



OPERATING AND  
MAINTENANCE  
HANDBOOK

JOLLY JUNIOR CE



*SINGLE/TWIN MAST PLATFORM*



**CONFORMITY CE DECLARATION**

The Pro-tempore Administrator of the society SAFI S.r.l. with seat in: Via S. Rocco, snc  
31041 CORNUDA (TV)

DECLARES

That the single - twin mast working platform mod.: JOLLY JUNIOR CE

- Serial Nbr. :
- Year of construction:

made by:

- Two motor groups:
    - Serial number :
    - Serial number:
- (Note: Before the use of the machine please check the instruction manual)*

produced by **SAFI S.r.l.**;

has been developed, designed and produced in conformity with the following Directions and Rules:

- **DIRECTION 98/37/CE**: Machine Direction;
- **D.Lgs. 626/94**: Safety and health of the workers during the work;
- **DIRECTION 73/23/CEE** – “Low tension”;
- **DIRECTION 89/336/CEE** – “Electro-magnetic compatibility”;
- **RULE UNI EN1495** – “ Mast climbing work platforms on mast towers”;
- **RULE EN 292 - Part 1 and 2**: Safety of the machine – Fundamental concepts, general principles of design;
- **RULE EN 60204-1:1992**: Safety of the machine – Electrical equipment of the machines;

The documentation is complete and available.

The operating and service manual for the use and maintenance of the machine is integrant part of the present declaration.

The platform is in conformity with the type certificate:

**O.C.E. Organismo di Certificazione Europea S.r.l.** (Notificato CEE n. 0397)  
Via Ancona 21 – 00198 ROMA - ITALY

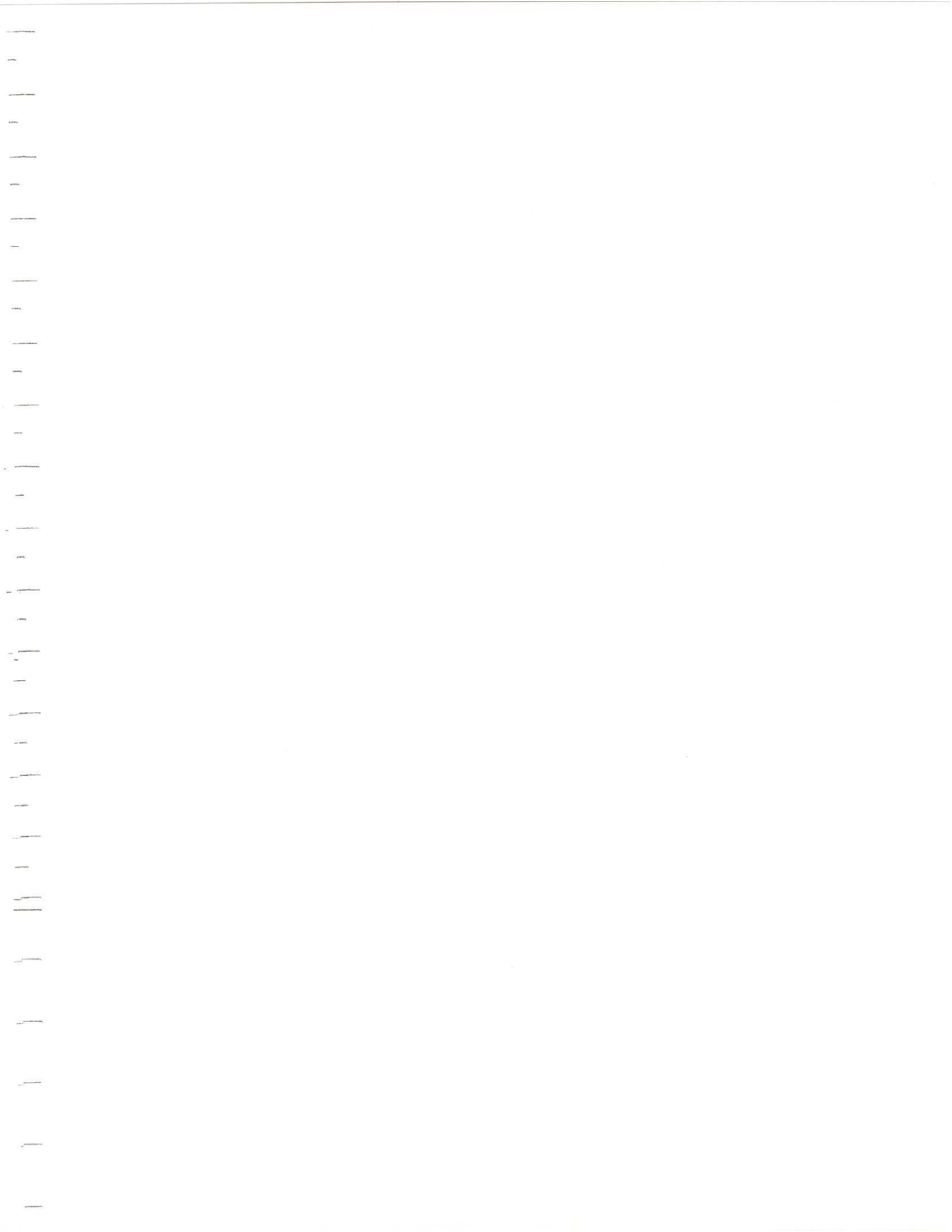
EC-TYPE TEST CERTIFICATE NBR. 48/D DATED 27.02.2001

In case of modifications of the machine from third parties the conformity with the sample submitted to checking cannot be guaranteed and therefore the present declaration loses any validity.

Cornuda, 13 JUNE 2005

**SAFI S.r.l.**









### MACHINE DATA

DATE	13/06/2005
CUSTOMER	AMERICAN PLATFORM AND SCAFFOLDING
ADDRESS	823 FAIRVIEW AVENUE 21080 LINTHICUM - MARYLAND U.S.A.
TYPE OF MACHINE	SINGLE MAST CLIMBING WORK PLATFORM
MODEL	MOD. JOLLY JUNIOR
SERIAL NO	12/018/05
YEAR OF MANUFACTURE	2005
CE MARK REFERENCE	OCE N. 47D DATED 27.02.01
COUNTRY OF PRODUCTION	ITALY
MOTOR UNIT SERIAL NUMBER	104/011/05 104/012/05
PARACHUTE BRAKE NBR.	01/012/05 01/013/05

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# Organismo di Certificazione Europea S.r.l.

## ATTESTATO DI ESAME CE DI TIPO

ATTESTATION CE DE TYPE  
EC-TYPE TEST CERTIFICATE  
EG-BAUMUSTERBESCHEINIGUNG

**N° 48/D**

**SAFI S.r.l.**

**Via S. Rocco, 8 – Cornuda (TV)**

Costruttore / Fabricant / Manufacturer / Hersteller

**Piattaforma di lavoro autosollevante bicolonna  
mod. JOLLY JUNIOR CE  
con estensione della piattaforma a 17,759 m**

Prodotto, Tipo / Produit, Type / Product, Type / Produkt, Typ

**N° 47/D – 27 febbraio 2001**

Numero e Data del Rapporto di Prova / Date et Numéro du Rapport d'Essai  
Date and Number of Test Report / Datum und Nummer des Prüfberichtes

**89/392/CEE**

Direttiva(E) della Comunità Europea / Directive(S) de la Communauté Européene  
EC-Directive(S) / EG-Richtlinie(N)

Altre condizioni e limitazioni sono contenute nelle pagine allegate  
Autres conditions et limitations sont contenues dans les pages annexes.  
Other conditions and limitations have been presented on following pages.  
Andere konditionen und beschränkungen in die anlagen seiten enthalten sind.

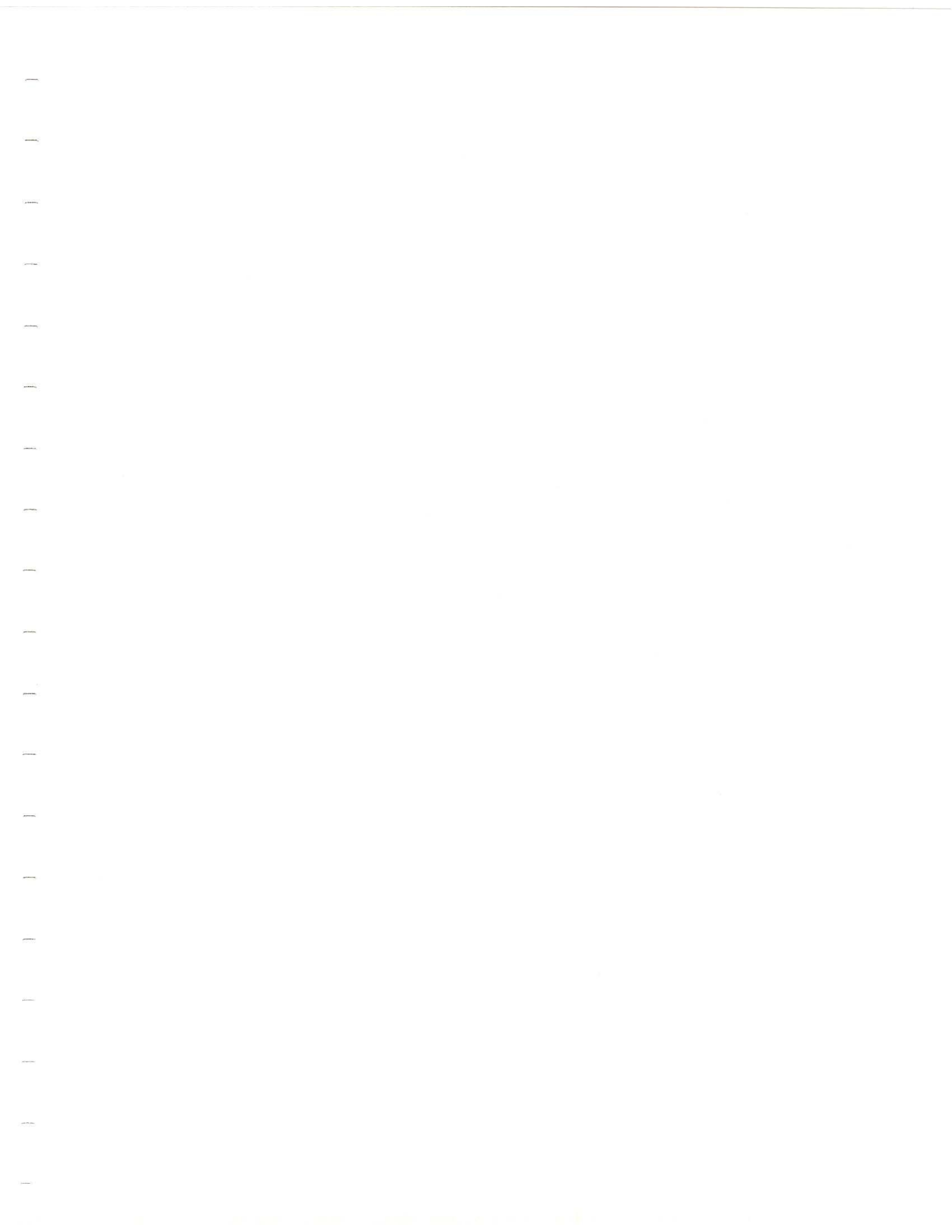
**27 febbraio 2001**

Ing.  Lombardi



Ing.  Cilia

OCE Organismo di Certificazione Europea S.r.l.





### **Preliminary prescriptions**

*During the first 100 working hours do not lubricate neither the pignons nor the racks. During this first period of working there is a certain deposit of zinc and other impurities among the pignon's teeth which must be removed using an adequate in size drift. If this operation is not effected EVERY DAY, some serious and dangerous malfunctions could occur to the machine.*

*In the event that during the use, rising or descending, some abnormal noises were heard block immediately the machine and ask for the intervention of a qualified technician.*

*The manufacturer declines any responsibility for inconveniences arising from the non-observance of the above mentioned rules and prescriptions contained in this manual.*





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## CHAPTER 1

### Guide for reference

#### 1.1) Scope and limits of the instruction booklet.

This booklet accompanies the machine that has been sold and contains instructions for its transportation, erection, use and maintenance, in accordance with instructions contained in the machines directive EEC 89/392. All the operations which fall within normal use and routine maintenance of the machine have been taken into consideration when preparing this booklet.

The instructions should therefore be scrupulously followed for correct, optimum use.

The operating and maintenance booklet is an integral part of the machine and instructions provided by European norms on the methods of preparing the operating booklet have been followed, in particular:

EN 292/2 - Ch.5

Pr En 1495 January 1997

The user must read the booklet carefully, referring in particular to all norms and instructions regarding safety, before carrying out any installation operation or using the machine.

#### 1.2) Where and how to keep the instruction booklet

This booklet can in no way substitute adequate experience, which personnel assigned to using the machine should have already obtained on similar machines or may gain on this machine under the guidance of trained personnel.

The machine should only be used by authorised, trained personnel. All operations requiring work on machine components should be done by authorised, trained technical personnel.

This booklet (or complete copy) should always be on board the machine for immediate consultation by the operator and should be kept in good condition.

#### 1.3) Amendments to and integration of the instruction booklet

Due to the manufacturer's policy of constant, continual product improvement, the supplied machine could differ in some technical details compared to what is described in this booklet; any variations will in any case always be accompanied by specifications which will illustrate their function and characteristics; should there be differences with regard to the basic contents of the booklet, the user should immediately request supplementary data sheets. Safi reserves the right to update its production and relative instruction booklets following development in techniques, the acquisition of new experience or a change in provisions laid down by the law, without being obliged to alter machines that have already been sold or their relative booklets.

#### 1.4) Exceptions to liability

Safi cannot be held liable for any damage or injury due to incorrect use of the equipment or failure to comply with the instructions given in this booklet. Safi cannot be held liable for troubles, damage or injury due to:

- improper use of the machine;
- use by untrained personnel;
- use that is contrary to the safety norms provided for by specific community or national laws;
- total or partial failure to comply with instructions contained in this booklet;
- failure to comply with instructions for the maintenance recommended in this booklet;
- alterations or repairs not authorised by the manufacturer;
- use of other than original spare parts, which are indicated in the spare parts catalogue.

For SERVICE contact:

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E-mail: [Box@SAFI.it](mailto:Box@SAFI.it)



## CHAPTER 2

### Technical characteristics

Table 1: Performance

TYPE OF PLATFORM	JOLLY JUNIOR CE TWIN MAST	JOLLY JUNIOR CE SINGLE MAST
Maximum height	100 m	100 m
Total maximum capacity load	800 daN	400 daN
No. persons allowed	4	2
Maximum work deck length	17.759 m	5.297 m
Work deck width	0,8 m	0,8 m
Overhang towards wall	0,6 m	0,6 m
Speed	6 m/min	6 m/min
Maximum permissible wind speed during operation with anchors	55,8 km/h	55,8 km/h
Maximum thrust on guard-rails	90 daN	60 daN
Maximum wind speed during erection/dismantling.	45,7 km/h	45,7 km/h
Maximum wind speed when out of commission	151,2 km/h	151,2 km/h
Power supply	254...277/440...480 V – 60 Hz	254...277/440...480 V – 60 Hz
Single-phase	190....240 V – 60 Hz	190....240 V – 60 Hz
Weight at base	2060,1 daN	8394 daN

Table 2: Safety devices

Reduction gears
Self-braking electric motors
Switchboard with low-voltage controls (24 V)
Ascent-descent-level limit switches
Mast emergency limit switch
"Gate" limit switch
"Descent" runby limit switch
"Level" runby limit switch
Trestlework protective screening
Possibility of emergency manual descent

Table 3: Technical characteristics

40 mm thick deal floors
Minimum height of work deck from the ground 1.5 m (4.92 feet)
Wall anchorage every: 6 m (19.68 feet)
External guard-rails with plate toeboard height 200 mm (0.65 feet)
Wall-side guard-rails when the horizontal bridge is over 300 mm ( 0.98 feet) from the wall
Noise level Leq: 60 dB(A)

Table 4: Weight of components

DESCRIPTION	WEIGHT daN
Base complete with stabilisers	146
Arm complete with stabilisers	12.5
Complete motor unit	227
Self-braking electric gear-motor	55
Centrifugal parachute brake	36
Vertical element	36.5
End vertical element	30.5
1433 mm (4.7 feet) beam with wall-side brackets	44
Wall-side brackets	2
Complete long connecting pin	0.5
Complete short connecting pin	0.4
1433 mm (4.7 feet) beam with brackets, floor or deck, guard-rail, 3 single columns and 3 short connecting pins	94.7
Wooden platform floor	20
1400 mm (4.59 feet) guard-rail	17.5
R.h. end guard-rail	13.5
L.h. end guard-rail	13.5
Single column	4
Double column	4.5
Protective column grating	13.5
Gate with guide	29
Access stairway	16
Switchboard with shield	41
Anchoring bracket	3.5
Anchorage clamp	7.5
Right-angle clamp	1.5

WEIGHT OF FRAMEWORK

Length: \_\_\_\_\_ feet.

Height: \_\_\_\_\_ feet.

Weight at bottom of framework L=..... feet: .....lbs

Weight at bottom of platform L=..... feet: .....lbs

weights

DESCRIPTION	No.	WEIGHT lbs (component)	TOTAL WEIGHT
Vertical elements		36.5	
End vertical elements		30.5	
Anchoring bracket		3.5	
Anchorage clamp		7.5	
Right-angle clamps		1.5	
Electrical cable (weight per metre)		0.793	
TOTAL ADDED WEIGHT (lbs)			

TOTAL WEIGHT OF FRAMEWORK = \_\_\_\_\_ lbs  
(Weight at base + Added weight)





## CHAPTER 3

### **Description**

The JOLLY JUNIOR CE model platform is a dynamic machine which uses the gearmotor-driven pinion-rack to move a work deck up to different heights.

The platform offers the user countless advantages such as: a considerable reduction in cost per square metre of facade that is covered thanks to the shorter time required for erection and dismantling compared to traditional systems; a certain independence for the operators using it since they can carry with them all they need without requiring other hoisting means; physical fatigue is consequently reduced and it is easier to carry out work because the platform may be positioned and stopped at whatever height is desired; greater safety, since all the necessary protective devices have been used to keep persons and property from harm.

In addition it enhances the image, from a site technical/organisational point of view, of the building contractors using it.

### **3.1) JOLLY JUNIOR CE twin-mast platform**

The JOLLY JUNIOR CE model twin-mast platform consists of two bases on which vertical elements are mounted, fitted with rack and a horizontal mobile work deck activated by one or two lifting units.

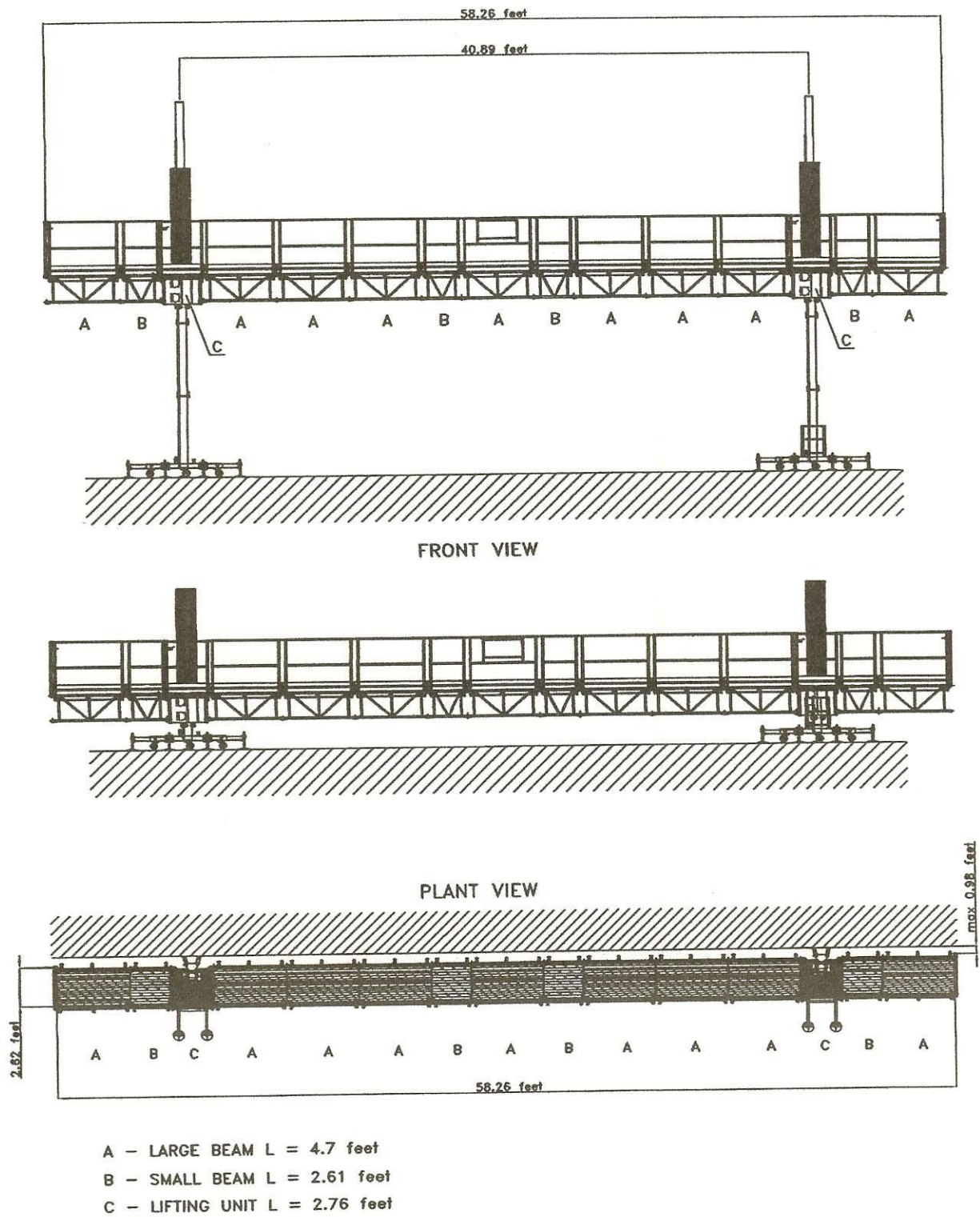


FIG. 3.1.1 17.76 meters (58.26 feet) twin-mast platform

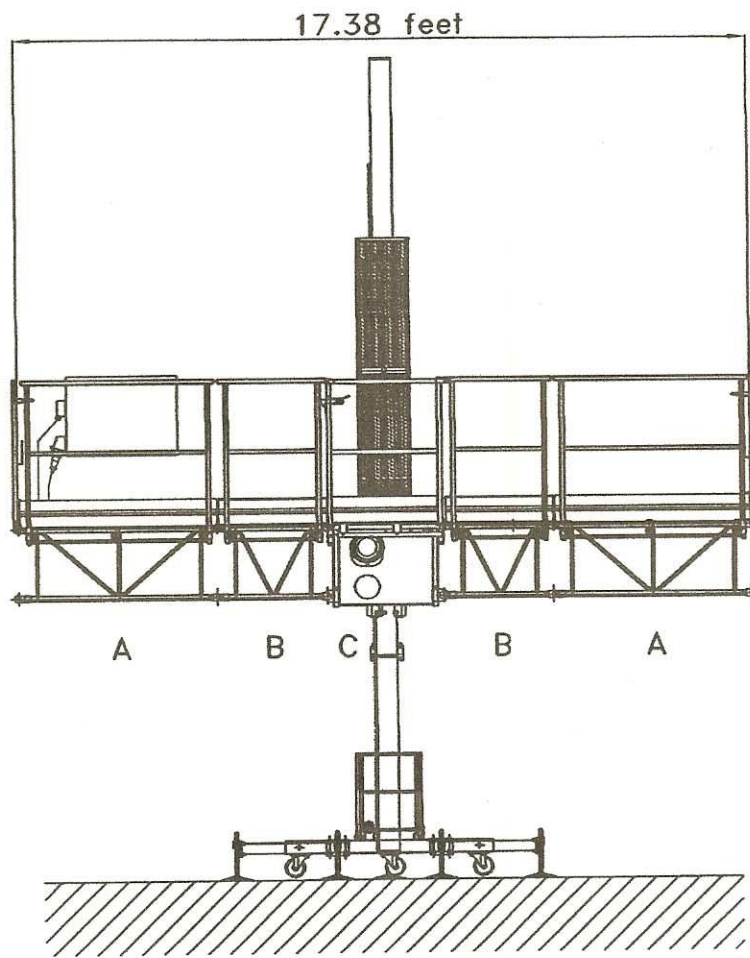


### **3.2) JOLLY JUNIOR CE single-mast platform**

The SAFI JOLLY JUNIOR CE model single-mast platform consists of a base with 5 stabilisers. Vertical elements fitted with rack and a horizontal mobile work deck activated by two lifting units are mounted onto this base. The machine may be made with the components of the two-mast model. Base, vertical elements, gear-motor units, beams, guard-rails are the same as those for the JOLLY JUNIOR CE twin-mast platform.

