety

2.1. Warnings and symbols

The present manual is intended for any person proceeding to assembly, disassembly, operating and/or maintenance of the platform.

Required training:

- An **operator** must have successfully completed **Level 1 (Safety and user)** training and hold a valid training card, be familiar with the content of the present manual and master operation rules/regulations for the platform;
- An **installer** must have successfully completed **Level 2A or 2B (Installation)** training and hold a valid training card, be familiar with the content of the present manual and master operation rules/regulations for the platform;
- **Before assembly, disassembly, operation or maintenance** of the platform, you must read and perfectly understand instructions found in the present manual, as well as the installation manual. Not conforming to these safety instructions may general material damages, severe wounds and even death. FRACO and/or its representative can in no case be held responsible. All local norms and regulations applicable concerning safety and prevention of accidents, environmental protection and all other activity related to assembly, disassembly, operation and maintenance of this type of equipment are considered a supplement to the present manual and must imperatively be respected, for example; the use of individual protection equipment (harness, helmet, boots, etc.).
- If the machine is installed in an area accessible to the public, access to the work zone must be restrained with a fence of 8,20ft (2,5m) MINIMUM. The machine operator has the responsibility to verify the stability and solidity of the fence.
- **Safety is our priority!** For this reason, never remove or modify a part in order to adapt the platform to a special condition. Contact FRACO for any assistance.
- **Use only parts from the official parts list.**
∞REFER TO THE PARTS BOOK (RD-7243-MA-003).
- **Keep this manual in proximity of the machine.** The present manual is considered an integral part of the platform and is mandatory to communicate the necessary safety information's to the operator and users. A copy of the present manual must always be included in the waterproof compartment meant for that purpose on the platform.
∞SEE SECTION 4.11 DOCUMENTATION COMPARTMENT, ON PAGE 33.
- **Stickers and warnings.** Make sure to read and understand all the stickers, warnings and instructions displayed on the equipment, or to get explanations from a qualified person.
∞SEE SECTION 4.10 DATA PLATES AND STICKERS, ON PAGE 31.

Remember that:

- For security reasons, a **minimum of two (2) people** must be present at all time on each platform during assembly, disassembly, or maintenance.
- Local regulation may require that the platform be equipped at all time with an extinguisher. Its position shall be displayed on the platform to be easily located.
- **In case of a FIRE:** Remain calm and notify all persons present on the platform. If available, use the extinguisher and follow the provided instructions. If the fire is out of control, evacuate the platform by the closest access.
- Local regulation may require adequate protection of the platform in case of a storm. Follow indications required by the local regulation.
- **Work on the platform only if wearing tight-fitting clothing, security boots and a helmet** in accordance with local regulation in effect. Do not wear jewelry such as necklaces and rings as it may induce a risk of jamming and pulling.


- **IMPORTANT!:** Refer to [SECTION 2 SAFETY, ON PAGE 7](#), for additional safety instructions related to the operation of the platform.
 ↪ [SEE SECTION 2 SAFETY, STARTING ON PAGE 7](#).
 If, after consulting the present manual, you have any doubts concerning the assembly, disassembly, operation or maintenance of the platform, contact your FRACO representative.
- **Consequences of violation of safety instructions;** violation of safety instructions may put staff, environment and machine in danger. Violation may lead to the cancellation of all indemnities.

In this manual, the following symbols and annotations are used:

Symbols	Description
 Danger	Major risks for physical and/or material damages for survival and safety
Warning!	Risks of physical and/or material damages
Important!	Important points to monitor to conform with proper functioning of the machine
Note	Additional of complementary information

Table 1 - Symbols and annotations

2.2. Residual risks

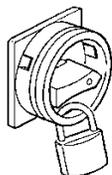
Despite all taken precautions, residual risks remain such as:

- Wounds from uncoordinated tasks
- Malfunction of a control system
- Work with an electric system
- Damage to the transport equipment
- Fall of inappropriately secured objects
- Strong winds
- Entrance and exit
- Loud noises
- Dust
- Or any other work-related inherent risk, etc.

2.3. Operational and transport security

When operating the machine, please respect the following safety instructions;

- Respect the equipment's load capacity.
 - Use the machine only in absence of technical defects; be conscious of security measures and instruction of the user's manual.
 - Immediately correct defects that may affect security.
 - Immediately stop the machine if there are changes relative to the security of the machine or its operative behavior and report the problem to the management of the company or its representatives.
 - Do not modify the machine or add parts that are not included in the official parts list. This also applies to installation and settings of security devices, for example, the limit switches.
 - Do not modify, remove, replace or bypass the security devices.
 - Immediately replace damaged, illegible or missing warning notices and signs as well as security stickers.
- ∞SEE SECTION 4.10 DATA PLATES AND STICKERS, ON PAGE 31.
- If work is interrupted, turn off the machine by the main switch and lock with a padlock.



(Image as reference only)

- In situations representing a danger for the operating staff of the machine, turn off the machine by pressing the **EMERGENCY STOP** button.
∞ SEE SECTION EMERGENCY STOP BUTTON, ON PAGE 58.
-  Lower and stop the machine if winds exceed: > 35 mi/h (> 55 km/h). If winds exceeding **>70 mi/h (> 117 km/h)** are expected, secure unit to the ground. If in doubt, consult effective local regulation and/or your FRACO representative.
- Always protect the machine against unauthorized access and uses!
- Place the load on the platform in a secure manner. Any material that may slide or fall must be correctly secured
-  **Do not** stand or work under the platform!
- Do not place objects under the platform.
- Distribute load uniformly on the platform and observe maximum load distribution.
- Store materials at a secure distance of at least 20" (50 cm) of any moving part of the machine.
- The user must ensure that the area where the machine is installed is clean and uncluttered, as specified in the instructions.
- Any person accompanying the operator must conform to his given instructions. More particularly, the person **must not** step over the material being transported in the platform.
- Identify damages, sounds and defects externally recognizable. Immediately signal all functioning changes or defect to the management of the company or its authorised representatives and turn off and secure the machine immediately.
- **Important!** Adequately illuminate the platform during night shifts and where light is necessary.
- Inspect the machine before each work shift and at each periodic maintenance inspection.

2.4. Safety instructions

2.4.1. Safety during assembly and disassembly

- The machine must be installed and dismantled according to the installation manual and under the supervision of an authorised person specified by the contractor.
∞ [SEE THE INSTALLATION MANUAL \(RD-7243-MA-002\)](#).
- The user has the responsibility, during assembly/disassembly, as well as during operation and maintenance, to dictate instructions concerning the machine to any person(s) present, so that all be effectively informed of safety instructions.
- The user must make sure no unauthorised person is present on or near the machine.
- Install the equipment in an exactly vertical and stable position, and anchor it to the building.
- Before starting work on site, get familiar with the work environment. For example, obstacles in the work and circulating zones, bearing capacity of the ground and necessary protection of the construction site.
- Only charge and transport material that was carefully dismantled, wrapped and firmly bound.

2.4.2. Safety during maintenance

- Inspect before putting into service, recurrent and periodic inspections must be performed according to the instructions in this manual, as well as according to local standards and regulations.
- Workers must be informed regarding type and scope of periodic inspections.
- Results of periodic inspections must be recorded in the appendix of the present user's manual.
- Turn off the machine (turn off principal power supply) before maintenance.
- The platform must be fixed with the appropriate material (travel blocking mechanism) when work is being undertaken under the machine.
- Authorised maintenance and repair work only by **authorised and qualified persons**. Pay particular attention to the risks inherent to work on electric systems. Respect local standards and regulations in effect regarding electrical work.
- Correctly reassemble and verify all dismantled securities when maintenance is completed.
- **Important!** Independent conversions and modifications made to the machine compromise security and are not authorised.
- All spare parts must comply to the technical requirements of the manufacturer. Only use parts from the official parts list.
∞ [PLEASE CONSULT THE PARTS BOOK \(RD-7243-MA-003\)](#).

2.4.3. Promoting use of the user's manual

User's/installation manuals contain rules and reference to be considered by a contractor or group of contractors and are contractual instructions delivered as part of management rights. Employees are required to follow these instructions. The contractor must follow the instructions for the prevention of working accidents and must inform the insured of the risks inherent to their work as well as takes measures to avoid these risks.

3. Intended use and fields of application



The machine is an elevating device for construction work, of platform type and intended for temporary use on construction sites, for the vertical transport of material and staff (13 persons **MAXIMUM**). Loading/unloading of material and staff is permitted at access levels installed and secured at set heights.

- The **SEP** is intended for temporary use on construction sites for the vertical transport of material and persons. It can only be used on site by trained personnel to operate the platform vertically to access levels installed and secured in height.
- Exterior use intended. Interior use intended (conditional).
- Security doors must absolutely be installed at each access level, even if the unit is used exclusively to transport material vertically.
- The number of persons on the platform is limited to **13 persons maximum** and must be evenly distributed on the platform.
 - ∞ [SEE TABLE 2 – GENERAL DATA, ON PAGE 14.](#)
- Deduce load of persons present on the platform from the maximum load:
 - Average weight considered per person **176 lb (80 kg)**.
 - Weight of equipment considered to for two (2) first persons, **88 lb (40 kg)** per persons. For additional workers (past the first two (2)) don't consider weight of equipment.
- The speed of operation (lowering and ascending) of the SEP is limited to **40ft/min (12,20m/min)**.
- The platform is intended for use at temperatures reaching no less than **-4°F (-20°C) MINIMUM**. For temperatures ranging from **[41°F (5°C) to -4°F (-20°C)]** use the permanent heating systems (**optional**) and keep the power supply boxes (principal, GC1 and CC1) energized.
 - ∞ [SEE SECTION 5.5 ELECTRICAL CONNECTION \(ON SITE\), ON PAGE 37.](#)
- Operation authorised for wind speed not exceeding **>35 mi/h (>55 km/h)**. If the wind speed exceeds this limit, the platform must be lowered to ground level and work must be put out of service! For a list of permitted wind speeds, please refer to the technical specifications table. In case the platform need to be out of service, it may be necessary to secure/anchor the machine to the ground. In case of a storm, it may be necessary to secure/anchor the machine to the ground.
 - ∞ [SEE TABLE 2 – GENERAL DATA, ON PAGE 14.](#)
- Certain machines are equipped with an overload system (**optional**) that prevents vertical movement in both directions if the permitted charge is exceeded. An indicator light turns on on the control panel of the platform in case of overload and an alarm signal warns workers close by. **This device is optional and offers as an option on the initial sale of the machine.**

3.1. Improper use

Improper use of the equipment may have serious consequences such as;

- Physical or material damage
- Danger to the physical life integrity of the user or other workers close by
- Cancellation of all indemnities

3.2. Controls and commands

The following controls and commands are present on the machine at the indicated locations:

- Main control panel (**CC1**).....installed on the platform
- Operator control box (**CC2**).....installed on the platform
- Ground box power supply (**GC1**).....installed on the ground protection mesh.
- Drop test Remote control (**DRC**).....to be connected to main control panel (CC1),
keep out of the platform

3.3. Requirements regarding assembly/disassembly personnel

Installation personnel must hold a valid **Level 2A ou 2B (Installation)** training card.

The machine may only be assembled, operated and maintained by authorised persons able to guarantee execution according to their training, knowledge and experience, and conscious of the associated risks. These persons must be designated by the contractor for assembly, disassembly and maintenance tasks. These persons should hold a competence card delivered by local authorities, a union or by FRACO.

These persons must also be familiar with the user's and installation manuals.

3.4. Requirements regarding operating personnel

Operating staff must hold a valid **Level 1 (Safety and operator)** training card.

The machine may only be operated by authorised persons able to guarantee execution according to their training, knowledge and experience. These persons must:

- Be designated by the contractor to operate the machine.
- Therefore, be informed of the risks.
- Be familiar with the user's manual.
- Understand the operational logic and the functions of the machine.
- Follow local standards and regulations in effect.
- Make the necessary verifications before the work shift and make the periodic verifications.
- In case of malfunction, stop and lower the unit to the ground. Contact your FRACO representative.

4. Technical data

4.1. General data

FRACO GENERAL DATA - SEP							
Technical							
Nominal speed (vertical travel)	0-40 ft/min (0-12,2 m/min)						
Speed governor activation speed (centrifugal brake)	85 ft/min (26 m/min)						
MAXIMUM number of persons on the platform	13 persons (Equally distributed)						
Mast section type	<table border="1"> <thead> <tr> <th>Single rack (13090104)</th> <th>Double rack (13090137)</th> </tr> </thead> <tbody> <tr> <td>26" x 26" x 5'-0" (650 mm x 650 mm x 1,5 m)</td> <td>26" x 26" x 5'-0" (650 mm x 650 mm x 1,5 m)</td> </tr> <tr> <td>300 lb (136 kg)</td> <td>305 lb (138 kg)</td> </tr> </tbody> </table>	Single rack (13090104)	Double rack (13090137)	26" x 26" x 5'-0" (650 mm x 650 mm x 1,5 m)	26" x 26" x 5'-0" (650 mm x 650 mm x 1,5 m)	300 lb (136 kg)	305 lb (138 kg)
Single rack (13090104)	Double rack (13090137)						
26" x 26" x 5'-0" (650 mm x 650 mm x 1,5 m)	26" x 26" x 5'-0" (650 mm x 650 mm x 1,5 m)						
300 lb (136 kg)	305 lb (138 kg)						
Mast section weight	300 lb (136 kg) / 305 lb (138 kg)						
Mast section height	5'-0" (1,5 m)						
* MAXIMUM freestanding installation height (without anchor)	* With adjustable legs: Prohibited!						
MAXIMUM installation height (anchored)	1 300 ft (400 m)						
** MAXIMUM first anchor installation height	** With adjustable leg 20 ft (6,0 m)						
MAXIMUM height over the last anchor (highest anchor)	During operation: 0 ft (0 m) MAX from the platform floor to the last anchor. During installation: 0 ft (0 m) MAX from the top of the protection roof to the last anchor (highest anchor).						
*** "Typical" spacing between anchors	*** 30 ft (9,0 m) MIN 20 ft (6,0 m) MAX 40 ft (12,0 m)						
Spacing between cable guides	MAX 20 ft (6,0 m)						
Pay load MAXIMUM (Capacity) Important! Deduce the average load of workers and their personal equipment. ∞ SEE SECTION OPERATION SAFETY INSTRUCTIONS, ON PAGE 41.	Depending on model 5 000 lb (2 270 kg) 6 000 lb (2 720 kg) 7 000 lb (3 175 kg) 8 000 lb (3 630 kg)						
MAXIMUM load during installation, assembly and disassembly.	Depending on model						
Operation temperature	Do not operate below -4°F (-20°C). Note: it is recommended to use the permanent heating system if the platform is used in a [41°F (5°C) à -4°F (-20°C)] environment REFER TO SECTION 5.5 ELECTRICAL CONNECTION (ON SITE), ON PAGE 37.						
MAXIMUM dynamic speed of the wind							
During installation (assembly/disassembly)	28 mi/h (45 km/h)						
Freestanding	28 mi/h (45 km/h)						
In service	35 mi/h (55 km/h)						
Out of service	Refer to local regulation in effect						
Electrical characteristics							
Power outage	Specific to each unit (See identification pate and engineering package specific to the project for electrical data) ∞ SEE SECTION 12.1 ELECTRICAL TECHNICAL DATA, ON PAGE 79.						
Energy consumption							
VFC							
Disk traction force							

Table 2 – General data

* Base with **adjustable jack legs**: freestanding use/installation is **forbidden at all time**. The mast must be supported with a crane or an independent lifting system for the installation of the first two (2) anchors.

** Base with **adjustable jack legs**: the first anchor must be put in place within the 20'-0" (6m) from the ground. Install the subsequent anchors at "**typical**" spacing from one another. See « *** » below.

*** The typical spacing between anchors is 30'-0" (9 m) ± 10'-0" (3 m), however **it is forbidden** to install two (2) subsequent anchors with more than a 10'-0" (3 m) difference compared to the two next/previous anchors set.

Valid example: (anchors 1-2 = distance of 25'-0" (7,5 m) and anchors 2-3 = distance of 35'-0" (10,5 m)).

Invalid example: (anchors 1-2 = distance of 25'-0" (7,5 m) and anchors 2-3 = distance of 40'-0" (12 m)).

4.2. Model specific data

MODEL type	SEP-5000	SEP-6000	SEP-7000	SEP-8000
Capacity				
Load capacity	5 000 lb (2 270 kg)	6 000 lb (2 720 kg)	7 000 lb (3 175 kg)	8 000 lb (3 630 kg)
Travel speed (50Hz/60Hz)	0-40 ft/min (0-12,2 m/min)	0-40 ft/min (0-12,2 m/min)	0-40 ft/min (0-12,2 m/min)	0-40 ft/min (0-12,2 m/min)
MAXIMUM elevation height	1 300 ft (400 m)	1 300 ft (400 m)	1 300 ft (400 m)	1 300 ft (400 m)
Platform dimensions				
* Interior dimensions (W x L x H)	57" x 150" x 88" (1,45 m x 3,80 m x 2,25 m)	57" x 150" x 88" (1,45 m x 3,80 m x 2,25 m)	57" x 150" x 88" (1,45 m x 3,80 m x 2,25 m)	57" x 150" x 88" (1,45 m x 3,80 m x 2,25 m)
Tailgate opening (W x H)	57" x 88" (1,45 m x 2,25 m)	57" x 88" (1,45 m x 2,25 m)	57" x 88" (1,45 m x 2,25 m)	57" x 88" (1,45 m x 2,25 m)
Tailgate unloading platform (L)	26" (660 mm)	26" (660 mm)	26" (660 mm)	26" (660 mm)
Weight				
Assembled platform	6 600 lb (3 000 kg)	6 600 lb (3 000 kg)	6 600 lb (3 000 kg)	6 600 lb (3 000 kg)
Electrical characteristics				
Auxiliary power supply	Specific to each unit (Information available on identification plate, electrical diagram, or engineering package specific to the project for the electrical parameters of the machine)			
Type of VFC				
Number of motors	2	2	2	2
Motor capacity	10 Hp	15 Hp	15 Hp	15 Hp
Cable guide system	Cable guide and electric cable barrel	Cable guide and electric cable barrel	Cable guide and electric cable barrel	Cable guide and electric cable barrel

Table 3 – Data depending on model

* The **150" (3,80m)** dimension is the standard length for a platform of 12'-6" (3,80m) interior. Other configurations are however possible. [SEE SECTION 4.7 CONFIGURATIONS, ON PAGE 22.](#)

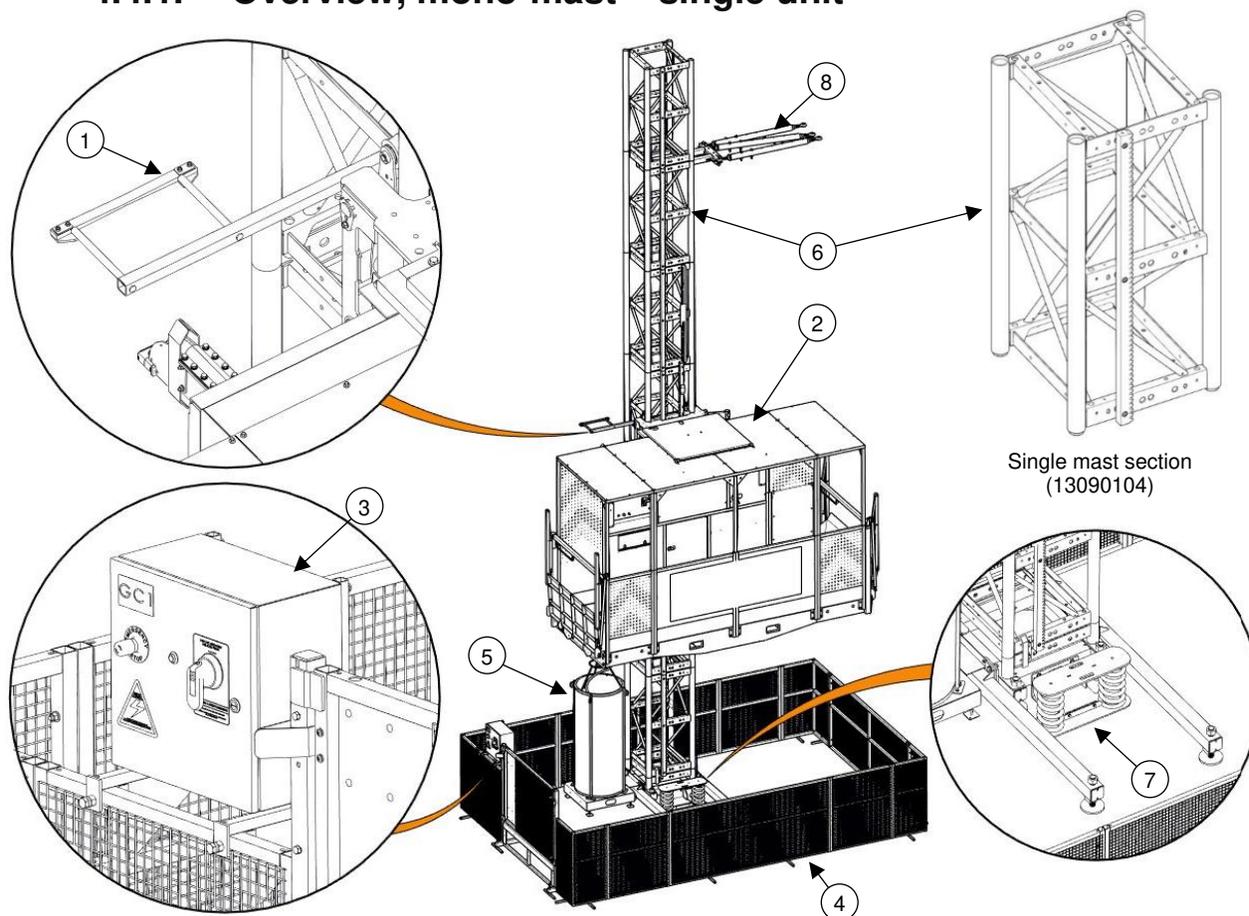
4.3. Available options

OPTIONS SELECTED ON PURCHASE	
Operation options	
Load capacity	(REFER TO TABLE 3 – DATA DEPENDING ON MODEL, ON PAGE 15)
Platform dimensions	
	(REFER TO SECTION 4.7 CONFIGURATIONS, ON PAGE 22)
Ground base options	
	Base with adjustable jack legs (REFER TO SECTION 5.1 TYPE, ON PAGE 34)
Equipment options	
	Protective roof with access trap
	Side door C
	overload detector
	Auto-lubrication device
	Heating system
	Level communication system
	Self erecting device
Finish options	
	Paint finish
	Stainless steel finish
	Personalised finish
MODEL OPTION	
Installation options (REFER TO SECTION 4.4 TECHNICAL CONFIGURATIONS, ON PAGE 16)	
	Single mast (one (1) rack) – one (1) unit
	Single mast (two (2) racks) – two (2) units
	Twin masts (two (2) racks) – one (1) unit

Table 4 – Available options

4.4. Technical configurations

4.4.1. Overview, mono-mast – single unit



Single mast section
(13090104)

Figure 1 – mono-mast, single unit

N°	Item	Description
1	RD-7243-AT-100	Cable guide
2	RD-7243-BC-104	Platform right SEP-5000
3	RD-7243-BE-107	Ground cabinet GC1 SEP
4	RD-7243-GS-112	Ground enclosure – single mast
5	RD-7243-ME-100	Electric cable barrel SEP
6	13090104	Mast section 26" x 26" x 5'-0", 1 rack (Mast climber)
7	Depending on model and technical specifications	Ground base assembly
8	Depending on model and technical specifications	Mast tie assembly and mast anchor system

Table 5 – Mono-mast assembly components, single unit

Note: "The technical configuration **double-mast, single unit** (one platform between two masts) is not presented in this manual but is nevertheless available among the range of products."

4.4.2. Overview, double-mast – twin units

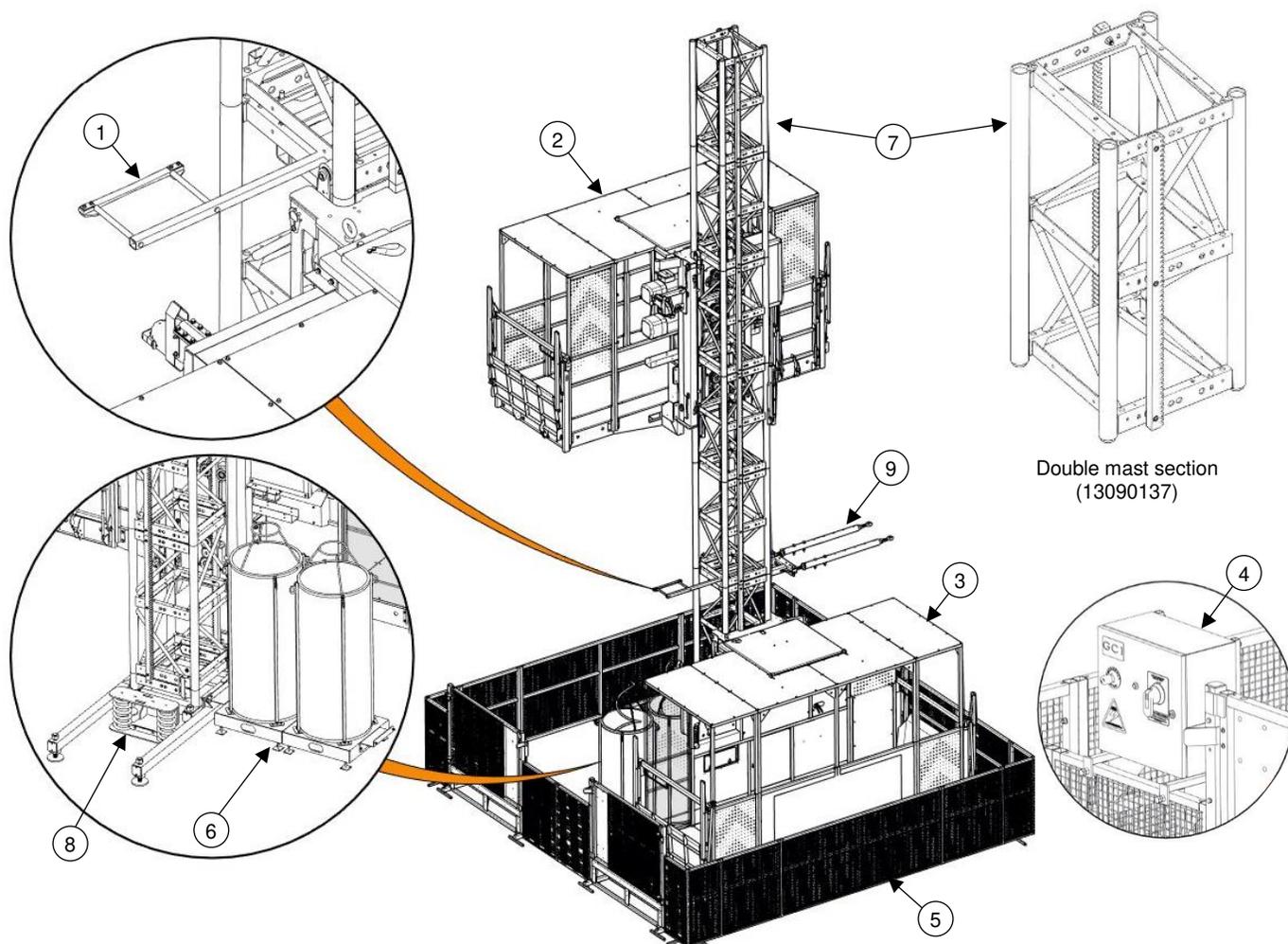


Figure 2 – Double-mast assembly, twin units

N°	Item	Description
1	RD-7243-AT-100	Cable guide
2	RD-7243-BC-103	Platform left SEP-5000
3	RD-7243-BC-104	Platform right SEP-5000
4	RD-7243-BE-107	Ground cabinet GC1 SEP
5	RD-7243-GS-113	Ground enclosure – twin mast
6	RD-7243-ME-100	Electric cable barrel SEP
7	13090137	Mast section 26" x 26" x 5' 0", 2 racks (Mast climber)
8	Depending on model and technical specifications	Ground base assembly
9	Depending on model and technical specifications	Mast tie assembly and mast anchor system

