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
1st 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.
2nd 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), ø 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)

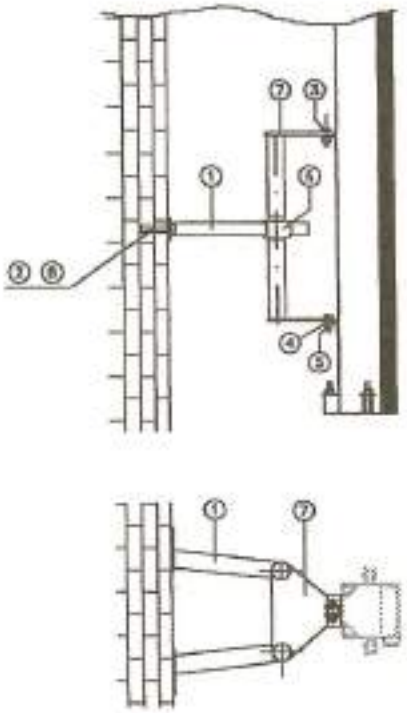


FIG. 5.6.1 Anchorage

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.

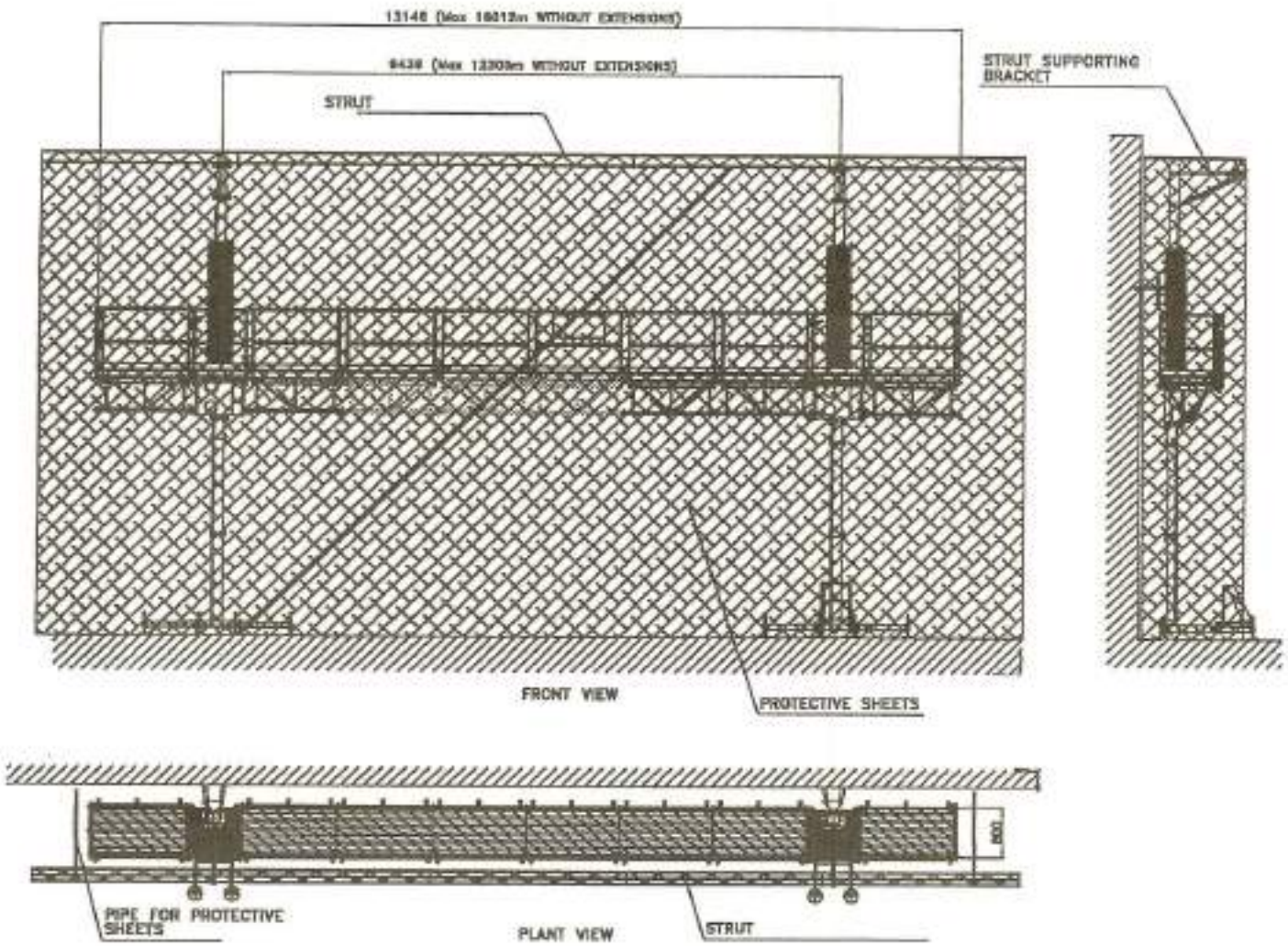
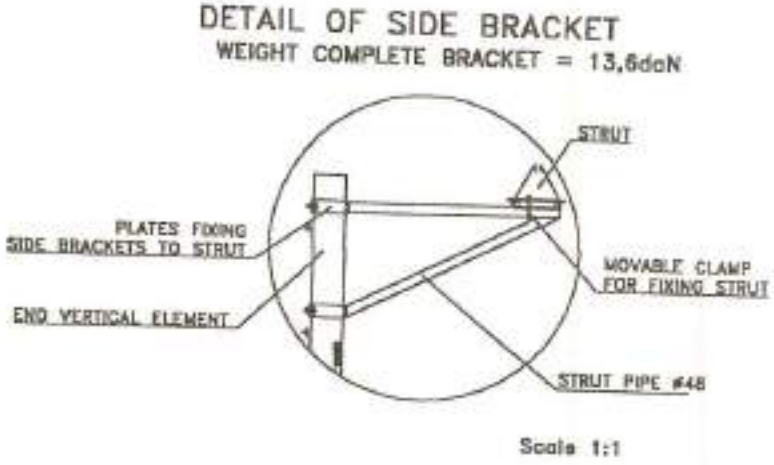
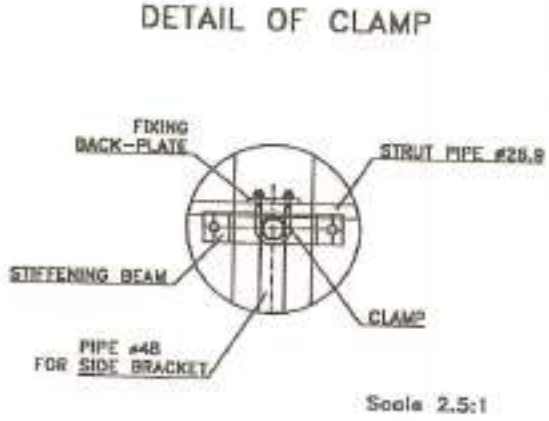