The switchboard of the twin-mast platform may in turn be transformed into switchboard for the single-mast platform. Since the single-mast platform has just one gear-motor unit, just one multiple socket is used, whilst the other socket is isolated by means of a jumper that it is provided.

That is why the description of the erection, dismantling and operating procedures for the twin-mast platform are also applicable to the single-mast platform, except for those components not designed for the single-mast version.



FRONT VIEW

- A - 4.70 FEET BEAM
- B - 2.61 FEET BEAM
- C - 2.76 FEET LIFTING UNIT

FIG. 3.2.1 5.3 meters (17.38 feet) single-mast platform

## CHAPTER 4

### Components

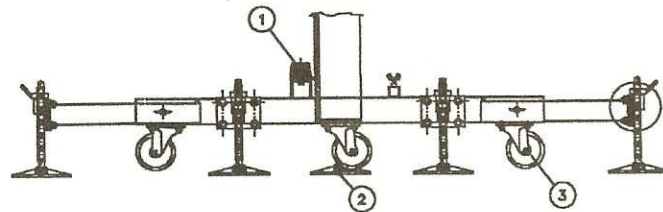
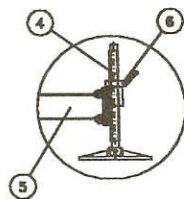
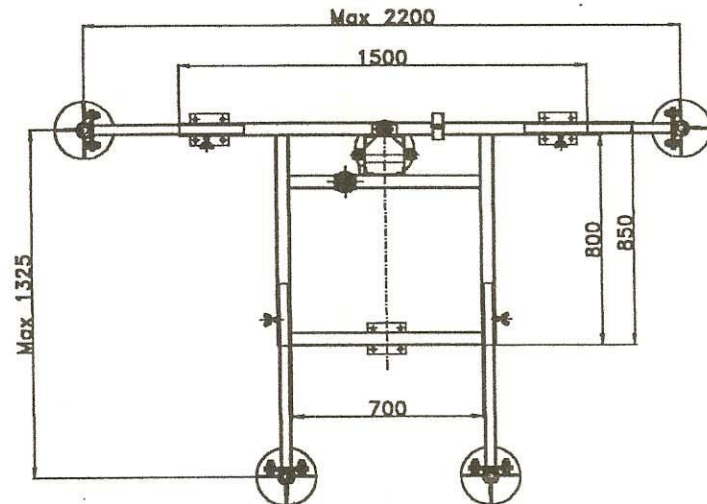
#### 4.1) Base

Each of the two bases consists of a steel section frame and serves as a distributing element, through 5 points of support, to earth of the load which is transmitted from the vertical mast. The points of support consist of 4 screw or jack stabilisers, which guarantee the verticality and stability of the mast. The large central screw supports the mast load.

The base is fitted with four swivelling wheels mounted on special supports to allow the platform to be moved on site without having to completely dismantle it.

It is also fitted with a rubber shock absorber to counteract any impact of the hoisting system. For dimensions, see the drawing below.

N°	DESCRIPTION
1	RUBBER SHOCK ABSORBER
2	LARGE CENTRAL SCREW
3	SWIVELLING WHEEL
4	STABILISER
5	STABILISER ARM
6	LARGE SCREW RING NUT



WEIGHT AT THE BASE = 146daN

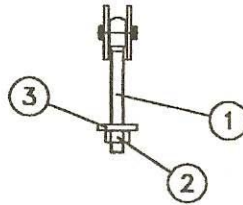
FIG. 4.1.1 Base

**4.2) Vertical elements**

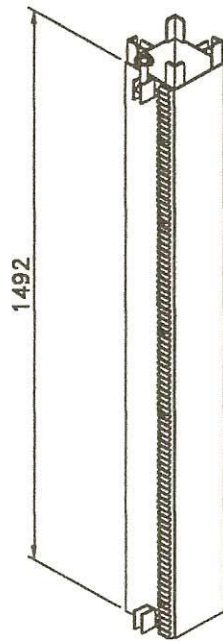
These consist of 1.492 m (4.89 feet) high tubular modular elements, connected one on top of the other by means of galvanised steel screw stays + nut + one plain washer

The overall dimensions are: height 1.492 mm (4.89 feet), base 150 x 150mm (0.49 feet x 0.49 feet).

N°	DESCRIPTION
1	SCREW STAY
2	HEXAGON NUT
3	WASHER

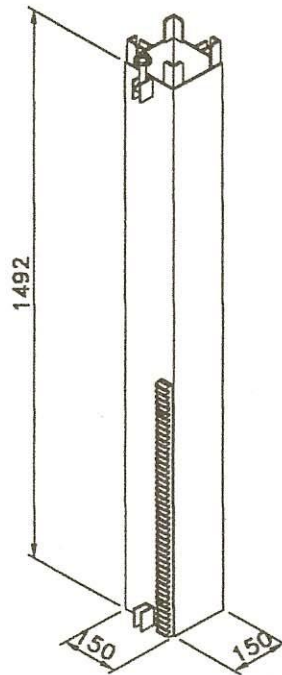


VERTICAL ELEMENT



WEIGHT = 36,5daN

END VERTICAL ELEMENT

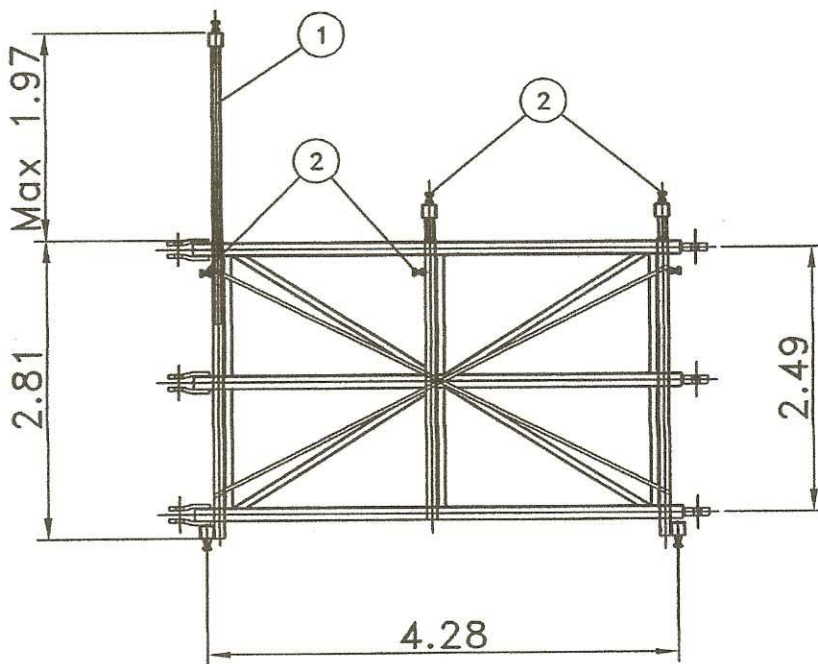
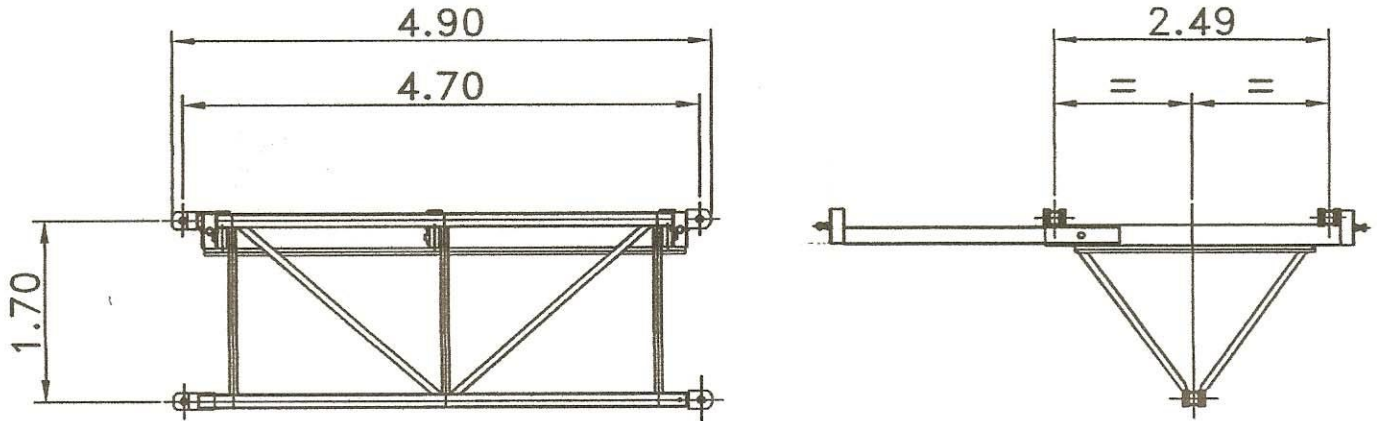


WEIGHT = 30,5daN

FIG. 4.2.1 Vertical elements

4.3) Beam

N°	DESCRIPTION
1	EXTENSIONS
2	EXTENSIONSLOCK WING NUT

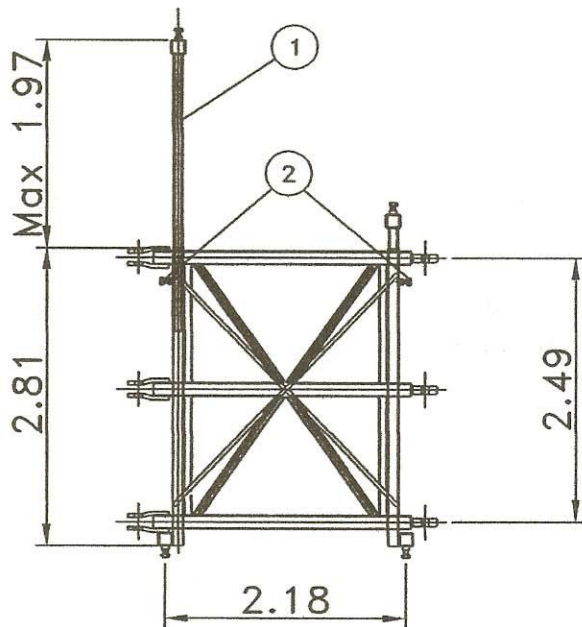
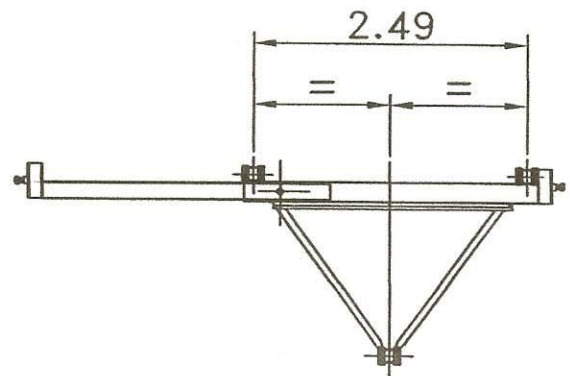
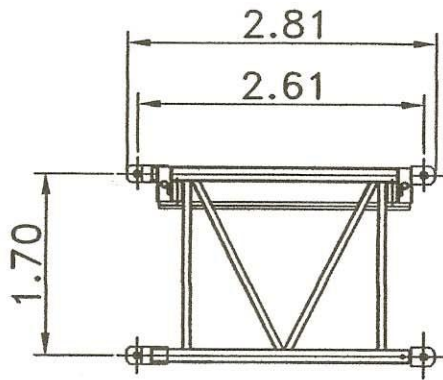


COMPLETE BEAM WEIGHT = 97.0 lbs

FIG. 4.3.1 – 1433 mm (4.70 feet) long beam



N°	DESCRIPTION
1	EXTENSIONS
2	EXTENSIONSLOCK WING NUT



COMPLETE BEAM WEIGHT = 57.3 lbs

FIG. 4.3.2 – 795 mm (2.61 feet) short beam



#### 4.4) Gates and guard-rails

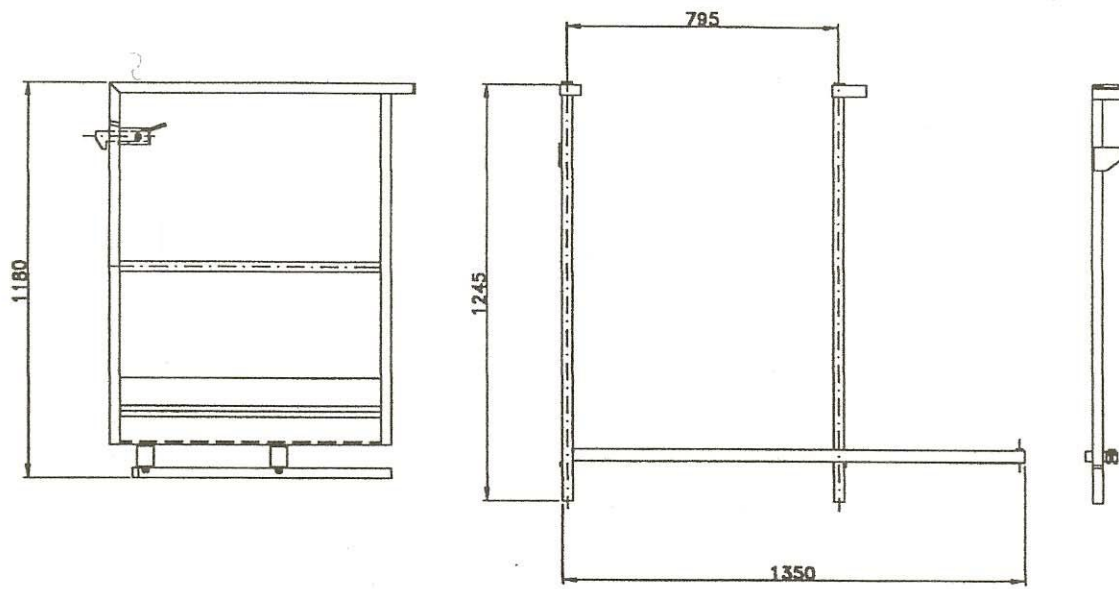


FIG. 4.4.1 Gate and gate guide

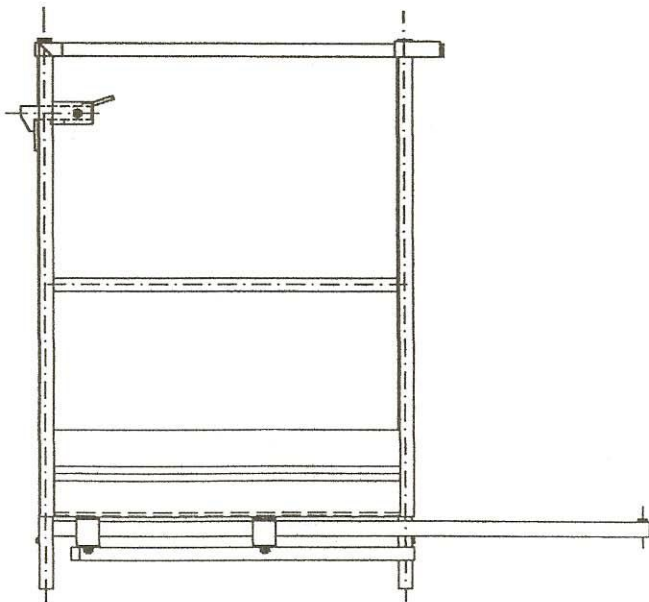


FIG. 4.4.2 Gate with guide

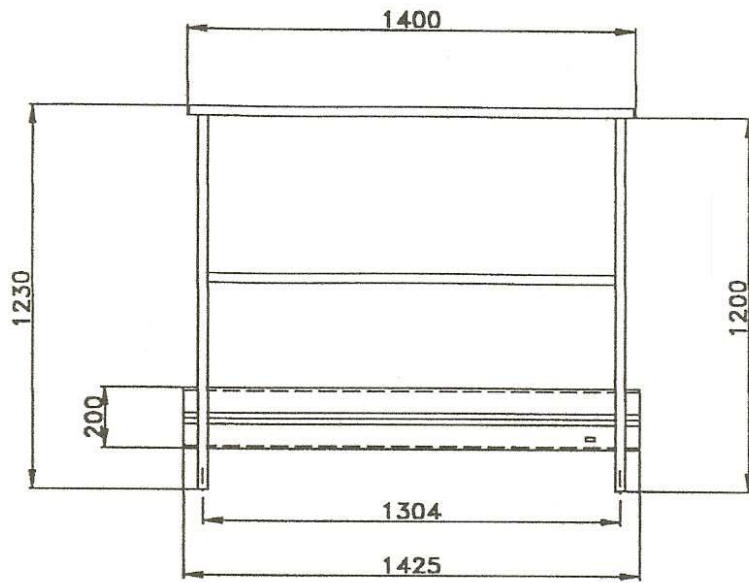


FIG. 4.4.3 Guard-rail

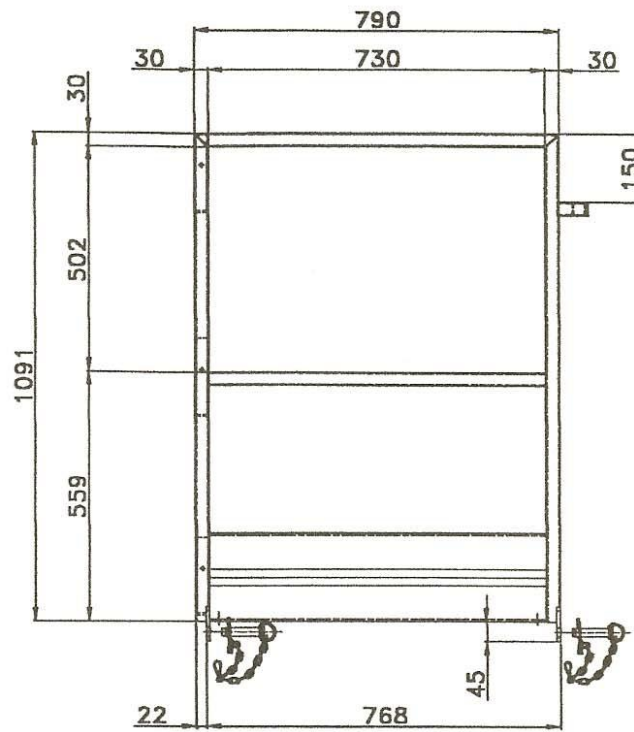


FIG. 4.4.4 Right end guard-rail

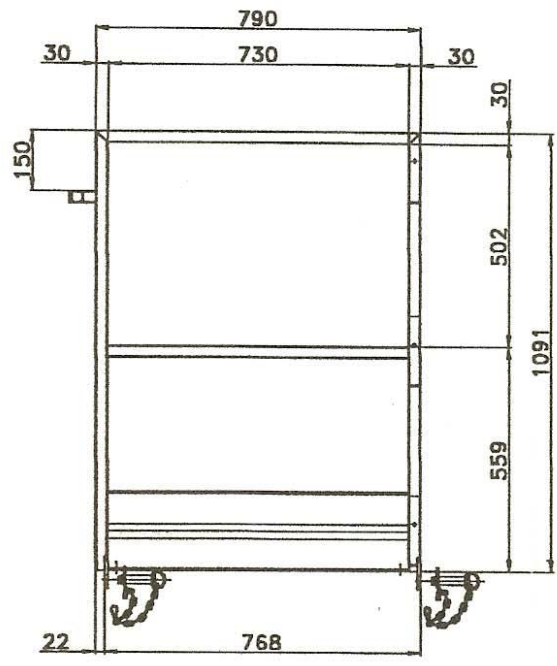


FIG. 4.4.5 Left end guard-rail

#### 4.5) Deck and access stairway

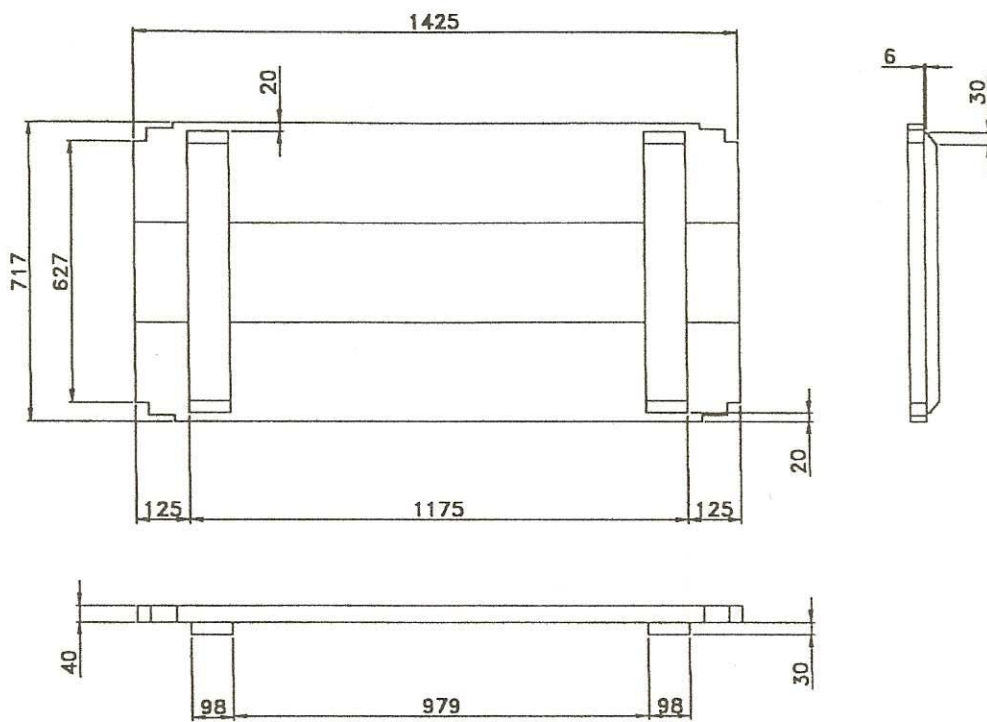


FIG. 4.5.1 Wooden decks

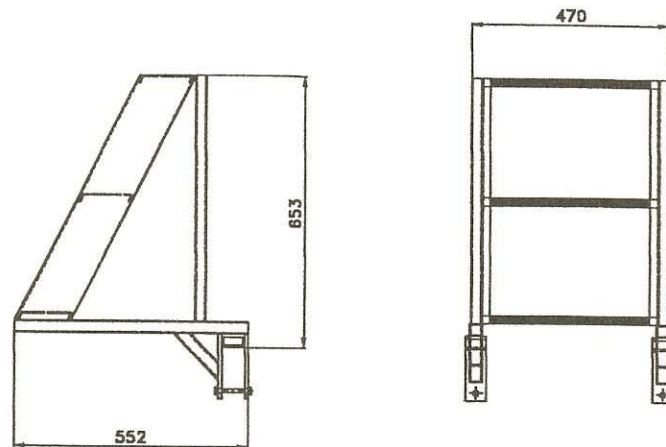


FIG. 4.5.2 access stairway

#### 4.6) Gear-motor unit

Each gear-motor unit, which provides the vertical movement, in its standard version consists of a self-braking electric motor coupled to a speed reducer (see version A of Fig. 4.6.1), which transmits the movement through a pinion in contact with the rack

The JOLLY JUNIOR framework has also been designed and tested to provide the possibility of supplying each individual gear-motor unit in another 2 versions.