Table 6 - Double-mast assembly components, twin units

4.5. General dimensions

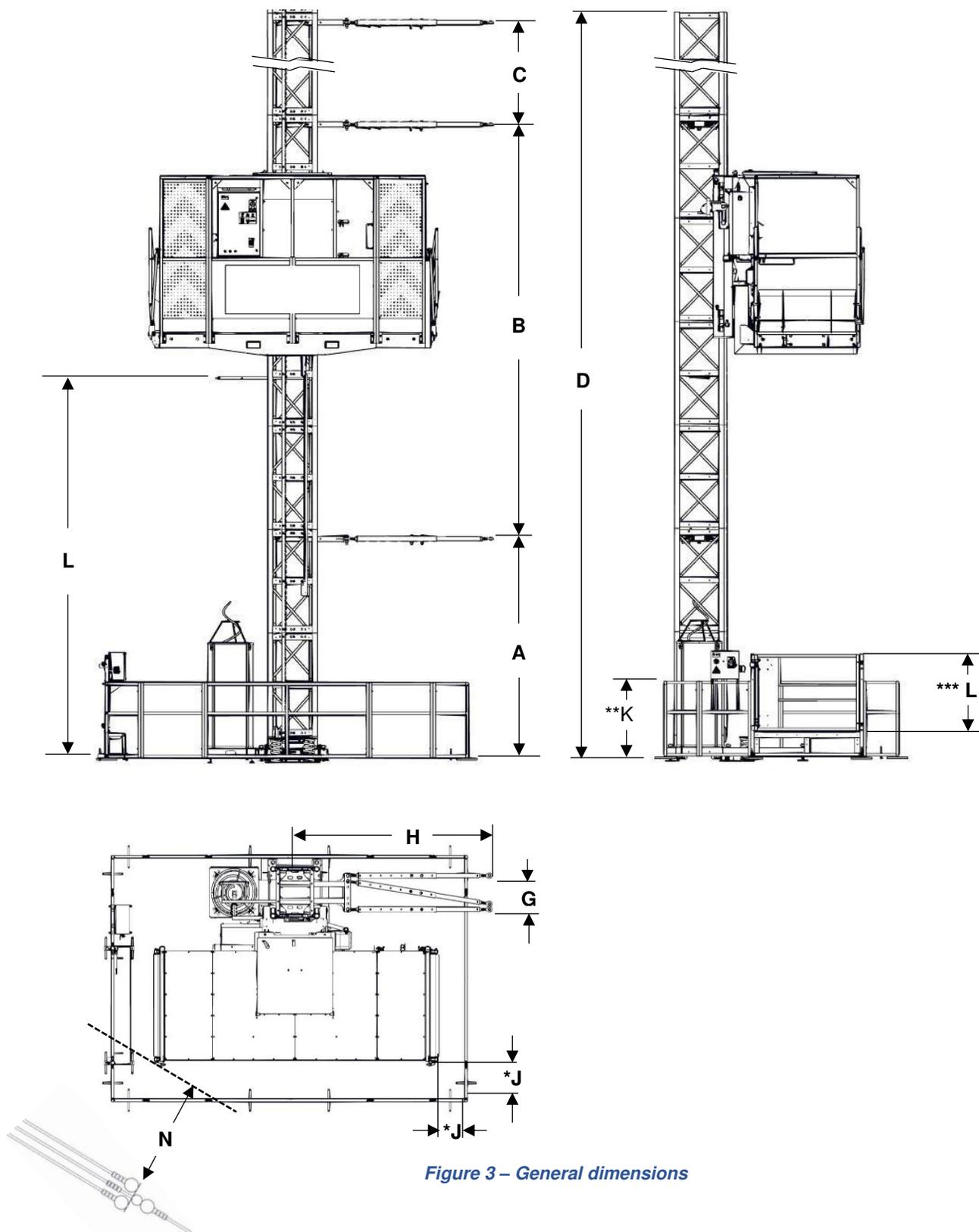


Figure 3 – General dimensions

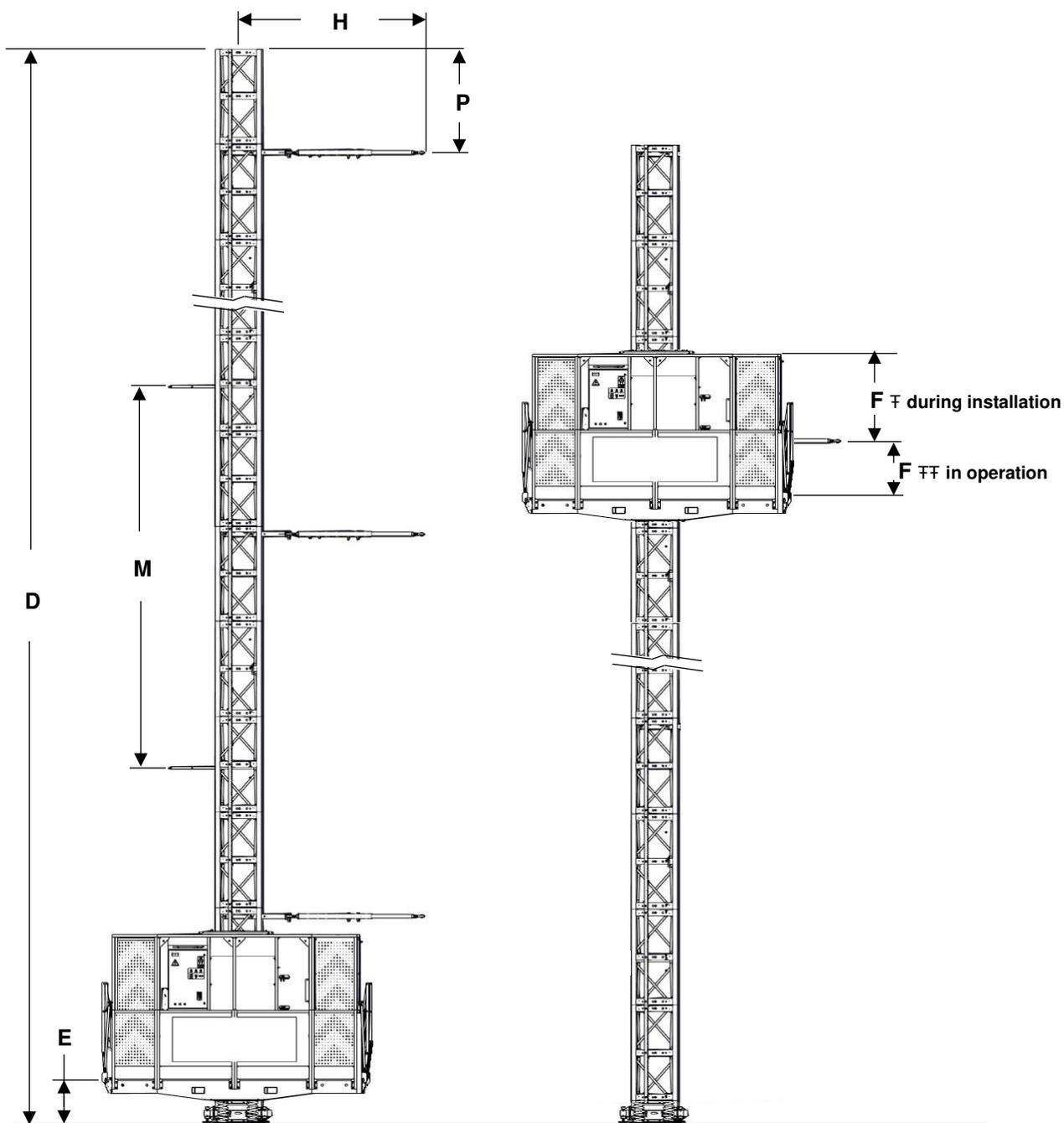


Figure 4 – General dimensions

	Description	Values
A	MAXIMUM height of first (1) mast anchor	20'-0" (6,0 m)
B	MAXIMUM height of second (2) mast anchor	« REFER TO TABLE 2 – GENERAL DATA (TYPICAL SPACING BETWEEN ANCHORS), ON PAGE 14 »
C	Typical spacing between anchors	« REFER TO TABLE 2 – GENERAL DATA (TYPICAL SPACING BETWEEN ANCHORS), ON PAGE 14 »
D	MAXIMUM height of the installation	1 300'-0" (400 m)
E	MAXIMUM floor height	17-9/16" (450 mm)
F	MAXIMUM height over the last (highest) anchor	F At installation: 0ft (0m) MAX above the roof of the platform to the last anchor (position of anchor to install). FF In operation: 0ft (0m) MAX from the floor of the platform to the last anchor.
G	Spacing between anchors	MIN 29" (0,73 m) MAX 50" (1,27m) SEE TABLE 11 - DIMENSIONS AND ANCHOR FORCES DISTRIBUTION, ON PAGE 36.
H	Distance between center of the mast and face of anchoring wall (length of mast anchoring)	MIN 64,5" (1,65 m) MAX 110" (2,8 m) SEE TABLE 11 - DIMENSIONS AND ANCHOR FORCES DISTRIBUTION, ON PAGE 36.
J	Spacing between the platform and the ground protection mesh	* MIN 18" (0,45 mm) MAX 80" (2,0 m)
K	Height of the ground protection mesh	** LOW MESH ** FULL HEIGHT MIN 43" (1,10 m) MIN 6'-6" (2,0m) MAX moins de 6'-6" (2,0m)
L	Height of ground level door	*** LOW MESH *** FULL HEIGHT MIN 43" (1,10 m) MIN 6'-6" (2,0 m) MAX 3'-11 1/4" (1,20m)
M	Height and spacing of cable guides	MAX 20'-0" (6,0 m)
N	Clearance between platform and power lines	Refer to effective local regulation
P	Distance between highest anchor and end of mast	MIN 15'-3 5/8" (4,66 m)

Table 7 – General dimensions

- * The **MIN** value 18" (0,45 m) may be reduced if "K" the height of the mesh is greater than 6'-6" (2,0 m).
- ** Consider restrictions on the use of a **low mesh**.
- *** Consider restrictions on the use of a **low mesh**.
- F** Reference height during **installation** (assembly/disassembly).
- FF** Reference height during **operation** (in use).

4.6. Platform components

1. Main control pannel (CC1)
2. Operator control box (CC2)
3. Motor unit (drive motor)
4. End of rack detector, inductive detector
5. Emergency brake system
6. Cable guide
7. Limit switches (top, bottom, final and position)
8. Tandem supports
9. Tailgate interlock
10. Self erecting system support
11. Roof access trap
12. End of rack detector, mechanical detector

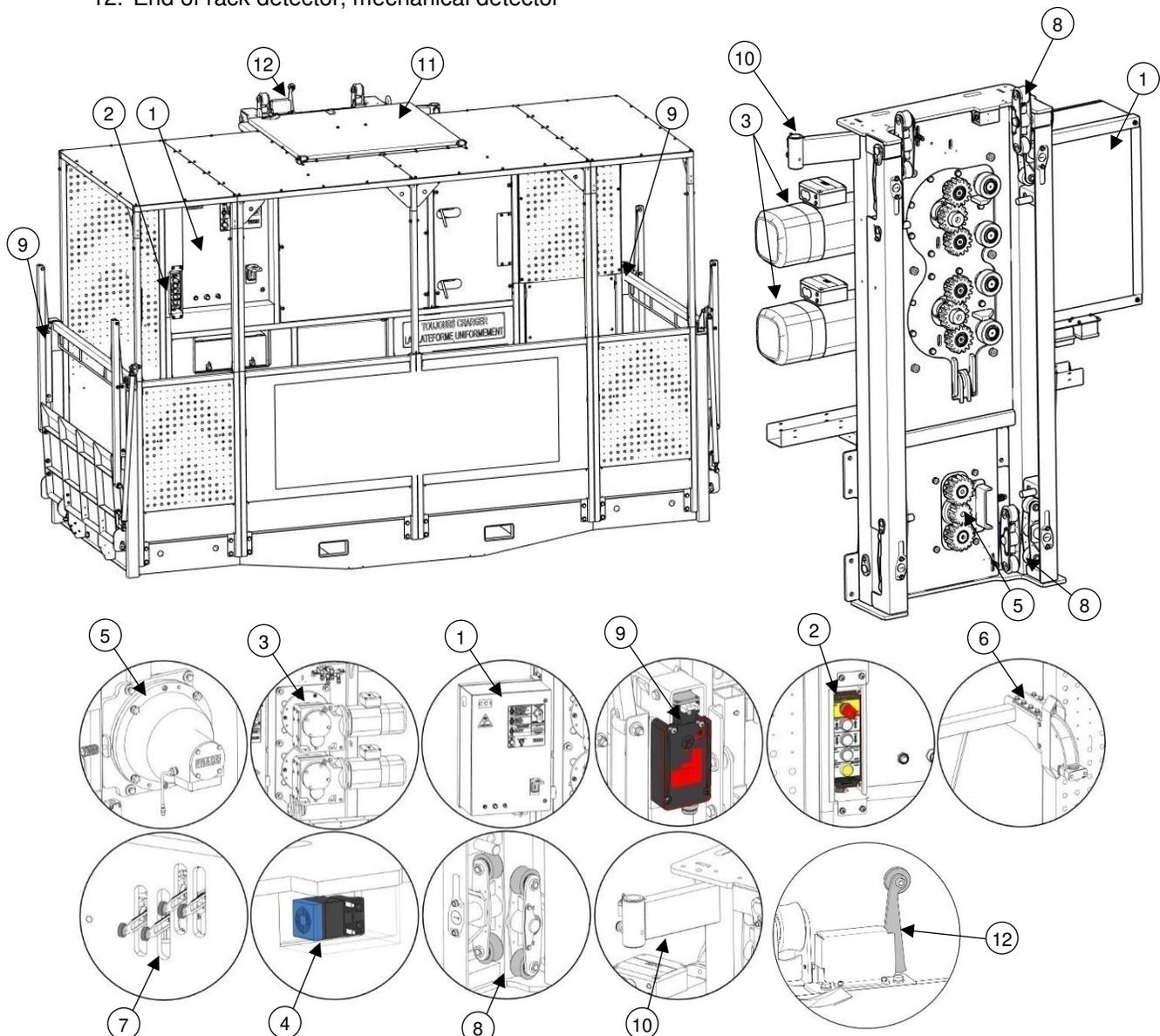


Figure 5 – Platform components

4.7. Configurations

Upon purchase, it is possible to select platform dimensions from various possibilities.

The standard configurations are:

- 10'-6" (3,20m)
- 12'-6" (3,80m)
- 14'-6" (4,40m)

It is also possible to get other platform lengths by combining different platform extensions among the **available extension formats**:

- 1'-4" (405mm)
- 2'-4" (710mm)
- 3'-4" (1,0m)

IMPORTANT! It is **forbidden** to unbalance the platform more than 12" (300mm) from the central axis.

Examples:

<p>Authorized onfigurations:</p> <p>(Main platform 8'-0" (2,45m)) + (Extension 1'-4" (405mm)) + (Extension 2'-4" (710mm)) Imbalance = 12" (300mm) OK!</p>
<p>(Main platform 8'-0" (2,45m)) + (Extension 2'-4" (710mm)) + (Extension 3'-4" (1,0m)) Imbalance = 12" (300mm) OK!</p>
<p>Prohibited configuration:</p> <p>(Main platform 8'-0" (2,45m)) + (Extension 1'-4" (405mm)) + (Extension 3'-4" (1,0m)) Imbalance > 12" (300mm) = PROHIBITED!</p>

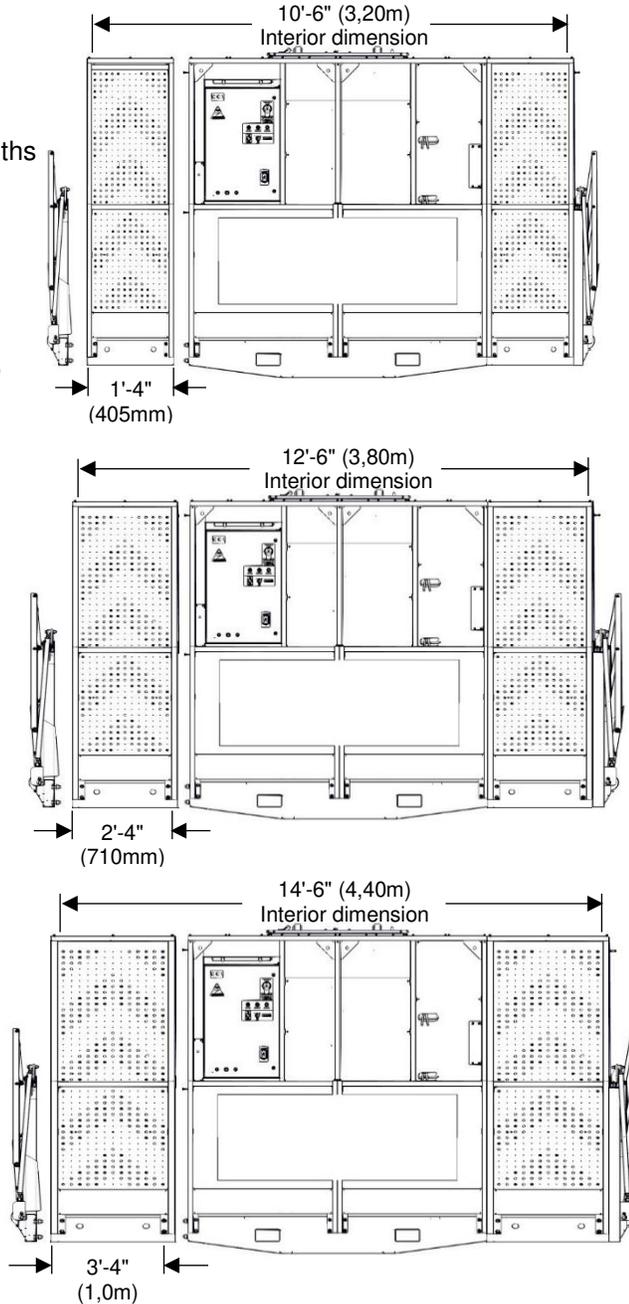


Figure 6 – Assembly configurations

4.8. Regulatory attachment points

Important! Wear a safety harness at all times when assembling or demantling mast sections or mast ties.

Workers exposed to fall risks must wear a safety harness certified according to local standards in effect. The fall arrest device must be able to support a pulling force of 5 000 lbs (2 270 kg) in any direction and can be equipped with a shock absorber. The attachment points shown on the figure bellow respect effective standards. Please remember that improper use of the fall arrest device can increase risks of injury. Consequently, it is recommended to have proper training in the use of fall arrest devices before proceeding with in height work.

Important!

- Use only the regulatory attachment points shown on [FIGURE 7](#).
- Only one (1) worker per individual attachment point.
- Make a visual inspection of the proper state of an attachment point before latching a safety harness.
- Never use an attachment point presenting a steel defect.

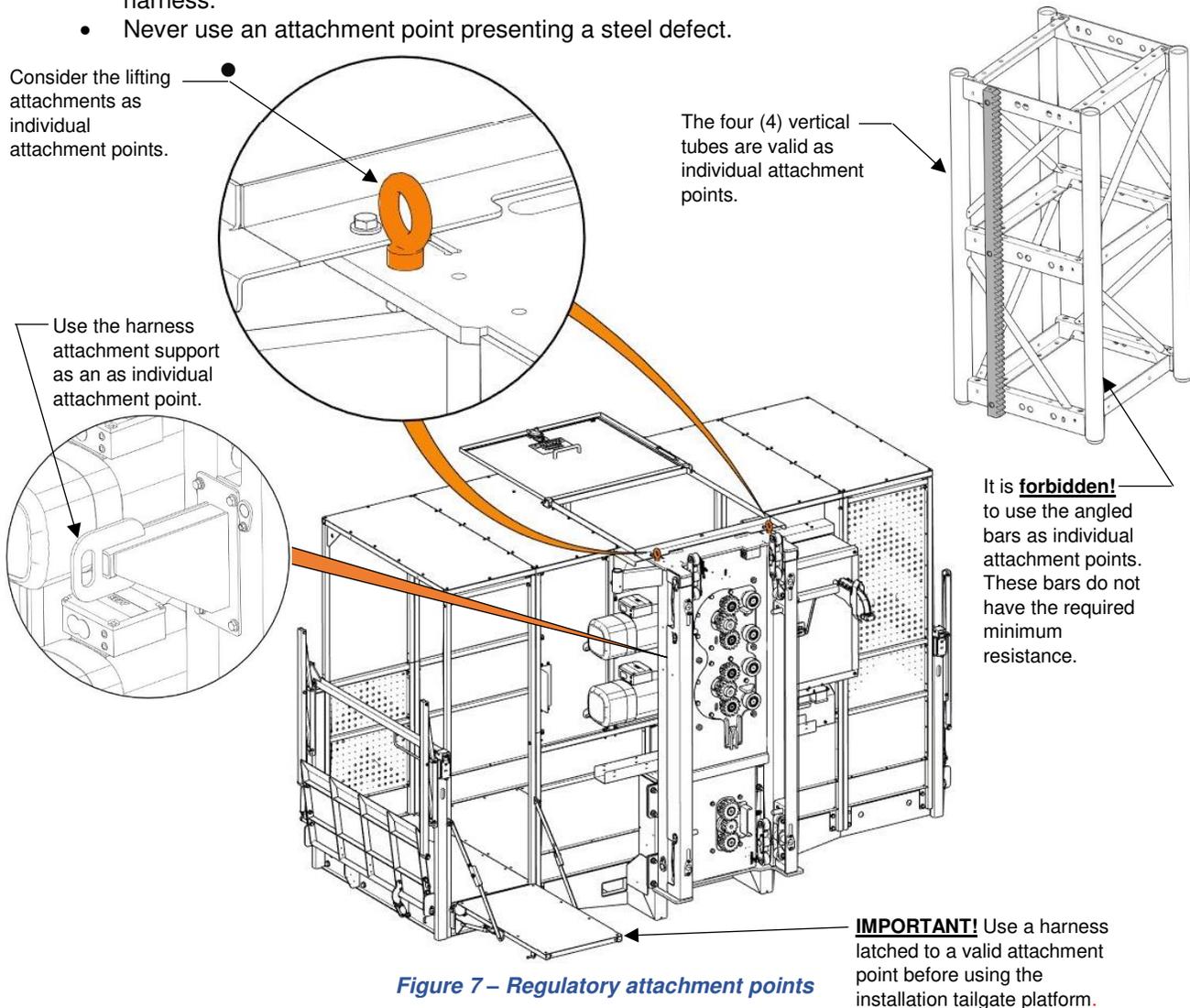


Figure 7 – Regulatory attachment points

4.9. Accessories

4.9.1. Protection roof and access trap (optional)

The protection roof is available (**optional**) and may be necessary according to local regulation ([SEE EFFECTIVE LOCAL REGULATION](#)). The protection roof is designed to protect worker from the fall of objects at height and is installed on the guardrail of the platform. The roof is equipped with an access trap allowing passage of the mast sections during assembly. The access trap is equipped with an opening detector, making it impossible to move the platform as long as the access trap is opened and unlocked.

Important! It is **forbidden** to work on the roof. The roof is a protection and not a valid work surface. No worker should ever be on the roof.

Install the protection roof by following the steps below:

Step 1.

Install the main protection roof (RD-7243-ST-106) by sliding the support posts of the roof into the railing (1). Bolt the posts of the roof on the side of the motor unit (2).

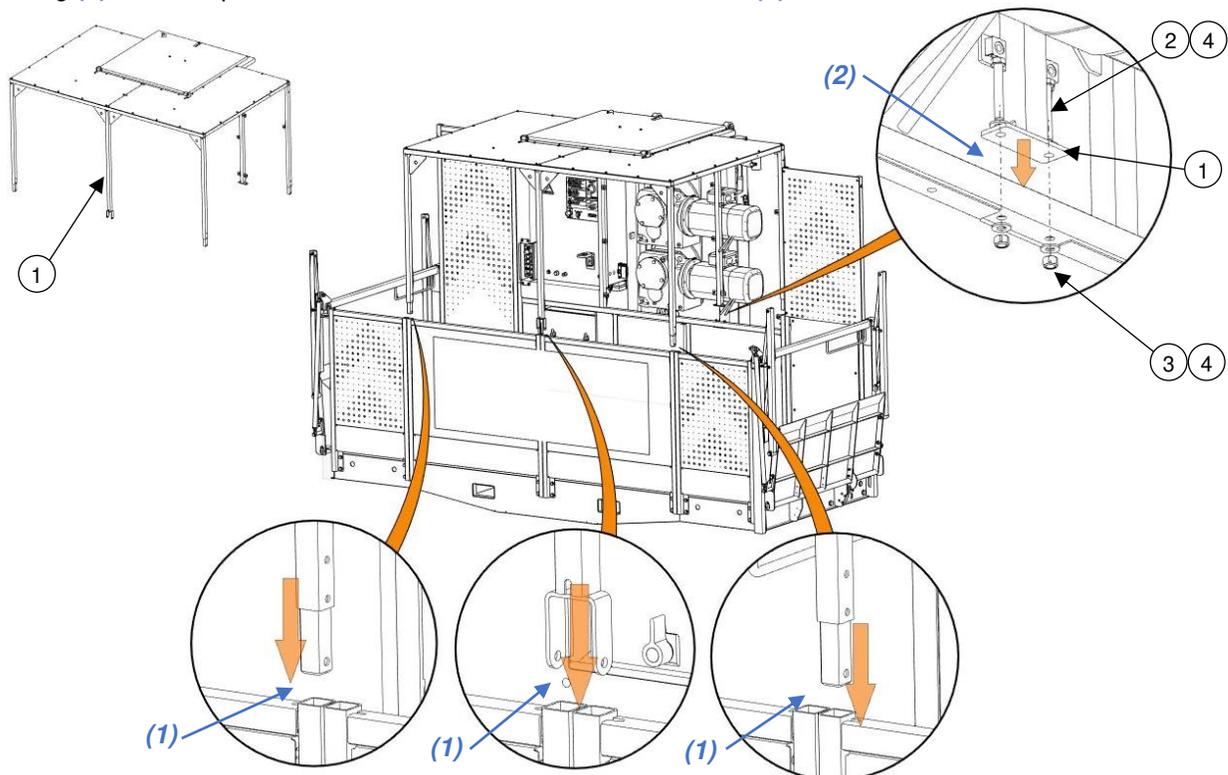


Figure 8 – Roof installation, central segment

N°	Item	Description
1	RD-7243-ST-106	Main protection roof 5' 11" 8' 0" SEP
2	BOZ-7130	Bolt 3/8"-16unc x 2-1/2" gr5 zinc
3	NYL-2020	Nylon lock nut 3/8"-16unc gr5 zinc
4	WAZ-7021	Washer 3/8" SAE zinc

Step 2.

Install the roof protection structures left and right (RD-7243-ST-112) on each side of the central roof segment. Slide the roof support posts (1) in front of and in the protection panels (2) on the side of the motor unit. Bolt into place.