FIG. 5.7.1 Protective screening (assembly drawing)





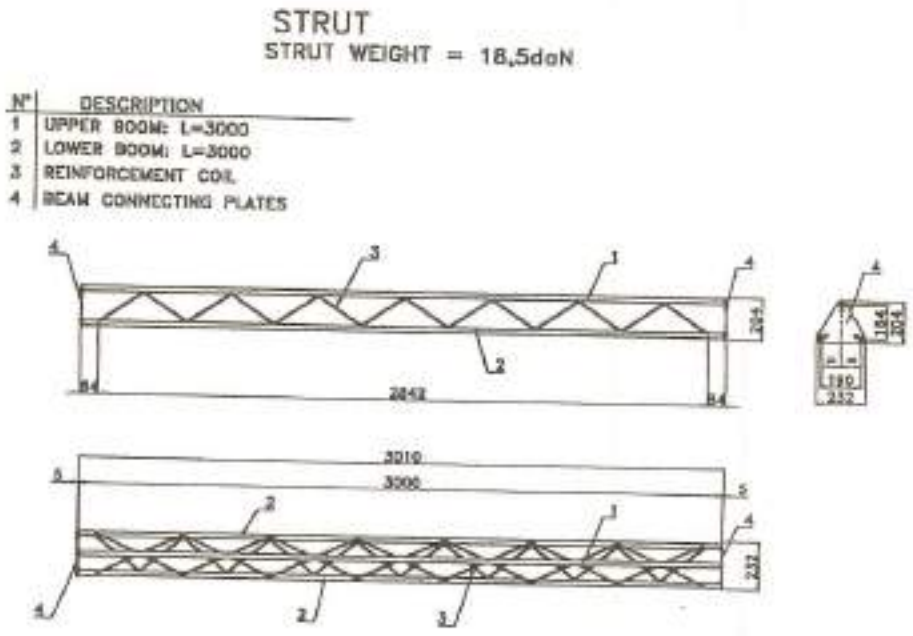


FIG. 5.7.2 Detail of positioning of bracket, clamps and struts.