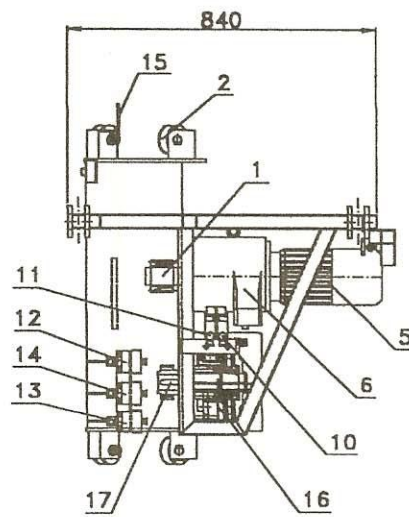
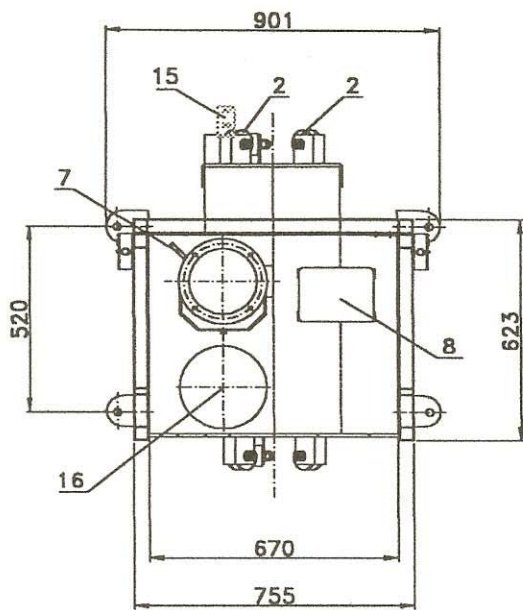
The first version gives the possibility of coupling 2 gear-motors with three-phase power supply 220V-380V (see version B of Fig. 4.6.1).

The second version gives the possibility of coupling 2 gear-motors with single-phase power supply 220V (see version C of Fig. 4.6.1).

The guide along the mast consists of 10 guide rollers, 6 of which with groove, 2 flat and 2 with sprockets.

The electric commands for movement of the two units are enclosed in a sealed switchboard with low-voltage control push-button control strip (24V).

Micro limit switches are also provided at minimum and maximum heights as well as a micro runby switch which cuts off power in the event of incorrect operation during erection.



A- STANDARD VERSION CONSISTING OF 1 THREE-PHASE POWERED GEARMOTOR (220V-380V) AND ONE CENTRIFUGAL SAFETY BRAKE

FIG. 4.6.1 Gear-motor unit

TAB. 5: Components of the gear-motor unit

POS	COMPONENTS	SYMB.
1	Motor pinion	
2	Guide roller with groove	
3	Flat guide roller	
4	Guide sprocket	
5	Self-braking electric motor	
6	Reduction gear	
7	Motor brake release rod	
8	Junction box	
9	Door limit switch	
10	Level limit switch	
11	Level runby limit switch	
12	Ascent limit switch	
13	Descent limit switch	
14	Ascent-descent runby limit switch	
15	Stroke end limit switch	
16	Centrifugal brake	
17	Centrifugal brake pinion	







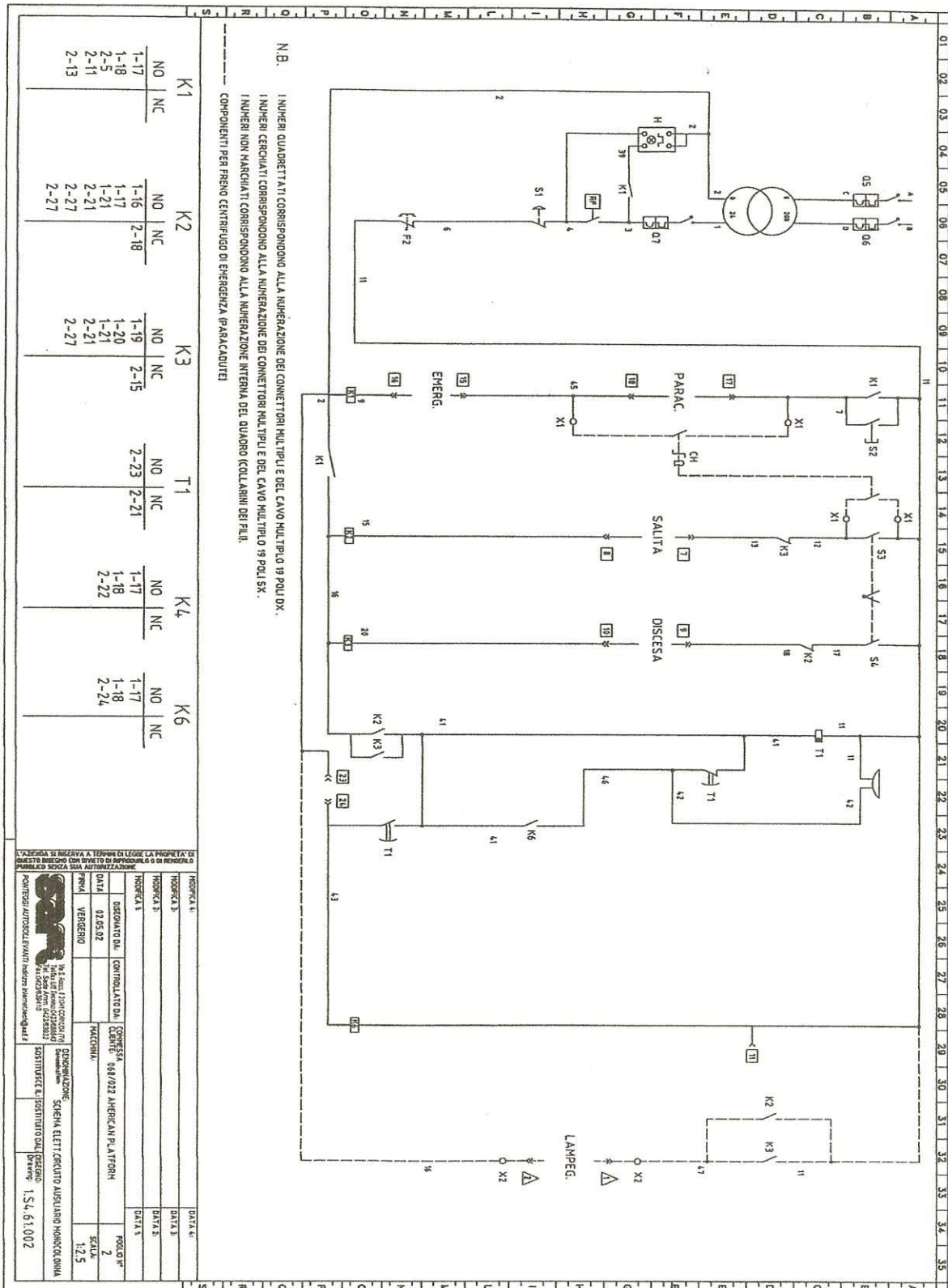


FIG. 4.7.3 JOLLY JUNIOR CE single-mast platform auxiliary circuit





TAB. 6: Wiring diagram symbols

POS.	DESCRIPTION
PG	Power supply outlet
SE	Power supply plug with reverse
Q1	Thermo-magnetic cut-out switch
RF	Phase control relay
PS	Service outlet
Q2	Switch of service outlet
Q3	Commutator 230/400 V
K1	Running electromagnetic switch
K2	Up electromagnetic switch
K3	Down electromagnetic switch
K4	Connecting electromagnetic switch 230 V left (bridge)
K5	Connecting electromagnetic switch 400 V left (bridge)
K6	Connecting electromagnetic switch 230 V right
K7	Connecting electromagnetic switch 230 V right
F1	Thermal switch for left motor
F2	Thermal switch for right motor
Q5	Transformer primary circuit protecting switch
TR	Transformer
Q7	Transformer secondary circuit protecting switch
H	Pilot lamp
S1	Mushroom-head emergency push-button
S2	Running button
S3	Up button
S4	Down button
S5	Left motor stop button
S6	Right motor stop button
CH	Emergency brake resetting key
T1	Timer for acoustic signalling device (start)
T2	Timer for acoustic signalling device (descente)



## **4.9) Switchboard**

### **4.9.1) Description**

The switchboard is the "man present" type, i.e. machine movements are only possible if the operator keeps the push buttons pressed down.

The switchboard consists of a die-bent sheet metal box with door, fitted with internal hinges and lock.

The on/off switch may be padlocked and has a door-lock system which prevents the door from being opened before the power supply has been cut off to all the circuits inside the switchboard.

All connection points of the other equipment (remote-control devices, protective relays, transformer) are in any case protected against direct or indirect accidental contact.

### **4.9.2) Electrical connections**

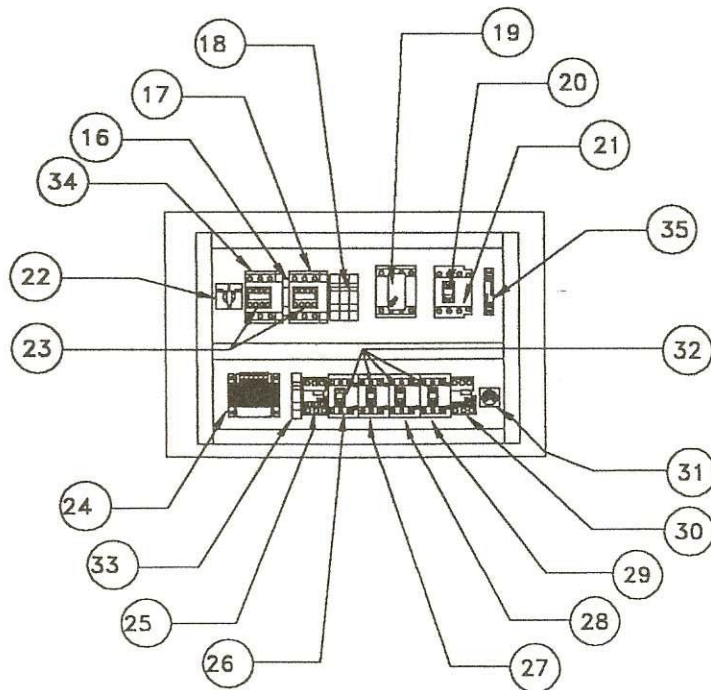
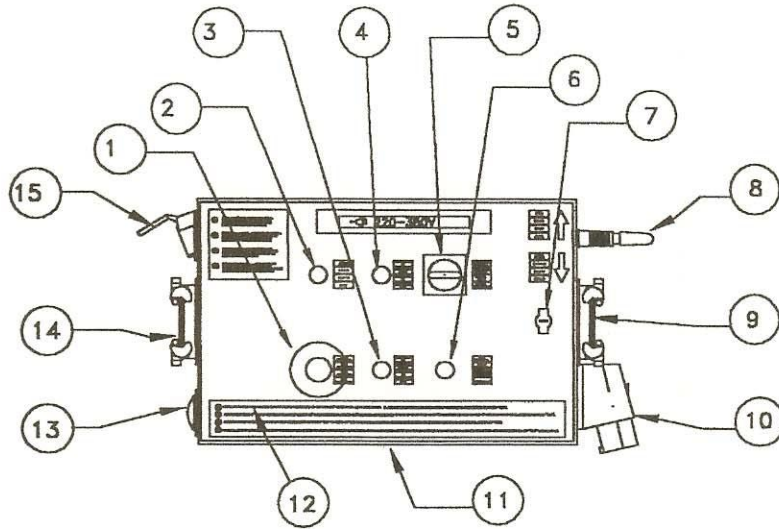
1. Take care to install the switchboard in a position where the operator can control platform ascent.
2. Check the value of the supply voltage and the available power.
3. Check the voltage of the electric motors and of the switchboard transformer. If necessary change voltage.
4. Connect the motors to the switchboard, using the multiple plugs provided.
5. Earth the whole plant.
6. Lastly, connect the switchboard to the supply line.
7. Put the on/off switch to position "I".

TAB. 7 Electric control panel

POS.	DESCRIPTION
1	Complete emergency button
2	Complete start button
3	Complete left-hand motor stop button
4	Complete right-hand motor stop button
5	On/off switch with door-lock knob (Reset control with door lock)
6	Complete emergency warning light (Phase control)
7	Lock
8	Manipulator
9	Female 24-pin connector for right-hand motor
10	Fixed supply plug with phase inversion
11	Box
12	Screen-printed table with instructions
13	Se Acoustic warning device 24V
14	Female 24-pin connector for left-hand motor
15	Auxiliary socket for assembly/erection
16	Mechanical interlock
17	Descent remote control switch
18	Single-phase magneto-thermal cut-outs
19	Magneto-thermal circuit breaker
20	Auxiliary contacts
21	Start remote control switch
22	Complete voltage change
23	Ascent-descent auxiliary contacts
24	Transformer
25	Complete left-hand temperature relay
26	Left-hand remote control switch 220 V
27	Left-hand remote control switch 380
28	Right-hand remote control switch 220 V
29	Right-hand remote control switch 380 V
30	Complete right-hand temperature relay
31	Timer complete with base
32	Auxiliary contacts
33	Magneto-thermal cut-out for service tap
34	Ascent remote control switch
35	Cyclic timer for bell

# ELECTRIC SWITCHBOARD PANEL

EXTERNAL VIEW



INTERNAL VIEW

Fig. 4.9.1 External and internal view of the switchboard





## CHAPTER 5

### Erection and dismantling

#### 5.1) General information

The platform may reach a maximum total length of 16 m. This length may be decreased by assembling a smaller number of beams. For this purpose refer to the paragraph "Platform arrangements and payload tables" on page 76 in this booklet.

#### 5.2) Safety norms

The twin-mast platform should always be erected and dismantled under the direct supervision of a site engineer and carried out by competent, suitably trained personnel.

During erection, dismantling and use, no-one should be allowed to transit or remain below or near the bridge; use appropriate warning signs and enclosures for this purpose as indicated in figure 5.2.1 (Safety area).

#### **ATTENTION!**

#### **CLOSE OFF THE PLATFORM BY MEANS OF A CHAIN OR WHITE-RED TAPE IN ORDER TO PREVENT THE POSSIBILITY OF CRUSHING**

Platform loads should never exceed the values given in this booklet.

All the erection/dismantling, safety, maintenance and electrical norms given in this booklet and those established by current laws should be observed.

Every platform comes with the relative booklet, which should be kept in the place of use of the actual platform.

The work deck should have as many safety belts as there are operators working on it, which should be used under particular conditions of danger.

Wind speed should not exceed 45.7 km/h (24.8 miles/h) during erection or dismantling.

Use hoisting equipment to assemble elements weighing over 30 kg (66 lbs) per person.

Already during the erection stage take into consideration the foreseeable use of the platform in relation to the length and loads to be lifted.

Scrupulously follow the instructions in the order in which they are given below.

The JOLLY JUNIOR CE platform may only be used near walls/structures with openings that allow the actual platform to be abandoned by the users in an emergency. The openings should be at least 9m apart in a vertical direction.

The platform should be erected at no more than 300 mm (0.98 feet) from the wall/structure in order to allow it to be abandoned in all safety.



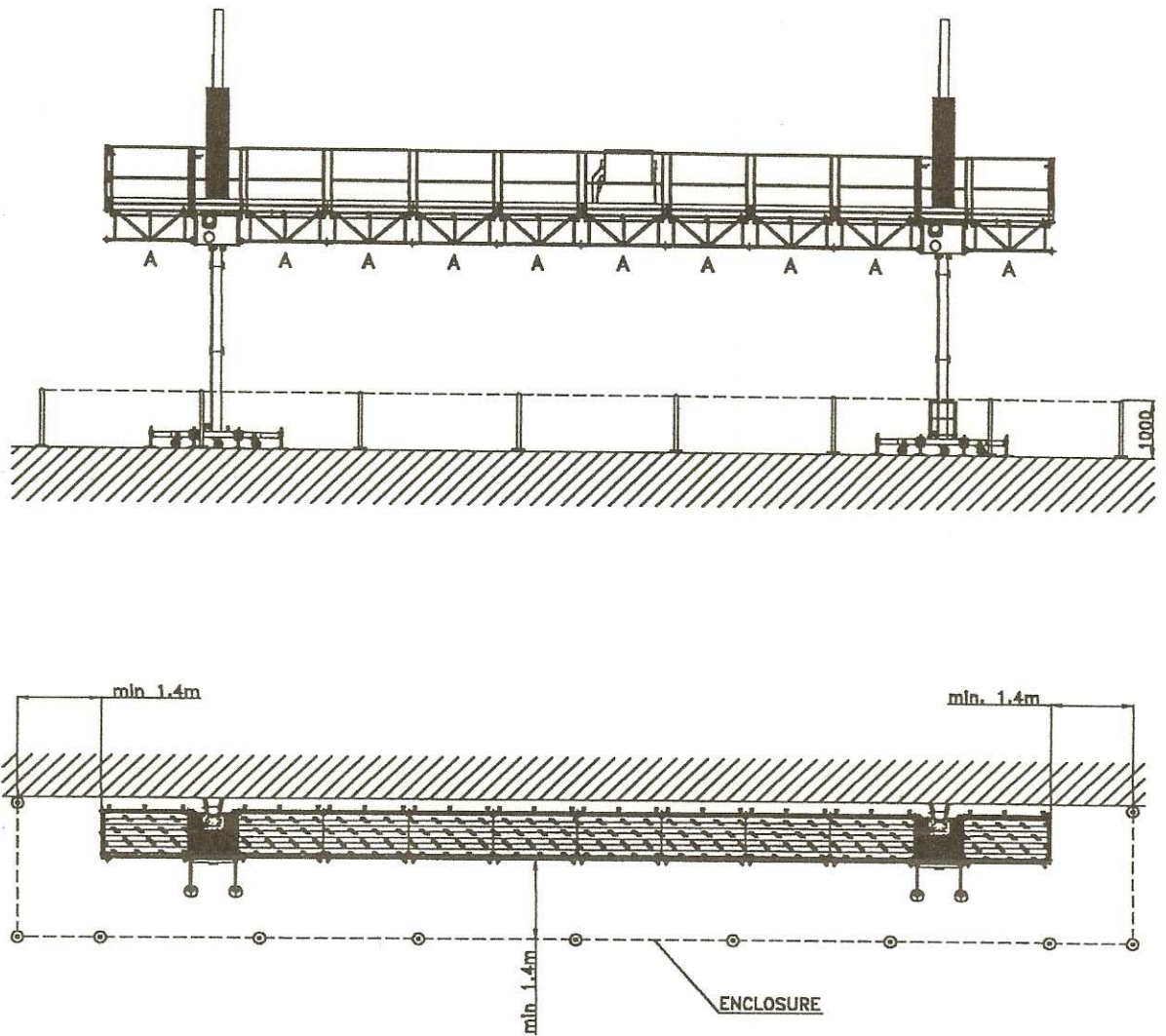


FIG. 5.2.1 Safety area

### 5.3) Assembly of base and positioning of stabilisers

1 - The base is delivered already joined to the first vertical element with the hoisting or lifting unit.

The vertical element is welded onto the base figure 5.3.1. The limit switch shoe is fixed onto the wall of the vertical element by means of the relative screws.

For the bolt tightening values, see table 11 on page 62 of the handbook.

2 - The stabilisers should be positioned on ground so that they can withstand the maximum reactions R1 and R2 given in figure 5.3.1.

The supporting surface which must support the load should therefore be made up (at the stabiliser points of support) of 50 mm (0.16 feet) thick boards with width and length calculated on the basis of the maximum indicated reaction and ground strength. In any case the minimum dimensions of the stabiliser feet supporting boards should be equivalent to 300 x 300 x 50 mm. Using the stabilisers (outriggers), raise the base until there is a gap of a few centimetres between the wheels and the ground.