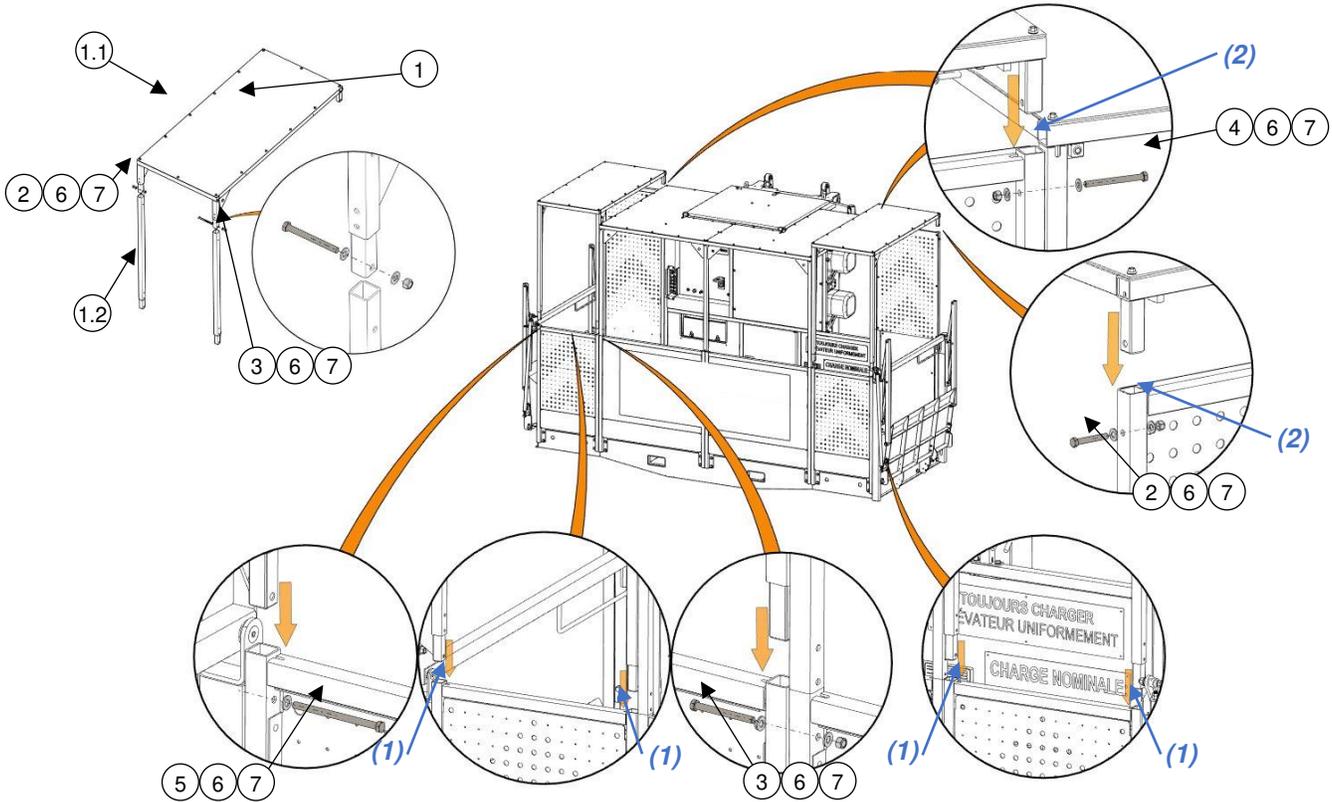


Figure 9 – Roof installation, side extensions

N°	Item	Description
1	RD-7243-ST-125	Protection roof structure assembly (extension)
1.1	RD-7243-ST-112	Protection roof structure (extension)
1.2	RD-7243-ST-121	Roof support post
2	BOZ-7130	Bolt 3/8"-16unc x 2-1/2" gr5 zinc
3	BOZ-7141	Bolt 3/8"-16unc x 3-3/4" gr5 zinc
4	BOZ-7142	Bolt 3/8"-16unc x 4" gr5 zinc
5	BOZ-8530	Bolt 3/8"-16unc x 5-1/2" gr5 zinc
6	NYL-2020	Nylon lock nut 3/8"-16unc gr5 zinc
7	WAZ-7021	Washer 3/8" SAE zinc

Step 3.

Install the finish metal sheets on the side of the motor unit.

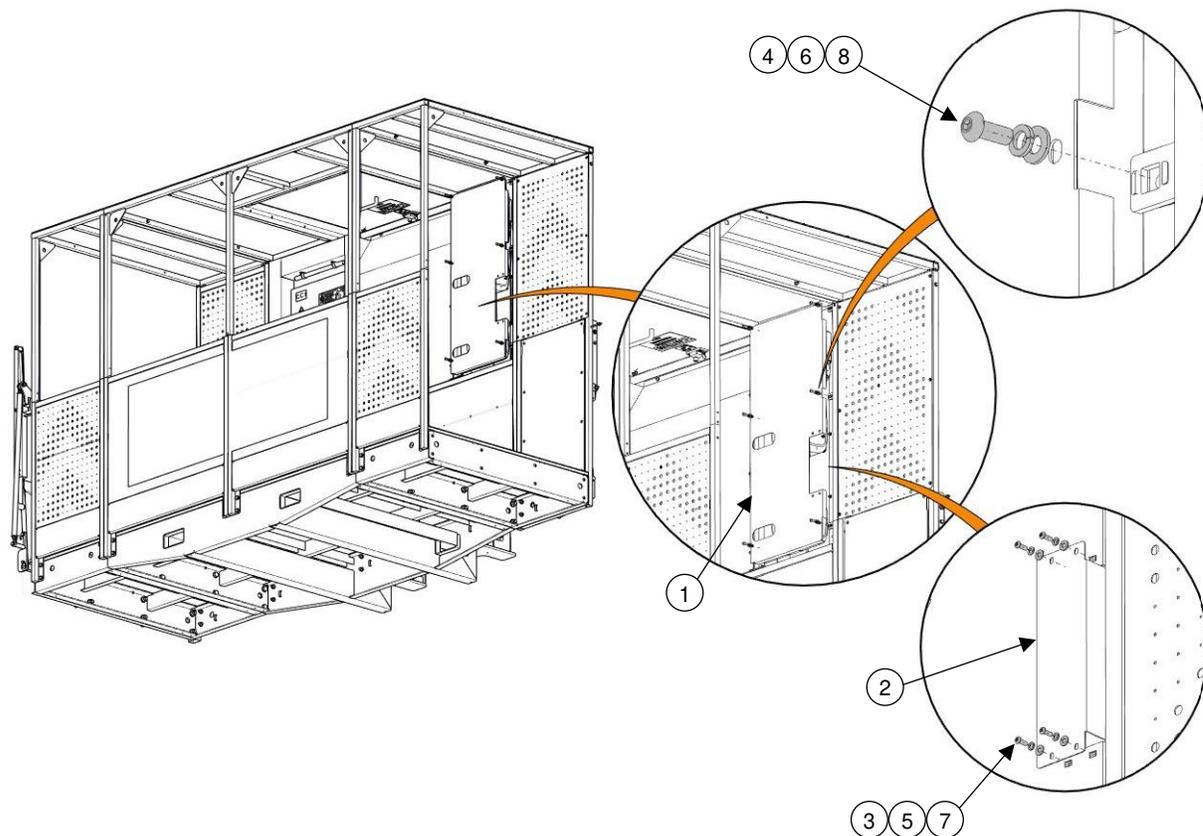


Figure 10 – Roof installation, finish metal sheet

N°	Item	Description
1	RD-7243-BC-106	Motor pannel assembly SEP
2	RD-7243-ST-337	Folded flat 0.075" x 4.025" x 4.500" x 14.000"
3	LOZ-5010	Lock washer 1/4" zinc
4	LOZ-5020	Lock washer 3/8" zinc
5	VIS-7107	Button socket cap screw 1/4"-20unc x 3/4" zinc
6	VIS-7159	Button socket cap screw 3/8"-16unc x 1" zinc
7	WAZ-7011	Washer 1/4" SAE zinc
8	WAZ-7021	Washer 3/8" SAE zinc

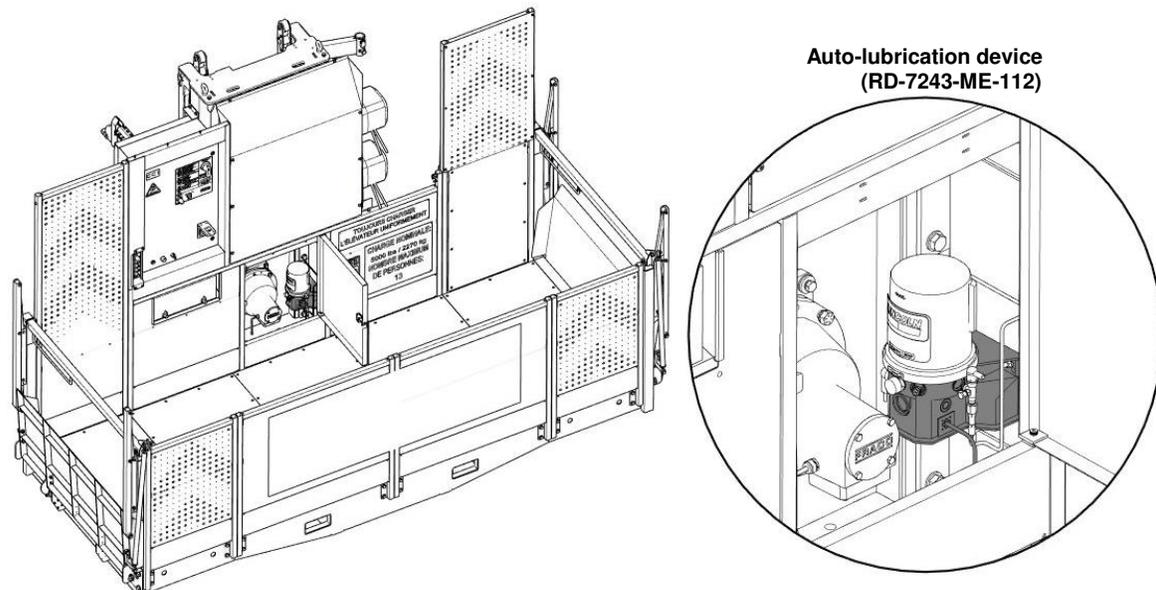
4.9.2. Auto-lubrication device (optional)

It is possible to get a rack auto-lubrication device. The system and its tank are installed behind the centrifugal brake (safety device) pannel.

To learn more about tank refill and rack lubricating periods, please refer to the periodic maintenance section of the present manual.

Pass the device wiring through the frame and connect to the panel (CC1) as indicated in the electrical diagram.

Note : if the machine is not equipped with an auto-lubrication device, please refer to the manual lubrication procedure. ∞ [REFER TO SECTION 9.8 RACK MANUAL LUBRICATION , ON PAGE 73.](#)



Install the lubrication device with the supplied set of bolts.

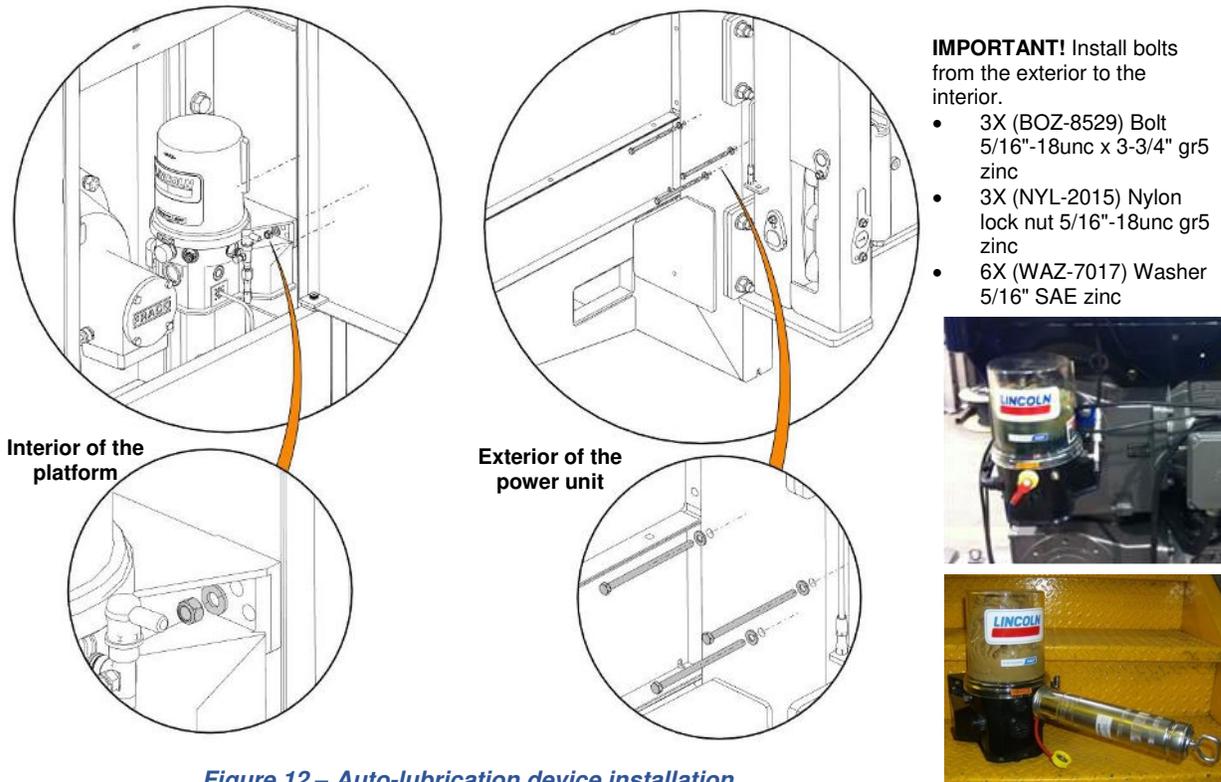


Figure 12 – Auto-lubrication device installation

4.9.3. Ground protection mesh (optional)

The ground protection mesh is **mandatory** in all cases, except if the platform is equipped with a **impact detection system under the platform** deemed sufficient additional protection according to effective local laws and regulations (optional system not offered by the manufacturer). Refer to effective local regulation concerning the ground protection mesh and the impact detection system.

The ground protection mesh is available, in different formats, to protect and limit access to the machine. The ground protection mesh must be installed according to the dimensions around the machine. For details and installation dimension, refer to the installation (RD-7243-MA-002).

∞ [REFER TO INSTALLATION MANUAL \(RD-7243-MA-002\)](#)

The ground protection mesh is adjustable by means of jack feet of 3-1/2" (90 mm) and is available in (2) heights.

- Reduced height mesh, [43" (1,10 m) à 78-3/4" (2,0 m)] high
- Full height mesh, [78-3/4" (2,0 m) et plus] high

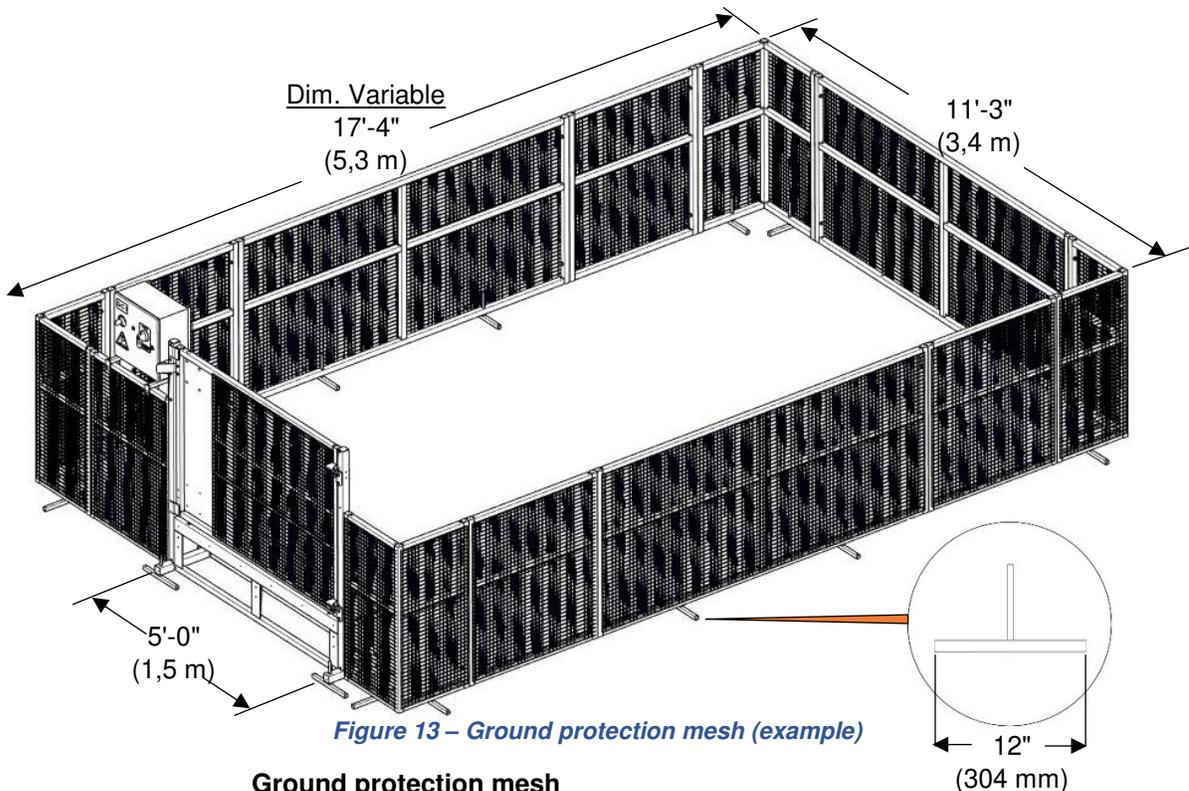
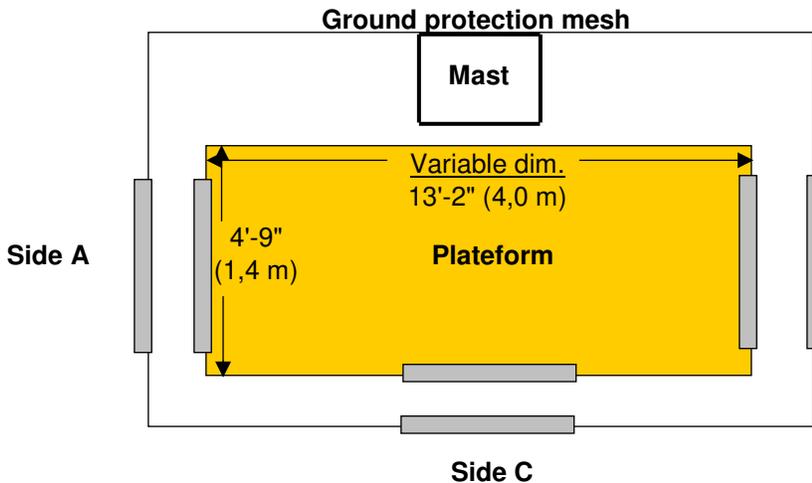


Figure 13 – Ground protection mesh (example)



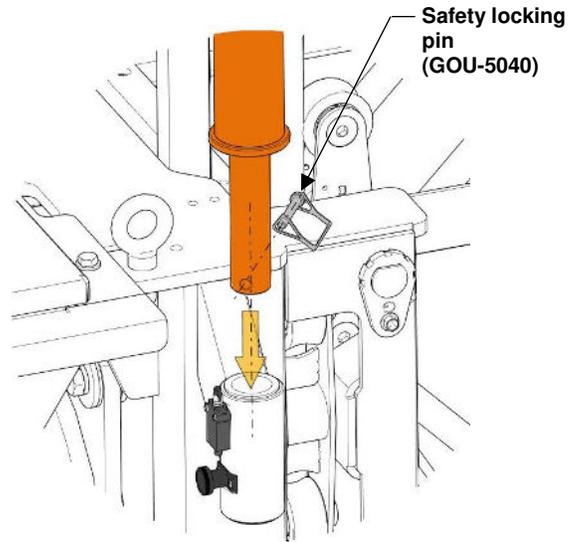
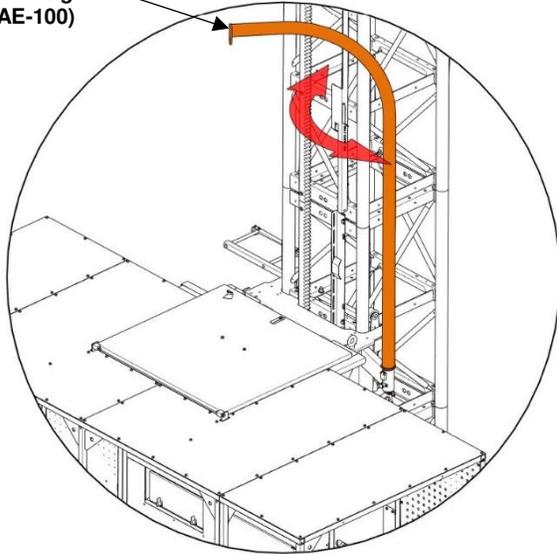
Application standard

- Side A is the ground platform access point. (Loading).
- Side B is the level transfer point. (Unloading).
- Note** : Sides A and B may be inverted as needed during assembly
- Side C (optional) is linked to Side A or B during assembly.

4.9.4. Self-erecting device (optional)

The self erecting device is installed in the support intended for that purpose on the frame of the motor unit. Suspend a hoisting winch able to lift a 300 lbs (135 kg) mast section and move the structure by pivoting the self-erecting jib.

SEP Self erecting
(RD-7243-AE-100)



Pull on the spring plunger (FSQ-0281) to free the auto-erectif post and allow rotation.

When in use, the position detector is locked and blocks the safety electric line of the machine, stopping any platform movement as long as the self-erecting is in use.

If not in use mode, position the jib at 90° in relation to the wall to free the position detector. In this position, it is possible de move the machine normally.

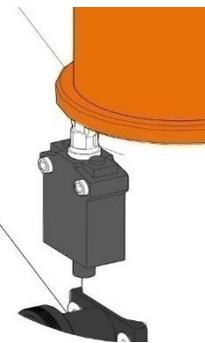
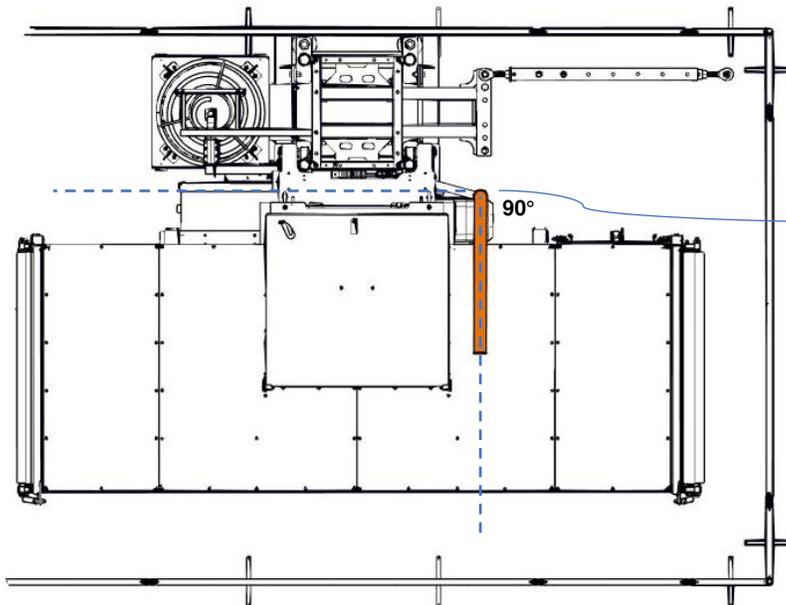
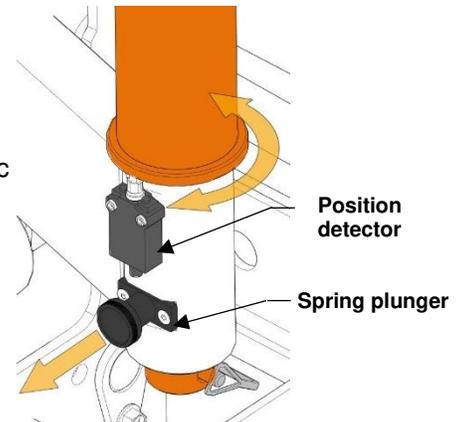


Figure 14 – Self erecting device

4.9.5. Hoisting chains (optional)

As explained in [SECTION 6 TRANSPORT, FROM PAGE 38](#), it is possible to rise/move the platform with hoisting chains attached to the four (4) hoisting points present on the unit.

The chains must respect the dimensions indicated in section 6 and must be able to support the the unloaded platform, 6,500 lbs (2 950 kg).

∞ [REFER TO SECTION 6 TRANSPORT, FROM PAGE 38](#).

4.9.6. Heating system (optional)

A heating system is available to warm mechanical and electrical components (brakes, motors, electrical boxes, etc.) when the machine is used in a cold environment.

Note: The motors, brakes and other electrical components may be equipped with a permanent heating system. These heating systems are necessary when the platform is use at temperatures of **5°C (41°F) and below**. Keep the power boxes (**principal, GC1**) and main control pannel (**CC1**) energized at all time.

ATTENTION! NEVER TURN OFF the power box disconnectors if using heating systems. Also, don't turn off the main supply input.

Note: Use at temperatures of **MINIMUM -20°C (-4°F)**.

4.9.7. Overload detector (optional)

The overload detector allows to detect the value of the load disposed on te platform and to establish a maximum charge load. When the limit is exceeded, the overload detector may send a signal, triggering a visual and/or sound warning, restrict certain functions of the machine, or cut the power supply to the motor unit.

4.9.8. Level communication system (optional)

The level communication system allows communication between the unloading floors/levels, the ground protection mesh level and the platform. Each landing door may be equipped with this system.

4.10. Data plates and stickers

Always make sure that all data plates and stickers are clean, legible and in good condition. If the plates and/or stickers are missing, damaged or illegible, it is **important** to replace them without delay.

∞ REFER TO FIGURE 17 – PLATES AND STICKERS, ON PAGE 32.