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!

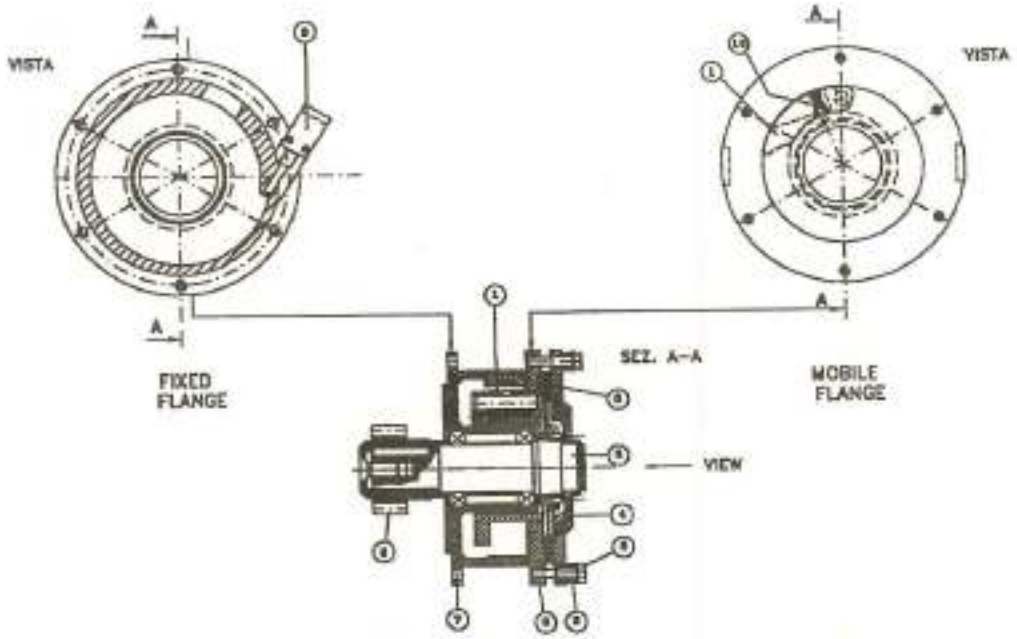


FIG. 6.2.1 Centrifugal parachute brake

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 (o.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.