#### **ATTENTION!**

#### **PARTICULAR ATTENTION SHOULD BE PAID TO CORRECT POSITIONING OF THE CENTRAL STABILISER**

3 - For positioning on the level, check if there are protuberances on the wall. If the distance between the wall and the platform is less than or equal to 300 mm (0.98 feet), guardrails need not be assembled on the side next to the wall.

If the wall-platform distance is greater than 300 mm (0.98 feet), it is compulsory to mount the supplied guardrails also on the side next to the wall. When positioning against a wall, the stabilisers are usually positioned as shown in figure 5.3.2 and figure 5.3.3. The base extensions or outriggers should be extracted until the red colour on them appears and in any case for a length equal to 500mm (1.64 feet).

The JOLLY JUNIOR CE platform may only be used near walls/structures with openings that allow the actual platform to be abandoned by the users in an emergency. The openings should be at least 9m apart in a vertical direction.

The platform should be erected at no more than 300 mm (0.98 feet) from the wall/structure in order to allow it to be abandoned in all safety.

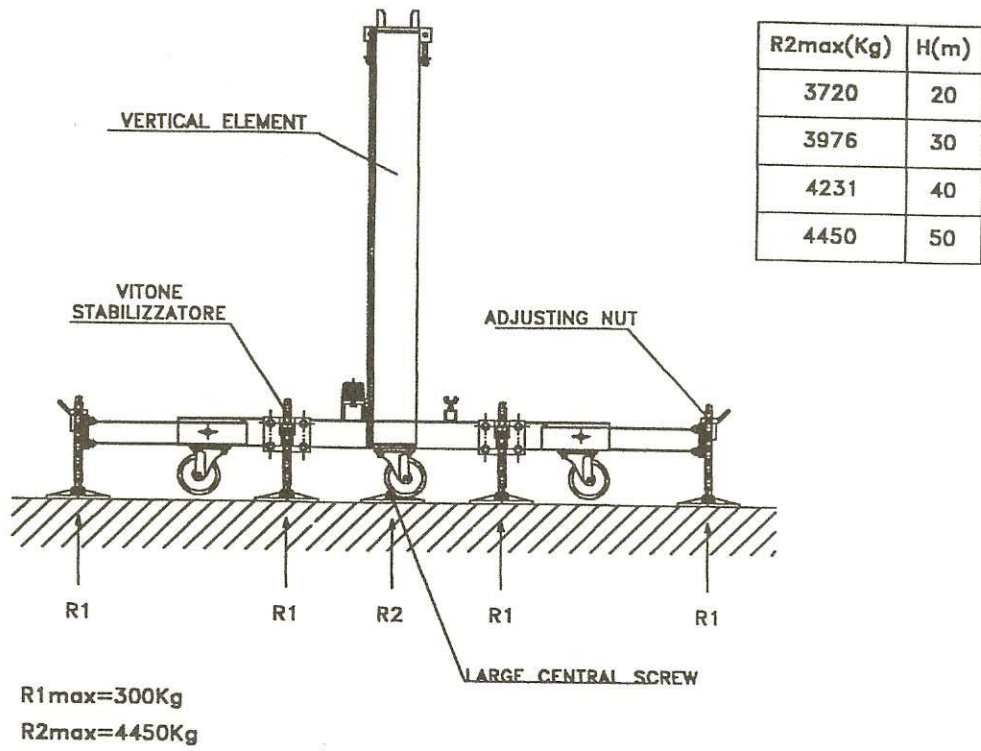


FIG. 5.3.1 Maximum stabiliser reactions

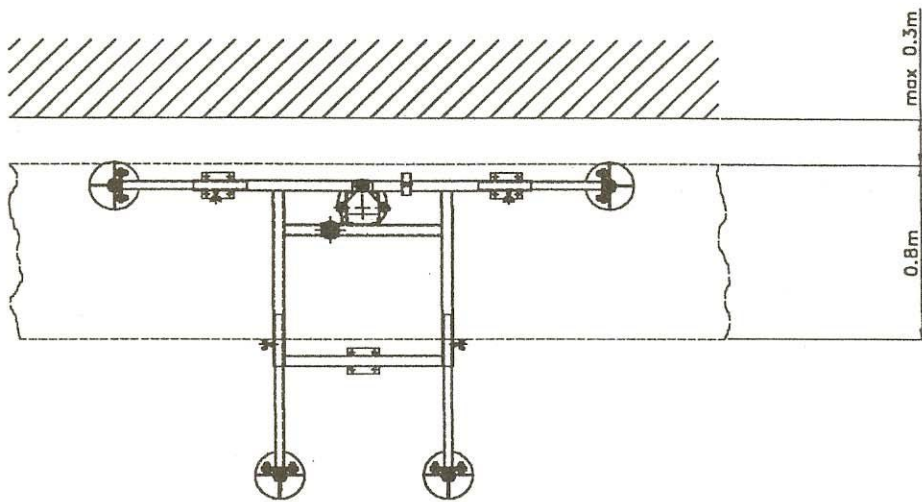


FIG. 5.3.2 Positioning of platform stabilisers



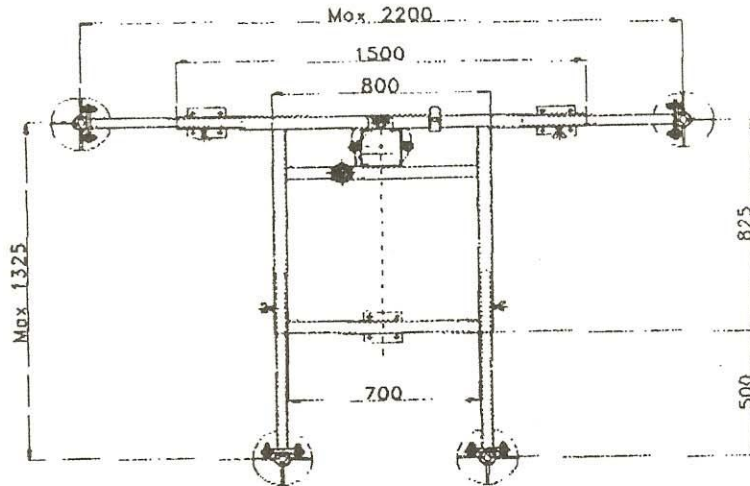


FIG. 5.3.3 Base - maximum dimensions

4 - The operation is carried out for both bases, which may also be positioned on different levels, as shown in figure 5.3.4, with a distance between the masts that can vary according to requirements, up to a maximum of 12.305 m (40.37 feet) (figure 5.3.4).

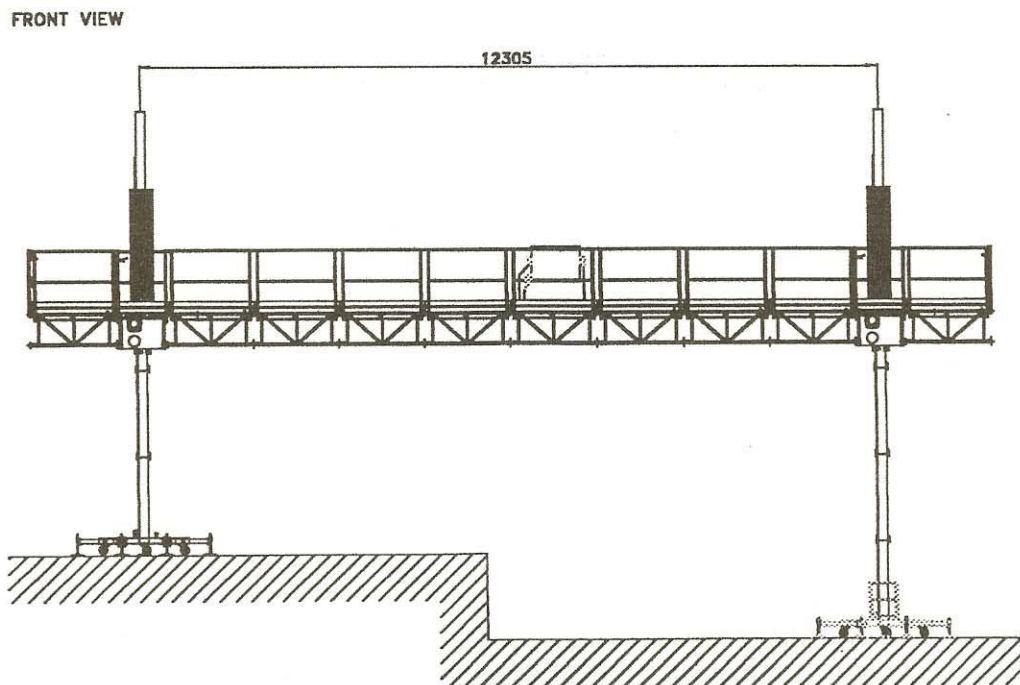


FIG. 5.3.4 Twin-mast platform – front view



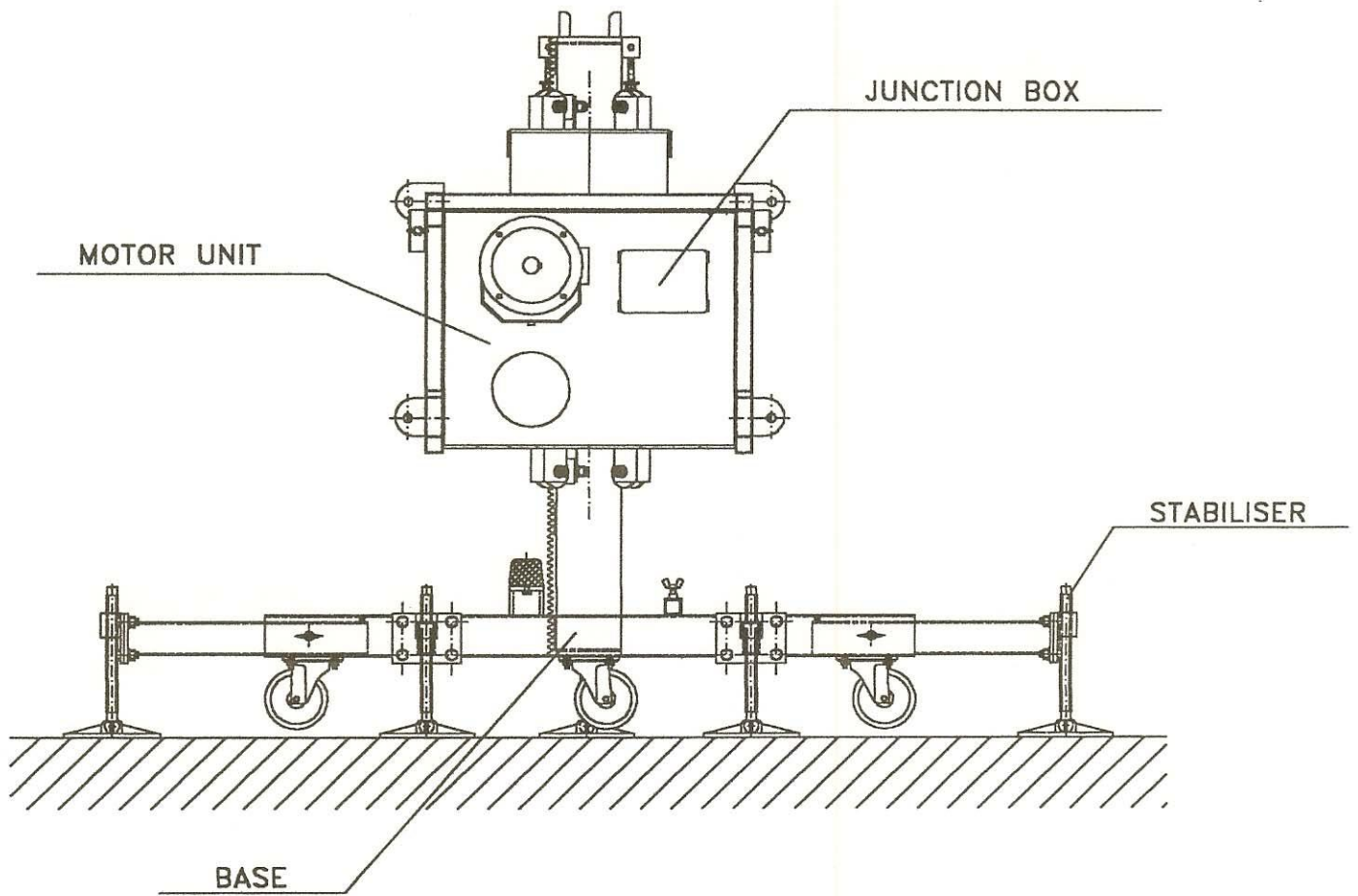


FIG. 5.3.5 Assembly of lifting unit

## 5.4) Assembly of platform

The work deck should be assembled at the lowest possible height, i.e. at approx. 1.5 metres (4.9 feet) from the ground.

### 5.4.1) Assembly of the twin-mast platform

- The twin-mast work platform is formed by joining the beams and the two trestles or frames of the gear-motor units together using lock pins. The total length of the platform may be varied by omitting or inserting beams according to requirements (for allowed arrangements, see chapter 7.1).

- The platform with brackets retracted is 800 mm (2.62 feet) wide. If this is insufficient, the side brackets may be extended, also to adapt the platform to any protuberances on the wall. It always holds good that if the distance from the wall exceeds 300 mm (0.98 feet), it is compulsory to mount the supplied guard-rails around the whole platform.

- The beams making up the platform should be assembled by means of suitable hoisting equipment.

Setting up a twin-mast platform with a length of 16 m (52.5 feet) involves assembling the beams as per the diagram below.

A - BEAM 1433  
C - MOTOR UNIT 841

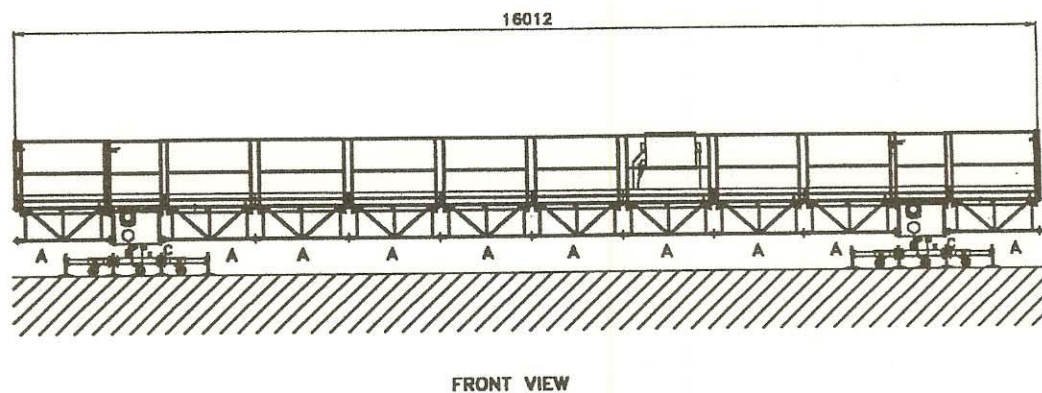


FIG. 5.4.1 Twin-mast platform – e.g. 16.012 metres (52.53 feet) arrangement

1 - First the two BEAMS A must be joined to the left motor unit, fixing them by means of the lock pins supplied (figure 5.4.2).

**ATTENTION:** the lower platform pin between the two masts should not be inserted in the lifting unit and if present should be removed to allow the bridge to oscillate during work.

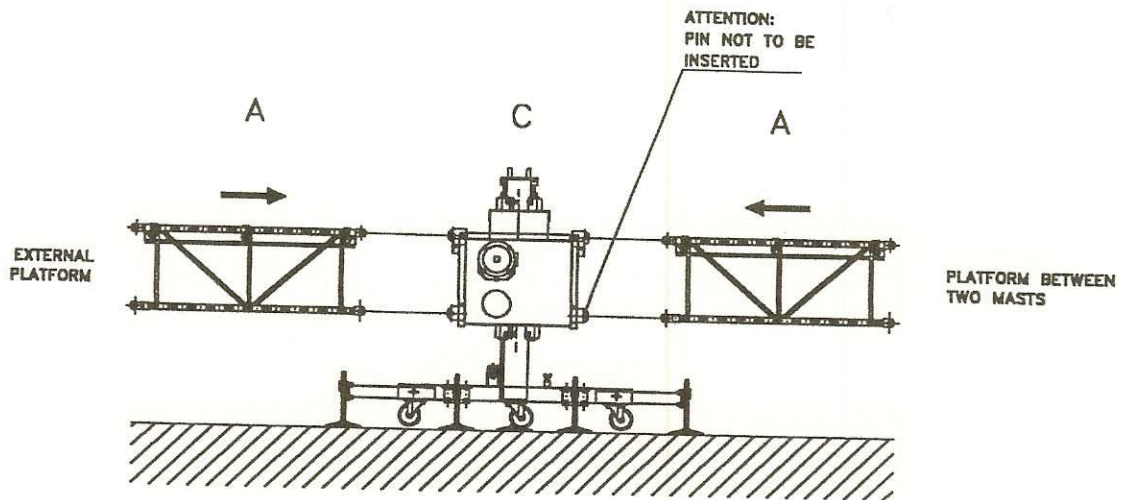


FIG. 5.4.2 Twin-mast platform - erection stage 1

2 - Having inserted the first two beams, assemble the subsequent beams inserting the pins.

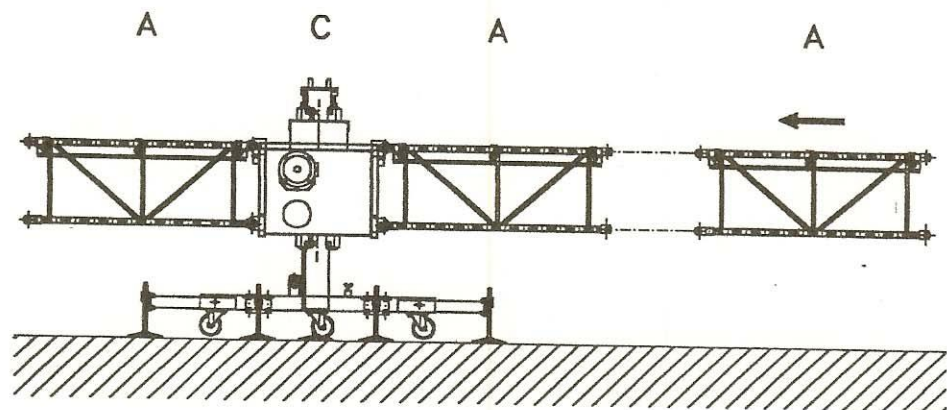


FIG. 5.4.3 Twin-mast platform - erection stage 2

3- Insert the subsequent beams in the order indicated for example in point 1. As the beams are gradually assembled, the resulting platform part overhangs and therefore needs to be supported. This may be done by placing a beam between the platform and the ground.



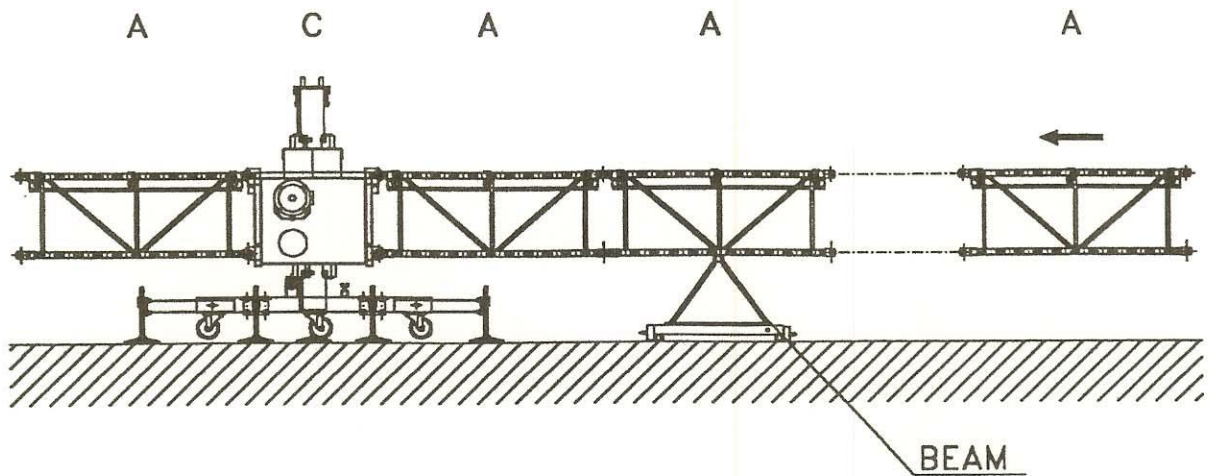


FIG. 5.4.4 Twin-mast platform - erection stage 3

4 - Bring the right-hand base to the end of the platform and close the safety locking devices which join the bridge to the gear-motor unit.  
**ATTENTION:** as previously, also in this case the lower pin of the lifting unit inside the platform should not be inserted and if present should be removed.

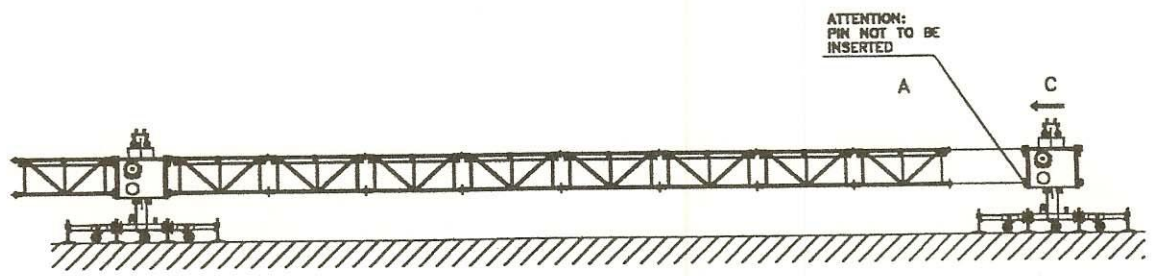


FIG. 5.4.5 Twin-mast platform - erection stage 4

5 - Complete assembly by inserting the remaining two beams onto the lifting unit (figure 5.4.6).



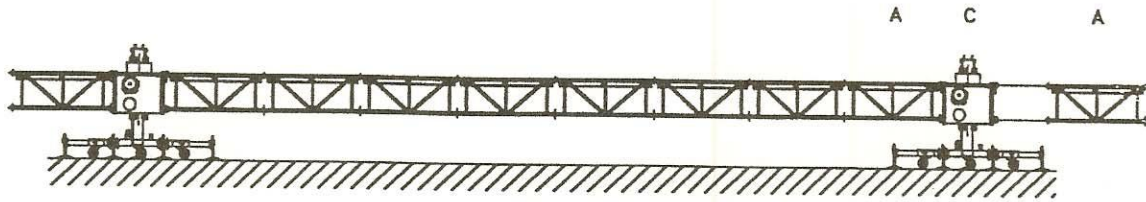


FIG. 5.4.6 Twin-mast platform - erection stage 5

6 - After full assembly of the beams, the bases should be levelled by means of the stabilisers. As already seen, these should be tightened until there is a few centimetres gap between the wheels and the ground. At this point, check and if necessary correct the levelness of the base in both right-angle directions. Also check the verticality of the column in both right-angle directions. Level the bases and lock the large central screw using the relative lock nut.