4.10.1. Data plate and serial number

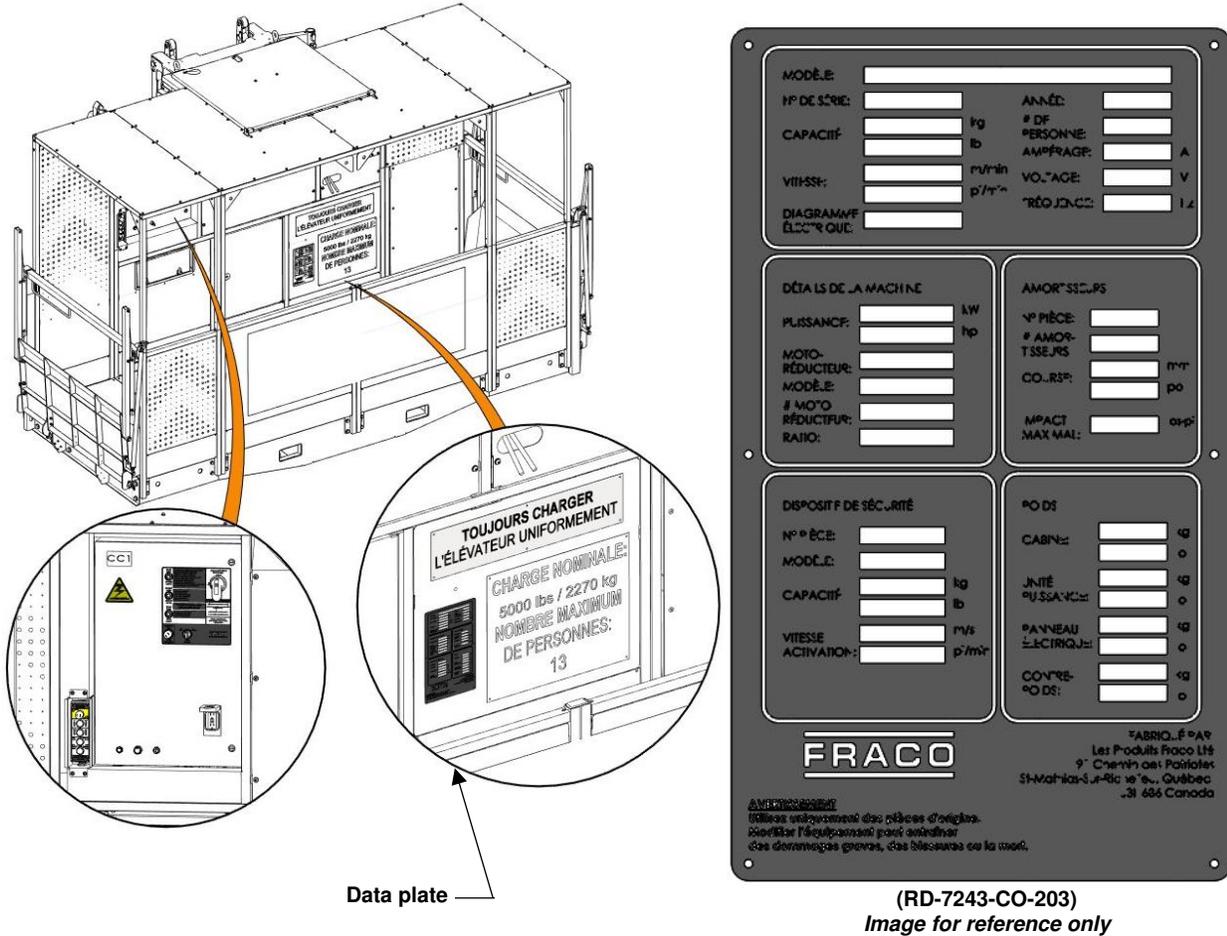


Figure 15 – Platform data plate and serial number



Figure 16 – Safety device data plate

4.10.2. Stickers

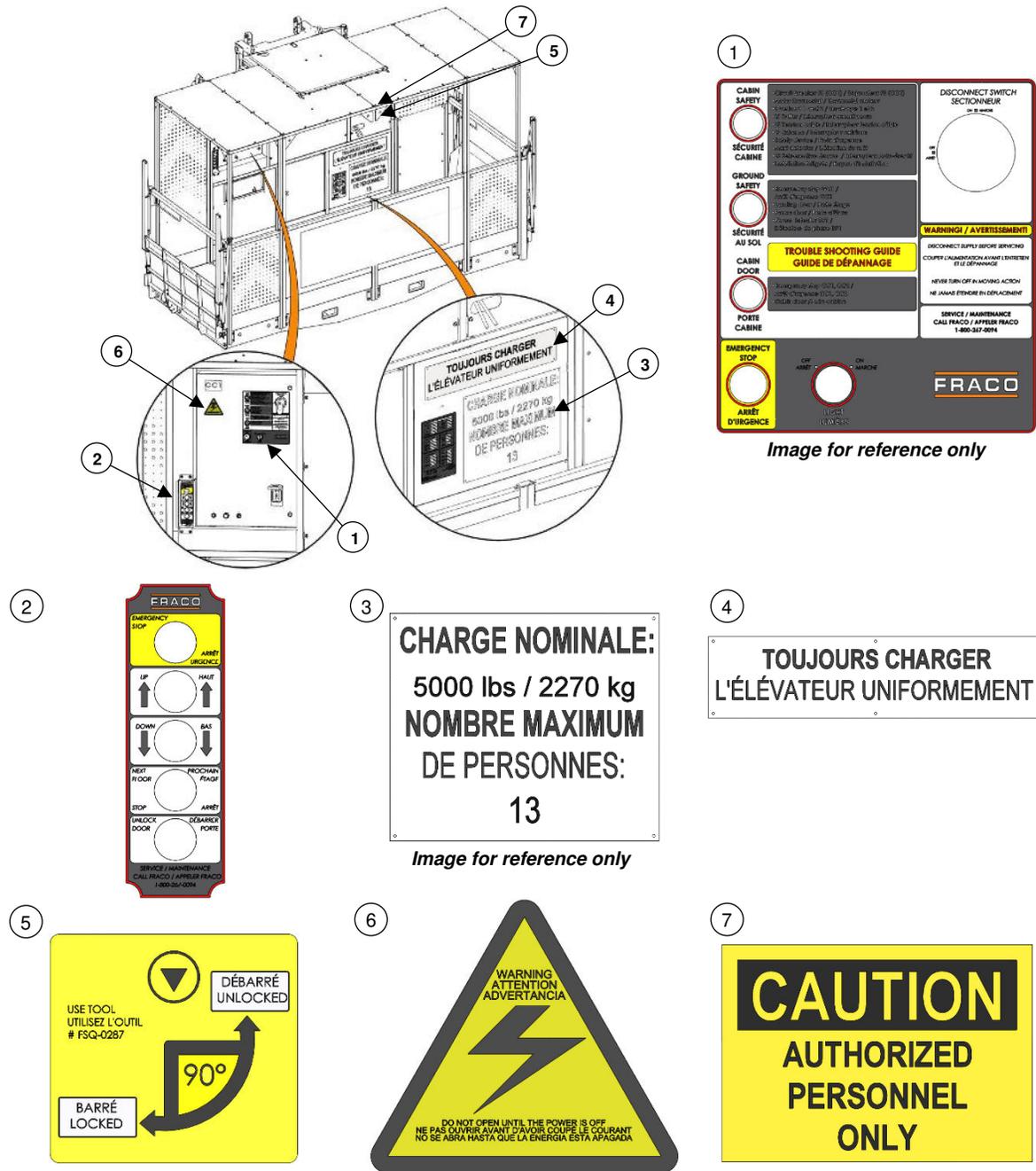


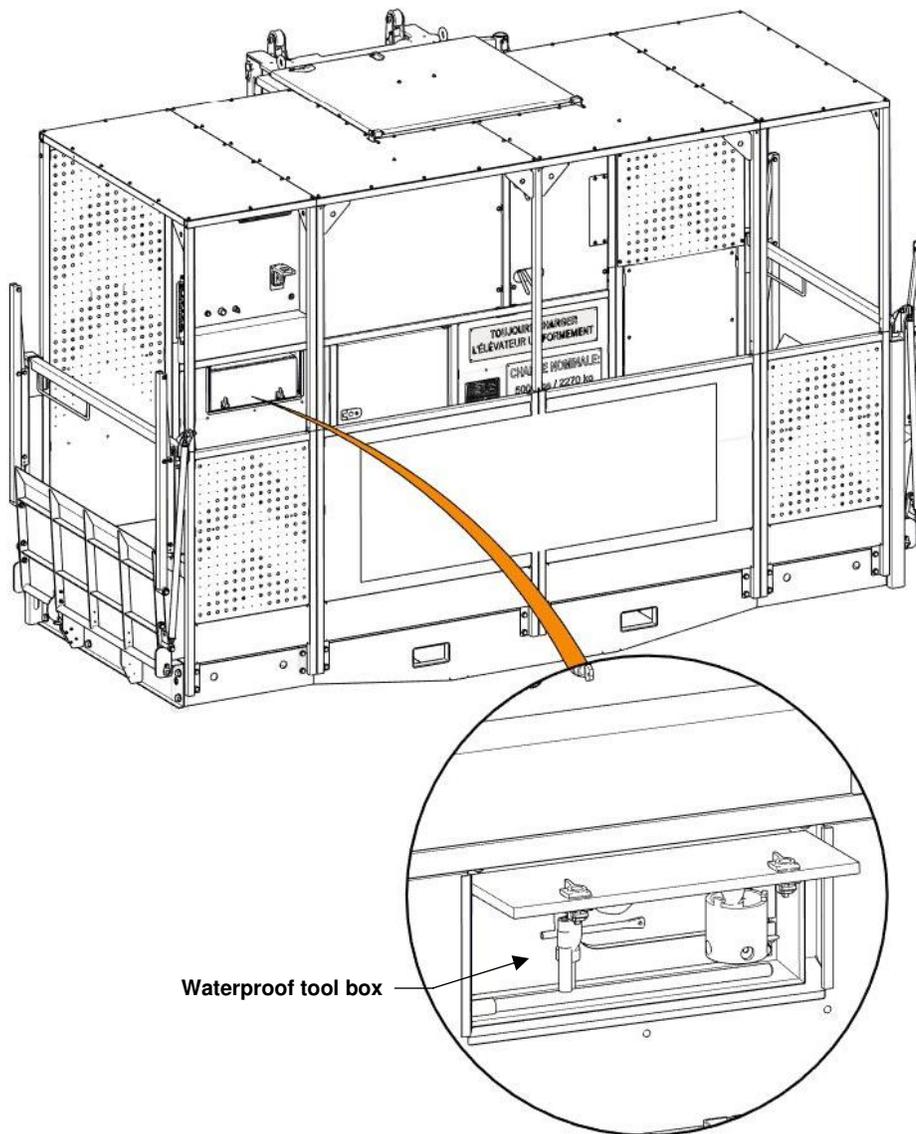
Figure 17 – Plates and stickers

N°	Item	Description
1	RD-7243-CO-205	Sticker "Control box CC1 SEP" eng./fren.
2	RD-7243-CO-206	Sticker "Control pannel box CC2 SEP" eng./fren.
3	RD-7243-CO-207	Aluminium plate " Capacity + number of person " SEP-5000 eng./fren.
4	30070235	Aluminium plate "Load evenly" SEH french
5	30070280	Sticker "Emergency opening roof acces door" french/eng.
6	30490084	Sticker "warning electrocution" eng./fr./spa.
7	30490343	Sticker "Authorized personnel only" eng.

Table 8 – Plates and stickers

4.11. Documentation compartment

Documentation is stored in the waterproof tool box located under the main control panel (CC1). Make sur to always have all necessary documentation at your disposition in the appropriate location. If a document is missing, damaged or illegible, it is **important** to have it replaced.



N°	Item	Description
1	RD-7243-MA-001	User's manual Eng./Fren.
2	RD-7243-MA-002	Installation manual Eng./Fren.
3	N/A	Safety device calibration certificate
4	N/A	Inspection sheet
5	N/A	Other documentation depending on model

Table 9 – Documentation list

5. Installation data

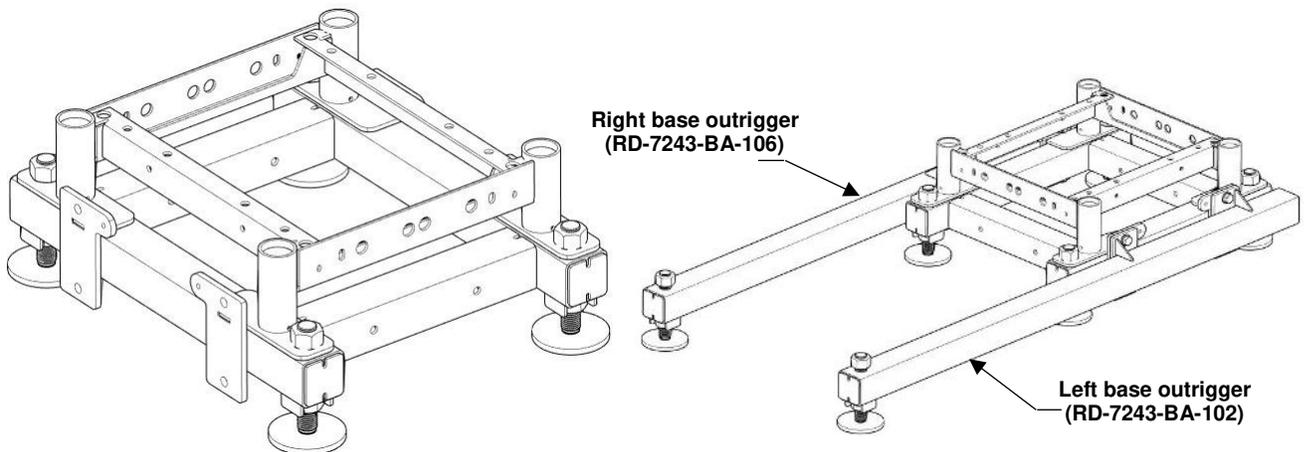
Warning! This section of the document **is not** an installation guide but a simple list of reminders, recommendations and requirements to respect, relative to the assembly/disassembly of the machine. Detailed explanations of assembly/disassembly are available in the installation manual (RD-7243-MA-002).

5.1. Types of bases

Information about the use and installation of the bases is available in the installation manual (RD-7243-MA-002).

5.1.1. Base with adjustable jack legs:

For dimensions, [REFER TO THE TABLE 15 – END MAST SECTION WEIGHT AND DIMENSIONS, ON PAGE 81.](#)



*Figure 19 – Bolted base for mast 26" x 26"
(RD-7243-BA-100)*

Figure 18 – Installation outrigger

5.2. Foundation requirements

- The foundation must be horizontal and have sufficient load capacity.
- Depending on height of the installation and ground conditions, crushed stones, a concrete slab or a thick steel plate must be used as a foundation. This foundation must be used to distribute the load of the base supports.
- The size of the foundation depends on the installation (model, height, number of platforms, etc.) Generally, a concrete slab must be at 12" (300mm) thick and crushed stone must be between 4" (100 mm) and 6" (150 mm) thick.
- The foundation must be installed above the level of the ground protection mesh, or at the same level as the ground protection mesh. If the foundation is installed beneath the level of the ground protection mesh, the soil must be drained.
- All foundations must be leveled.
- Compact the ground under the foundation.
- If there is a risk of frost heave, the foundation must be isolated.
- All foundation specifications must be detailed in the engineering package specific to the project installation.
- Total weight ([SEE SECTION 5.3 LOCAL LOADS, ON PAGE 35](#)) of the SEP and mast sections is transferred to the ground through the base and its legs.

5.3. Local loads

The following tables detail the local loads to the ground distributed directly beneath the ground base. For the base with the adjustable jack legs, consider ¼ of these values per foot of jack.

5.3.1. Local loads for mast section 26" x 26" (0,65 m x 0,65 m)

Installation height	Single SEP 5000	Twin SEP 5000
50 ft (15 m)	38 600 lb (17 530 kg)	69 750 lb (31 690 kg)
100 ft (30 m)	44 100 lb (20 040 kg)	76 300 lb (34 670 kg)
150 ft (46 m)	49 600 lb (22 550 kg)	82 850 lb (37 650 kg)
200 ft (61 m)	55 150 lb (25 050 kg)	89 400 lb (40 630 kg)
250 ft (76 m)	60 650 lb (27 560 kg)	95 950 lb (43 610 kg)
300 ft (91 m)	66 150 lb (30 070 kg)	102 500 lb (46 590 kg)
350 ft (107 m)	71 700 lb (32 570 kg)	109 050 lb (49 570 kg)
400 ft (122 m)	77 200 lb (35 080 kg)	115 650 lb (52 550 kg)
500 ft (152 m)	88 200 lb (40 090 kg)	128 750 lb (58 510 kg)
600 ft (183 m)	99 250 lb (45 110 kg)	141 850 lb (64 470 kg)
700 ft (213 m)	110 300 lb (50 120 kg)	154 950 lb (70 430 kg)
800 ft (244 m)	121 300 lb (55 140 kg)	168 050 lb (76 390 kg)
1000 ft (305 m)	143 350 lb (65 160 kg)	194 300 lb (88 310 kg)
1300 ft (396 m)	176 450 lb (80 200 kg)	233 650 lb (106 190 kg)

WARNING!

Always refer to the engineering package to get the anchoring loads specific to the structure. Local loads take into consider a safety factor of 1.5 and a dynamic factor to all the moving parts.

Table 10 – Local loads for mast section 26" x 26" (0,65 m x 0,65 m)

5.4. Anchoring and distribution

The mast anchoring forces are shown in the tables below, depending of the height and assembly/installation situation. Maximum forces occurring for the represented assembly/installation geometry are given; **they do not yet include safety factors (UNFACTORED LOADS)**

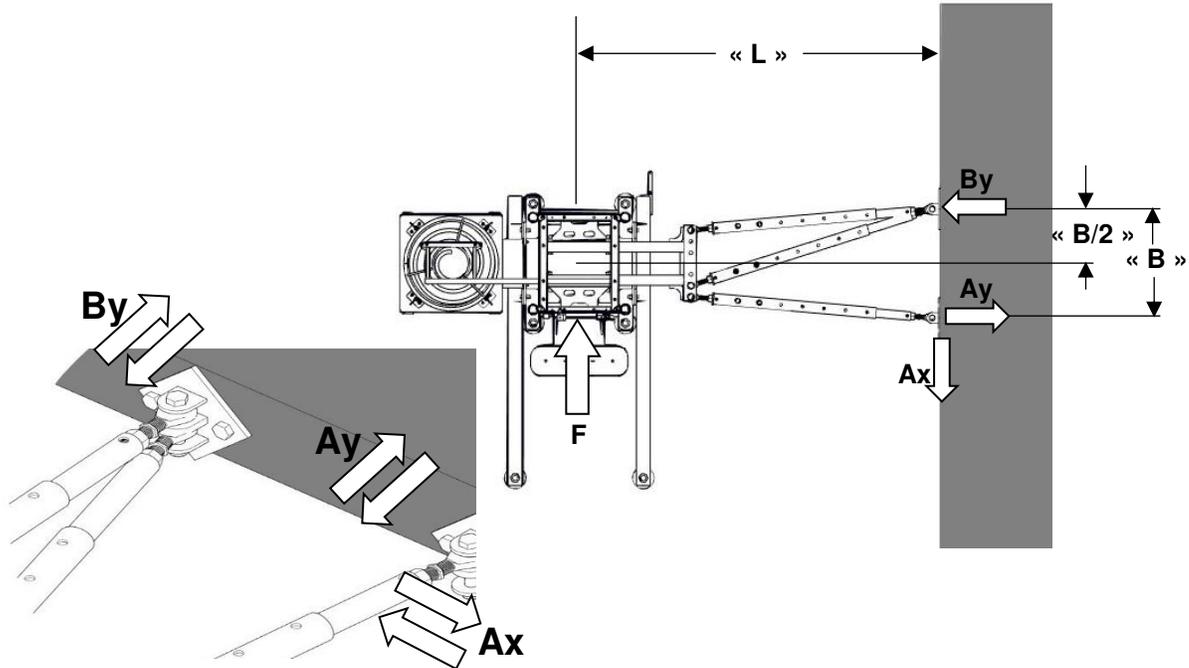


Figure 20 – Forces on mast ties and anchors

The installation geometry shows anchorage forces according Ax, Ay and By corresponding to wind forces.

- **Typical distance between mast anchors = 30 ft (9 m)**
SEE TABLE 2 – GENERAL DATA, ON PAGE 14
- **Maximum distance over the last anchor = 0ft (0m)**
SEE TABLE 2 – GENERAL DATA, ON PAGE 14

IMPORTANT

Always refer to the engineering quote to get the anchoring loads specific to the structure.

SEP-5000

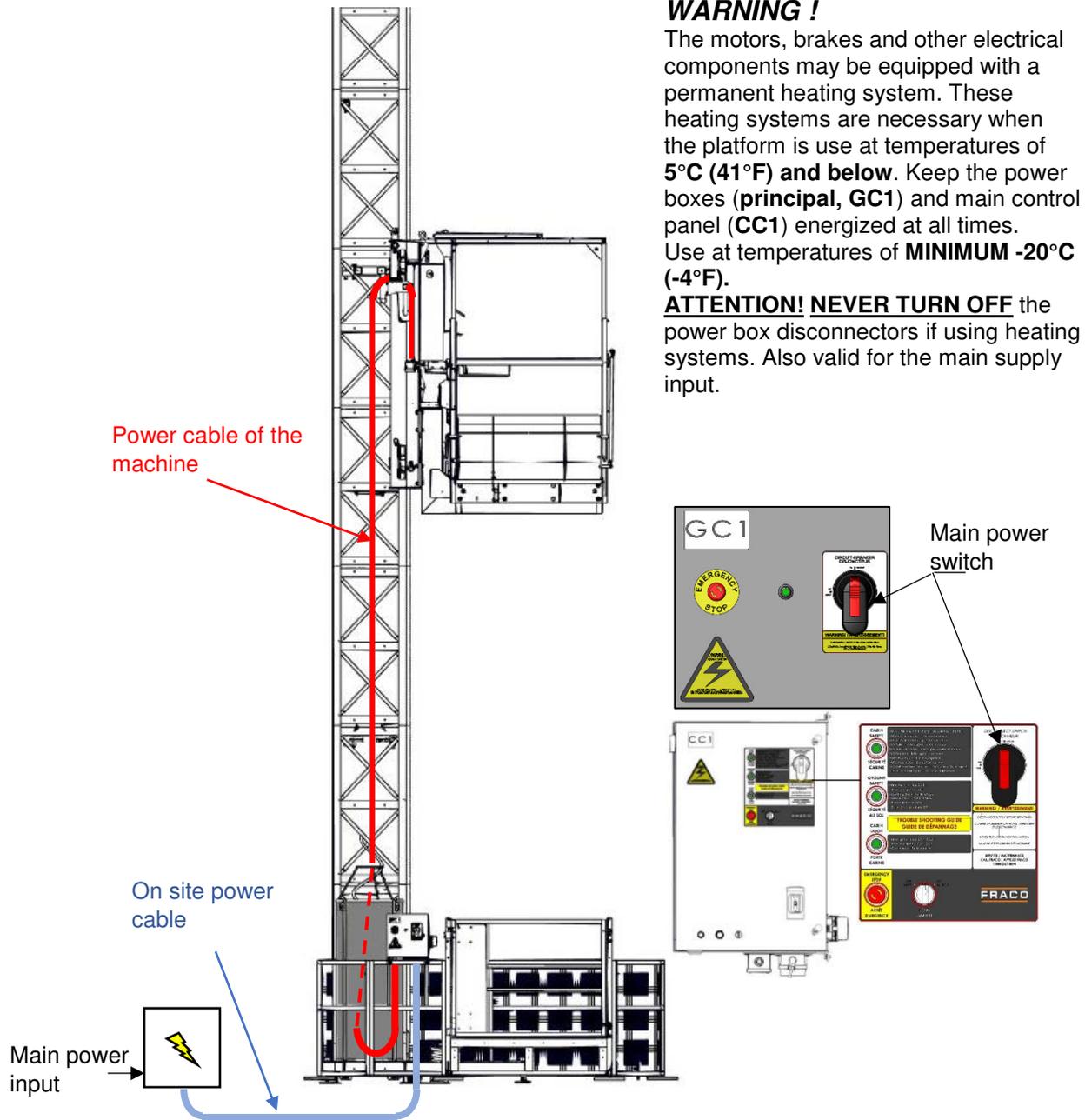
Load capacity = MAX. 5,000 lb (2 270 kg)

Geometry		Mast anchor forces		
L	B	A _x	A _y	B _y
Important! These values are available in the engineering package specific to each project.				

Table 11 - Dimensions and anchor forces distribution

Note: The values in the above table apply for every wall tie.

5.5. Electrical connection (on site)



WARNING !

The motors, brakes and other electrical components may be equipped with a permanent heating system. These heating systems are necessary when the platform is use at temperatures of **5°C (41°F) and below**. Keep the power boxes (**principal, GC1**) and main control panel (**CC1**) energized at all times. Use at temperatures of **MINIMUM -20°C (-4°F)**.

ATTENTION! NEVER TURN OFF the power box disconnectors if using heating systems. Also valid for the main supply input.

Note: The input power box and the main disconnector switch must be **provided** and **installed** by the contractor. The manufacturer is not responsible for providing those equipments but may nevertheless give advice in their selection. If needed, please contact your FRACO representative.

The power box provided by the contractor must be equipped with a disconnection switch and fuses installed according to the provided instructions.

6. Transport



The platform must be transported by experienced and competent persons.

6.1. Inspection upon delivery

- Inspect the shipment for any transport related damages and to validate that all necessary pieces were shipped with your order.
- Immediately advise the transport company and the seller in case of damages or missing pieces.

6.2. Loading and unloading of the machine

- The sections/components of the machine are loaded and unloaded with the help of a forklift or a crane.

6.2.1. Lifting with a forklift

- The forklift lifting points (1) are located on the base supports of the platform.
- **WARNING**, the forklift forks must be the appropriate length or corresponding base supports must be provided.

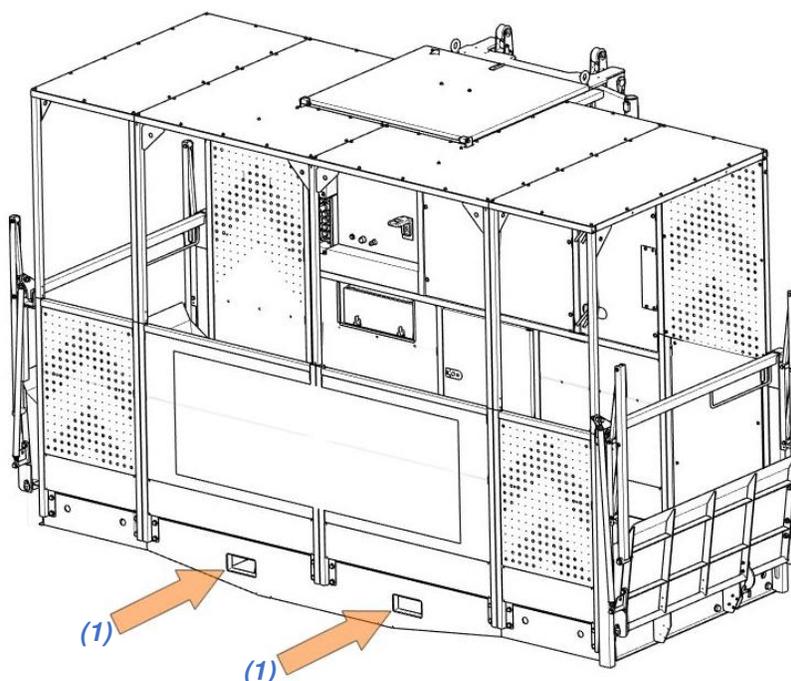


Figure 21 – Lifting with a forklift

6.2.2. Lifting with a crane

- The crane hook (1) must be attached to four (4) chains, tied to the four (4) lifting rings. The chains may be purchased and provided with the machine.
- If present, open the roof access trap (2) to allow passage of the lifting chains.
- Two (2) lifting rings (3) are required on the railing of the motor unit. Use the 39-1/4" (996 mm) chains.
- Two (2) lifting rings (4) are required for the platform floor. Use the 118-3/4" (3 m) chains.
- **Important!** The dimensions of chains provided allow to lift the machine directly over its center of gravity (CG).

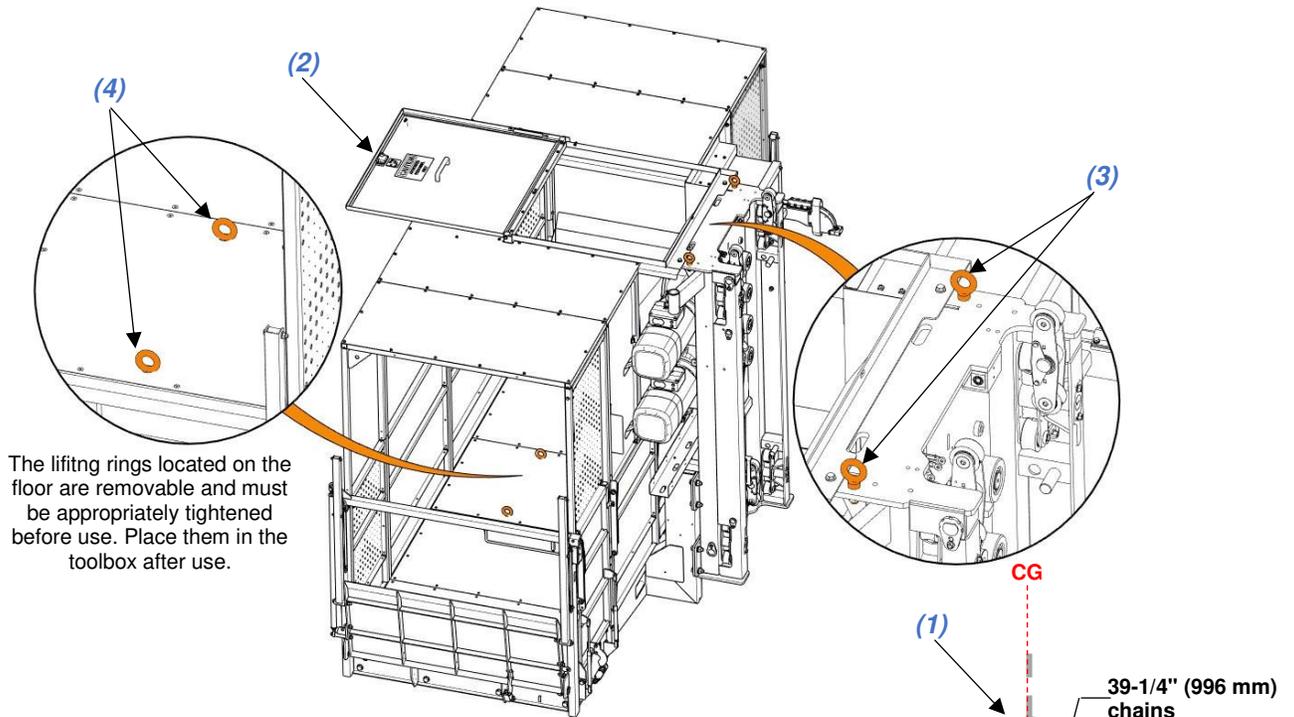


Figure 22 – Lifting with a crane

IMPORTANT! Use the chains lengths specified here. Chains of different lengths may considerably increase the stress on the lifting rings.