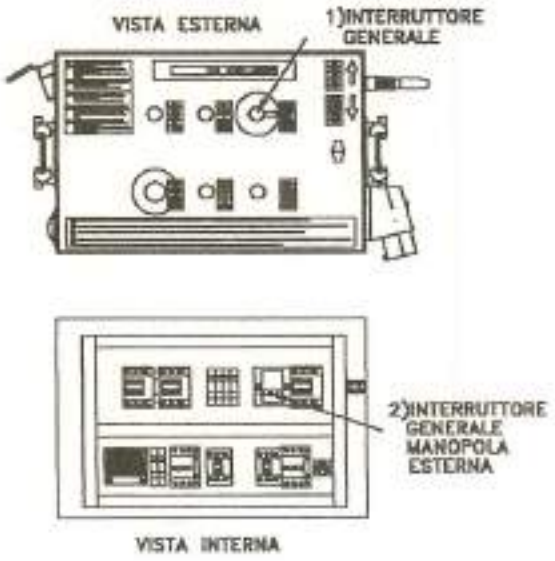


FIG. 6.3.1 Resetting of the parachute brake

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

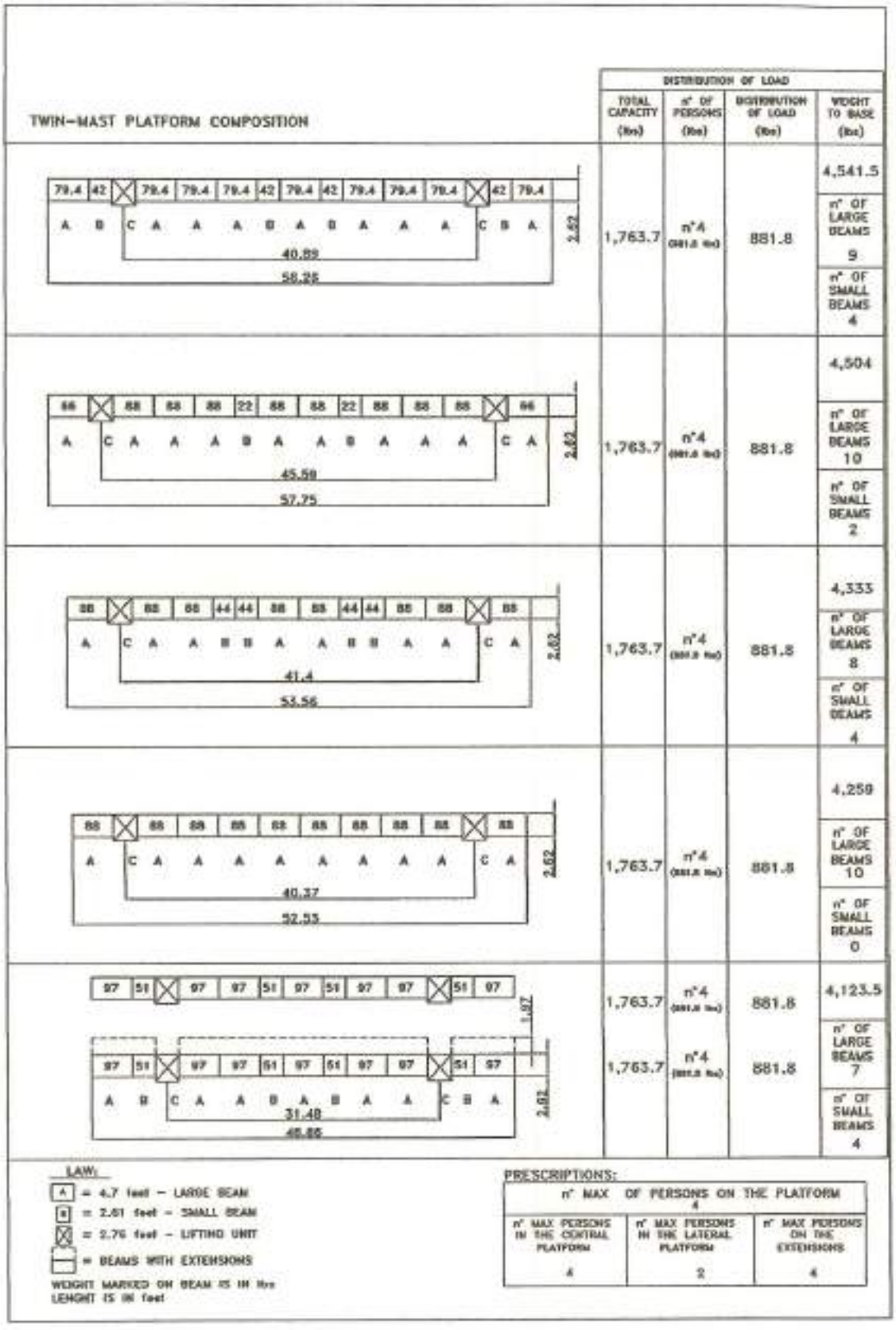


FIG. 7.1.1 load chart (TAB. 1/3)