7 - Lay the boards making up the platform floor, using wooden boards having a thickness of 40 mm (0.13 feet).

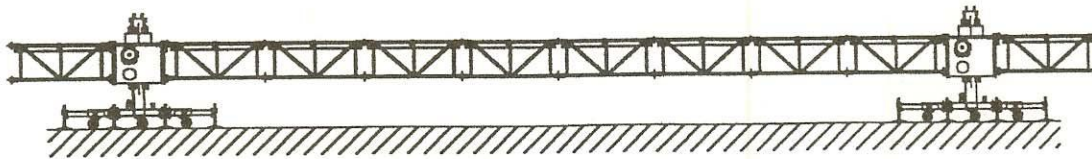


FIG. 5.4.7 Twin-mast platform - erection stage 6

8 - Insert the "side opposite the wall" guard-rails, the 2 end guard-rails and the sliding gates into the relative bushes to be found at the ends of the cross elements of the twin-mast platform and lock them by tightening the relative screws. These guard-rails present a lower toe-board or kick-plate in sheet metal at a height of 200 mm (0.65 feet), which should rest on the floor.

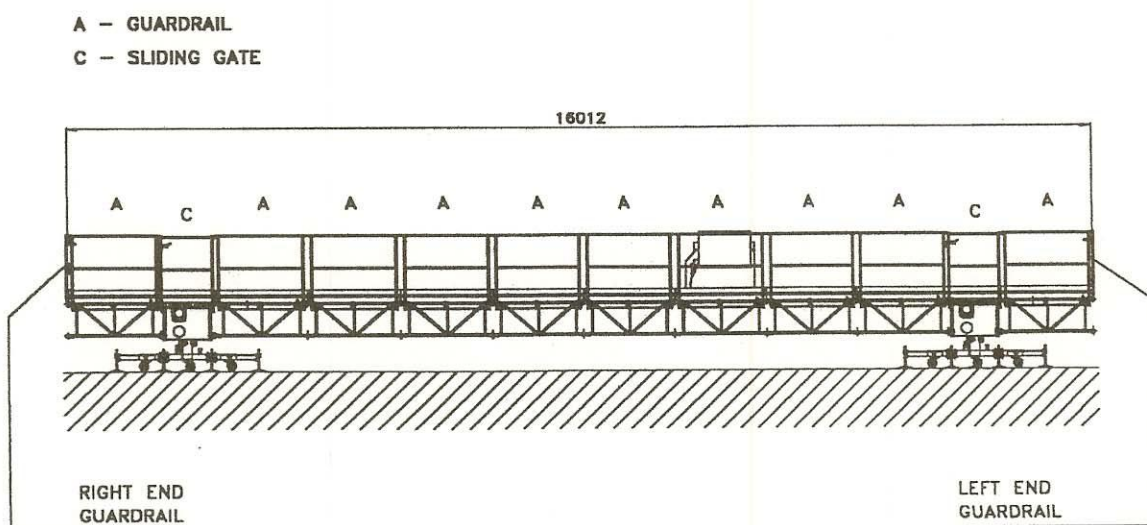


FIG. 5.4.8 Twin-mast platform - erection stage 7

9 - If the distance between the work deck and the wall exceeds 300 mm (0.98 feet). insert the columns for the "wall side" guard-rails (see point 5.3). These consist of tubular uprights with

relative seats for the boards and are inserted into the bushes, to be found on the ends of the wall-side brackets kept in a fully retracted position, and locked by screws. The suitably thick boards are fixed to the uprights with nails.

If the distance of the work deck from the wall or the structure of the actual wall necessitates use of the side brackets (inserted in the cross elements of the work deck), they should be drawn out by the necessary length and then locked with the screw to be found in the cross element. The maximum allowed length is 0.6 m (1.97 feet) which can be identified by the colour red appearing on the extension. The floor of the part obtained by drawing out the side brackets should be made with 40 mm (0.13 feet) thick boards.

If, for various reasons, the side brackets are not all drawn out by the same length, double columns should be mounted on the ends of the recesses with relative guard-rail boards (see figure 5.4.9).

10 - Connect the platform electrically following instructions given in paragraph 5.5.

**ATTENTION!**

**THERE MUST BE NO GAPS GREATER THAN 15 MM (0.05 FEET) ON THE WORK DECK, INCLUSIVE OF EXTENSIONS OBTAINED WITH THE SIDE BRACKETS.**

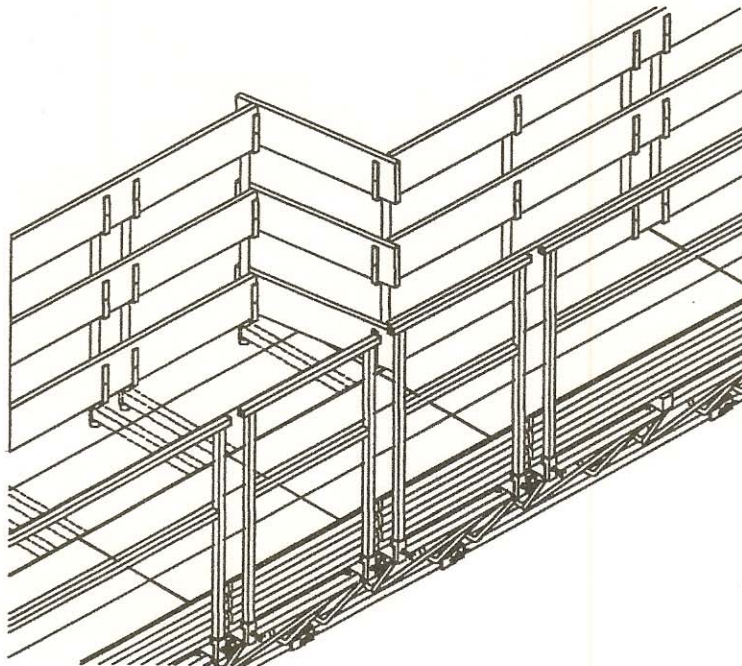


FIG. 5.4.9 Overhang/cantilever towards the wall

11 - Mount and adjust the levelling system, following the procedure given below.



## Levelling

### Description

The platform may suffer inclination due to imperfect synchronism of the two lifting units or to uneven distribution of work loads. The platform is therefore fitted with an automatic levelling device which serves to automatically correct, without intervention by the operator, any excessive inclination of the deck. The automatic levelling device consists of a level limit switch and an out-of-level limit switch positioned on each of the two lifting units. The shifting of the deck due to inclination activates the limit switches through suitable adjusting slides; the limit switches in turn activate contactors located inside the electric switchboard, thereby bringing the lifting units back onto the same level.

### Assembly

**Attention:** During erection of the twin-mast platform, the lower pins inside the work deck of each lifting unit should not be inserted. The work deck is therefore only joined to the lifting units at the ends of the upper boom.

This is to allow inclination of the deck if the lifting units do not remain at the same level (figure 5.4.10 and figure 5.4.11).

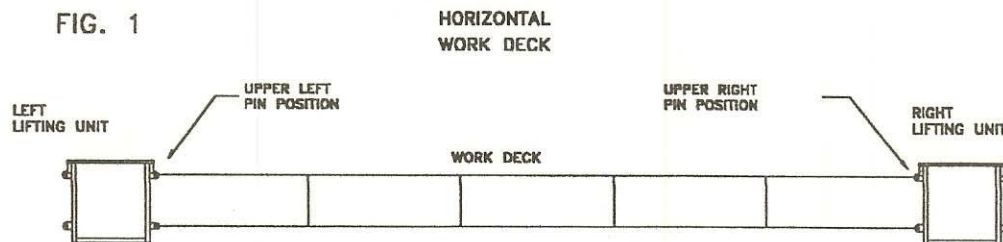


FIG. 5.4.10 Levelling operation



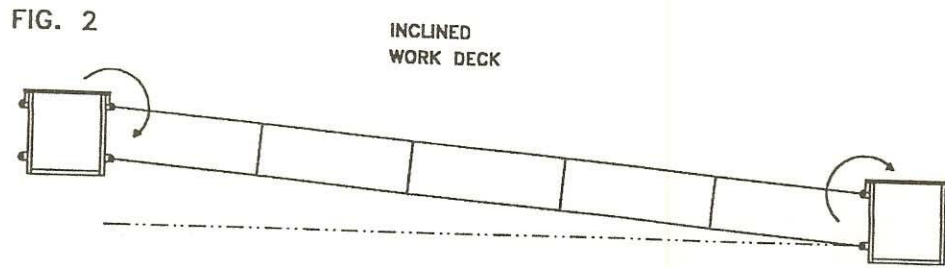


FIG. 5.4.11 Levelling operation - e.g. of inclined surface

The limit switches are positioned on each of the two lifting units inside the twin-mast platform at the end of the lower boom (toe-board) of the work deck (figure 5.4.12) and each one is fitted with a rod so that any movement of the deck may be perceived through the inclination (figure 5.4.12).

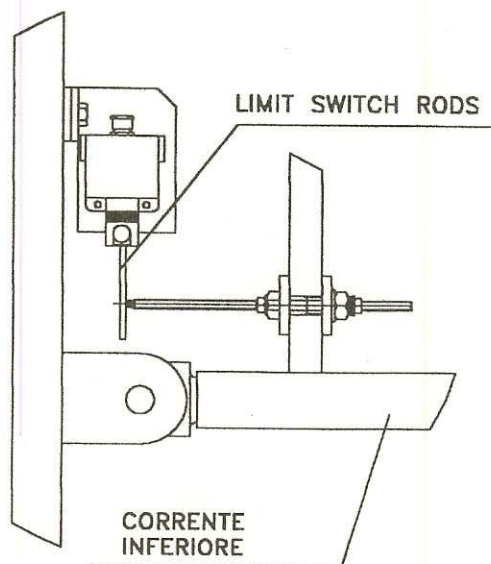


FIG. 5.4.12 Detail of levelling system

**ATTENTION**

NELLA VERSIONE A DUE COLONNE TOGLIERE GLI SPINOTTI SUL LATO INTERNO DELLE COLONNE.

DANS LA VERSION BI-MAT IL FAUT ENLEVER LES GOUPILLES BASSES DE LA POUTRE COTE EXTERIEUR DES MATS.

IN THE TWIN COLUMNS VERSION, REMOVE THE PINS ON THE INNER SIDE OF THE COLUMNS.

EN LA VERSION DE DOS COLUMNAS, SACAR LOS BULONES DE LA PARTE INTERNA DE LAS COLUMNAS.

BITTE IN DEM ZWETTURMIGEN MODEL DIE BOLZEN AN DER INNEREN SEITEN DER TURME HERAUSNEHMEN.

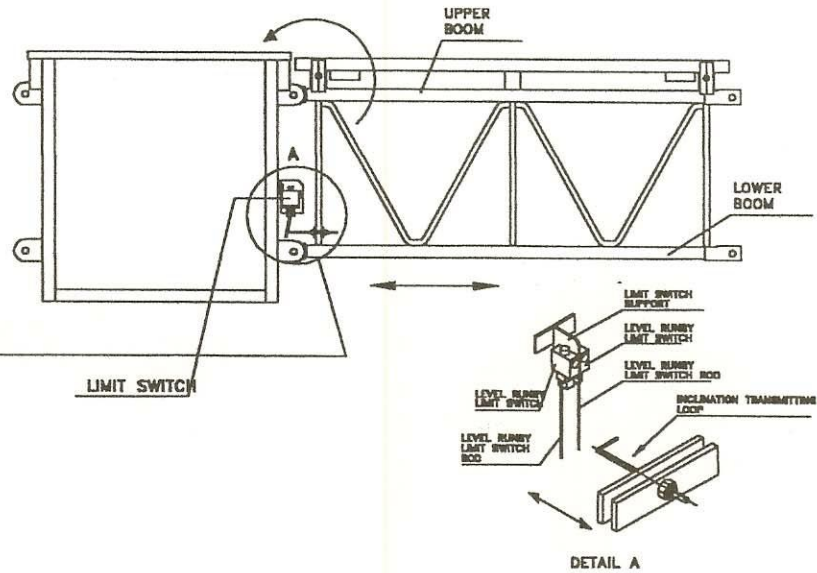


FIG. 5.4.13 View of levelling system

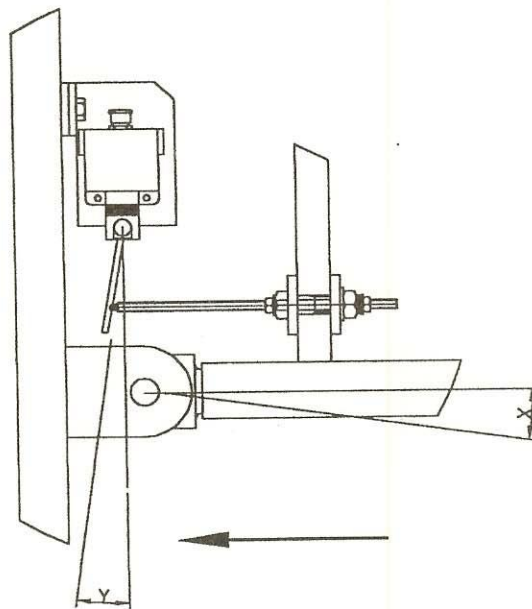


FIG. 5.4.14 Detail of operation

**Operation in ascent**

When the work deck is horizontal (Figure 5.4.10 on page 52) the limit switches are not activated



because the ends of the lower boom remain at a certain distance from the limit switch rods (Figure 5.4.12). When one lifting unit is faster than the other, by way of example let's take the left-hand unit, the work deck starts to slope at an ever increasing angle (X). The left-hand end of the lower boom starts to press on the limit switch rods, pushing them into an angle (Y) which gradually increases (Figure 5.4.14). The level limit switch rod precedes the out-of-level limit switch (Figure 5.4.12), so the level limit switch is the first to be activated. When this happens, the power supply to the highest lifting unit is cut off. The lowest lifting unit continues to move; in this way the angle of inclination (X) gradually decreases and the work deck returns to a horizontal position.

As the angle (X) decreases, the end of the lower boom which had activated the limit switch, starts to return towards its original position, thereby releasing the limit switch rod. When the angle (Y) goes below a certain pre-established value, the lifting unit which had been stopped is re-powered and the platform starts to rise normally again. The emergency level limit switch is not normally activated because it is always anticipated by the level limit switch. It only activates in the event of malfunctioning of the level limit switch. In this case the main power supply is cut off and the platform stops. Care must be taken over regulating the activation of the level limit switch so that the angle (X) of inclination of the work deck is 1° or less. The emergency level limit switch should instead be adjusted so that the lifting unit stops after no more than 100 mm from the position of activation of the level limit switch. The angle (Y) is in proportion to the angle (X), so, once the maximum allowable inclination of the work deck has been established, angle (Y) is established, correcting the position of the limit switches on the supporting plate (Figure 5.4.12) by means of the clamping screws on the limit switches.

The limit switch rods are positioned through the clamping screws on the limit switches and by adjusting the loop transmitting the inclination of the work deck.

In compliance with current norms, the value of  $\pm 1^\circ$  having to be observed, adjustment by activation of the limit switches may be carried out by referring to the difference in height of the unit corresponding to 1 degree of inclination.

The following table gives the values of the height of the motor unit corresponding to one degree in relation to the distance between the two masts.

TAB. 8: Height values in relation to the length

	12.305 m	9.439 m	6.573 m
	21.5 cm	16.5 cm	11.5 cm

### Operation in descent

The automatic levelling system in descent activates according to the same principal as operation in ascent.

### 5.4.2) Single-mast platform assembly

The differences in assembly compared to the twin-mast platform regard the following points:

- a - The lower pin should be inserted in the lifting unit to allow connection with the bridge beams.
- b - There is no levelling system.
- c - The beam elements must be assembled symmetrically.

The platform floor should be assembled at the lowest possible height, i.e. about 1.5 metres (0.49 feet) from the ground.

The single-mast working platform consists of beams joined together by lock pins and the framework of the gear-motor unit.

The total length of the platform 3.707m (12.16 feet).

With side brackets retracted, the platform is 800 mm (2.62 feet) wide. Should this be insufficient, the side brackets may be extended, also to adapt the platform to any protrusions on



the wall. It should be remembered that if the distance between the platform and the wall is greater than 300 mm (0.98 feet) at any point up the mast, it is compulsory to assemble the guard-rails provided around the whole platform.

The beams making up the platform should be assembled using suitable lifting equipment. Setting up the single-mast platform, e.g. 3.7 m long (12.16 feet), includes assembly of the beams according to the diagram given below (figure 5.4.15/ 5.4.16/ 5.4.17 / 5.4.18).

**ATTENTION!**

**The WORKING DECK of the single-mast platform must be symmetrical in relation to the lifting unit, i.e. the same number and types of beam elements must be mounted to the left and to the right of the MOTOR unit.**

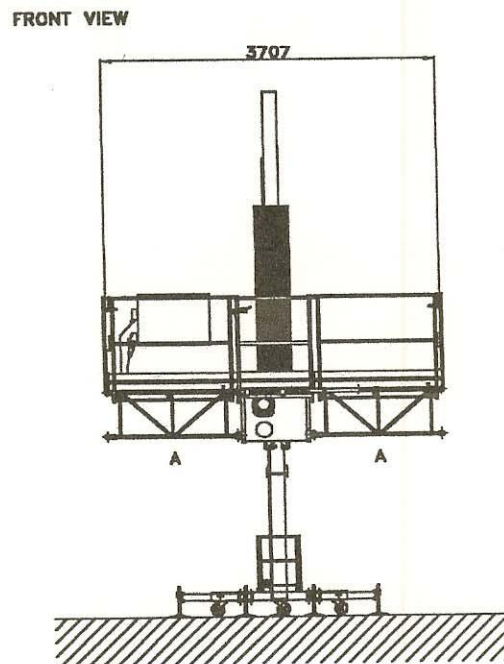


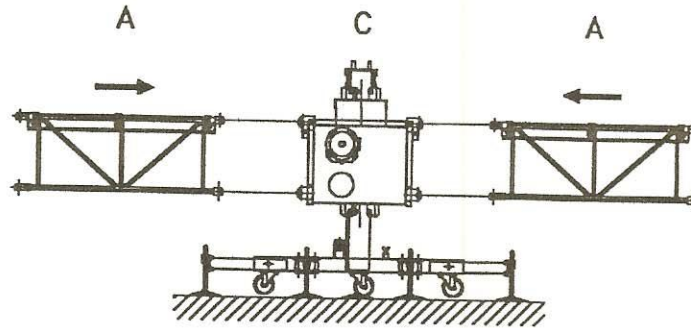
FIG. 5.4.15 Single-mast platform – 3.7 m (12.16 feet) arrangement

1 - Check that the ground on which the platform will rest is level and firm.

2 - Position the motor unit on the base.

3 - Proceed by connecting the beams to the motor unit, fixing them with the lock pins provided (figure 5.4.16)





A – BEAM 1433  
C – LIFTING UNIT

FIG. 5.4.16 Single-mast platform – erection stage 3

4 - Complete insertion of the two beams.

5 - Proceed with positioning the floorboards, stairway and gate.

6 - Upon completion of beam assembly, the bases are levelled by means of the stabilisers. As has already been seen, these should be tightened until there are just a few centimetres between the wheels and the ground. Then check, using a spirit level, and if necessary correct the levelness of the base in both right angle directions. Also check the verticality of the mast in both directions of the right angle. Make the bases level and lock the large central screw with the relative lock nut.

7 - Make sure that load-distribution boards are suitably placed under the stabiliser points of support. Should the distance between the beams and the wall exceed 300 mm (0.98 feet), insert the columns for the guard-rails on the wall side. Suitably thick boards should be fixed to the uprights with nails.

8 - Carry out the electrical connections according to instructions given in chap. 5.5.

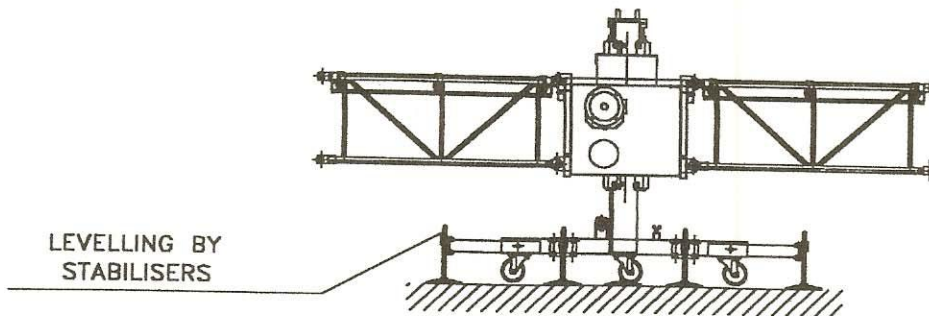


FIG. 5.4.17 Single-mast platform – erection stage 4

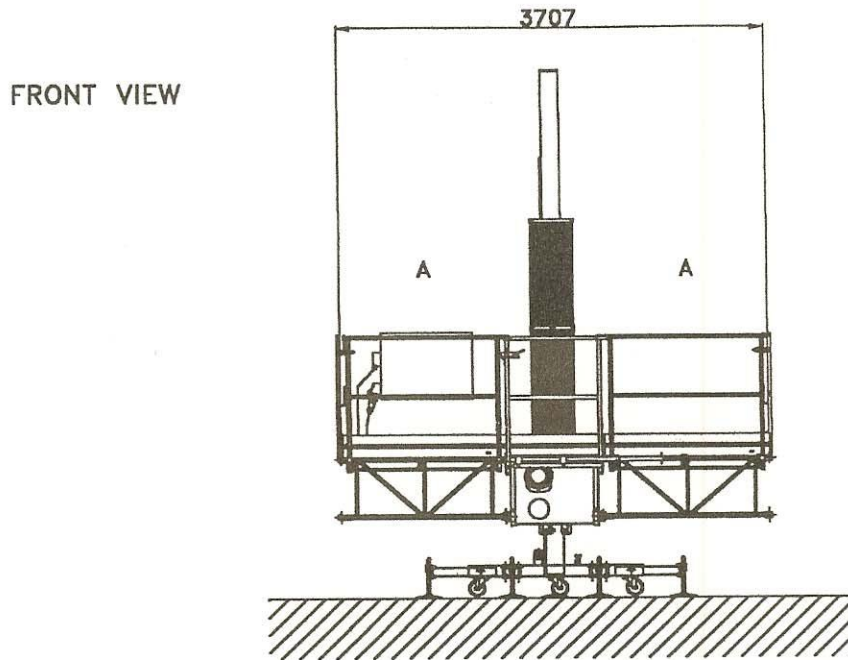


FIG. 5.4.18 Single-mast platform- example of erection

### 5.5) Electrical connections

Mount the control panel on the guard-rail, fixing the relative shield using the screws provided.