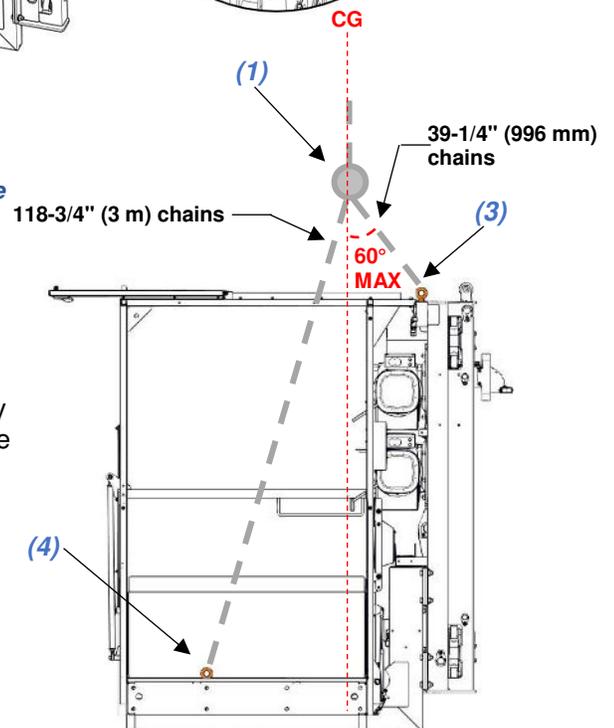


Figure 23 – Chain detail for lifting with crane

7. Operation

7.1. Notes and recommendations



The operator must hold of a valid **Level 1** training card. This person must be familiar with instructions, have sufficient experience and be informed of inherent risks related to the use of the platform.

- **IMPORTANT!** Refer to [SECTION 2 SAFETY](#) for the general safety instructions and other additional warnings.
∞ [SEE SECTION 2 SAFETY, PAGES 7 TO 11.](#)
- **IMPORTANT!** Before use, at the beginning of each work shift, review all points
∞ [SEE SECTION 9.8 RACK MANUAL LUBRICATION, ON PAGE 73.](#)
- Make sure no person is inside the platform or within the safety perimeter. Depending on the case, sufficient lighting must be available for safe use. Notify any person(s) present on the platform before making any vertical movement of the platform. Attention to the presence of unauthorized persons.
- The platform is exclusively designed for the transport of materials, tools and limited staff. It is not a working platform. Nevertheless, the maximum horizontal load considered for the force of a man is 45 lbf (200 N) and tools may induce bigger forces, these forces must be evaluated and approved by FRACO engineering services.
- Before and during use of the platform, the operator must verify the presence of winds and of unfavorable meteorological conditions. The platform must not be used if the speed of the wind exceeds the authorized speed or in case of an electric storm. To learn unfavorable wind speeds, refer to [TABLE 2 – GENERAL DATA, ON PAGE 14.](#)
∞ [SEE TABLE 2 – GENERAL DATA, ON PAGE 14.](#)
- Always wear a safety harness if opening the installation tailgate or for any alteration of the structure of the railing
∞ [SEE SECTION 4.8 REGULATORY ATTACHMENT POINTS, ON PAGE 23.](#)
- The operator must always make sure to respect load distributions and the maximum number of persons on the platform. Refer to capacity plates on the platform. For distribution with a greater number of workers, contact FRACO engineering services.
∞ [SEE TABLE 2 – GENERAL DATA, ON PAGE 14.](#)
- All loads that may slide or fall off the platform must be secured. Keep the platform clear of any debris, trash, snow, etc. Make sure no tools or other objects stick out of the exterior perimeter limited by the railings of the platform. Operation may be stopped at any moment by pressing the **EMERGENCY STOP** button.
∞ [SEE SECTION 7.12 EMERGENCY STOP BUTTON, ON PAGE 58.](#)
In case of damage or malfunction, immobilize the platform and cease all activity on the platform.
∞ [SEE SECTION 8 FAULTS; CAUSES AND CORRECTIONS, ON PAGE 62.](#)
- At the end of each work shift or end of day, the platform must be put on "out of service" position and secured to prevent unauthorized use of the platform. The platform is considered on "out of service" position when it is located at equal distance between two mast anchors and that the loads on each side of the mast are balanced, or when the platform is lowered to ground level. **Important!** In case of a malfunction, use the emergency descent procedure to lower to unit to ground level.
∞ [SEE SECTION 7.13 EMERGENCY DESCENT PROCEDURE, ON PAGE 59](#)
- Prevent all unauthorized access to the platform. At the end of each shift, or during breaks, remove the key from the control panel. If necessary, padlock the access to the platform (refer to effective local regulation).
- If available, take notice of the evacuation plan and its location before using the lift.

7.2. Operation safety instructions



The platform may only be used by a competent person designated by the contractor. This person must be familiar with the instructions, have sufficient experience and be informed of inherent risks related to the use of the platform.

- There should **never** be a person under the platform.
- **No objects** should be stored in the area limited by the ground protection mesh or under the platform.
- The platform must be operated out of the danger zone.
- Prevent all unauthorized access to the platform. At the end of each shift, or during breaks, turn the operation key in the main control panel (CC1) to the "STOP" position and remove it. If necessary, lock the platform with a padlock (refer to local regulation).
- **WARNING! It is not recommended to turn off the main power switches (480V) during winter except if necessary!** Heating elements are present to warm the electric components at all time.
- If the loaded platform stops during operation due to a failure, the operating staff must unload the platform. Never leave a loaded platform unsupervised!
- Always deduce the load of the persons present on the platform from the maximum load:
 - Average weight per person is considered **176 lbs (80 kg)**.
 - Weight of the equipment for the first two (2) persons present **88 lb (40 kg)** per persons.
- Operation of the platform **must** be stopped if:
 - Wind speed exceeds **35 mi/h (55 km/h)**.
 - There are damages of other malfunctions.
 - Periodic inspections were missed.

(SEE SECTION 9.9 DAILY INSPECTION GRID, ON PAGE 74).
- Always respect the capacity panels indicating the maximum number of passengers and the maximum load authorized on the platform. The weight of all passengers must be deduced from the maximum load authorised.
 - ∞ SEE TABLE 2 – GENERAL DATA, ON PAGE 14.
 - ∞ SEE SECTION 4.10 DATA PLATES AND STICKERS, ON PAGE 31.

7.3. Rules for guests

- Conform to the instructions given by the operator
- Do not step over the materials being transported

7.4. Regulations for ground level workers

- **No person** should ever be/stand under the machine.
- Store pieces and materials at a safety distance of at least 20" (50 cm) of any moving part of the platform.
- Do not store objects in the delimited safety zone or under the platform.

7.5. Platform loading and unloading

- A protection against falls must be provided at loading points of falling height of 10'-0" (3,0 m) and more (see local regulation) to prevent persons from falling. (Assemble the landing doors at access levels/floors).
- The platform must always be loaded in a way that loading, unloading and unit control access is clear.
- The loads must be evenly distributed on the platform.
- Safely position the load. Any material that may slide or fall must be secured.

7.6. Safety inspection

Before beginning work:

- Perform a test operation with a load-free platform.
- Inspect for the presence of obstacles on the trajectory of the platform, on the entire length of the mast.
- Remove any trace of ice or snow from the end travel switches (winter and cold climate).

The platform will stop immediately if:

- An EMERGENCY STOP BUTTON is pressed.
∞ [REFER TO SECTION 7.12 EMERGENCY STOP BUTTON, ON PAGE 58.](#)
- There is an open tailgate.
- The "**FINAL**" end travel limit switch is activated, at the top or bottom of the mast.
- The platform has reached the end of the mast.
 - Inductive detector activated.
 - Mechanical detector activated.
- The buffer detectors are activated.
- The emergency safety device is activated.
- There is an open landing door (unlocked).
- The roof access trap is open (optional roof)

The platform will not start if:

- There is an overload (flashing indicator light on the control panel of the platform) (**Optional**).
- There is an open tailgate and its interlock device is not activated.
- The overspeed detector of the emergency brake is triggered
- The EMERGENCY STOP BUTTON is activated.
- There is an open landing door.
- The roof access trap is open (optional roof)
- The "**FINAL**" end travel limit switch is activated, at the top or bottom of the mast.
- The platform has reached the end of the mast.
 - Inductive detector activated.
 - Mechanical detector activated.
- The buffer detectors are activated.
- If a power supply malfunction is detected.

A tailgate cannot be opened if:

- The platform is lowered to ground level or is stationary at an access landing.

7.7. Controls

7.7.1. Main control panel (CC1)

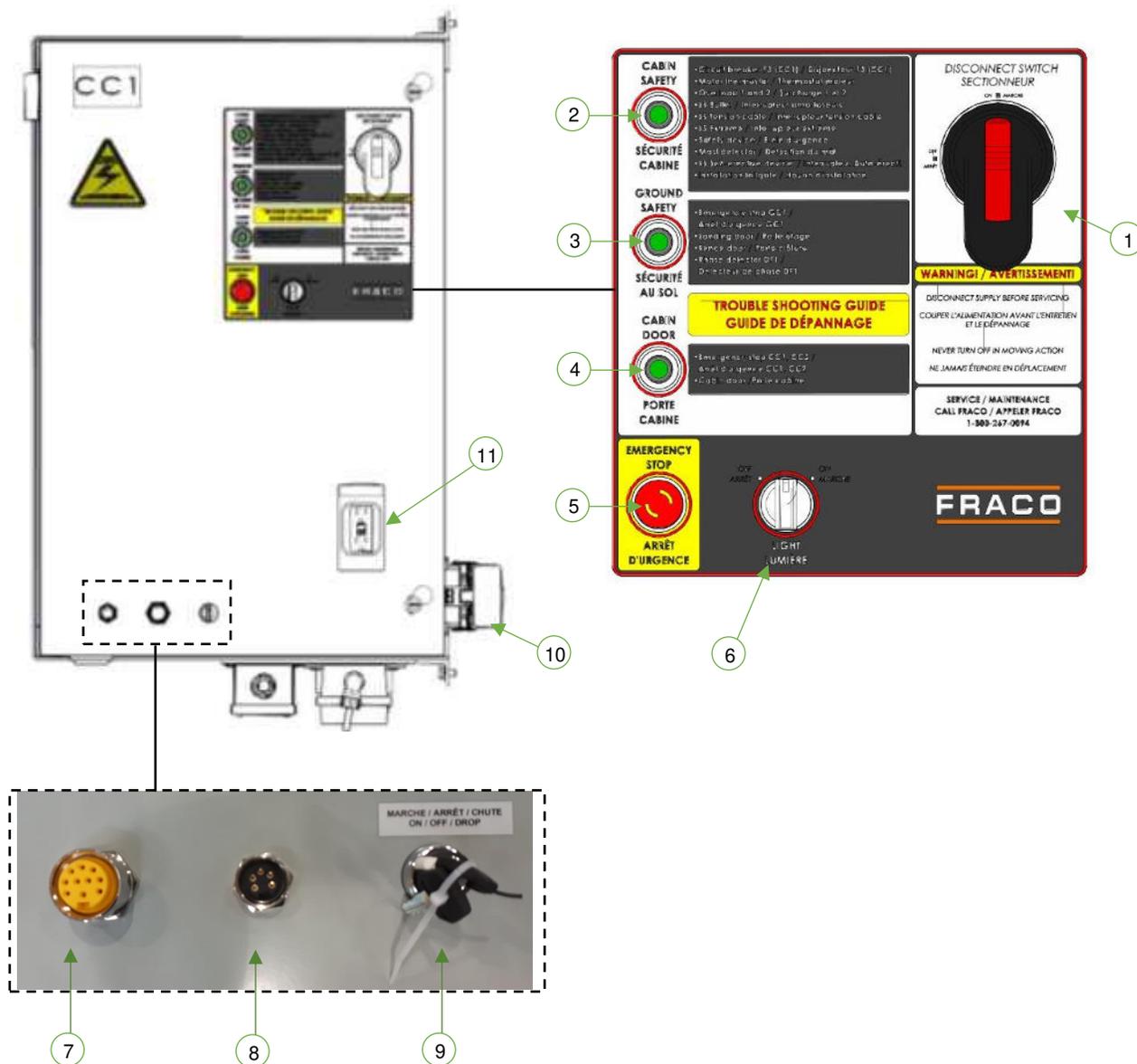
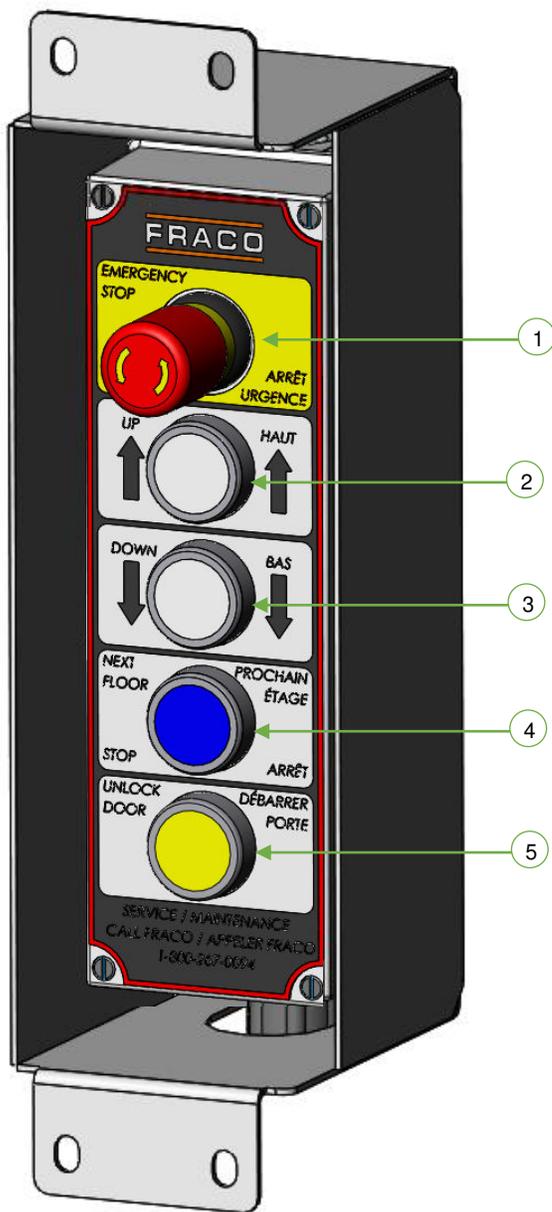


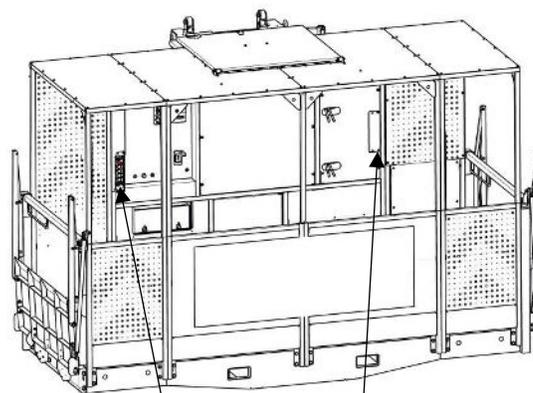
Figure 24 – Main control panel (CC1)

N°	Description
1	Platform disconnect switch (480V)
2	Green indicator light (platform safety)
3	Green indicator light (ground safety)
4	Green indicator light (platform door)
5	EMERGENCYSTOP button
6	Light ON / OFF switch
7	Drop test remote control connection socket
8	Bypass port (security line bypass)
9	ON / OFF / DROP key switch
10	Power cable connector
11	Tool outlet 120V 15A

7.7.2.Operator control box (CC2)



N°	Description
1	EMERGENCY STOP button
2	White light button HAUT / UP
3	White light button BAS / DOWN
4	Blue light button PROCHAIN ÉTAGE – ARRÊT / NEXT FLOOR - STOP
5	Yellow light button DÉBARRER PORTE / UNLOCK DOOR



The control box may be installed on the left or on the right depending on the platform model

Figure 25 – Control box (CC2)

7.7.3. Ground box power supply (GC1)

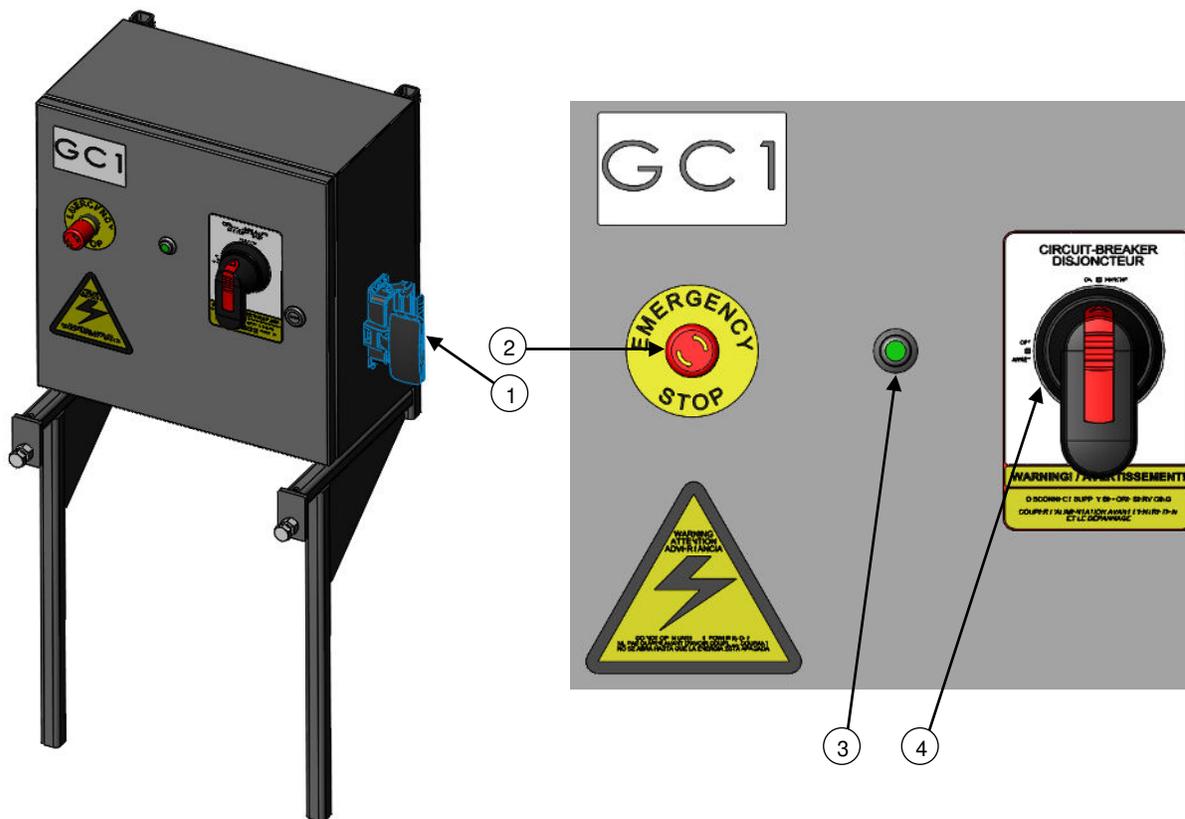


Figure 26 – Ground box power supply (GC1)

N°	Description
1	Power supply connector
2	EMERGENCY STOP button
3	Green indicator light (ground safety)
4	Ground box main disconnect switch

7.7.4. Drop test remote control

∞ SEE SECTION 10.1 DROP TEST PROCEDURE, ON PAGE 75.



Figure 27 – Drop test remote control

N°	Description
1	Three (3) position selector (DESCEND / ARRÊT / MONTER)
2	Drop test button
3	Black button (ACTIVE / ENABLE)

7.8. Operation and using the machine

7.8.1. Before operating the platform

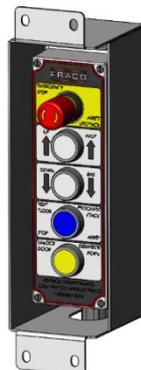
- Check that the main disconnecter switches (480V) are on "ON/MARCHE" position on the (CC1) and (GC1) boxes.
- Make sur the EMERGENCY STOP buttons are not pressed.
∞ [SEE SECTION 7.12 EMERGENCY STOP BUTTON, ON PAGE 58.](#)
- Close tailgates and ground protection mesh. The door locks automatically.
Important! Latch door correctly.
- Place key switch on the (CC1) panel on "ON/MARCHE" position.
- Wait for the green indicator lights on the (CC1) to turn on:
 - Sécurité plateforme / Cabin safety
 - Sécurité sol / Ground safety
 - Porte plateforme / Cabin door
- The platform is ready for use.

7.8.2. Ascend

On the (CC2) control box.

∞ [REFER TO SECTION 7.7.2 OPERATOR CONTROL BOX \(CC2\), ON PAGE 44.](#)

- The white "HAUT/UP" button must be lit for the command to be available. If the machine is at the highest level, the button cannot be lit. If the white button does not light up, check the green indicator lights on the (CC1) pannel.
∞ [REFER TO SECTION SECTION 8 FAULTS; CAUSES AND CORRECTIONS, ON PAGE 62.](#)
- Press and hold the lit white "HAUT/UP" button. If you release the button, the platform will immediatley cease its ascension.
- When approaching the desired level, still without releasing the white "HAUT/UP" button, press and release the blue "PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP" button which will light up to confirm command. The plateform will automatically stop when it will reach the next level.
 - **Note:** once pressed, the blue "PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP" lights up.
 - **Note:** If you release the white "HAUT/UP" button before the platform stops itself, the platform stops its ascension and the "PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP" command is cancelled. If you resume your ascension by pressing only the white button, the platform will continue to rise without stopping at the next level.
- When the platform stops, release the white "HAUT/UP" button.
 - The white "HAUT/UP" button turns off.
 - The white "BAS/DOWN" button turns off.
 - The blue "PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP" turns off.
 - The yellow «DÉBARRER PORTE/UNLOCK DOOR» button lights up, meaning the tailgate is unlocked.



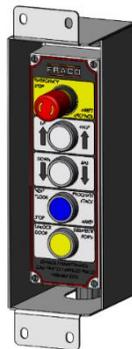
Control box (CC2)

7.8.3.Descend

On the (CC2) control box.

∞ REFER TO SECTION 7.7.2 OPERATOR CONTROL BOX (CC2), ON PAGE 44.

- The white "**BAS/DOWN**" button must be lit for the command to be available. If the machine is at ground level, the button cannot be lit. If the white button does not light up, check the green indicator lights on the (CC1) panel.
 - ∞ REFER TO SECTION SECTION 8 FAULTS; CAUSES AND CORRECTIONS, ON PAGE 62.
- Press and hold the lit white "**BAS/DOWN**" button. If you release the button, the platform will immediately cease its lowering.
- When approaching the desired level, still without releasing the white "**BAS/DOWN**" button, press and release the blue "**PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP**" button which will light up to confirm command. The platform will automatically stop when it will reach the next level or ground level (lowest level).
 - **Note:** once pressed, the blue "**PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP**" lights up.
 - **Note:** If you release the white "**BAS/DOWN**" button before the platform stops itself, the platform stops its ascension and the "**PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP**" command is cancelled. If you resume your ascension by pressing only the white button, the platform will continue to rise without stopping at the next level.
- When the platform stops, release the white "**BAS/DOWN**" button.
 - The white "**BAS/DOWN**" button turns off.
 - The white "**HAUT/UP**" button turns off.
 - The blue "**PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP**" turns off.
 - The yellow «**DÉBARRER PORTE/UNLOCK DOOR**» button lights up, meaning the tailgate is unlocked.



Control box (CC2)

Note: Generally, if a button is not lit, the associated command is not available or not registered. If both white buttons are not available, no platform movement is possible. Position of the platform, unlocking of the doors or activation of a travel end detector may trigger the safety relay and stop the buttons from lighting up.

Note: During descent, when the platform reaches 10'-0" (3m) from the ground (platform floor and loading level) the machine stops two (2) * seconds and a sound signal occurs. The sound signal continues until the platform has reached the loading.

* Note * When within 10'-0" (3m) from ground descent zone, keep the «BAS/DOWN» pressed at least two (2) seconds to give the machine time to activate descent.

7.8.4. Interruption and/or end of work

- Lower the platform to the loading dock and unload it of all material.
∞ [REFER TO SECTION 7.8.3 DESCEND, ON PAGE 48.](#)
- Turn the key switch of the (**CC1**) panel to the "**ARRÊT/OFF**" position.
- If necessary, remove the key and/or position the selector to "**ARRÊT/OFF**" (refer to effective local standards and regulation).

Note: it is not necessary to turn off the main switches (**480V**) unless otherwise mentioned. Heating elements are present to warm the electric pieces at all time. This is most useful during winter of in cold climates.

7.9. Opening the doors

7.9.1. Opening the ground protection mesh door

Important! It is impossible to open the ground protection mesh door if the following two (2) conditions are not fulfilled:

1. The platform must be lowered to the ground, activation of next floor limit switches detectors **BAS/LOW (LS6)** and **HAUT/HIGH (LS5)** and stopped. This unlocks the interlock device of the ground protection mesh door.
2. The platform tailgate (**loading side**) must be opened and lowered onto the tresshold of the ground protection mesh door. This unlocks the mechanical lock under the door.