1 - Fix the supply cable onto the upper cross element of the beam or of the guard-rail.

2 - Check the value of the supply voltage and the available power.

3 - Check that the mains voltage corresponds to that indicated on the control panel (220V-380V).

If necessary change the voltage by means of the relative control situated inside the control panel.

4 - Connect the motors to the control panel using the multiple plugs provided.

#### **ATTENTION!**

**It is compulsory to connect the machine to the mains supply co-ordinating the protective devices in accordance with regulations and legislation in force.**

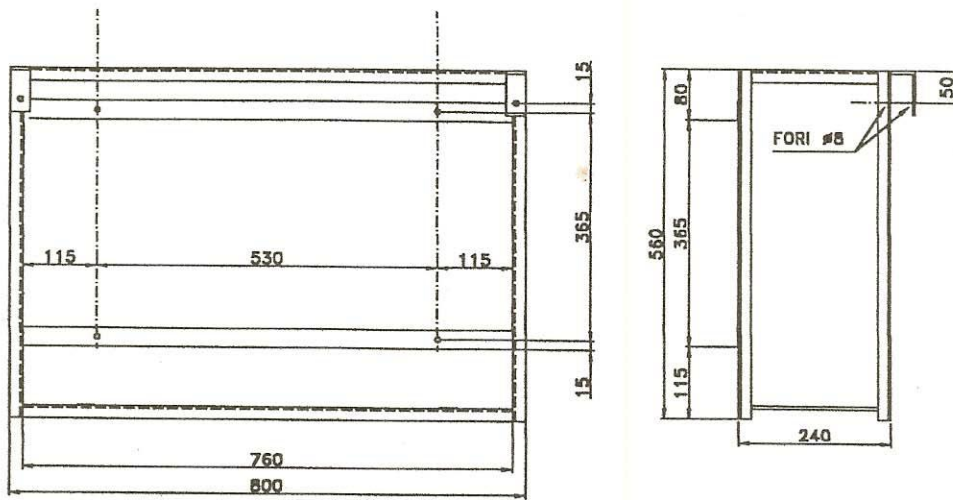


FIG. 5.5.1 Control panel shield



### Troubleshooting for the electrical system

The platform is tested with its switchboard/control panel prior to delivery. Upon assembling for the first time there should consequently be no problems. A list of troubles, however, which in our experience are most common on site, are listed below.

#### PROVIDED THAT:

- a) the voltage is known;
- b) the power in kW is sufficient;
- c) the power supply cable has a suitable cross section;
- d) the control panel on/off switch is on "I" and the start push button has been pressed;

THERE ARE TWO POSSIBILITIES:

TAB. 9: Electrical system troubleshooting

TROUBLE	OPERATIONS TO BE CARRIED OUT IN PROGRESSIVE ORDER OF PROBABILITY:	REMEDY
1 <sup>st</sup> Case: The platform does not operate.	A) Check that all the magneto-thermal devices are intact.	Eliminate any cause of activation.
	B) Check the door and the emergency limit switches.	
	C) Check for broken cables caused by loading and unloading operations.	
	D) Thermal cut-out tripped.	Press the reset button.
	E) Burnt control-panel transformer.	Replace with an equivalent one.
	F) Check if the motor unit is at the end of stroke (limit switch) and if at the same time two phases are inverted.	Temporarily remove the slides from the base in order to test the platform.
	G) Check if wires are loose or detached in the motor unit junction box, due to vibration.	Restore contact.
2 <sup>nd</sup> Case: The motor makes a noise but has insufficient power to raise.	A) The platform is too heavily loaded.	Remove the excess and comply with loading norms.
	B) Lack of a power supply phase.	Check the causes and remedy (magneto-thermal cut-outs, broken cable, connection error).
	C) Burnt brake	Change the coil or the lining, adjust the distance between the anchor and the air gap.

#### ATTENTION!

**ALL WORK ON THE ELECTRICAL SYSTEM MUST BE CARRIED OUT BY QUALIFIED ELECTRICIANS IN COMPLIANCE WITH SAFETY NORMS REGARDING ELECTRICAL SYSTEMS IN ORDER TO AVOID ACCIDENTS TO OPERATORS.**



## 5.6) Erection of the masts

- 1 - Put the on/off switch to the position "I", press the start button and keep the ascent button pressed down. Check the direction of movement and that the indications of the control panel buttons and the actual movements of the platform correspond. If they do not, invert the two power supply phases, using a screwdriver on the fixed supply plug of the control panel. Take into account that if there is an inversion of the power supply and upon pressing the ascent button the motor carries out a descent movement, when the platform reaches the lower limit switch, the phases must necessarily be changed because the platform will be totally blocked.
- 2 - Load the elements, the tools and the material necessary for anchoring to the wall onto the platform deck, referring to the diagrams given in paragraph "Platform arrangements and payload tables" on page 76. The loads allowed on the platform are:

**2 persons + half the distributed load during work.**

### **ATTENTION!**

### **DO NOT OVERLOAD!**

- 3 - The platform may now be raised. Press the ascent button and go up to a suitable height for assembling the next vertical elements (approx. 20 cm = 0.65 feet from the top of the same). Grease the taper pins and the racks. Insert one vertical element into another and secure using the bolts provided, which should be tightened with the values given in table 11 on page 62. Then ascend again and repeat the operations until the first anchorage point is reached. The scaffolding should be anchored to the wall (figure 5.6.1) in such a way that both translation parallel to the wall and tipping outwards are prevented. The vertical elements should therefore be fixed to the wall with clamps (450 mm = 1.47 feet for a platform width of 0.80 m = 1.47 feet),  $\varnothing$  48 mm (0.16 feet) right-angle clamps, screws and expansion anchors (the maximum reactions exerted on the outer wall are given in table 10. The free-standing height after the last anchorage should not exceed 6 m (19.68 feet) (4 vertical elements).
- 4 - Distance between anchors = H min = 3 m (9.84 feet)  
H max = 6 m (19.68 feet)

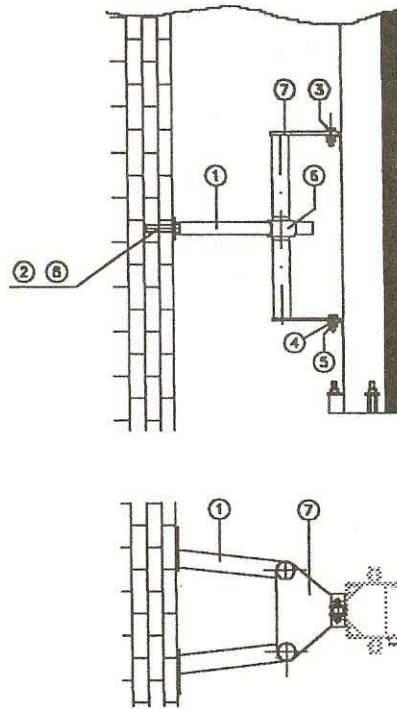


FIG. 5.6.1 Anchorage

The tightening torque values of the screw anchors and the connecting bolts of the vertical elements should be those given in table 11.

TAB. 10: Connecting elements

No.	DESCRIPTION	No.	DESCRIPTION
1	Anchoring bracket	6	Right-angle clamp 48 mm
2	Screw for screw anchor M12 dia=15	7	Anchorage clamp
3	Clamping screw M12x35	8	Expansion anchor dia=15 or dia=22
4	Plain washer		
5	Nut M12		

TAB. 11: Maximum reactions

MAXIMUM REACTIONS		
6.00 m	3.00 m	H
+/- 241 daN	+/- 334 daN	N
+/- 155 daN	+/- 211 daN	T

TAB. 12: Tightening torque

Tightening torque of the screw anchors	75 Nm
Tightening torque of every bolt connecting the vertical elements	180 Nm



5 - Having reached the maximum required height, the two end vertical elements should be mounted, which may be distinguished from the others by the absence of the tapered pins, a shorter rack and black trestlework.

6 - Lastly, mount the mast protective gratings.

### **5.7) Protective screening**

Protective sheets may be used as protection to prevent material falling from the platform to the ground when working in an area that is frequented or open to the public.

They should be positioned to protect the side opposite the wall and the outer ends of the platform.

The sheets can be supplied as an optional (on request by the customer) and may be fixed onto modular struts placed over framework (bracket) fixed to the end elements of the mast (figure 5.7.1).

#### The equipment consists of:

2 brackets supporting the struts;

6 struts bolted together (e.g. for the 16 m =52.5 feet platform);

2 movable U-bolts;

Protective sheets;

2 pipes (with relative clamps) fixing the sheets onto the front part of the scaffolding;

#### **5.7.1) Stages of erection**

After having assembled the end trestle of the mast, fix the brackets with the relative plates and back-plates onto the end trestle.

The struts, which should have been already bolted together on the ground, should then be placed on top of them.

Fix the struts to the brackets with the relative U-bolts in the positioned required, according to the distance that the sheet should be in relation to the platform guardrails.

Fix the side pipes to the struts.

Assemble the protective sheet, fixing it with suitable clamps.

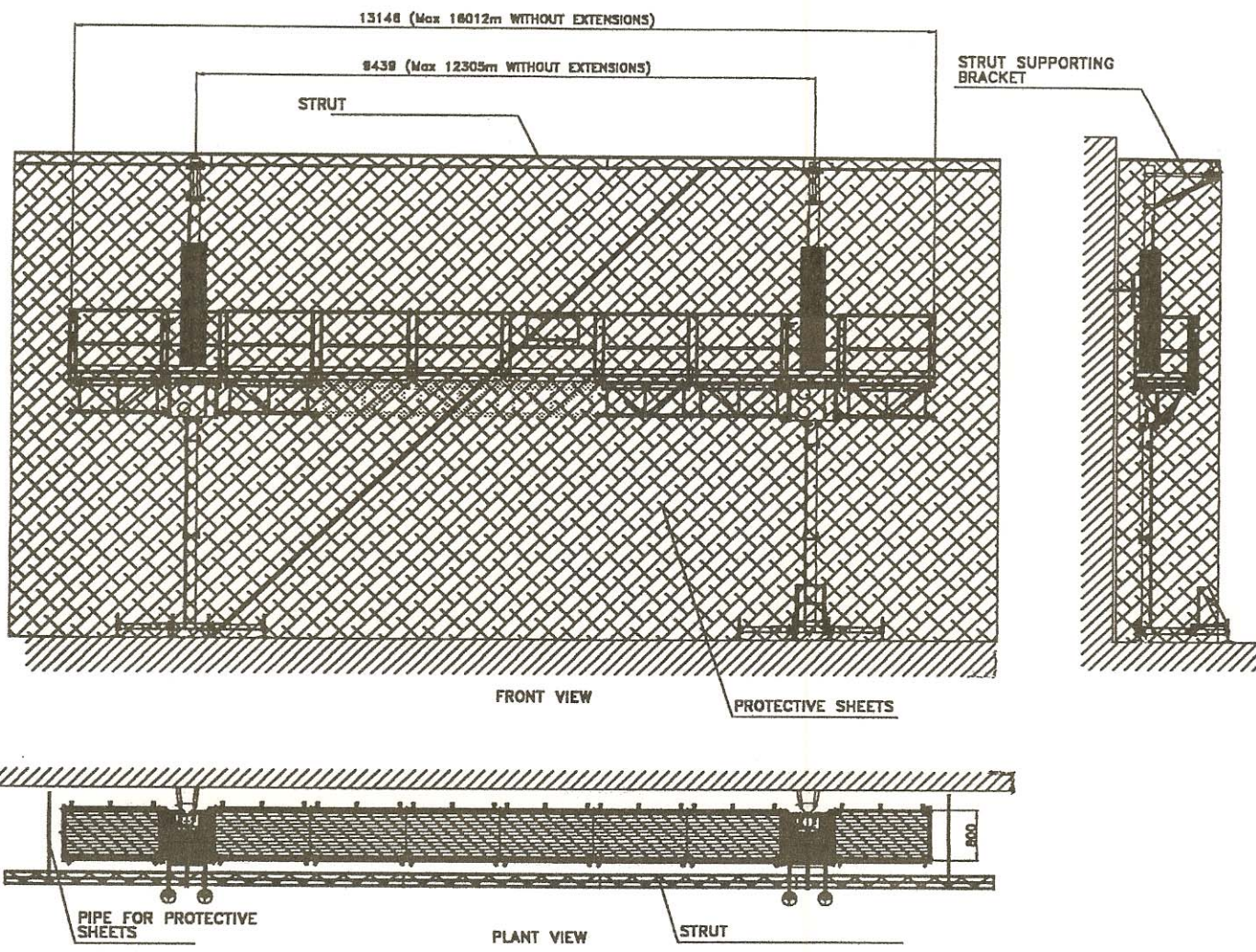
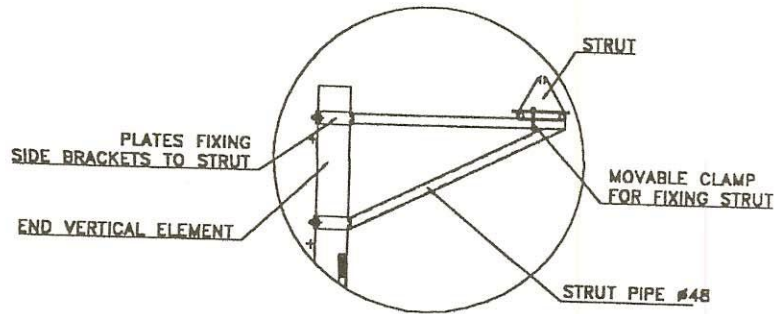


FIG. 5.7.1 Protective screening (assembly drawing)

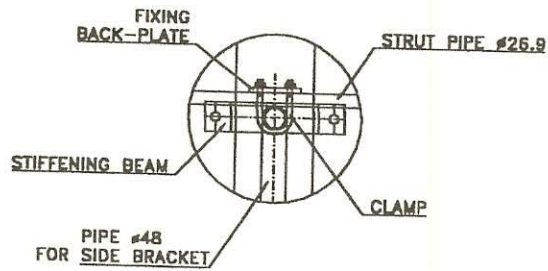


DETAIL OF SIDE BRACKET  
 WEIGHT COMPLETE BRACKET = 13,6daN



Scale 1:1

DETAIL OF CLAMP



Scale 2.5:1

STRUT  
 STRUT WEIGHT = 18,5daN

N°	DESCRIPTION
1	UPPER BOOM: L=3000
2	LOWER BOOM: L=3000
3	REINFORCEMENT COIL
4	BEAM CONNECTING PLATES

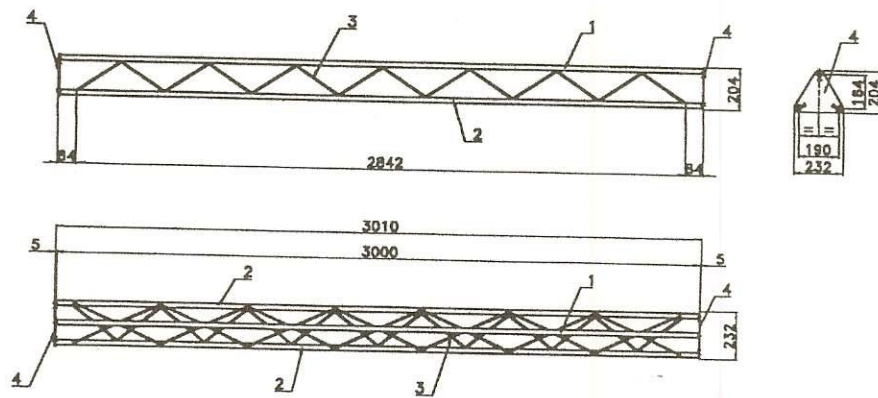


FIG. 5.7.2 Detail of positioning of bracket, clamps and struts.

### **5.8) Dismantling**

Carry out the operations described in the previous sections in the reverse order, i.e.:

**ATTENTION!**

**ASCEND, CHECKING THAT ALL THE BOLTS ON THE MAST AND THE ANCHORAGE CLAMPS ARE TIGHT RIGHT UP TO THE TOP!**

**ATTENTION!**

**WHEN DISMANTLING THE MAST, MAKE SURE THAT THERE ARE NO PERSONS OR PROPERTY IN THE UNDERLYING WORK AREA THAT COULD BE INJURED OR DAMAGED SHOULD ANY PARTS OF THE MACHINE FALL!**

- 1 - Go to the highest point of the mast to commence dismantling operations.
- 2 - Having arrived at the top, proceed in sequence to dismantle the vertical elements and the anchors. The vertical elements are loaded onto the work deck, taking care not to exceed the given load values.
- 3 - Repeat these operations down to the base.
- 4 - Proceed with dismantling the guard-rails, floorboards, columns and gate.
- 5 - Cut off the power supply to the machine and disconnect the power supply cable.
- 6 - Disassemble the beams of the platform in the reverse order to assembly.
- 7 - Unscrew the stabilisers and let the wheels rest on the ground.

**ATTENTION!**

**OPERATORS ON THE MACHINE MUST ALWAYS WORK WITH THE SAFETY BELT FASTENED!**





## CHAPTER 6

### Use

#### 6.1) General information

- The twin-mast platform may reach a maximum total length of 17.76 m (58.26 feet). This length may be decreased by assembling a smaller number of beams. With regard to this, refer to chapter 7 "Platform arrangements and payload tables" in this manual.
- Attention: the maximum load and its applicable distribution over the platform depends on the length of the latter. Refer to the payload tables prior to loading the platform.
- Already during erection take into consideration the scheduled use of the platform in relation to the necessary length and the loads to be raised.
- Scrupulously follow the instructions in the order in which they are given below.
- The platform has been designed and made to be used as a lifting work platform, i.e. as a machine designed to lift persons and things. Any other use is to be considered as improper and not allowed by the manufacturer. The manufacturer cannot therefore be held liable for any other use than that described above.
- The platform should only be used with the stabilisers properly positioned.
- The platform should be used with the work deck in a horizontal position.
- Do not activate the platform unless the various operating and emergency procedures have been fully understood.
- It is obligatory to put the selector to the machine stop position and to remove the key located on the platform control panel whenever the platform is not in use.

#### Responsibilities of the user

- A - Only competent personnel may use the platform, who have been trained in its correct use and are acquainted with the safety devices and safety regulations.
- B - Operators should be attentive and physically suitable, they should not be under the effect of alcohol or have taken drugs/medicines which could have an effect on hearing, sight, attentiveness or times of reaction.
- C - Operators should always give priority to safety and should refuse to work when they consider that they cannot work in safety or in compliance with the law.
- D - Operators should be alert that no persons, animals, equipment or materials are to be found in the danger areas or obstruct the platform area of action.

#### Use of personal protective devices

- A - When on the platform the operators must use the protective helmet and the safety belt secured to the actual platform.
- B - The protective helmet should also be worn by the operator working at the base of the platform.

#### Safety norms

- The stabilisers should be installed on flat ground that can withstand the forces which are transmitted by the same. When operating on weak ground, suitably thick boards in hard wood should be placed under the stabilisers in order to increase their surface area of support and therefore obtain a considerable distribution of the specific pressure to the ground (use minimum 300 = 0.98 feet to 400 mm = 1.31 feet boards with a thickness of 50 mm = 0.16 feet).
- A - Only assigned and specifically trained persons should be allowed to manoeuvre the platform.
- B - Use by unauthorised persons is prevented by means of a padlock on the on/off switch on the control panel.



- C - If the work deck made with the side brackets needs to be removed or its dimensions changed, this should only be done after having taken the platform down to ground level.
- D - The work deck should not be loaded beyond the allowed values given in the payload tables to be found on the machine and in this manual.
- E - Personnel should be positioned during movement of the platform so that loads are evenly distributed.
- F - In conditions of danger, immediately activate the emergency control by means of the button located in the control panel. Activating the emergency button stops all movement immediately.
- G - In the event of a sudden storm, the machine should be put out of commission.
- H - At the end of every working day the platform should be taken to the lowest possible position and any manoeuvre by outsiders prevented (e.g. by cutting off the power supply and removing the control panel).

- Before manoeuvring the platform, visually check that all the stabilisers are in contact with the ground and are correctly positioned, as described in chapter 5.

- The platform is not insulated and offers no protection against contact with or proximity to live electrical lines.

It is necessary to point out that electrical discharges occur without actually touching live cables; it is sufficient to be closer to them than the safety distance, which is 5 m (16.40 feet) up to 50,000V and 10 m (32.80 feet) over 50,000 V.

These values are the absolute minimum: no part of the machine or the bodies of operators should go under that limit.

When working near live overhead electrical lines, it is necessary to work with particular caution and attention, checking that the minimum safety distances given above exist between the platform and the live parts.

- The platform should never rest on other structures whose strength is unknown, whether fixed or mobile.

- The platform may be used with a wind up to 55.8 km/h (34.7 miles/h) if the mast is anchored and up to 45.7 km/h (28.4 miles/h) if the mast is not anchored. Attention should also be paid when working between buildings close to each other due to the "wind tunnel" effect: sudden gusts could cause the machine to sway and tip over. Do not lift full-wall panels due to the sail effect.

Purely by way of example, the Beaufort wind scale is enclosed (table 12).

- The JOLLY JUNIOR CE platform may only be used near walls/structures with openings that allow the actual platform to be abandoned by the users in an emergency. The openings should be at least 9m apart in a vertical direction.

- The platform should be erected at no more than 300mm (0.98 feet) from the wall/structure in order to allow it to be abandoned in all safety.



TAB. 13: Beaufort scale

Wind force		Wind speed		Effects on firm earth
degrees	Beaufort scale	m/s	km/h	
0	Calm	0-0.2	1	Calm, smoke rises vertically
1	light air	0.3-1.5	1-5	Direction of the wind indicated by smoke but not by wind sock
2	light breeze	1.6-3.3	6-11	Rustling of foliage, wind sock moves
3	weak breeze	3.4-5.4	12-19	Leaves and twigs move, flags lift
4	moderate breeze	5.5-7.9	10-28	dust and sheets of paper rise, twigs and small branches move
5	gentle breeze	8-10.7	29-38	Small trees oscillate, white crests form on water
6	fresh breeze	10.8-13.8	39-49	Large branches shake, difficult to use umbrellas
7	near gale	13.9-17.1	50-61	Trees oscillate, difficult to walk against the wind
8	Gale	17.2-20.2	62-74	Branches break, difficult to move
9	strong gale	20.3-24.4	75-88	Slight damage to buildings, tiles carried away
10	whole gale	24.5-28.4	>89	Trees uprooted, serious damage to buildings

- The base frame should be correctly levelled during lifting operations and its levelness checked with the relative spirit levels.

The maximum allowed value of inclination of the frame is 0°. If the machine has to be positioned on sloping ground, the maximum allowed value of the slope is approx. 5° in relation to the working extension of the stabilisers.

- In all working stages it is strictly forbidden to sit or climb onto the guard-rail of the work platform or to adopt other methods for reaching greater heights than those allowed for the platform (e.g. to rest ladders on the platform, create catwalks on the guard-rail, etc.). A correct position must always be maintained with feet firmly planted on the platform floor.

- Under no circumstances may the platform be raised if the gates are not properly closed.

- Before using the platform, check that the working area is free from obstacles which could create conditions of danger or hazard.

- Fully inspect the machine and check that all the controls and the safety devices are in proper working order.

- Make sure that all the placards and stickers are clearly visible and legible. With regard to this, refer to chapter 10 in this manual for the positioning and contents of the placards and signs.

## Obligations and bans

### Obligations

- The platform has been designed and calculated to work with a maximum wind speed of 55.8 km/h (34.7 miles/h) for an anchored mast.



- The platform may be erected or dismantled only when the wind speed is less than 45.7 km/h (28.4 miles/h).
- Under no circumstances may the platform be used when wind speed exceeds the above values.
- Use of the safety belts and helmet is compulsory.
- It is compulsory to position the stabilisers on ground that is capable of withstanding the reactions that are transmitted by them.
- A daily inspection for any oil leaks is compulsory.
- It is compulsory to check that the bolts of the platform structure are tight at the time intervals and with the methods described in section 5.6 of this manual.
- It is compulsory to put the selector to the machine stop position and to remove the key located on the platform control panel whenever the platform is not being used.

#### **Bans**

- During work, when manoeuvring to reach the point of work and to return, it is forbidden to climb onto the cross elements of the platform or to use other means to reach greater heights (ladders, stools, etc.).
- The platform has been made to lift loads vertically and under no circumstances should it therefore be used to push or pull horizontally or laterally.
- Under no circumstances may the installed safety devices be bypassed or tampered with.
- Under no circumstances loiter near the platform during manoeuvres.
- Do not throw tools up or down.
- Do not use the machine as earth when welding.
- Do not position the machine less than 5 m (16.40 feet) from electric lines up to 50,000 V and 10 m (32.80 feet) for over 50,000 V.
- Do not stabilise the machine on crumbly ground or on manholes or drain covers.
- Do not operate without the stabilisers being mounted.
- Under no circumstances may unauthorised personnel use the machine.
- Do not overload the machine.
- Do not carry out repairs or replace structural components without the manufacturer's prior permission.
- Do not operate the machine if it is not level.

#### **ATTENTION!**

**The parachute brake is supplied by the company and under no circumstances should be tampered with!**

#### **ATTENTION!**

**It is compulsory for the user to ask the manufacturer OR PRINCIPLE to check the efficiency of the parachute brake once a year!**

## 6.2) Centrifugal parachute brake

### ATTENTION!

The parachute brake is supplied by the company and under no circumstances should be tampered with!

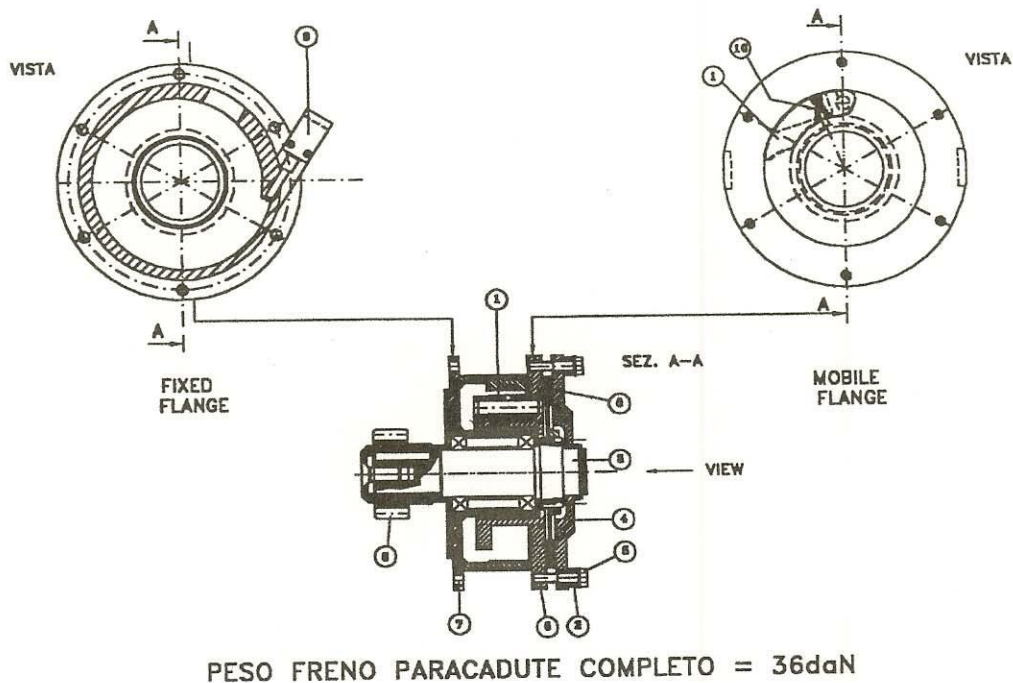


FIG. 6.2.1 Centrifugal parachute brake

### Operation

Every motor unit is fitted with a parachute brake, which activates in descent should the machine, under completely exceptional circumstances, exceed its rated speed (for this to happen the keying or splining components and drive parts of the motors must have failed). If the rated speed is exceeded during descent, the centrifugal weight expands (1). This hooks onto the stop of the supporting flange (7) causing the weight-holding flange (6) to stop as well as the closing flange (4). The linings (5), being connected to the shaft (3) through the relative gear, continue to turn until their compression (between the weight-holding flange and the closing flange), induced by the Belleville washers (2), stops the shaft onto which the pinion (8) that engages on the rack is splined. The braking distance is therefore regulated by the compression of the Belleville washers (2). The force which opposes the expansion of the weight at rated speed is induced by a spring (10) that may be adjusted by a screw situated inside the actual weight.

### ATTENTION!

It is compulsory for the user to ask the manufacturer OR PRINCIPLE to check the efficiency of the parachute brake once a year!



### 6.3) Emergency manual descent

Attention: the emergency descent manoeuvre is by its very nature dangerous and consequently:

- **should only be carried out when truly necessary;**
- **should only be carried out by trained personnel.**

Manual descent should only be carried out if there is a power failure.

The JOLLY JUNIOR CE platform may only be used near walls/structures with openings that allow the actual platform to be abandoned by the users in an emergency. The openings should be at least 9m apart in a vertical direction.

The platform should be erected at no more than 300mm (0.98 feet) from the wall/structure in order to allow it to be abandoned in all safety.

In line with what has been said above, an emergency descent should only be carried out for the distance necessary to reach the first practicable opening.

#### **Manoeuvre for twin-mast platform**

The following operations should be carried out by at least two persons simultaneously in sequence on both motor units for the twin-mast platform:

- 1 - SLOWLY PULL ON THE BRAKE RELEASE LEVER LOCATED ON THE GEARMOTOR.
- 2 - UNTIL THE UNIT SLOWLY STARTS TO DESCEND.

KEEP THE SPEED OF DESCENT CONSTANT BY GRADUALLY RELEASING THE LEVER.

**ATTENTION!**

**FOR THE TWIN-MAST PLATFORM THE WORK DECK MUST BE KEPT LEVEL.**

#### **Manoeuvre for single-mast platform**

Operations 1 and 2 described for the twin-mast platform should be carried out, but in this case only one person is necessary.

**ATTENTION!**

**THE KEYS ENABLING OPERATION IN THE EVENT OF A POWER FAILURE SHOULD ALWAYS BE KEPT ON BOARD THE MACHINE**

The parachute brake may be reset:

- after having identified and eliminated the cause of brake activation;
- if the machine is regularly powered.

## RESETTING OPERATIONS

- 1) the on/off switch knob to position "0" and then open the control panel.
- 2) Using the relative knob inside the control panel and moving the on/off switch, switch on again.
- 3) Turn the reset key switch and hold it in position. The current is automatically restored and the platform starts to ascend, thereby causing the parachute brake to be reset after a short ascent (approx. 200 mm = 0.65 feet).
- 4) Put the on/off switch back to position "0" inside the control panel.
- 5) Close the control panel.
- 6) Operate normally to use the platform.

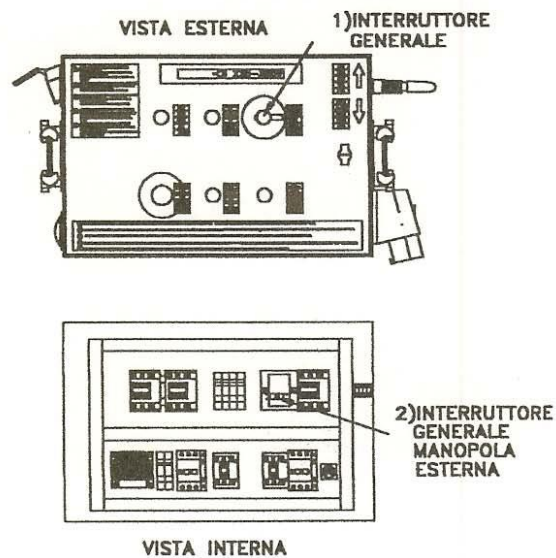


FIG. 6.3.1 Resetting of the parachute brake





## CHAPTER 7

### Platform arrangements and payload tables

#### 7.1) Twin-mast

The maximum possible length of the JOLLY JUNIOR CE twin-mast platform is 17.76 metres (58.26 feet).

This length may naturally be decreased according to requirements, by not assembling some of the platform components.

Possible arrangements are given in the following figures (FIG. 7.1.1 – FIG. 7.1.2).

#### TWIN-MAST PAYLOADS

##### Work deck without side brackets

###### General instructions

The load must always be evenly distributed over the work deck.

Side overhangs should always be of equal length.

##### Work deck with side brackets

###### General instructions

The load must always be evenly distributed over the work platform.

Side overhangs should always be of equal length.

The side brackets may be extracted for a max. length of 0.6 m (1.97 feet).

The side brackets may only be loaded with the weight of persons.

# LOAD CHART TAB. 1/3

TWIN-MAST PLATFORM COMPOSITION	DISTRIBUTION OF LOAD			
	TOTAL CAPACITY (lbs)	n° OF PERSONS (lbs)	DISTRIBUTION OF LOAD (lbs)	WEIGHT TO BASE (lbs)
	1,763.7	n°4 (881.8 lbs)	881.8	4,541.5 n° OF LARGE BEAMS 9 n° OF SMALL BEAMS 4
	1,763.7	n°4 (881.8 lbs)	881.8	4,504 n° OF LARGE BEAMS 10 n° OF SMALL BEAMS 2
	1,763.7	n°4 (881.8 lbs)	881.8	4,333 n° OF LARGE BEAMS 8 n° OF SMALL BEAMS 4
	1,763.7	n°4 (881.8 lbs)	881.8	4,259 n° OF LARGE BEAMS 10 n° OF SMALL BEAMS 0
	1,763.7	n°4 (881.8 lbs)	881.8	4,123.5 n° OF LARGE BEAMS 7 n° OF SMALL BEAMS 4

<b>LAW:</b>		
	= 4.7 feet - LARGE BEAM	
	= 2.61 feet - SMALL BEAM	
	= 2.76 feet - LIFTING UNIT	
	= BEAMS WITH EXTENSIONS	
WEIGHT MARKED ON BEAM IS IN lbs LENGHT IS IN feet		

<b>PRESCRIPTIONS:</b>		
n° MAX OF PERSONS ON THE PLATFORM		
4		
n° MAX PERSONS IN THE CENTRAL PLATFORM	n° MAX PERSONS IN THE LATERAL PLATFORM	n° MAX PERSONS ON THE EXTENSIONS
4	2	4

FIG. 7.1.1 load chart (TAB. 1/3)

# LOAD CHART TAB. 2/3

TWIN-MAST PLATFORM COMPOSITION		DISTRIBUTION OF LOAD			
		TOTAL CAPACITY (lbs)	n° OF PERSONS (lbs)	DISTRIBUTION OF LOAD (lbs)	WEIGHT TO BASE (lbs)
	1,763.7	n°4 (881.8 lbs)	881.8	1742.6	
	1,763.7	n°4 (881.8 lbs)	881.8	n° OF LARGE BEAMS 8 n° OF SMALL BEAMS 0	
	1,763.7	n°4 (881.8 lbs)	881.8	1553.2	
	1,763.7	n°4 (881.8 lbs)	881.8	n° OF LARGE BEAMS 6 n° OF SMALL BEAMS 0	
	1,763.7	n°4 (881.8 lbs)	881.8	1475.2	
	1,763.7	n°4 (881.8 lbs)	881.8	n° OF LARGE BEAMS 4 n° OF SMALL BEAMS 2	
	1,763.7	n°4 (881.8 lbs)	881.8	1380.5	
	1,763.7	n°4 (881.8 lbs)	881.8	n° OF LARGE BEAMS 3 2	

<b>LAW:</b>		
A	= 4.7 feet - LARGE BEAM	
B	= 2.61 feet - SMALL BEAM	
X	= 2.76 feet - LIFTING UNIT	
□	= BEAMS WITH EXTENSIONS	
WEIGHT MARKED ON BEAM IS IN lbs LENGHT IS IN feet		

<b>PRESCRIPTIONS:</b>		
n° MAX OF PERSONS ON THE PLATFORM 4		
n° MAX PERSONS IN THE CENTRAL PLATFORM	n° MAX PERSONS IN THE LATERAL PLATFORM	n° MAX PERSONS ON THE EXTENSIONS
4	2	4

FIG. 7.1.2 load chart (TAB. 2/3)



## 7.2) Single-mast

Possible arrangement is given in the following figure (FIG. 7.1.3).

### **SINGLE-MAST PAYLOADS**

#### **Work deck**

#### **General instructions**

The load must always be evenly distributed over the work platform.

Side overhangs should always be of equal length.

The side brackets may be extracted for a max. length of 0.6 m (1.97 feet).

The side brackets may only be loaded with the weight of persons.

# LOAD CHART TAB. 3/3

SINGLE-MAST PLATFORM COMPOSITION	DISTRIBUTION OF LOAD			
	TOTAL CAPACITY (lba)	n° OF PERSONS (lba)	DISTRIBUTION OF LOAD (lba)	WEIGHT TO BASE (lba)
	881.8	n°2 (529 lba)	352.7	1,850.6
				n° OF LARGE BEAMS 2
				n° OF SMALL BEAMS 2
	881.8	n°2 (529 lba)	352.7	1,605
				n° OF LARGE BEAMS 2
				n° OF SMALL BEAMS 0

LAW:	
	= 4.7 feet - LARGE BEAM
	= 2.61 feet - SMALL BEAM
	= 2.76 feet - LIFTING UNIT
	= BEAMS WITH EXTENSIONS

WEIGHT MARKED ON BEAM IS IN lba  
LENGHT IS IN feet

PRESCRIPTIONS:	
n° MAX OF PERSONS ON THE PLATFORM 2	
n° MAX PERSONS IN THE PLATFORM 2	n° MAX PERSONS ON THE EXTENSIONS 2

FIG. 7.2.1 load chart (TAB. 3/3)





## CHAPTER 8

### Maintenance

#### 8.1) Information regarding safety

- All maintenance operations should be carried out with the platform in the lowest position.
- Never loiter beneath the platform.
- When carrying out maintenance, pay great attention to objects (tools, etc.) that are left on the platform without being suitably secured.
- Maintenance operations should be carried out by suitably trained personnel, who have experience of similar types of machines and who can operate in total safety because they know the risks associated with such machines. If there are any doubts regarding operations to be carried out, contact the technical office of SAFI S.r.l.
- For whatsoever is not mentioned in this section on maintenance operations and their accomplishment under conditions of safety, contact SAFI S.r.l.
- It is compulsory to render a broken or faulty platform inoperable immediately.
- It is compulsory to repair all failures or malfunctioning before using the platform.
- The operator should report any trouble found on the machine to the person assigned to control and maintenance of the same and should there be a change in operator, the substitute should be warned accordingly.

#### 8.2) Preliminary and periodic checks

For trouble-free operation and long life of the twin-mast platform, periodic checks, inspections and maintenance should be carried out, as listed below:

##### A - BEFORE STARTING WORK

Check and if worn, replace:

- Guide rollers
- Lifting pinions
- Racks
- Trestle fixing screws
- Beam lock pins
- Anchor fixing screws

**The centrifugal parachute brake should be checked and tested once a year by an engineer authorised by the Manufacturer or the Principle.**

#### ATTENTION!

**It is compulsory for the user to ask the manufacturer OR PRINCIPLE to check the efficiency of the parachute brake once a year!**

##### B - PARTS WHICH REQUIRE PERIODIC LUBRICATION

TAB. 14: Parts and relative lubricants

PARTS	LUBRICANT
Large levelling screws and stabilisers	Rack
Trestle connecting screws	Speed reducer
Grease	Oil

Maintenance of the reduction gear consists of just checking the oil level and changing the oil after 10,000 working hours or once every two years. If synthetic lubricants are used, the interval between lubrication may be doubled, i.e. after 20,000 hours or once every four years.

#### ATTENTION!

**DO NOT MIX SYNTHETIC LUBRICANTS WITH MINERAL OILS.**

### 8.3) Maintenance of the self-braking unit

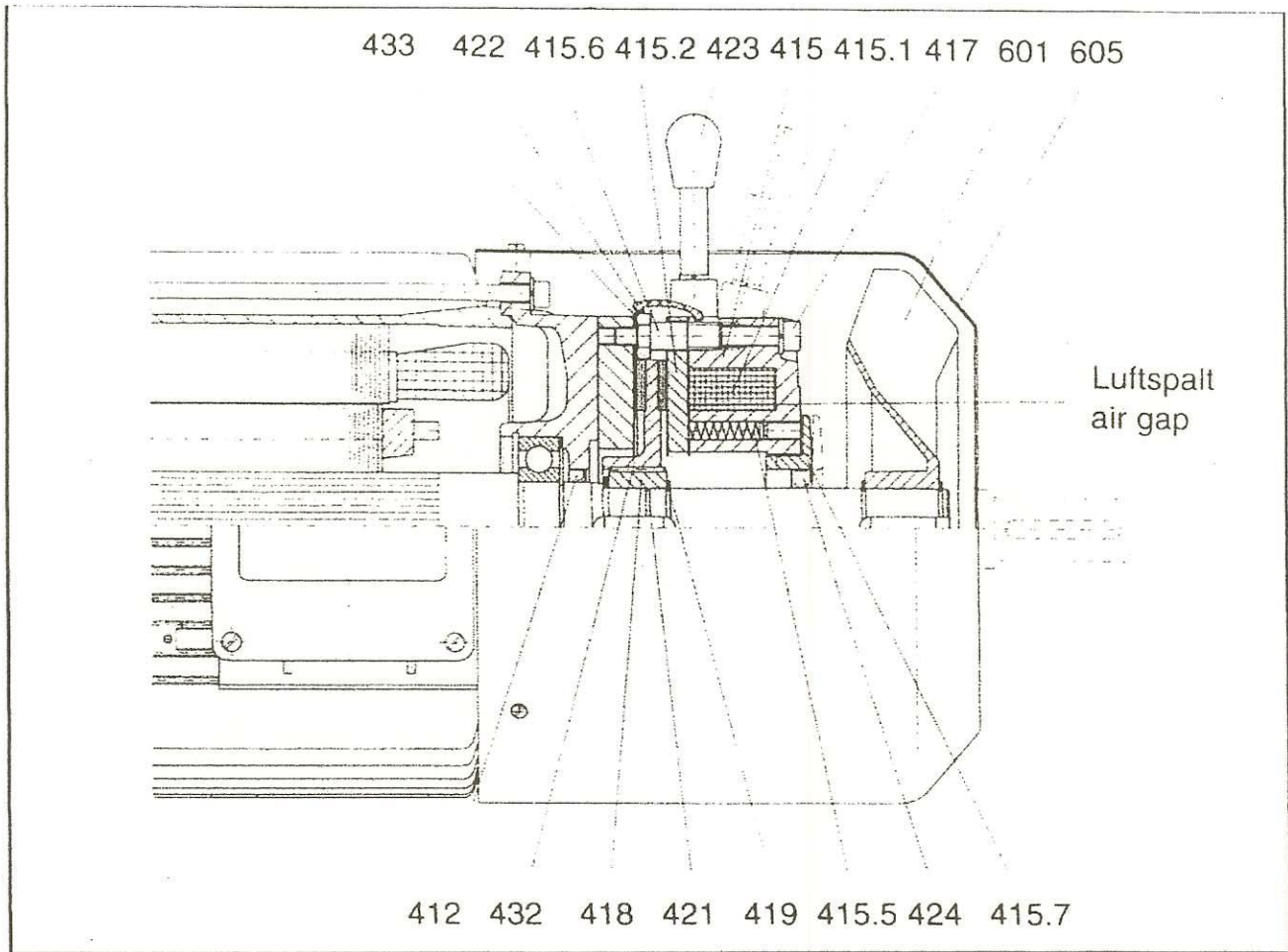


FIG. 8.3.1 Electric motor self-braking unit



## Components of the self-braking unit

TAB. 15: Self-braking unit components

N.	DESCRIPTION	N.	DESCRIPTION
412	Snap ring	419	Dust cover ring
415	Field magnets	421	Coupling key
415.1	Brake coil	422	Snap ring
415.2	Brake cap	423	Manual release lever
415.5	Brake springs	424	Snap ring
415.6	Adjustment ring nut	432	Pad (rotor)
415.7	Adjustment ring	433	Clutch sheet-steel
417	Fixing screw	601	Fan
418	Broached hub	605	Fan cover

### Controlling, adjusting and replacing the brake

When the brake disk has been worn down to a minimum thickness of 9 mm, it must be replaced. If the entrefer, the minimum air gap between the electromagnet and the disk pusher, is shorter than the minimum value allowed (acceptable values: 0,25 mm min. - 0,6 mm max) and if the brake-disk is replaced, the brake will have to be adjusted following this procedure:

#### **ATTENTION!**

**THE NEW BRAKE DISK SHOULD NOT COME INTO CONTACT WITH GREASE OR OIL.**

- Disassemble the casing, move aside the protective band and remove any dusty deposit.
- Tighten the hexagonal nuts to restore the minimum indicated air gap evenly between the electromagnet and the disk pusher. Using a thickness gauge, check regularity of the air gap near the fixing screws. Put the protective metal band back in place and reassemble the casing.