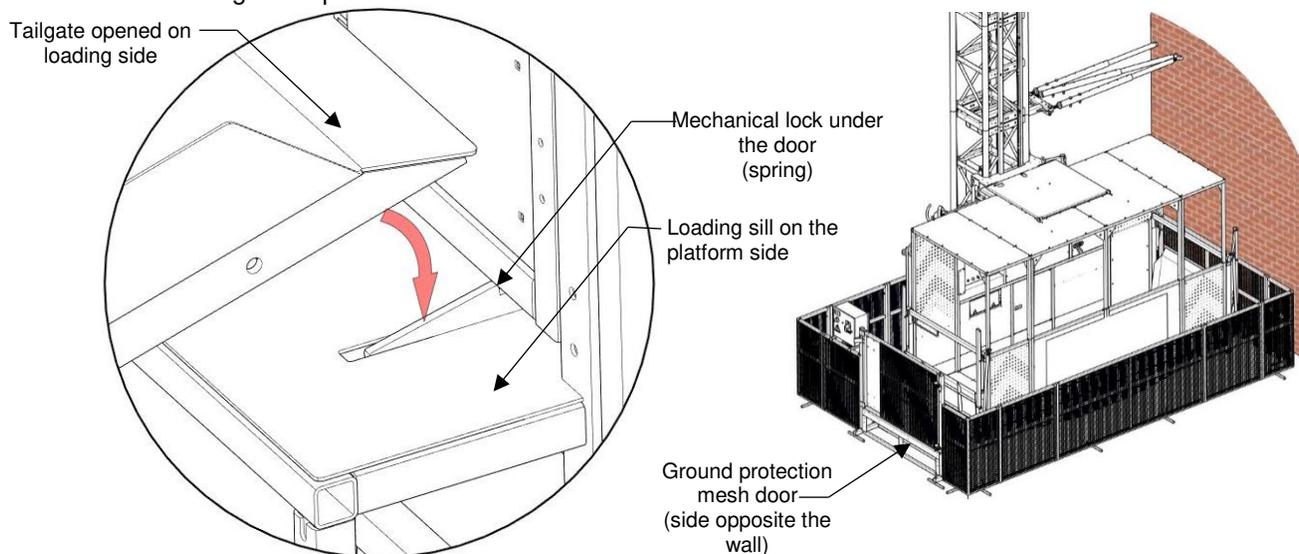


Figure 28 – Mechanical lock, ground enclosure

Once the interlock device and the mechanical lock are unlocked, it is possible to open the door. Pull on the spring handle and open/close the door

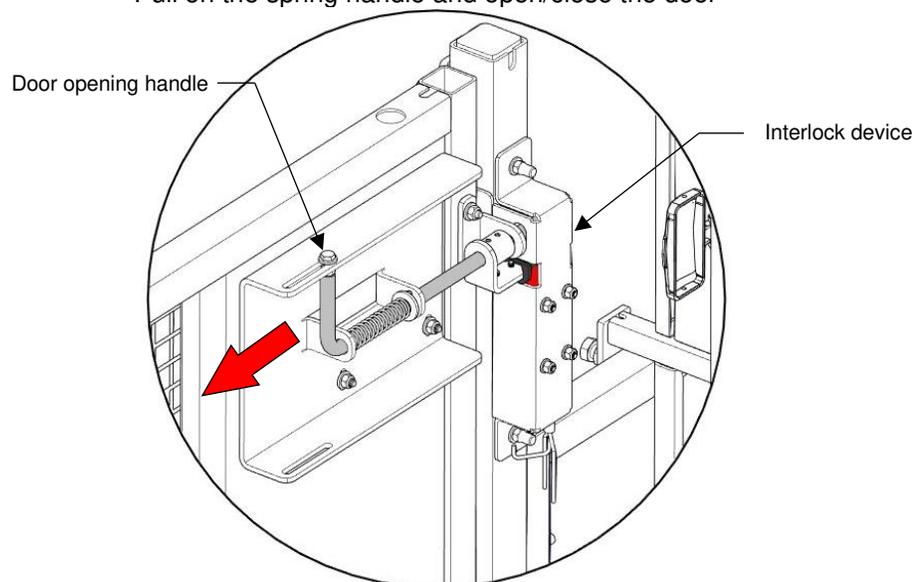


Figure 29 - Interlock, ground enclosure

7.9.2. Opening the tailgate

The platform is equipped with two (2) tailgates and (1) installation tailgate platform for the mast anchors (depend on model and installation):

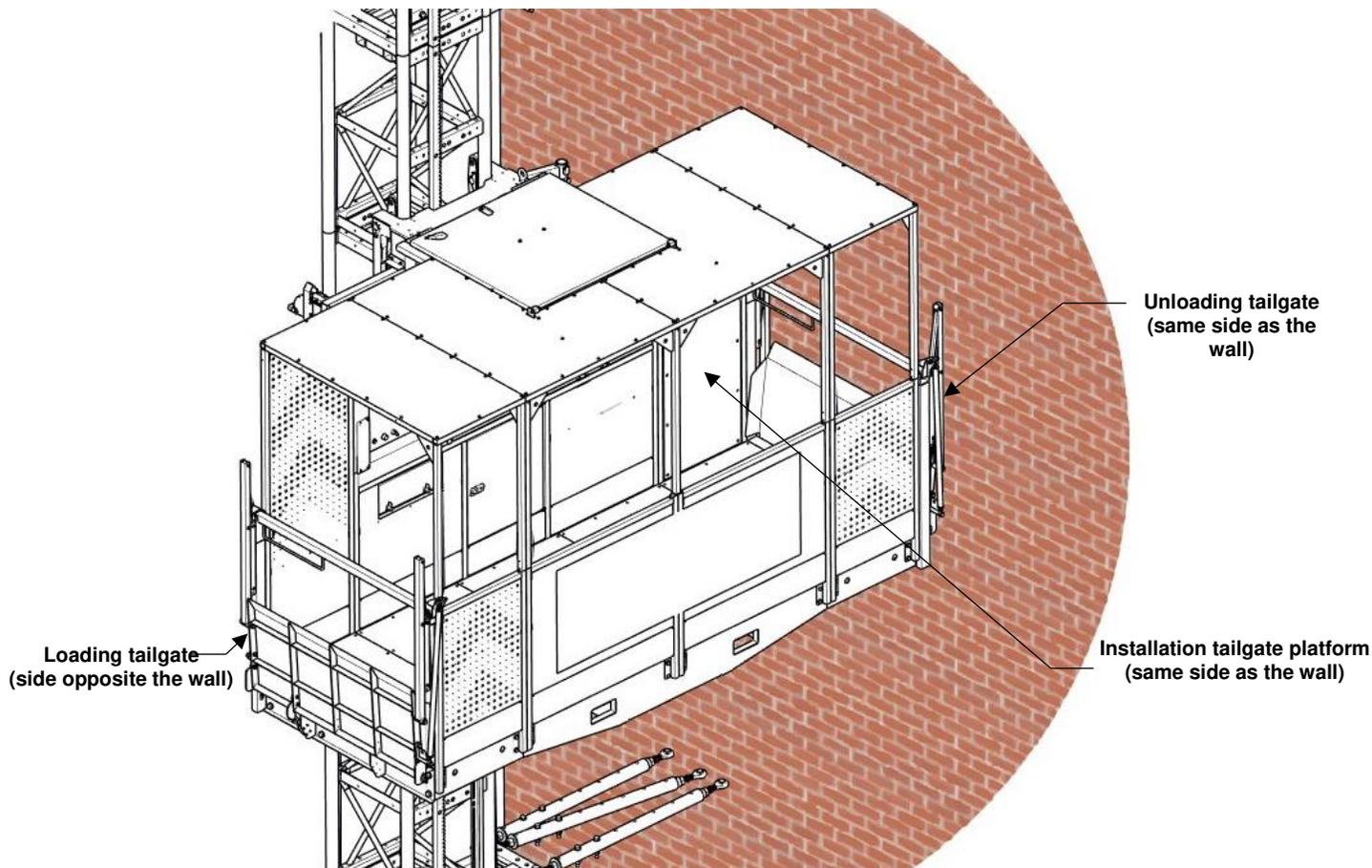


Figure 30 – Tailgate door, unloading and installation

Tailgate loading side:

When the machine is lowered to ground level, there is activation of the next floor limit switch detectors **HAUT/HIGH (LS5)** et **BAS/LOW (LS6)**. The machine stops and that automatically locks the loading tailgate.

∞ REFER TO SECTION 7.10 LIMIT SWITCHES (LEVEL DETECTOR), ON PAGE 57.

When the lowest floor is reached, observe on the **(CC2)** control box:

- The white "**HAUT/UP**" button turns off.
- The white "**BAS/DOWN**" button turns off.
- The blue "**PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP**" turns off.
- The yellow «**DÉBARRER PORTE/UNLOCK DOOR**» button lights up, meaning the tailgate is unlocked.
- The interlock device is then unlocked, and it is possible to lower the loading tailgate.
- Pull of the handle to disengage the interlock and completely raise the yellow pivoting railing to lower the loading tailgate.
- To shut the tailgate, lower the yellow pivoting railing completely. Pull on the handle to allow the interlock device to lock.

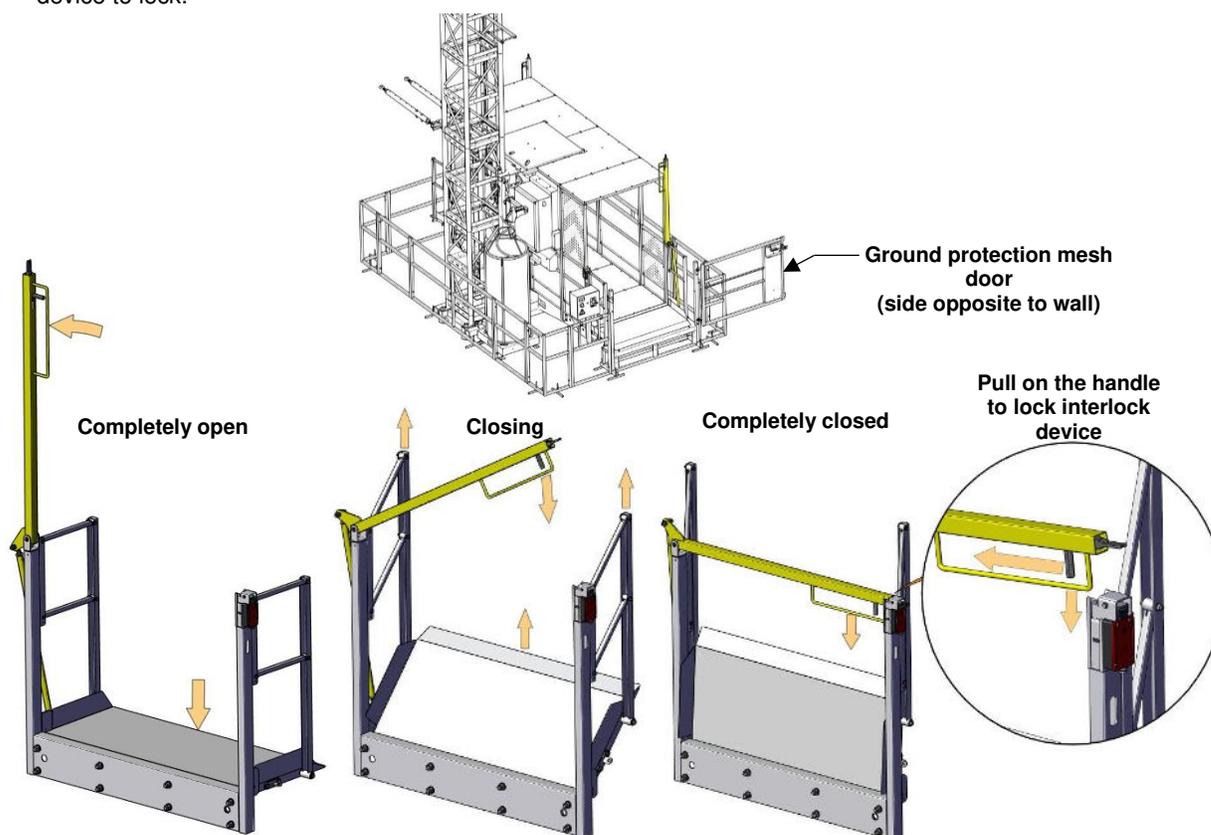


Figure 31 – Tailgate loading side

Note: when the door is open then closed, the tailgate automatically locks (the platform can be operated again). On the **(CC2)** control box:

- The white "**HAUT/UP**" button lights up (if the platform is not at ground level).
- The white "**BAS/DOWN**" button lights up.
- The yellow "**DÉBARRER PORTE/UNLOCK DOOR**" button turns off, meaning the door is locked once again.

Note: The white "**BAS/DOWN**" and "**HAUT/UP**" buttons of the **(CC2)** control box will not light up if the ground control mesh door or a landing door is opened and unlocked. If the machine is stopped and the doors locked, press on the yellow "**DEBARRER PORTE/UNLOCK DOOR**" button to unlock the doors and allow them to open.

Tailgate unloading side:

When the machine stops at a loading level (in front of a landing door), there is activation of the next floor limit switch detectors **HAUT/HIGH (LS5)** et **BAS/LOW (LS6)**). The machine stops and that automatically locks the loading tailgate.

∞ REFER TO SECTION 7.10 LIMIT SWITCHES (LEVEL DETECTOR), ON PAGE 57.

When the desired floor is reached, observe on the (CC2) control box:

- The white "**HAUT/UP**" button turns off.
- The white "**BAS/DOWN**" button turns off.
- The blue "**PROCHAIN ÉTAGE ARRÊT / NEXT FLOOR STOP**" turns off.
- The yellow «**DÉBARRER PORTE/UNLOCK DOOR**» button lights up, meaning the tailgate is unlocked.
- The interlock device is then unlocked, and it is possible to lower the loading tailgate.
- Pull of the handle to disengage the interlock and completely raise yellow pivoting railing to lower the loading tailgate.
- To shut the tailgate, lower the yellow pivoting railing completely. Pull on the handle to allow the interlock device to lock.

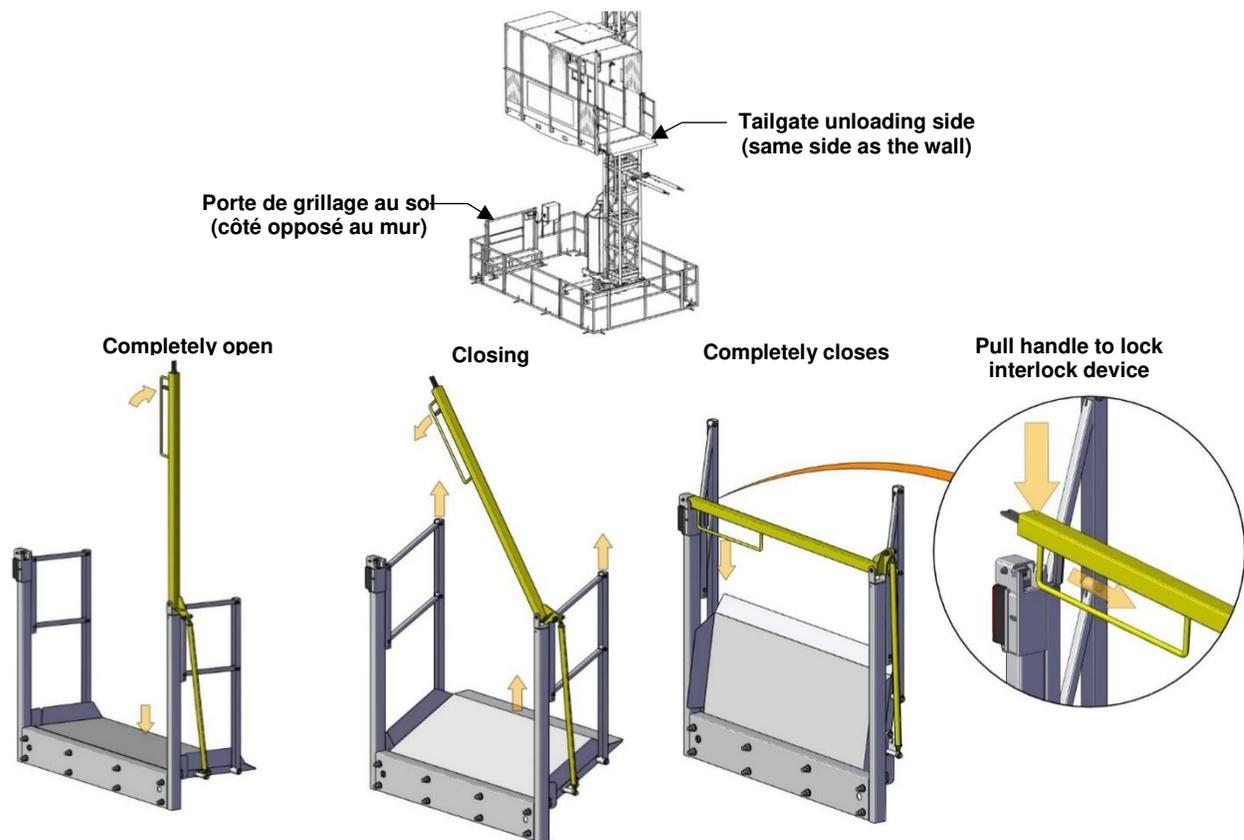


Figure 32 – Tailgate unloading side

Note: when the door is open then closed, the tailgate automatically locks (the platform can be operated again). On the (CC2) control box:

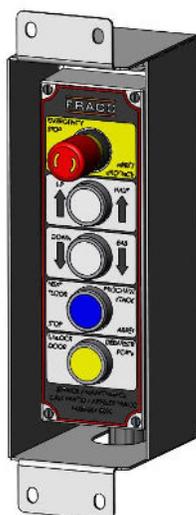
- The white "**HAUT/UP**" button lights up.
- The white "**BAS/DOWN**" button lights up.
- The yellow "**DÉBARRER PORTE/UNLOCK DOOR**" button turns off, meaning the door is locked once again.

Note: The white "**BAS/DOWN**" and "**HAUT/UP**" buttons of the (CC2) control box will not light up if the ground control mesh door or a landing door is open and unlocked. If the machine is stopped and the doors locked, press on the yellow "**DÉBARRER PORTE/UNLOCK DOOR**" button to unlock the doors and allow them to open.

Locking the tailgate (loading and unloading side):

Because the tailgate (loading for ground level and unloading for levels with landing doors) unlocks automatically when reaching levels/floors, it is impossible to move the platform as long as a door is unlocked. To correct the situation:

On the **(CC2)** control box, simply press the white "**BAS/DOWN**" or "**HAUT/UP**" buttons. Unlocked doors will lock automatically. At the same instant, the machine will move in the desired direction.



Control box (CC2)

Installation tailgate platform:

The installation tailgate platform can be installed at the left of the right of the motor unit, depending on the model.

1. Remove the finish panel over the tailgate.

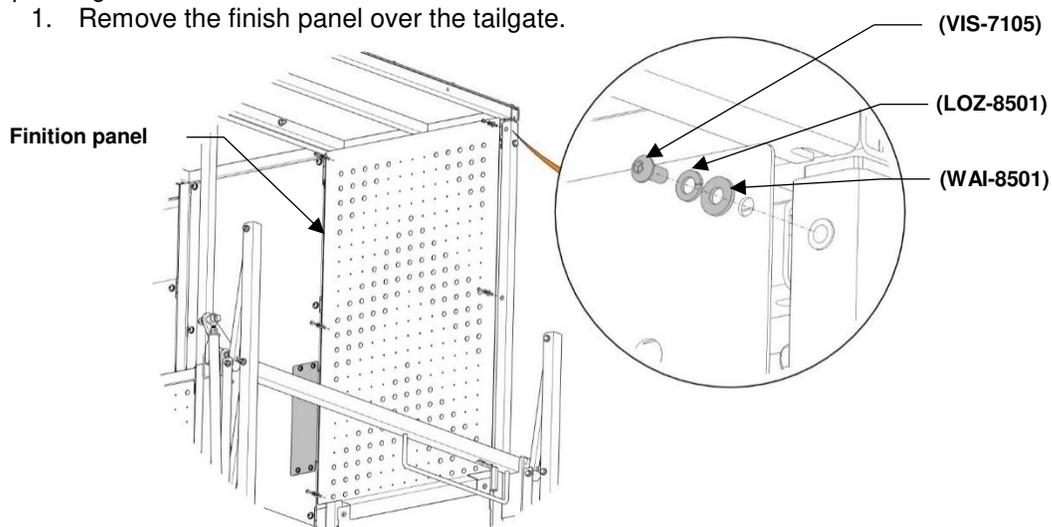


Figure 33 – Finish panel for the installation tailgate platform

2. Lower the installation tailgate platform by lightly pushing on the panel of the tailgate.

Note: when the installation tailgate platform is lowered, the actuator activates the safety line and stops/prevents any platform movement as long as the installation tailgate platform is not completely lifted.

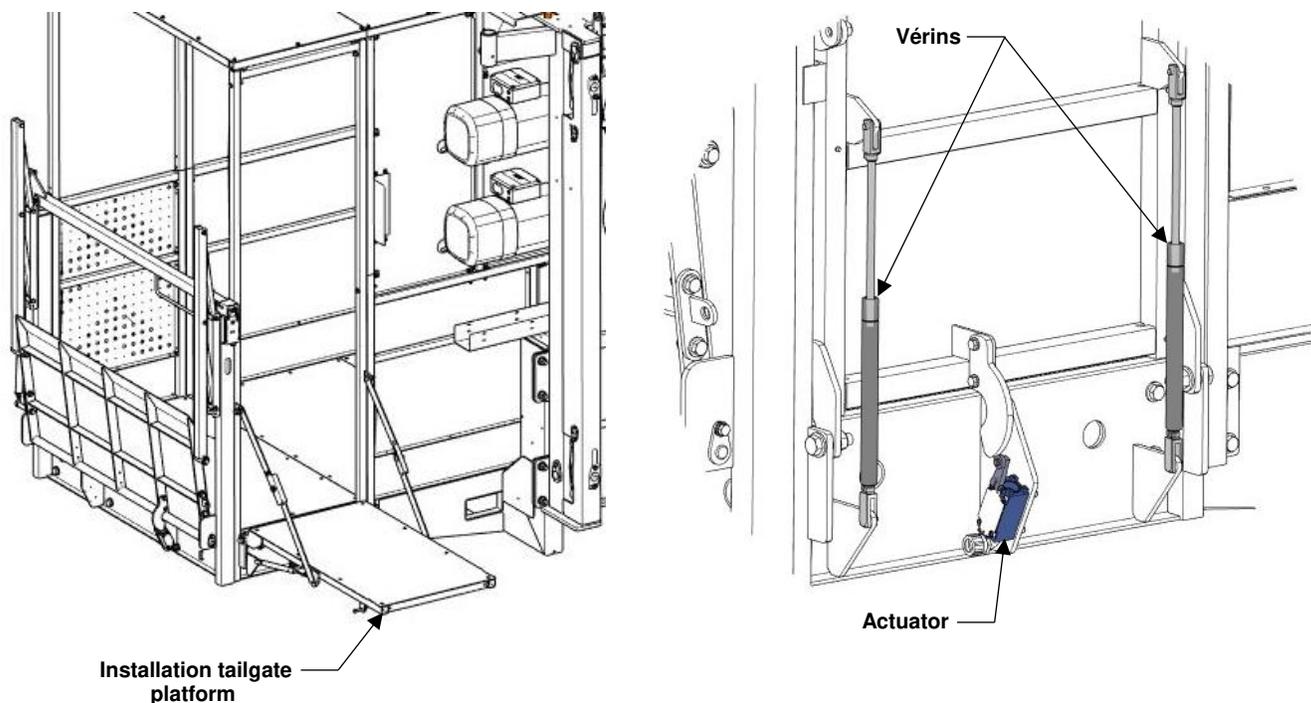


Figure 34 – Installation tailgate platform

7.9.3. Landing door opening

Landing door must be positioned at loading and unloading levels for any landing required while using the platform.

When in use, landing doors must conform to the following:

- Doors must be entirely closed to enable any movement of the platform.
- Doors must open toward the building openings.
- Doors must be openable from the building side **only**.
- Doors **must never be** located at more than 4" (100 mm) from the lowered unloading tailgate landing sill.
- Doors must be of a minimal height depending on the global enclosure dimensions:
 - Reduced height: the door must be between [43" (1,1m) and 78-3/4" (2,0 m)]
 - Full height: [78-3/4" (2,0 m) and more]
- Doors **must never exceed** width of the tailgate of more than 8" (200 mm) on any of both (2) sides.
- Doors must always display two (2) clear and legible signs at all time:
 - "PORTE À GARDER FERMÉE, À MOINS QU'UNE PLATEFORME DE TRANSPORT NE SOIT PRÉSENTE" (French)
 - or
 - "GATES TO BE KEPT CLOSED UNLESS TRANSPORT PLATFORM IS PRESENT" (English)
 - "PERSONNEL AUTORISÉ SEULEMENT" (French)
 - or
 - "AUTHORISED PERSONNEL ONLY" (English)
- Doors **may be required** to be equipped with interlock, see local standard and regulation.
- Door shall be electrically linked in serie to the ground box (**GC1**).

For any additional design and installation requirements regarding the landing door, refer to the installation manual:

∞ [INSTALLATION MANUAL \(RD-7243-MA-002\)](#).

7.10. Limit switches (level detector)

Level detector is supported by the limit switch system and detectors. For more information on the installation of the detectors, refer to the **INSTALLATION MANUAL (RD-7243-MA-002)**.

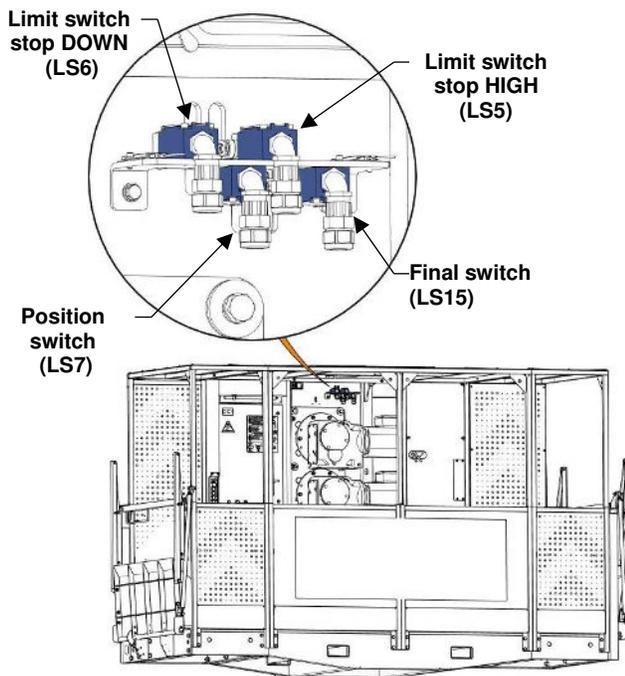


Figure 36 – Limit switch, inside view

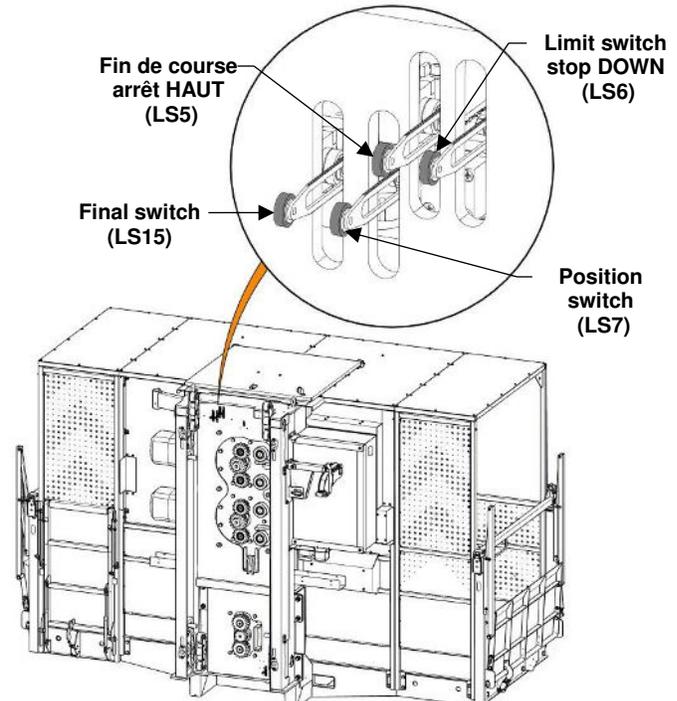
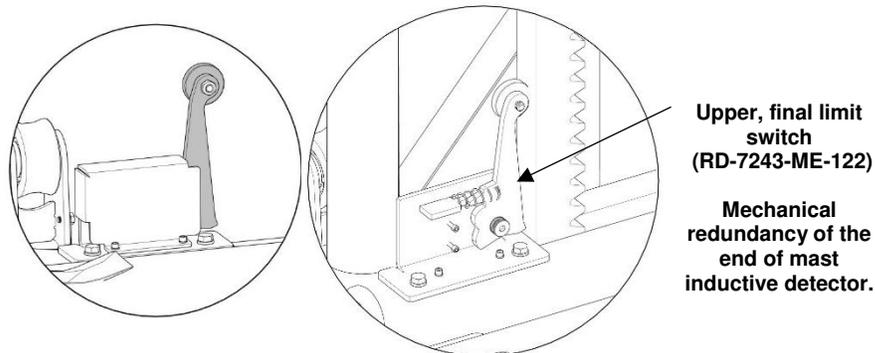


Figure 35 – Limit switch, outside view



Upper, final limit switch (RD-7243-ME-122)

Mechanical redundancy of the end of mast inductive detector.

List and functions of the limit switch:

1. **(LS5)** Limit switch "stop UP": stops ascension of the platform
2. **(LS6)** Limit switch "stop DOWN": stops descent of the platform
3. **(LS7)** Position switch: detects the direction of the platform movements.
4. **(LS15)** Final switch: Detects when platform reaches high and low EXTREME limits along the mast.
5. **(RD-7243-ME-122)** Final UP limit detector for end of mast redundancy.

7.11. Overload detector (optional)

The manufacturer proposes to equip (optionally) the platform with an overload detection system. This device calculates load locally. The detector is programmed to stop the unit and prevent operation of the platform when the permitted maximum load is exceeded.

To correct the issue, unload the platform of any excess load.

7.12. Emergency stop button

It is possible to proceed to an emergency stop, and this at all time and at any level of the platform.