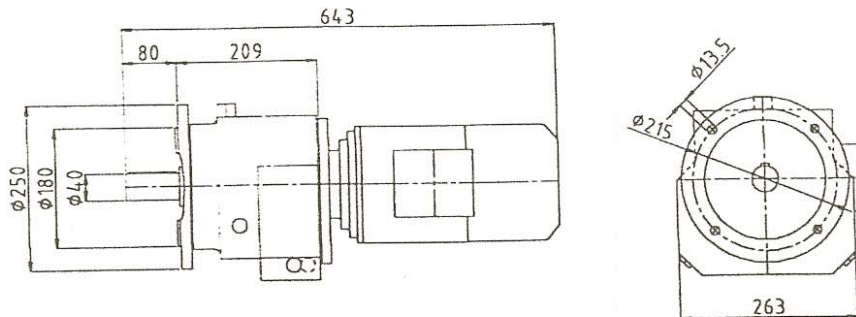
## Maintenance

It is sufficient to keep the cooling air circulating channels clean and to check the bearings. Should the bearing be replaced, only use grease that is resistant to high temperatures (Esso Unirex N 3).

TAB. 16: lubrication

A P P L.	TYPE of Lubricant	Ambient TEMP. °C	Kinematic Viscosity At 40°C cST mm <sup>2</sup> /5	AGIP	BP	ESSO	MOBIL	IP	TEXACO	FIAT
R E D U C E R S	Oil	+40 at 0	748 at 612	Blasia 680	BP Energol GR-XP 680	Spartan EP 680	Mobilg ear 636	IP Mellan a Oil 680	Meropa 680	EPZ 680
		+25 at - 15	242 at 198	Blasia 220	BP Energol GR-XP 220	Spartan EP 220	Mobilg ear 630	IP Mellan a Oil 220	Meropa 220	EPZ 200
		+10 at - 30	165 at 90	Blasia 150	BP Energol GR-XP 100	Spartan EP 150	Mobil D.T.E. 18	IP Mellan a Oil 150	Meropa 100	EPZ 125
		-20 at -50	16.5 at 13.5	Arnica 22	BP Energol LPT 22	Univis J13	Mobil D.T.E. 11	Aero Shell Fluid 4	Aircraft Hydraulic Oil	---
	Grease	+40 at - 15		GR MU EPO	BP Energol HT-EP 00	Fibrax EP370	Mobilpl ex 44	IP Athesi a Grease EPO	Multifak EPO	Jota 0

## 8.4) Speed reducer



DESCRIZIONE
Motoriduttore coassiale
tipo C513 UFA 79.9 S3 LO M3 SA4 FD
Forma B5
Riduzione 79,9
Flangia diametro esterno mm250
Velocità 22,5 giri/min
Diam. Albero lento 40mm

DESCRIZIONE
Motore trifase autofrenante potenza 1,8 Kw
Tensione - Frequenza 200/346V 60Hz
Tensione freno monofase 200V
Fattore di servizio 1,5
Freno con sblocco manuale HR a ritorno automatico
Tipo freno: FD 40
Peso motoriduttore = 60 Kg

FIG. 8.4.1 Speed reducer

### Maintenance operations

With regard to maintenance of the provided speed reducer, take into account that:

- after starting the reducer for the first time, the oil should be changed approx. every 10,000 hours of operation or at least once every 3 years.
- Subsequent oil changes should always be carried out with these same time intervals.
- Check the oil level inside the reducer at least once a month, thereby ensuring normal operating conditions for this component.

### ATTENTION!

**WHEN CHANGING THE OIL, IT IS FUNDAMENTAL TO USE THE TYPE OF OIL USED PREVIOUSLY. DO NOT MIX DIFFERENT TYPE OILS; IN PARTICULAR DO NOT MIX SYNTHETIC OILS WITH MINERAL OILS OR WITH OTHER SYNTHETIC OILS. IF IT IS NECESSARY TO CHANGE FROM A MINERAL TO A SYNTHETIC OIL OR FROM ONE SYNTHETIC OIL TO ANOTHER TYPE, THOROUGHLY CLEAN THE GEARING WITH THE NEW TYPE OF OIL.**

- Clean the blow-off plug at least once every 3 months to ensure that it works properly.



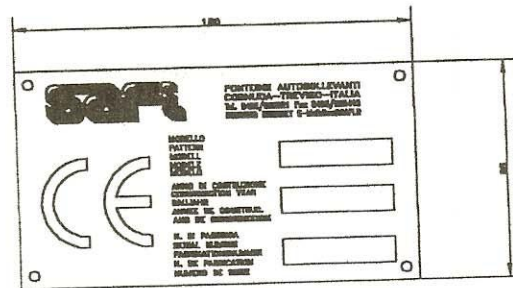
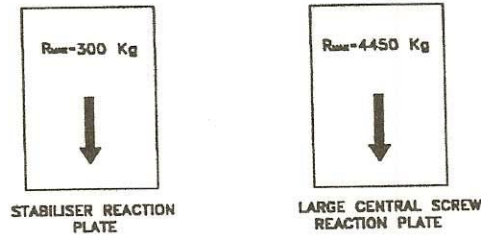


## CHAPTER 9

### Markings

Tables should be clearly legible and permanently attached to the machine. The recommended tables and figures indicating their position on the machine are listed below.

- Serial number plate (figure 9.0.1)
- Plate with reactions of the stabilisers and large central screw (figure 9.0.1)
- Position of reactions plate (figure 9.0.2)
- Position of load table (figure 9.0.3)
- Machine performance table (figure 9.0.4)



SERIAL NO. PLATE

FIG. 9.0.1 Serial number plate, stabiliser reactions and large central screw plates

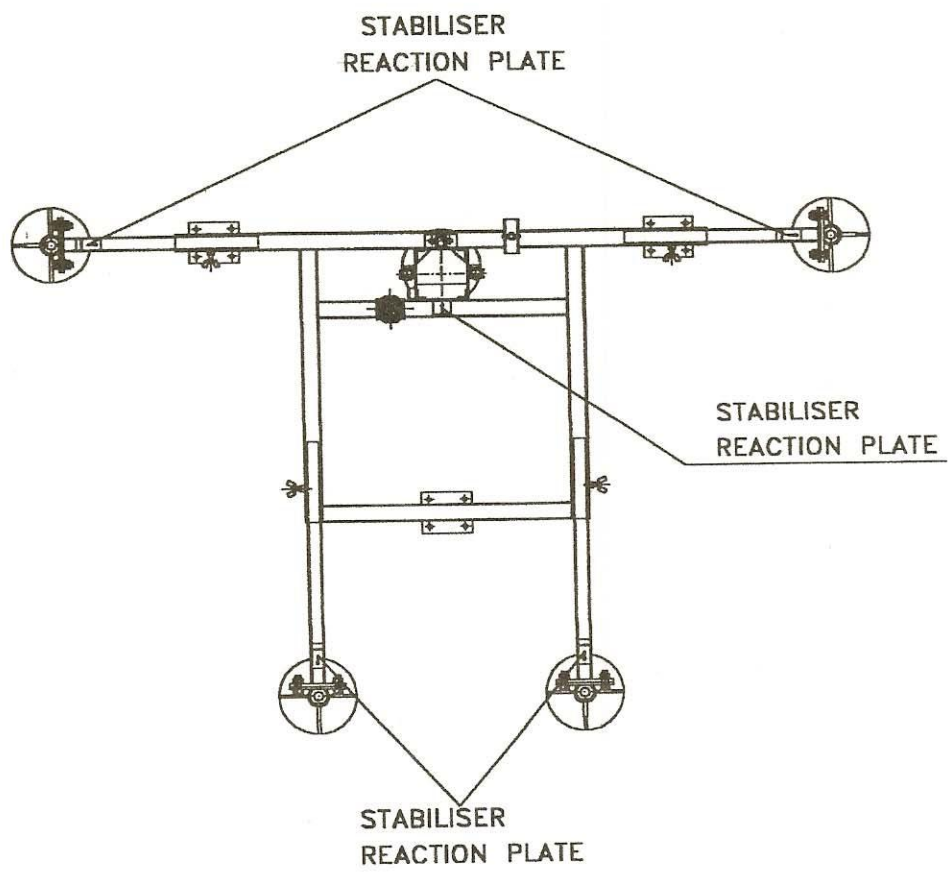
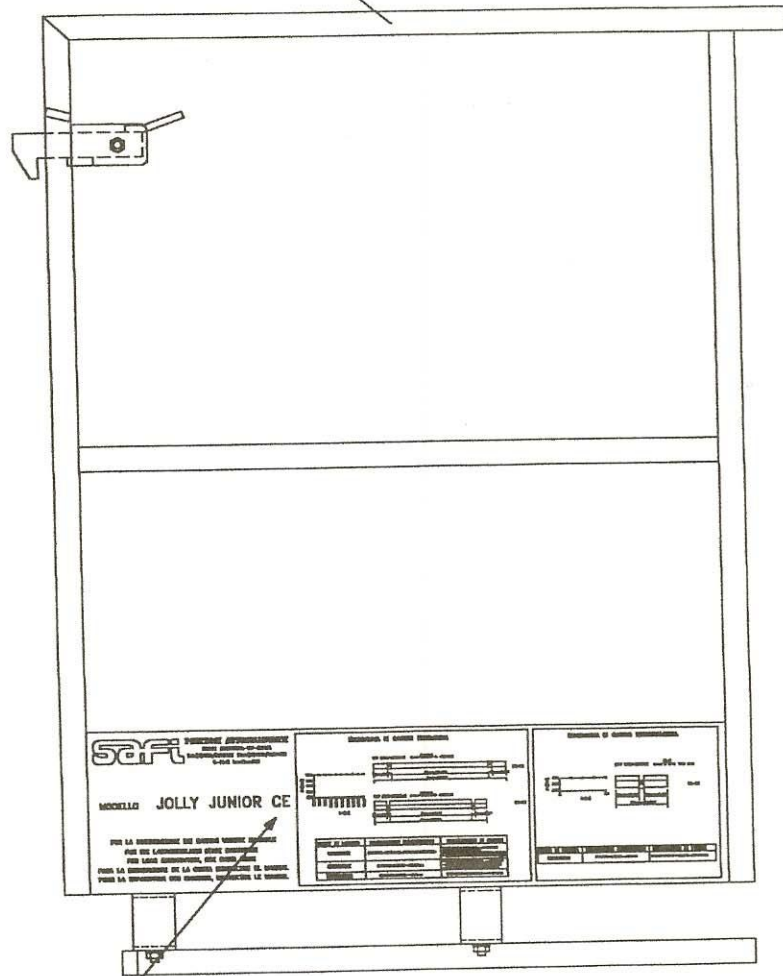


FIG. 9.0.2 Position of reaction plate

SLIDING GATE



LOAD TABLE

FIG. 9.0.3 Position of payload table



MAXIMUM PAY LOAD	1764 lbs
MAXIMUM VERTICAL TRAVEL SPEED	20 ft/min
MAX ALLOWABLE FREE STANDING HEIGHT IN THE SERVICE	10 ft
MAX TIE SPACING	20 ft
MAXIMUM PLATFORM LENGHT	58,26 ft
MAX HEIGHT FOR TIED MAST	328 ft
MAX WIND SPEED OUT OF SERVICE	102,6 miles/h
MAX WIND SPEED DURING ERECTION OR DESMANTLING	28,4 miles/h
MAX WIND SPEED ON SERVICE WITH TIED	34,67 miles/h
VOLTAGE	208V - 60Hz

FIG. 9.0.4 Machine performance table

## **CHAPTER 10**

### **Control register**

#### **Reference to norms**

This control register is issued by SAFI to the platform user, in accordance with annex I of the amended directive 89/392/EEC.

#### **Instructions for safe-keeping**

This control register should be considered an integral part of the JOLLY JUNIOR CE and must accompany the same for its entire life until final disposal.

#### **Instructions for filling in the register**

These instructions are given according to known provisions and norms at the date the platform is first sold. New provisions or norms may be issued thereafter which affect the user's obligations.

The register is designed for noting, according to the proposed charts, the following events regarding the useful life of the platform:

- transfers of ownership
- replacement of motors, mechanisms, structural elements, electrical components, safety devices and relative components;
- breakdowns of a certain importance and relative repairs;
- periodic checks.

**NOTE:** should the sheets of this register be insufficient, add the necessary sheets prepared according to the various charts indicated here below. The user should indicate on the additional sheets the type of platform, the factory serial numbers and the year of manufacture. The additional sheets become an integral part of this Register.

**10.1) Register cards**

**Ownership of JOLLY JUNIOR CE**

**DELIVERY OF THE HOIST TO THE FIRST OWNER**

The JOLLY JUNIOR CE, serial No....., year of manufacture..... as specified in this Control Register, has been delivered by SAFI, on....., to the firm

.....

..... according to established contractual terms and conditions, with the technical, dimensional and functional characteristics specified in the instruction booklet and in the summary contained in this Register.



**SUBSEQUENT TRANSFERS OF OWNERSHIP**

As of..... the ownership of the above JOLLY JUNIOR CE has been transferred to the company:

.....  
.....

It is hereby certified that as at the above date the technical, dimensional and functional characteristics of the above JOLLY JUNIOR CE are in conformity with those provided for originally and that any alterations have been transcribed into this Register.

The seller

.....

The buyer

.....

**REPLACEMENT OF MECHANISMS**

Date ..... Description of element .....

Manufacturer ..... Supplied by .....

Reason for replacement .....

The person assigned by the company  
carrying out the replacement  
.....

The user  
.....

**REPLACEMENT OF STRUCTURAL ELEMENTS**

Date ..... Description of element .....  
Manufacturer ..... Supplied by .....  
Reason for replacement .....

The person assigned by the company  
carrying out the replacement  
.....

The user  
.....

## REPLACEMENT OF ELECTRICAL COMPONENTS

Date ..... Description of element .....

Manufacturer ..... Supplied by .....

Reason for replacement .....

The person assigned by the company  
carrying out the replacement

.....

The user

.....



**REPLACEMENT OF SAFETY DEVICES AND RELATIVE COMPONENTS**

Date ..... Description of element .....

Manufacturer ..... Supplied by .....

Reason for replacement .....

The person assigned by the company  
carrying out the replacement

The user

.....

.....

**BREAKDOWNS OF A CERTAIN IMPORTANCE AND RELATIVE REPAIRS**

Description of the failure .....

Causes .....

Repair work carried out .....

Signature of the SAFI person  
assigned to repair work  
.....

The user

.....

**PERIODIC CHECK OF THE PARACHUTE BRAKE**

Result of check .....

Repair work carried out .....

Signature of the SAFI person  
assigned to repair work

.....

The user

.....





# JOLLY JUNIOR Single – Twin mast Platform

## SPARE PARTS LIST

### BASE

CODE	DESCRIPTION
J. JUNIOR /01	BASE FRAME
J. JUNIOR /02	RUBBER SHOCK ABSORBER
J. JUNIOR /03	DESCENT LIMIT SWITCH SHOE
J. JUNIOR /04	LARGE SCREW RING NUT
J. JUNIOR /05	STABILISER LARGE SCREW
J. JUNIOR /06	STABILISER ARM WITH PERFORATED PLATE
J. JUNIOR /07	LARGE CENTRAL SCREW SUPPORT BUSH
J. JUNIOR /08	BACK-PLATE WITH BUSH FOR STABILISER LARGE SCREW
J. JUNIOR /09	COMPLETE SWIVELLING WHEEL
J. JUNIOR /10	SWIVELLING WHEEL SUPPORT PLATE
J. JUNIOR /11	WING NUT BOLT M12x30
J. JUNIOR /12	LARGE CENTRAL SCREW
J. JUNIOR /13	HEXAGON NUT UNI 5588 M16-6S
J. JUNIOR /14	GROWER WASHER UNI 1752-A16
J. JUNIOR /15	SCREW UNI 5739 M16x40-8.8

### VERTICAL ELEMENTS

CODE	DESCRIPTION
J. JUNIOR /16	VERTICAL ELEMENT
J. JUNIOR /17	END VERTICAL ELEMENT
J. JUNIOR /18	EYE TIE ROD M14 UNI 6058
J. JUNIOR /19	HEXAGON NUT M14 UNI 5587-6S
J. JUNIOR /20	PLAIN WASHER SP.5
J. JUNIOR /21	SNAP RING DA 12 UNI 7435-75
J. JUNIOR /22	PIN 12 X 35 UNI 1707

### MAST SHIELD

CODE	DESCRIPTION
J. JUNIOR /23	MAST SHIELD

## STAIRWAY

CODE	DESCRIPTION
J. JUNIOR /24	STAIRWAY
J. JUNIOR /25	RUBBER PLUG
J. JUNIOR /26	SCREW M10x80 UNI 5739-8.8
J. JUNIOR /27	PLAIN WASHER M10
J. JUNIOR /28	HEXAGON NUT M10

## 4.70 feet – 2.61 feet BEAM

CODE	DESCRIPTION
J. JUNIOR /29a	4.70 feet (1433mm) BEAM
J. JUNIOR /29b	2.61 feet (795mm) BEAM
J. JUNIOR /30	EXTENSION
J. JUNIOR /31	EXTENSION LOCKING WING NUT BOLT M12x30
J. JUNIOR /32	GUARDRAIL LOCKING WING NUT BOLT M12x30
J. JUNIOR /33	COUPLING RING
J. JUNIOR /34	CONNECTING PIN
J. JUNIOR /35	ELASTIC SPLIT PIN UNI 8833-A5
J. JUNIOR /36	SPRING CATCH
J. JUNIOR /37	GENOESE CHAIN WITH 17 – (18 LINKS)

## WOODEN DECK

CODE	DESCRIPTION
J. JUNIOR /38a	4.70 feet (1433mm) WOODEN DECK
J. JUNIOR /38b	2.61 feet (795mm) WOODEN DECK

## COLUMNS

CODE	DESCRIPTION
J. JUNIOR /39a	SINGLE COLUMN
J. JUNIOR /39b	DOUBLE COLUMN

## GUARDRAILS

CODE	DESCRIPTION
J. JUNIOR /40	4.59 feet (1400mm) GUARDRAIL
J. JUNIOR /41	RIGHT END GUARDRAIL
J. JUNIOR /42	LEFT END GUARDRAIL



## ANCHORAGE

CODE	DESCRIPTION
J. JUNIOR /43	RIGHT-ANGLE CLAMPS $\varnothing 48$
J. JUNIOR /44	STEEL ANCHORS
J. JUNIOR /45	ANCHORING BRACKET
J. JUNIOR /46	ANCHORAGE CLAMP

## MOTOR UNIT

CODE	DESCRIPTION
J. JUNIOR /47	MOTOR PINION
J. JUNIOR /48	GUIDE ROLLER WITH GROOVE
J. JUNIOR /49	FLAT GUIDE ROLLER
J. JUNIOR /50	GUIDE SPROCKET
J. JUNIOR /51	SELF-BRAKING ELECTRIC MOTOR
J. JUNIOR /52	REDUCTION GEAR
J. JUNIOR /53	MOTOR BRAKE RELEASE ROD
J. JUNIOR /54	JUNCTION BOXES
J. JUNIOR /55	GATE LIMIT SWITCH
J. JUNIOR /56	LEVEL LIMIT SWITCH
J. JUNIOR /57	LEVEL RUNBY LIMIT SWITCH
J. JUNIOR /58	ASCENT LIMIT SWITCH
J. JUNIOR /59	DESCENT LIMIT SWITCH
J. JUNIOR /60	ASCENT-DESCENT RUN BY LIMIT SWITCH
J. JUNIOR /61	END OF STROKE LIMIT SWITCH
J. JUNIOR /62	CENTRIFUGAL BRAKE
J. JUNIOR /63	CENTRIFUGAL BRAKE PINION

## GUIDE ROLLER WITH GROOVE

CODE	DESCRIPTION
J. JUNIOR /64	PIN FOR GUIDE ROLLER WITH GROOVE
J. JUNIOR /65	PLAIN WASHER 17 x 30 UNI 6592
J. JUNIOR /66	BEARING $\varnothing 40/17-12$ - 6203 2RS
J. JUNIOR /67	ROLLER WITH GROOVE $\varnothing 80$
J. JUNIOR /68	SELF-LOCKING NUT M16 UNI 7473-5.8
J. JUNIOR /69	SHIM
J. JUNIOR /70	ROLLER SUPPORT



## COMPLETE SMOOTH ROLLER

CODE	DESCRIPTION
J. JUNIOR /71	SMOOTH ROLLER PIN
J. JUNIOR /72	PLAIN WASHER 17 x 30 UNI 6592
J. JUNIOR /73	BEARING $\varnothing 40/17-12 - 6203 2RS$
J. JUNIOR /74	SMOOTH ROLLER $\varnothing 60$
J. JUNIOR /75	SELF-LOCKING NUT M16 UNI 7473-5.8
J. JUNIOR /76	SHIM
J. JUNIOR /77	ROLLER SUPPORT

## COMPLETE SPROCKET

CODE	DESCRIPTION
J. JUNIOR /78	SPROCKET PIN
J. JUNIOR /79	PLAIN WASHER 17 x 30 UNI 6592
J. JUNIOR /80	BEARING $\varnothing 40/17-12 - 6203 2RS$
J. JUNIOR /81	SPROCKET $m=5 Z=15 \varnothing 85$
J. JUNIOR /82	SELF-LOCKING NUT M16 UNI 7473-5.8
J. JUNIOR /83	SHIM
J. JUNIOR /84	S ROLLER SUPPORT

## CENTRIFUGAL BRAKE

CODE	DESCRIPTION
J. JUNIOR /85	CENTRIFUGAL WEIGHT
J. JUNIOR /86	BELLEVILLE WASHER
J. JUNIOR /87	BRAKE-HOLDING SHAFT
J. JUNIOR /88	CLOSING FLANGE
J. JUNIOR /89	LININGS
J. JUNIOR /90	WEIGHT-HOLDER MOBILE FLANGE
J. JUNIOR /91	FIXED FLANGE
J. JUNIOR /92	CENTRIFUGAL BRAKE PINION
J. JUNIOR /93	LIMIT SWITCH
J. JUNIOR /94	HELICAL SPRING ADJUSTING SCREW M6
J. JUNIOR /95	BELLEVILLE WASHER ADJUSTING SCREW M10x70
J. JUNIOR /96	LUBRICATOR
J. JUNIOR /97	VOLUTE SPRING
J. JUNIOR /98	BEARINGS 6010 - 2RS
J. JUNIOR /99	O RING
J. JUNIOR /100	UNDULATED SPLIT RING
J. JUNIOR /101	SCREW M12x40
J. JUNIOR /102	INTERMEDIATE PLATE
J. JUNIOR /103	PLUG FOR WEIGHT
J. JUNIOR /104	CLOSING RING