In situations presenting a risk for operating staff or for the platform or structure, stop the platform by pressing one of the **emergency stop buttons**:

- Ground box (**GC1**).....(1)
- Operator control box (**CC2**).....(2)
- Main control panel (**CC1**).....(3)

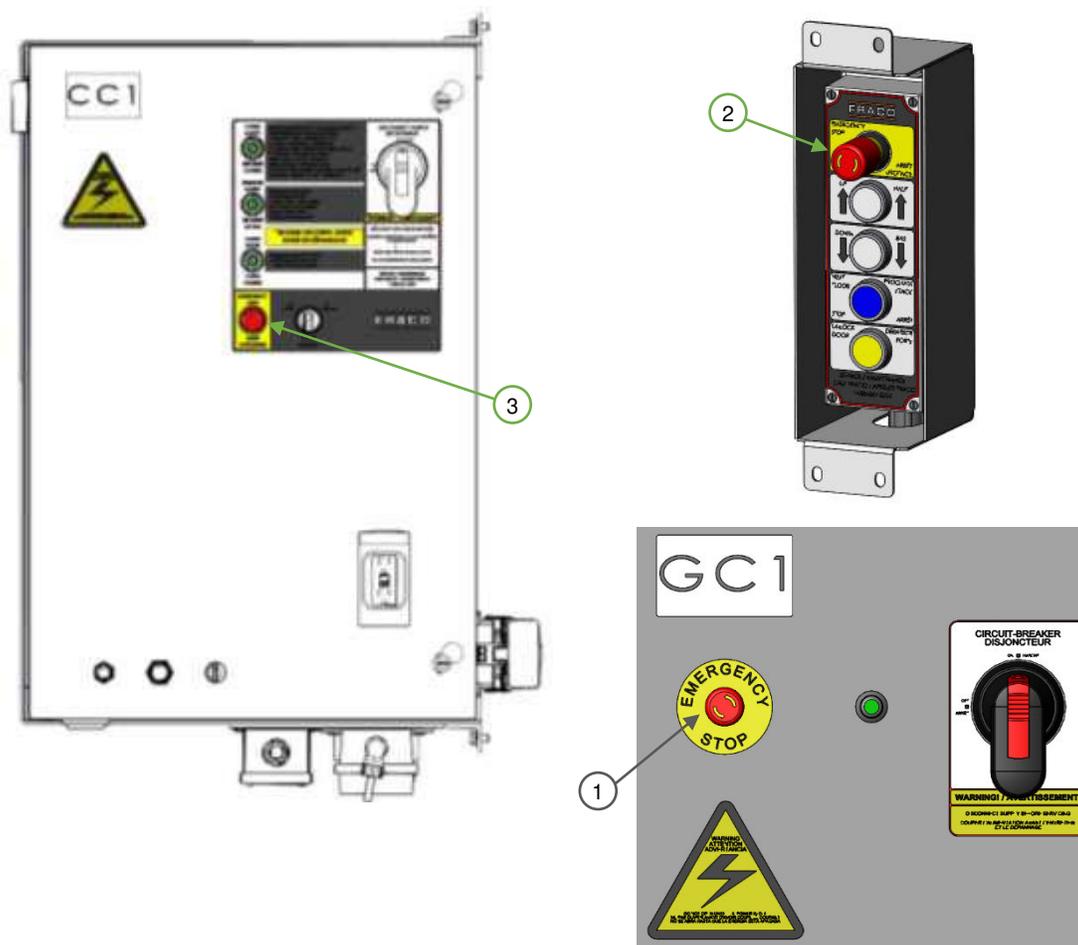


Figure 37 – Emergency stop button

NOTE :

The **emergency stop buttons** are equipped with a lock mechanism and remain active until they are manually unlocked (turn the red button to the right and pull).

7.13. Emergency descent procedure

In the case of a system defect preventing operation of the platform, proceed to a manual emergency descent. Follow the following instructions:

- Connect the emergency descent levers (1) in the threaded holes of the engine brakes (2).
- Push one of the levers to the MAXIMUM position. Keep this lever completely pushed.
- **Carefully** push the second lever to let the platform descend by gravity. **Important!** Alternate the pressure on the second lever to avoid excessive descent speed. A speed greater than 85 ft/min (24 m/min) will trigger the emergency centrifugal brake, leading to the complete stop of the unit.
 ∞ SEE SECTION 7.14 CENTRIFUGAL EMERGENCY BRAKE ACTIVATION, ON PAGE 60.
- When ground level is reached, evacuate the platform and contact a certified technician.
- **Warning!** The brake lever **must never** be used to lower the platform during operation. This system is intended for emergency use **only**.

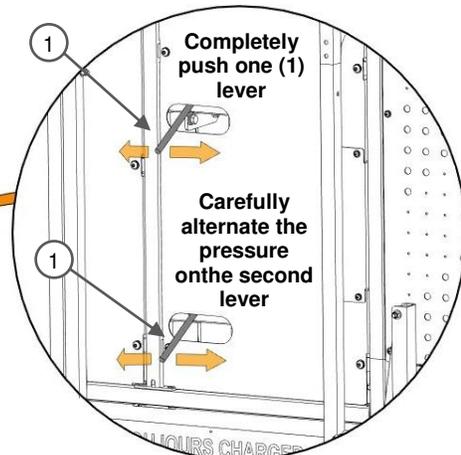
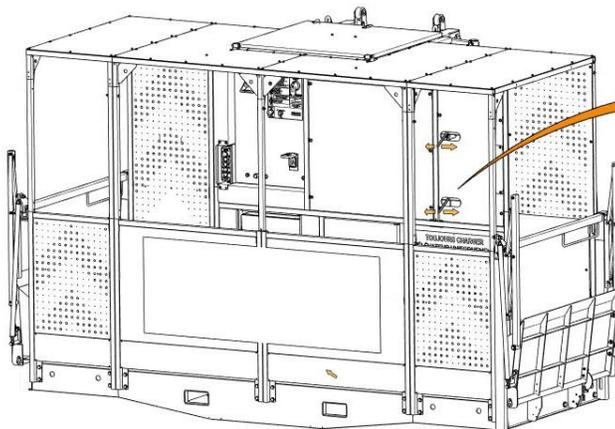
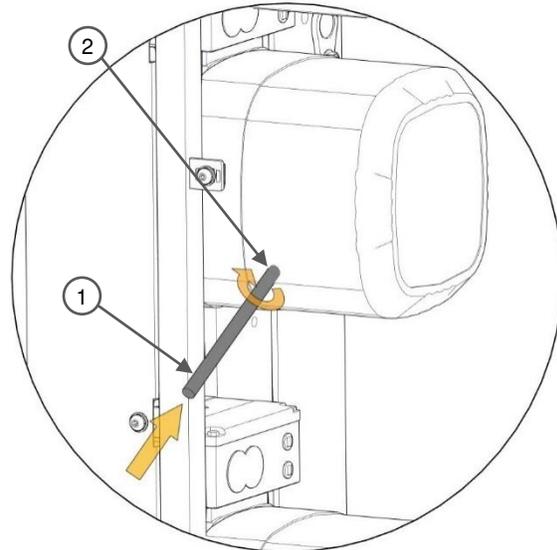


Figure 38 – Emergency descent system

7.14. Centrifugal emergency brake activation

The platform is equipped with an anti-fall emergency device. The system consists of a centrifugal brake, calibrated to activate at a descent speed greater than the movement speed of the platform (overspeed). In case of activation, the brake blocks the platform from any vertical movement and triggers the safety line. This cuts off the power supply to the motors and activates the engine brakes.

In case of activation:

- Plug the derivation adaptor (**RD-7243-BE-112**) to the main control panel (**CC1**) to bypass the safety line and allow limited operation of the platform.

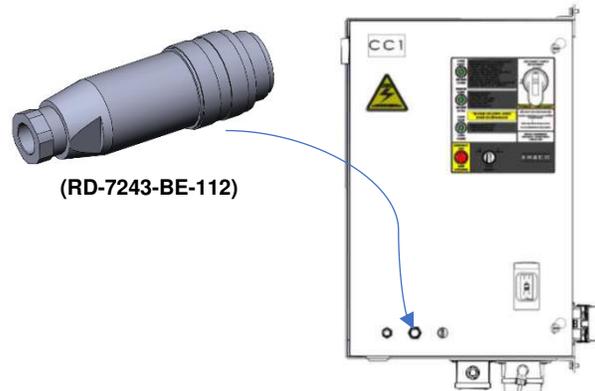


Figure 39 – Derivation adaptor

Note: In this mode, the platform cannot descend, as only the "HAUT/UP" control works. Press and maintain the "HAUT/UP" control on the operator control box to elevate the platform. Elevation of the platform only works for 5 seconds. Beyond this delay, the platform automatically stops rising and the "HAUT/UP" control must be pressed again.

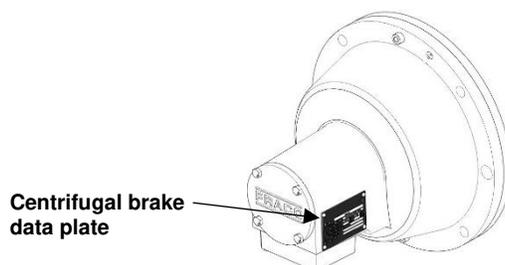
- Rise the unit by about 1ft (0,3m) to free the brake.
- Lower unit to the ground using the emergency descent procedure **Important!** Alternate the pressure on the second lever to limit acceleration.
∞ [SEE SECTION 7.13 EMERGENCY DESCENT PROCEDURE, ON PAGE 59.](#)
- When ground level is reached, unload the platform of all material.
- Contact a certified technician to identify the source of the problem and to reset the emergency centrifugal brake.

For more information on the emergency centrifugal brake, [REFER TO SECTION 10.1 DROP TEST PROCEDURE, ON PAGE 75.](#)



The emergency centrifugal brake has a three (3) year lifespan and must be replaced by the manufacturer or one of his certified representatives. Contact your FRACO representative for more information.

See replacement date on the data plate.



7.15. Using the derivation adaptor

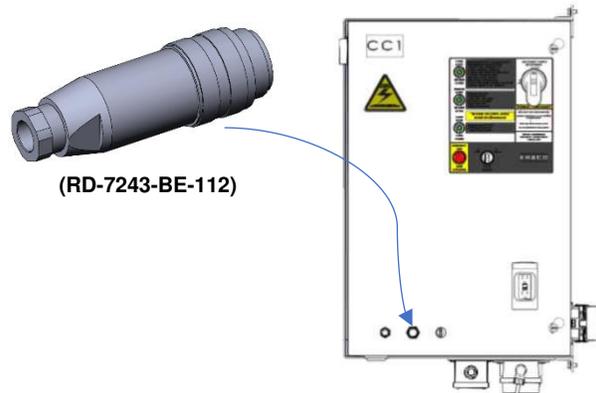


Figure 40 – Derivation adaptor

Activation of the emergency centrifugal brake:

[\(SEE PREVIOUS PAGE\)](#)

Travel end buffer:

- If the platform exceeds the position of the **"FINAL POSITION"** travel end detector and triggers the buffer activation detector, this will turn off the safety line and will prevent any platform movement. To correct the situation, connect the derivation adaptor in the port of the panel (**CC1**) and raise the platform to completely free the **"FINAL POSITION"** travel end detector.

Tension on the power supply cable:

- If the power supply cable gets stuck or becomes taut, a detector sends a signal to the safety line and will prevent any movement of the platform. To correct the situation, plug the derivation adaptor in the port of the panel (**CC1**) and raise/lower the platform until the cable is free.

8. Faults; causes and corrections



**Breakdowns can only be corrected by a qualified person! Before each reparation, lower the cabin and unload if possible!
Turn off the main switch and unplug the machine before any intervention to the electrical system of the elevator. Immediately cease operation in case of breakdowns putting at risk the safety of platform operation!**

In case of breakdowns or defects, check the following points:

- Is the main power supply connected? Check all power boxes.
- Is the main switch of the ground box (**GC1**) switched on?
- Is the key switch on the main control panel (**CC1**) switched on?
- Fuse/selector of the ground box.
- Extension cable in working order?
- Are emergency stop buttons?
- Are the tailgates (loading, unloading installation) well closed?
- Emergency travel end triggered?
- Cabin moved too high or too low along the mast?
- Are the travel end switches HIGH and DOWN working correctly?
- Is the emergency centrifugal brake triggered?
- Check the automatic disconnect switch in the ground box (**GC1**).
- Is the selector key switch on the platform control system positioned for the desired operation mode?
- Is the red indicator light of the cabin control box turned on? (Cabin overload) (**optional load cell**)

If the engine does not give full power:

- Decrease voltage by more than 10% of the nominal voltage.
- Change the power cable by a cable of greater diameter.
- (**Optional load cell**) In case of overload, the integrated thermal switch turns off the current control. A rapidly blinking light indicator on the cabin control box warns against the overheating of the cabin engines. Work may be resumed after a cooling period (it is strongly suggested to reduce the load.)

WARNING!

Repeated overheatings/overloads must be avoided, otherwise the lifespans of the engine and engine brake are considerably reduced.

8.1. Cabin was raised too high

The end travel detector "**final switch**" (LS15) of the platform may reach the "**superior EXTREME**" limit rail if:

- The "**stop UP**" (LS5) travel end runner or detector is incorrectly adjusted.
- There is a defect in the electrical system.

Emergency measures:

- Use the emergency descent procedure to lower the platform. Lower until the runner is cleared. (SEE SECTION 7.13 EMERGENCY DESCENT PROCEDURE, ON PAGE 59)
 - Note: if the travel end detector is blocked despite absence of contact with the runner, the safety line remains triggered. Lower the unit to ground level to work safely.
- The cabin now moves out of the "**superior EXTREME**" travel end position.
- Identify the source of the problem and apply necessary corrections.

8.2. Cabin was lowered too low

The end travel detector "**final switch**" (LS15) of the platform may reach the "**inferior EXTREME**" limit rail if:

- Air clearance of the engine brakes is too big.
- The "**stop DOWN**" (LS6) travel end runner or detector is faulty.
- There is a defect in the electrical system.
- The cabin is overloaded.

Emergency measures:

- connect the derivation adaptor (ITEM RD-7243-BE-112, SEE CENTRIFUGAL EMERGENCY BRAKE ACTIVATION, ON PAGE 60) in the port of the panel (CC1).
- On the operator control box (CC2), the white "**HAUT/UP**" button lights up, meaning the control is available. Press and maintain the button to elevate the platform (automatic stop after 5 seconds). Press again until the runner is cleared.
- The cabin now moves out of the "**inferior EXTREME**" travel end position.
- Identify the source of the problem and apply necessary corrections.

8.3. The overload warning device was triggered (optional equipment only).

The platform is equipped with an overload warning device (optional) that prevents start-up when the cabin is overloaded. If the cabin is overloaded, a red indicator light lights up on the main power supply box.

WARNING!

If the indicator light is on, reduce the load on the platform until the indicator light turns off. Only then will it be possible to start and move the platform.

NOTE

For more information on the prevention of overloads, consult the overload protection device manual.

8.4. The centrifugal emergency brake was triggered

The platform is equipped with a centrifugal emergency brake that brakes the descent of the platform if the platform moves too fast. Once the emergency brake is triggered, a signal relayed to the safety line cuts the power supply to the motor unit and triggers the engine brakes. The machine will stop completely, and movement is no longer possible.



As soon as it is possible, all persons must leave/evacuate the platform. Identify why the safety brake was triggered, secure the cabin and repair damages before releasing the security brake!

NOTE:

For more information on the emergency brake, refer to the "[SD2 REINITIALISATION PROCEDURE \(EMERGENCY CENTRIFUGAL BRAKE\)](#)" AND [SECTION 7.14 CENTRIFUGAL EMERGENCY BRAKE ACTIVATION, ON PAGE 60](#).

NOTE:

Any downward movement is mechanically blocked by the emergency brake. No downward movement ([SEE EMERGENCY DESCENT PROCEDURE, ON PAGE 59](#)) can be performed unless the unit is elevated to free the emergency brake.

WARNING!

Inspect the centrifugal emergency brake for any damages, identify the cause of the overspeed braking and correct it. The centrifugal emergency brake must be analysed and reset by a qualified person.

8.5. Status light indicators repair guide

If one of the light indicators turns on, follow the adequate procedure.

CABIN SAFETY 	-Coulter (Banc 13 (CC1) / Banc 14 (CC2)) -Régulateur de vitesse - The motor unit -Coulter (Banc 2 / Banc 3) -33 (Banc 1) - 33 (Banc 2) - 33 (Banc 3) -33 (Banc 4) - 33 (Banc 5) - 33 (Banc 6) -33 (Banc 7) - 33 (Banc 8) - 33 (Banc 9) -33 (Banc 10) - 33 (Banc 11) - 33 (Banc 12) -33 (Banc 13) - 33 (Banc 14) - 33 (Banc 15) -33 (Banc 16) - 33 (Banc 17) - 33 (Banc 18) -33 (Banc 19) - 33 (Banc 20) - 33 (Banc 21) -33 (Banc 22) - 33 (Banc 23) - 33 (Banc 24) -33 (Banc 25) - 33 (Banc 26) - 33 (Banc 27) -33 (Banc 28) - 33 (Banc 29) - 33 (Banc 30) -33 (Banc 31) - 33 (Banc 32) - 33 (Banc 33) -33 (Banc 34) - 33 (Banc 35) - 33 (Banc 36) -33 (Banc 37) - 33 (Banc 38) - 33 (Banc 39) -33 (Banc 40) - 33 (Banc 41) - 33 (Banc 42) -33 (Banc 43) - 33 (Banc 44) - 33 (Banc 45) -33 (Banc 46) - 33 (Banc 47) - 33 (Banc 48) -33 (Banc 49) - 33 (Banc 50) - 33 (Banc 51) -33 (Banc 52) - 33 (Banc 53) - 33 (Banc 54) -33 (Banc 55) - 33 (Banc 56) - 33 (Banc 57) -33 (Banc 58) - 33 (Banc 59) - 33 (Banc 60) -33 (Banc 61) - 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33 (Banc 645) -33 (Banc 646) - 33 (Banc 647) - 33 (Banc 648) -33 (Banc 649) - 33 (Banc 650) - 33 (Banc 651) -33 (Banc 652) - 33 (Banc 653) - 33 (Banc 654) -33 (Banc 655) - 33 (Banc 656) - 33 (Banc 657) -33 (Banc 658) - 33 (Banc 659) - 33 (Banc 660) -33 (Banc 661) - 33 (Banc 662) - 33 (Banc 663) -33 (Banc 664) - 33 (Banc 665) - 33 (Banc 666) -33 (Banc 667) - 33 (Banc 668) - 33 (Banc 669) -33 (Banc 670) - 33 (Banc 671) - 33 (Banc 672) -33 (Banc 673) - 33 (Banc 674) - 33 (Banc 675) -33 (Banc 676) - 33 (Banc 677) - 33 (Banc 678) -33 (Banc 679) - 33 (Banc 680) - 33 (Banc 681) -33 (Banc 682) - 33 (Banc 683) - 33 (Banc 684) -33 (Banc 685) - 33 (Banc 686) - 33 (Banc 687) -33 (Banc 688) - 33 (Banc 689) - 33 (Banc 690) -33 (Banc 691) - 33 (Banc 692) - 33 (Banc 693) -33 (Banc 694) - 33 (Banc 695) - 33 (Banc 696) -33 (Banc 697) - 33 (Banc 698) - 33 (Banc 699) -33 (Banc 700) - 33 (Banc 701) - 33 (Banc 702) -33 (Banc 703) - 33 (Banc 704) - 33 (Banc 705) -33 (Banc 706) - 33 (Banc 707) - 33 (Banc 708) -33 (Banc 709) - 33 (Banc 710) - 33 (Banc 711) -33 (Banc 712) - 33 (Banc 713) - 33 (Banc 714) -33 (Banc 715) - 33 (Banc 716) - 33 (Banc 717) -33 (Banc 718) - 33 (Banc 719) - 33 (Banc 720) -33 (Banc 721) - 33 (Banc 722) - 33 (Banc 723) -33 (Banc 724) - 33 (Banc 725) - 33 (Banc 726) -33 (Banc 727) - 33 (Banc 728) - 33 (Banc 729) -33 (Banc 730) - 33 (Banc 731) - 33 (Banc 732) -33 (Banc 733) - 33 (Banc 734) - 33 (Banc 735) -33 (Banc 736) - 33 (Banc 737) - 33 (Banc 738) -33 (Banc 739) - 33 (Banc 740) - 33 (Banc 741) -33 (Banc 742) - 33 (Banc 743) - 33 (Banc 744) -33 (Banc 745) - 33 (Banc 746) - 33 (Banc 747) -33 (Banc 748) - 33 (Banc 749) - 33 (Banc 750) -33 (Banc 751) - 33 (Banc 752) - 33 (Banc 753) -33 (Banc 754) - 33 (Banc 755) - 33 (Banc 756) -33 (Banc 757) - 33 (Banc 758) - 33 (Banc 759) -33 (Banc 760) - 33 (Banc 761) - 33 (Banc 762) -33 (Banc 763) - 33 (Banc 764) - 33 (Banc 765) -33 (Banc 766) - 33 (Banc 767) - 33 (Banc 768) -33 (Banc 769) - 33 (Banc 770) - 33 (Banc 771) -33 (Banc 772) - 33 (Banc 773) - 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8.5.1. Green light indicator (sécurité cabine/cabin safety)

The list of elements to check for the green indicator is givent on the "DÉPANNAGE/TROUBLESHOOTING" sticker located on the main control panel(CC1).



- Circuit breaker F3 (CC1) / Disjoncteur F3 (CC1)
- Motor thermostat / Thermostat moteur
- Overload 1 and 2 / Surcharge 1 et 2
- LS Buffer / Interrupteur amortisseurs
- LS Tension cable / Interrupteur tension câble
- LS Extreme / Interrupteur extrême
- Safety device / Frein d'urgence
- Mast detector / Détection du mât
- LS Self-erecting device / Interrupteur Auto-érectif
- Installation tailgate / Hayon d'installation

8.5.2. Green light indicator (Sécurité au sol/ground safety)

The list of elements to check for the green indicator is givent on the "DÉPANNAGE/TROUBLESHOOTING" sticker located on the main control panel(CC1).

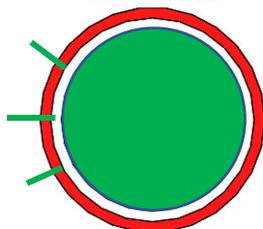


- Emergency stop GC1 / Arrêt d'urgence GC1
- Landing door / Porte étage
- Fence door / Porte clôture
- Phase detector DF1 / Détecteur de phase DF1

8.5.3. Green light indicator (Porte cabine/cabin door)

The list of elements to check for the green indicator is givent on the "DÉPANNAGE/TROUBLESHOOTING" sticker located on the main control panel(CC1).

**CABIN
DOOR**



**PORTE
CABINE**

- Emergency stop CC1, CC2 /
Arrêt d'urgence CC1, CC2
- Cabin door /Porte cabine

9. Periodic maintenance



Maintenance may only be performed by qualified persons.



Please dispose of lubricants and spare parts in an environmentally responsible manner.



Important! If work is needed under the platform, it is impossible to work under the platform unless the platform is completely blocked from any spontaneous descending movements. Use the "maintenance safety block (20030117) (1) installed on the rack. The clearance under the platform must be a minimum of 6'-6" (2 m). Then lower the platform so the clearance between the platform and safety block is less than 1" (25 mm). Use the drop test remote control to move the platform during maintenance. [REFER TO SECTION 10.1 DROP TEST PROCEDURE, ON PAGE 75 FOR THE REMOTE CONTROL INSTRUCTIONS.](#)

Important! Never enter the space under the platform if the latter has not been secured!

Important! Always turn off the power supply and padlock the disconnect switch to the ground box (GC1) before installing the safety block and starting any work under the platform!

Important! Immediately report any change or defect to the manufacturer or his authorised representative. If necessary immediately stop and secure the platform.

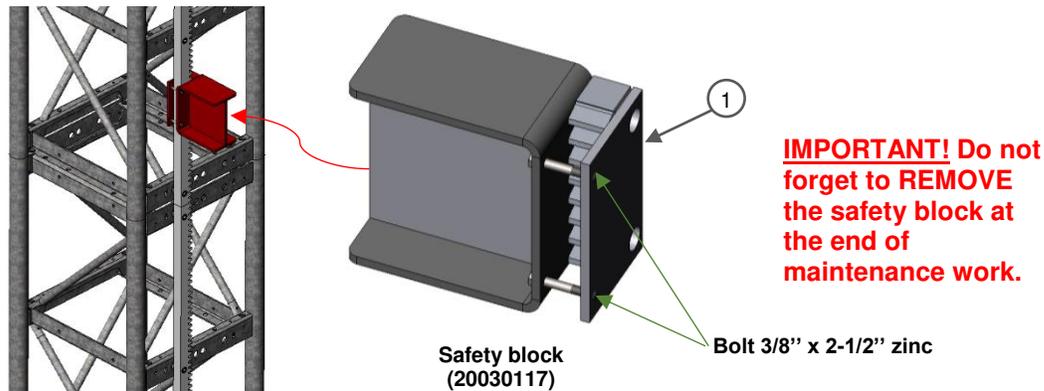


Figure 41 – Safety block for maintenance

9.1. Daily maintenance

- Platform:
 - Clear the platform of excess dirt, debris and snow/ice.
 - Clean the proximity detector and the end travel detector.
 - Make sure the data plates and stickers are present, legible and in good condition on the platform, protection mesh and anywhere required.
∞ [REFER TO SECTION 4.10 DATA PLATES AND STICKERS, ON PAGE 31.](#)
 - At ground level, keep the space around the working zone of the platform clean and cleared.
 - Visually inspect the movement path of the platform and that it is clear of any obstacles.
 - Inspect the condition of the guide rollers.
- Protections:
 - If present, inspect the ground protection mesh. Make sure the ground is firm and solid. Check that the protection mesh adjustable footing is well adjusted to the ground. Add shoring if necessary.
- Control:
 - At ground level, check that the arms and rollers of the level limit switch are in good condition and pivot easily.
 - At every required level, make sure that the level detector pads are firmly attached and in good working condition.
- Additional components:

Inspect the condition of the following items. Check for jamming, deformation and breakage;

 - Loading and unloading, tailgates of the platform.
 - Installation tailgate platform.
 - Landing doors.
 - Platform floor.
 - Railings.
 - Plinth.
 - Protection roof (if installed - optional).
- Electro-mechanical:
 - Inspect the condition of the motorization.
 - Inspect the condition of the main power supply.
 - Inspect the condition of the power cables, cable guides and cable barrels. Look for twists/deformations and sharp edges that may damage the cables.
- Operation:

Make a movement verification and make sure that:

 - The end travel detectors are triggered at each floor and ground level.
 - The tailgates interlock locks work adequately. It must not be possible to operate (elevate or lower) the platform when one of the doors is opened
 - All **emergency stop** buttons are in working condition. When pressed individually, it must not be possible to operate (elevate or lower) the platform.
∞ [REFER TO SECTION 7.12 EMERGENCY STOP BUTTON, ON PAGE 58.](#)
 - Platform movement immediately stops when a landing door is opened. Test all landing doors.
 - Make sure the machine stops immediately a few seconds when reaching 10'-0" (3m) or less from the ground during descent. When the platform resumes its descent, make sure the sound signal works during the rest of the descent, until reaching ground level.
 - Inspect the condition and function of the emergency descent system.
 - While operating, someone must inspect the condition of the ground and of the load distribution elements (legs with adjustable jacks, shoring, etc.).

9.2. Weekly maintenance

In addition to the daily inspection elements, consider the following elements:

- Inspect the condition and integrity of the base components; the base, legs with adjustable jacks, the buffer.
- If the platform is not equipped with an auto-lubrication device (optional), the rack must be manually lubricated.

Note : it may be necessary to lubricate the rack more often if work shifts exceed 40h/week or in case of successive day and night shifts.

∞ [SEE PERIODIC LUBRIFICATION, ON PAGE 72.](#)

9.3. Monthly maintenance

- In addition to the daily and weekly inspection elements, consider the following elements:
- Check that **every bolt** of the mast, individual mast sections and end of mast section, of the base, of the travel en detectors, of the floor runners, of the centrifugal emergency brake, of the mast attachments and building anchors are tightened and safe. Tighten bolts according to the tightening torque guidelines as needed.
- Inspect alignment of the rack.
- Check the wear of the pinions, planetary gears and on the segments of the rack. Check with the 0,55" (14 mm) rectified stem. Replace parts as needed.
- Lubricate the centrifugal emergency brake through the four (4) lubrication points.

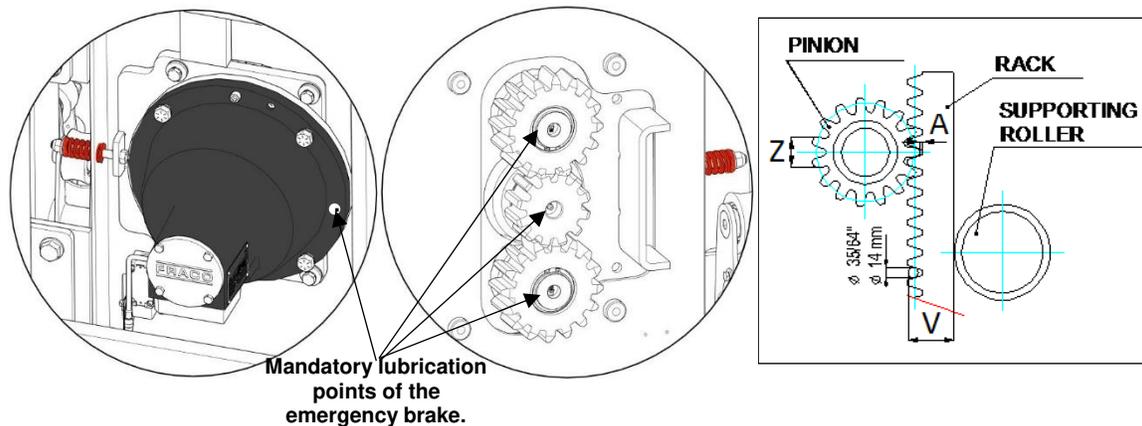


Figure 42 – Safety device greasing points

9.4. Quarterly maintenance

- Perform the **drop test** by following the present manual instructions. This test is required periodically by safety standards and it is possible that effective local laws and regulations require that this test be performed more frequently.
∞ [SEE SECTION 10.1 DROP TEST PROCEDURE, ON PAGE 75.](#)
- Inspect the condition of all data plates, stickers and warnings present on the platform. All data plates and stickers must be legible and in good condition. Replace as needed.
∞ [SEE SECTION 4.10 DATA PLATES AND STICKERS, ON PAGE 31.](#)
- Check the level of the lubricant tank (**tank is optional**).
 - The necessary quantity of lubricant necessary for 120h of normal operation is 1,2L.
 - Fill the lubricant tank before it empties.
To fill the tank, connect the lubricating pistol to the filling connector. Fill the tank until the lubricant reaches the MAX level.

WARNING! Lubricants with solid components are not adapted to this pump.

9.5. Annual maintenance

- Check the oil level in the engine gearboxes. Fill if necessary. **Warning!** Do not mix mineral and synthetic oils when filling the tank.
∞ [SEE SUGGESTED GREASE PROVIDER IN SECTION 9.7 PERIODIC LUBRIFICATION, ON PAGE 72.](#)
- Check and test the condition of each mobile and/or adjustable component. Presence of rust, wear and mechanical damage.
- Check that the rack segments are solidly bolted to the mast section. Tightening torque close to 240 ft/lb (325 Nm).

9.6. Three (3) years maintenance

- The emergency centrifugal brake must be replaced once every three (3) years. Refer to the data plate of the brake and contact your FRACO representative as needed.
- Perform maintenance of the engine gearboxes once every three (3) years. **Warning!** Do not mix mineral and synthetic oils when filling the tank.
∞ [SEE SUGGESTED GREASE PROVIDER IN SECTION 9.7 PERIODIC LUBRIFICATION, ON PAGE 72.](#)

9.7. Periodic Lubrification

Lubrication scheme			
Lubrication points	Nb of points / unit	Type of lubrication	Application method
Monthly (40 hours)			
(1) Rack	Total length of the mast	* Grease	Coating / pistol / (optional automatic lubricator)
(2) Centrifugal brake (Plateform int.)	1	Grease	Greasing pistol
(3) Centrifugal brake (Plateform ext.)	1	Grease	Greasing pistol
(4) Planetary pinions	6-8	Grease	Greasing pistol
Quarterly (120 hours) + monthly items			
(5) Power unit roller guides	16	** Penetrating oil	** Penetrating oil
Annually (480 hours) + monthly and quarterly items			
(6) Gear box	2-3	*** Gear oil	Fill (purge as needed)

* **Rack**, it is recommended to use the following greases: TOTAL CERAN XM 220 ou GEAR SHEILD extra heavy (extreme pressure lubricant).

** **The pillars of the rollers** are sealed and do not require lubrication. When installing the rollers, clean shaft surfaces with a penetrating oil of WD 40 (RED ARROW) and make sure the rollers slide easily along their shaft. Replace rollers if their seal is damaged or if they do not roll adequately.

*** **Recommended gear oil and manufacturers:**
 Mobil.....Glygoyle 200
 Aral.....Degol GS 220
 Shell.....Omala S4 WE 220
 BP.....Energol SG-XP 220

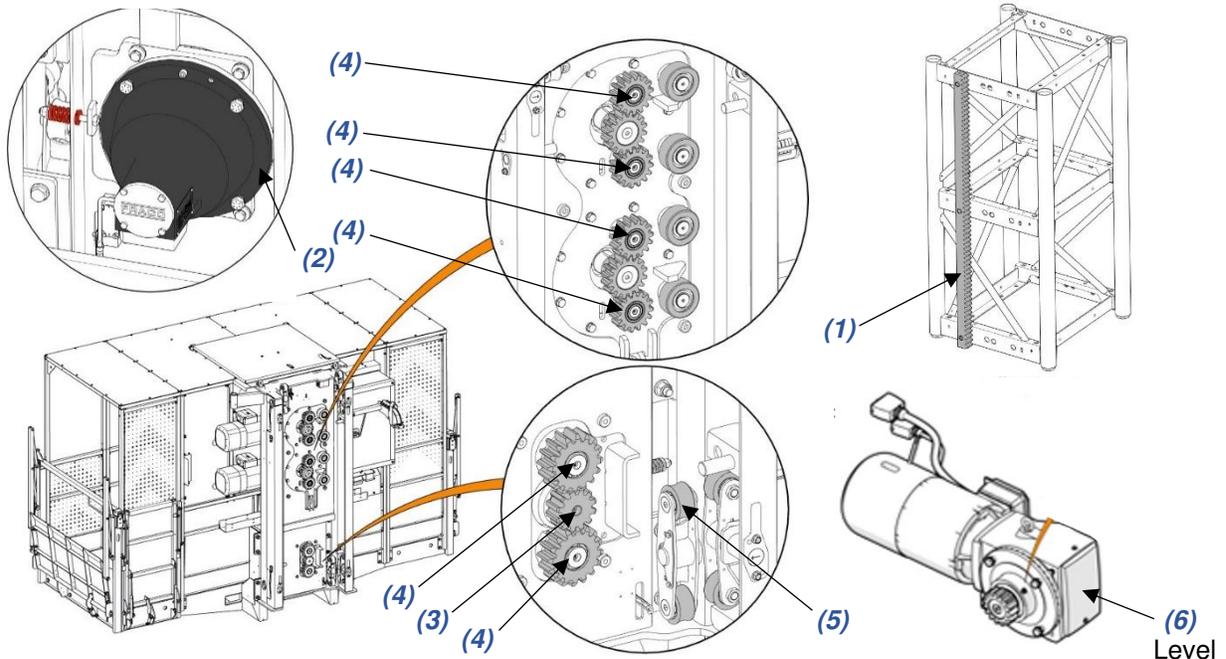


Figure 43 – Periodic lubrication points

9.8. Rack manual lubrication

If the machine is not equipped with an auto-lubricating device, available on option, the rack must be lubricated manually. It is advisable to be two (2) persons to proceed with lubrication, one person operating the platform and the other assuring continuous lubrication. Follow the instructions below:

1. Open the roof access trap.
2. Install the bypass key (EBL-0015) in the interlock.
3. The operator elevates the platform. During that time, lubricate the rack with a greasing pistol, applying lubricant the length of the mast between the teeth of the rack.
4. Remove the bypass key and store it in the tool compartment when lubrication is complete.

Important! It is prohibited to use this key for any bypass of the safety line.

An adequate and periodic lubrication respecting the lubrication scheme ([SEE SECTION 9.7 PERIODIC LUBRIFICATION, ON PAGE 72](#)) assures an optimal lifespan of the gearing systems and rack.

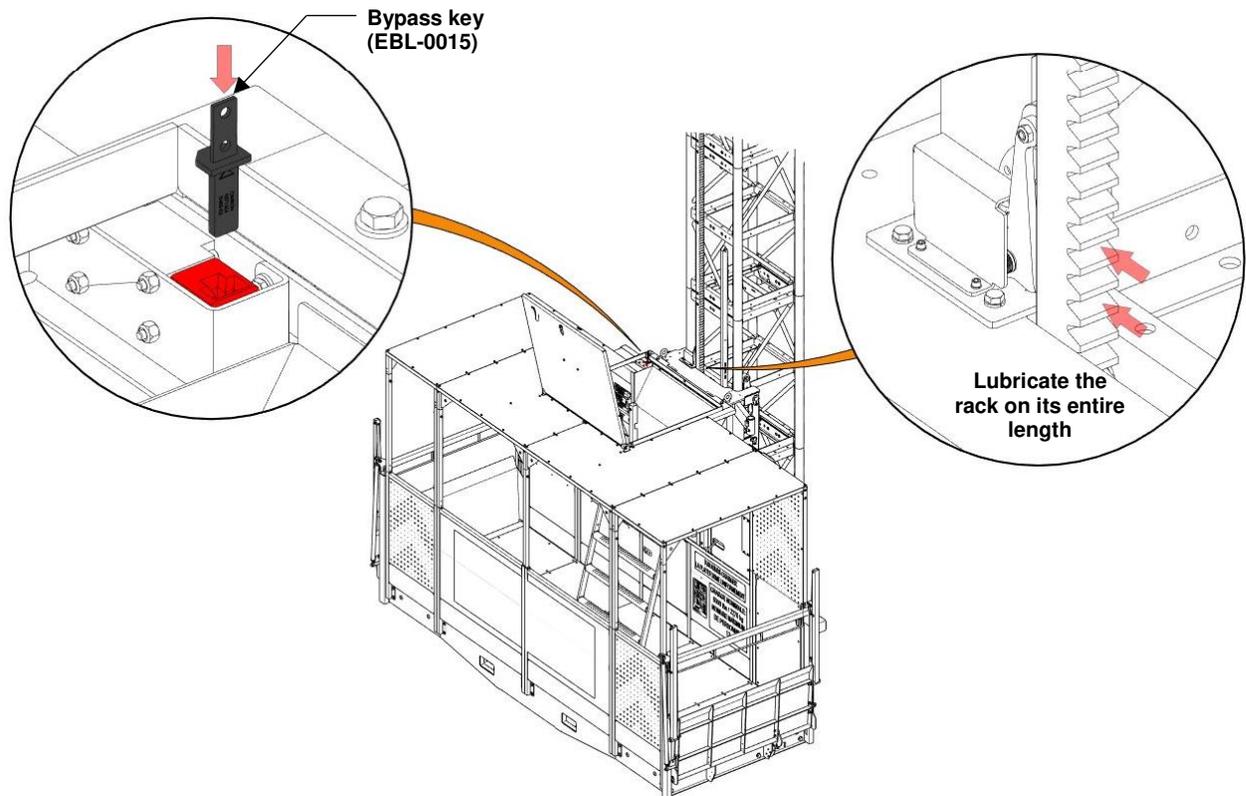


Figure 44 – Manual greasing of the rack

10. Procedures and inspection

10.1. Drop test procedure

- Load platform with up to 110% of the nominal load.
- Before the drop test, lower the unit to the ground and make sure the green light indicators of the main control panel (CC1) are lit before proceeding with the test.
- Only a qualified technician holding a valid **Level 1 (Safety and operator)** training card may proceed with this test.
- **Important!** This test must be performed once every three (3) years. Fill the register (Fraco SD2 Data on safety device use) of the safety device manual.

Steps:

1. On the main control panel (CC1), turn the "WORK / STOP / DROP" selector key (1) to the "CHUTE/DROP" position.
2. On the main control panel (CC1), connect the drop test remote control (2).
3. Lower the remote control to the base of the platform. Leave the platform and close the door behind you. **Important! All doors must be closed.**
4. **Important!** Set up a safety perimeter conforming to effective local regulation. Make sure all surrounding persons are informed and conscious of the test.
5. Elevate the platform to the height of four (4) mast sections, approximately 20'-0" (6 m) by turning the selector of the remote control to the "HAUT/UP" position (3).
Note : do not press the "ACTIVER/ENABLE" button (5) during movement of the platform. This button blocks the selector controls (3).
6. To proceed with the drop, simultaneously "ACTIVER/ENABLE" (5) et "TEST DE CHUTE/DROP TEST" (4) buttons of the remote control.



Figure 45 – Drop test

IMPORTANT :

If the emergency brake is not triggered in the first 5'-0" (1,5 m) of the drop, release the "TEST DE CHUTE/DROP TEST" (4) previous page and/or "ACTIVER/ENABLE" (5) previous page button to stop the descent!

7. After the drop, elevate the platform by approximately 1'-0" (0,3 m) to release the emergency brake by turning the selector of the remote control to the "HAUT/UP" (3) previous page position.
8. Then lower the platform by turning the selector of the remote control to the "BAS/DOWN" (3) previous page position. Maintain the selector in position until the automatic stop of the platform at ground level.
9. Before resetting the brake, make sure the three (3) light indicators of the main control panel (CC1) are turned off. If it is not the case, it means the brake activation detector is not well adjusted.
∞ REFER TO 10.1.1 EMERGENCY BRAKE RESET, ON PAGE 77.
10. Reset the emergency brake system by following the reset procedure of the safety device manual (SD2).
11. Fill the register (Fraco SD2 Data on safety device use) of the safety device manual.
12. Disconnect the drop test remote control (2) previous page turn the "WORK / STOP / DROP" selector key (1) to the "MARCHE/ON" (1) previous page position.

For the reset procedure, refer to the instructions on the next page.

10.1.1. Emergency brake reset

Note : the emergency brake must be reset after each drop test.

1. Open the access to safety device reset mechanism lid using a 13 mm wrench. Also remove the two bolts locking the compression ring.

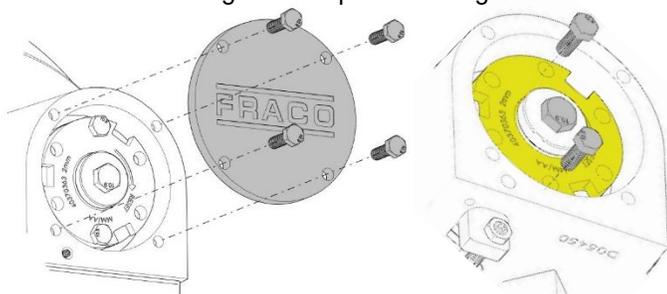


Figure 46 – Access to safety device reset mechanism

2. Use the tightening tork tool to turn the compression ring. Turn in the reset direction (indicated by the arrow). Raise the ring until the spring pin comes up to the surface.

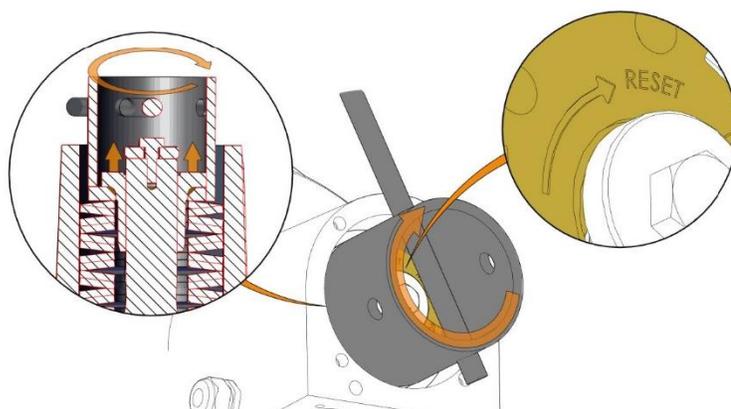


Figure 47 – Safety device reset

3. **Important!** Be careful not to change the position of the spring pin relative to the mechanism. Do not crush with a hammer nor crush when tightening the lid because that will modify the mechanism adjustment reference.

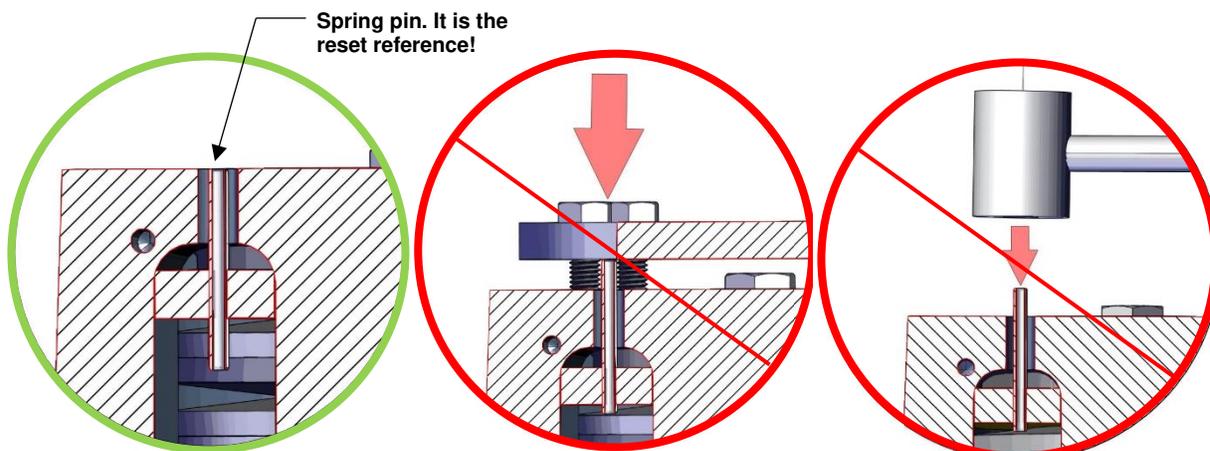


Figure 48 – Safety device spring pin positioning

11. Spare parts

When ordering spare parts, please indicate the following:

- Type of platform: (SEP)
- Year of construction
- Serial number
- Operating voltage
- For all these informations, the data plate is located on the base of the machine and inside the platform.
∞ [SEE SECTION 4.10.1 DATA PLATE AND SERIAL NUMBER, ON PAGE 31](#)
- Number of the required part
∞ [REFER TO THE PARTS BOOK \(RD-7243-MA-003\)](#)

NOTE:

Spare parts must meet the technical requirements of the manufacturer. Use only FRACO spare parts.

Place an order with our customer service for maintenance and maintenance work:

Addresses for sales and customer service according to your location:



Fraco Products Ltd
91, chemin des Patriotes
St-Mathias-sur-Richelieu (Québec)
J3L 6B6
Canada
Telephone : (450) 658-0094

Fraco Products Ltd
57 Avenue atomique
Toronto (Ontario)
M8Z 5K8
Canada
Telephone: (416) 255-9300

Fraco USA
4312 Old Milford Mill Road
Baltimore, Maryland 21208
USA
Telephone: (410) 580-9140

Fraco USA
21750 Schmeman Avenue
Warren, Michigan 48089
USA
Telephone: (248) 667-9260

12. Technical data

12.1. Electrical technical data

Power ratio of the motor elevation unit	15 kW (20 HP)
Principal power supply, frequency	460 VAC, 60Hz
Control voltage, frequency	24 VDC
MAXIMUM power consumption	(TEST)
MINIMUM power consumption	(TEST)
MAXIMAL starting current	102 A
Type of current for the main disconnect switch	Delay 40 Amps
Output current for portable tool outlet	120 VAC 15 Amps

Table 12 – Electrical technical data

Note: Supplying the input current box and the main disconnect switch is responsibility of the contractor. The manufacturer is not responsible of supplying these equipments but can nevertheless advise in the selection of these equipments. If needed, contact your FRACO representative.

12.2. Platform technical sheet

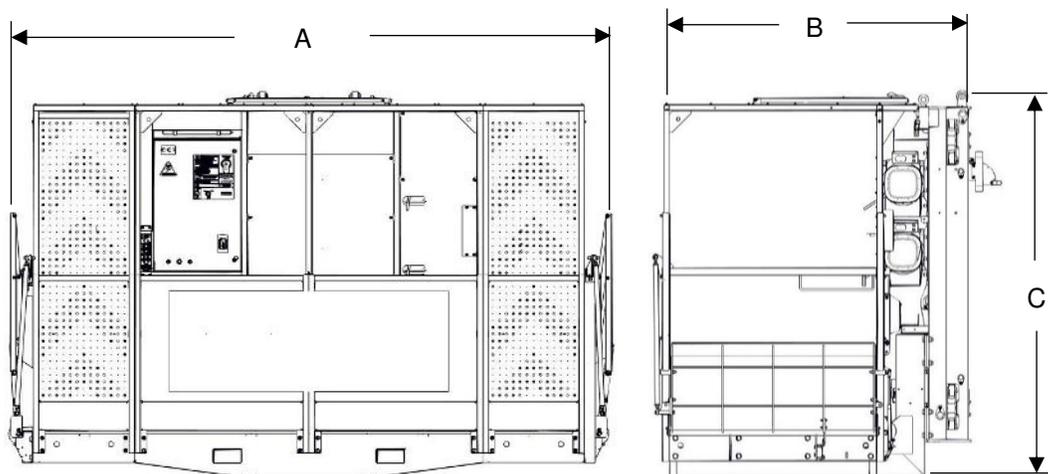


Figure 49 – Platform dimensions

	Platform SEP-5000 (RD-7243-BC-104)	Imperial	Metric
A	Length	13'-1"	4 m
B	Width	72'-11 3/4"	2,15 m
C	Height	8'-9"	1,5 m
	Weight	6 600 lb	3 000 kg
FOR DIFFERENT LENGTHS, REFER TO SECTION 4.7 CONFIGURATIONS, ON PAGE 22			

Table 13 – Platform weight and dimensions

12.3. Mast section technical sheet

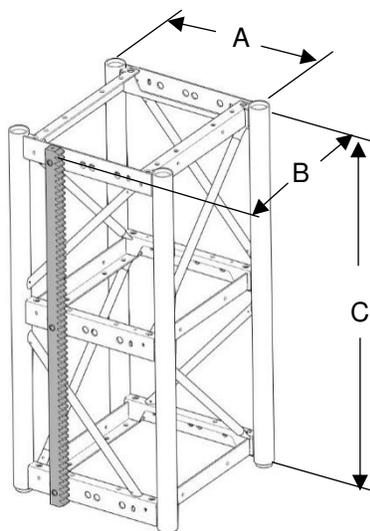


Figure 50 – Mast section dimensions

	Mast section 26" x 26" x 5'-0", 1 rack (13090104)	Imperial	Metric
A	Length	28-5/8"	727 mm
B	Width	29-7/8"	760 mm
C	Height	5'-0"	1,5 m
	Weight	300 lb	136 kg

Table 14 – Mast section weight and dimensions

12.4. End mast section technical sheet

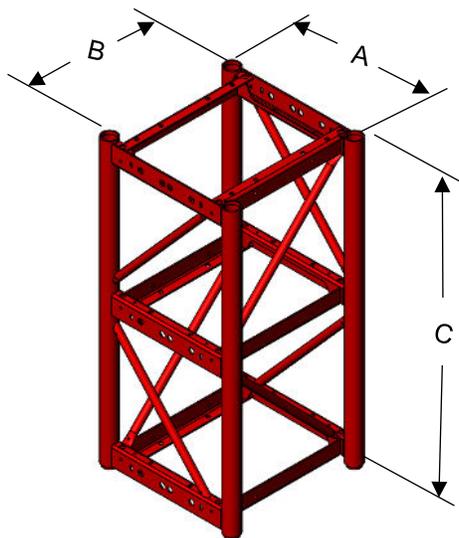


Figure 51 – End mast section dimensions

	End mast section 26" x 26" x 5'-0" without rack (13090069)	Imperial	Metric
A	Length	28-5/8"	727 mm
B	Width	29-7/8"	760 mm
C	Height	5'-0"	1,5 m
	Weight	287 lb	130 kg

Table 15 – End mast section weight and dimensions

12.5. Adjustable ground base technical sheet

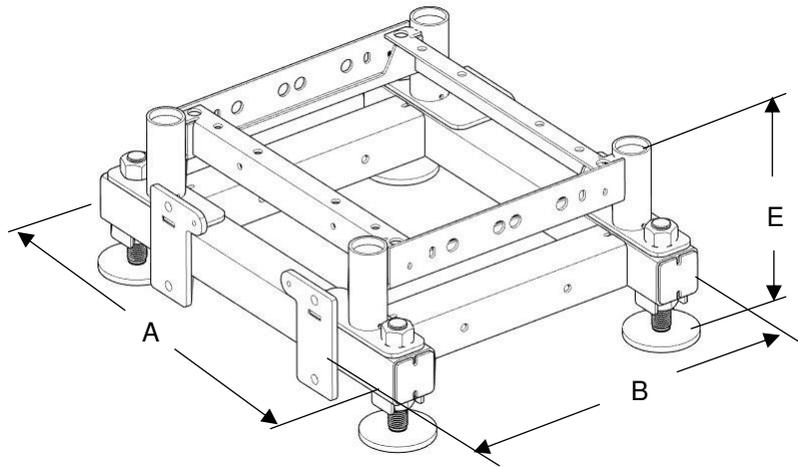


Figure 52 – Adjustable ground base dimensions

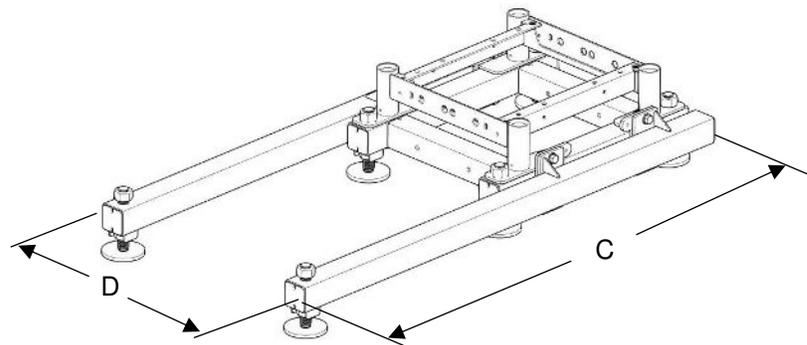


Figure 53 – Ground base dimensions with installation outriggers

	Ground base with mast 26" x 26" (14050011)	Imperial	Metric
A	Length (base)	3'-1 1/2"	0,95 m
B	Width (base)	2'-6 5/8"	0,77 m
C	Length (base with outriggers)	6'-8 1/2"	2,00 m
D	Width (base with outriggers)	3'-3 5/8"	1,00 m
E	Height	15"	0,38 m
	Weight (base)	255 lb	115 kg
	Weight (base with outriggers)	475 lb	215 kg

Table 16 - Ground base weight and dimensions

13. Machine disposal

Correctly dismantle the equipment at the end of its lifespan and dispose according to effective local regulation.

Respect the following guidelines when disposing of equipment parts/elements:

- Drain oil/grease and dispose in an eco-friendly manner.
- Recycle metallic parts.
- Recycle plastic parts.
- Recycle electrical components at recycling of hazardous waste sites.

Recommendation: Contact the manufacturer or mandate a specialized disposal company according to effective local regulation.

14. Warranty and declaration of conformity

Please refer to warranty conditions in the sales terms and conditions (see invoice or delivery form). Are not included in the warranty damages of defects that occur due to unrecommended electrical connection, mishandling, damage and faults that occurs because of faulty electrical wiring, faulty manipulation, non-compliances to the installation and operation manuals. Electrical cables and parts prone due to normal wear are also excluded. The manufacturer reserves the right to decide how and by whom defects are corrected.

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Periodic inspection forms

Inspection conclusions

Date and signature of person responsible

Inspection conclusions

Date and signature of person responsible