LOAD CHART TAB. 2/3

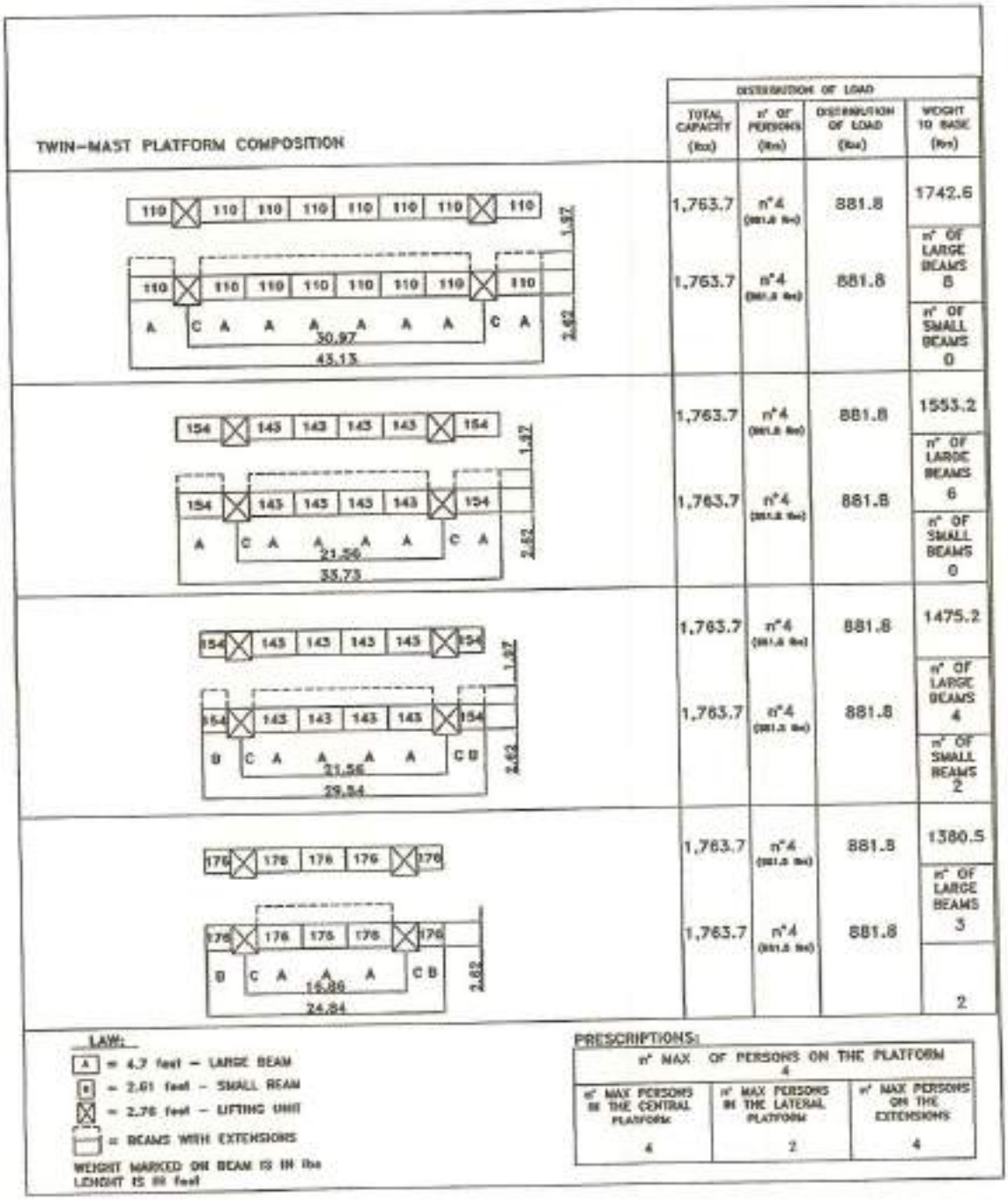


FIG. 7.1.2 load chart (TAB. 2/3)

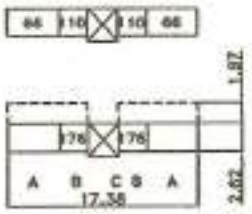
7.2) Single-mast

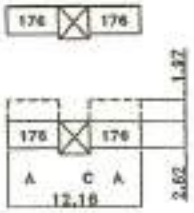
Possible arrangement is given in the following figure (FIG. 7.1.3).

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 (lbs)	n° OF PERSONS (lbs)	DISTRIBUTION OF LOAD (lbs)	WEIGHT TO BASE (lbs)
881.8	n°2 (320 lbs)	352.7	1,850.6
			n° OF LARGE BEAMS 2
881.8	n°2 (320 lbs)	352.7	n° OF SMALL BEAMS 2
881.8	n°2 (320 lbs)	352.7	1,605
			n° OF LARGE BEAMS 2
881.8	n°2 (320 lbs)	352.7	n° OF SMALL BEAMS 0

LAW:

- A = 4.7 feet – LARGE BEAM
- B = 2.61 feet – SMALL BEAM
- ⊠ = 2.70 feet – LIFTING UNIT
- = BEAMS WITH EXTENSIONS

WEIGHT MARKED ON BEAM IS IN lbs
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

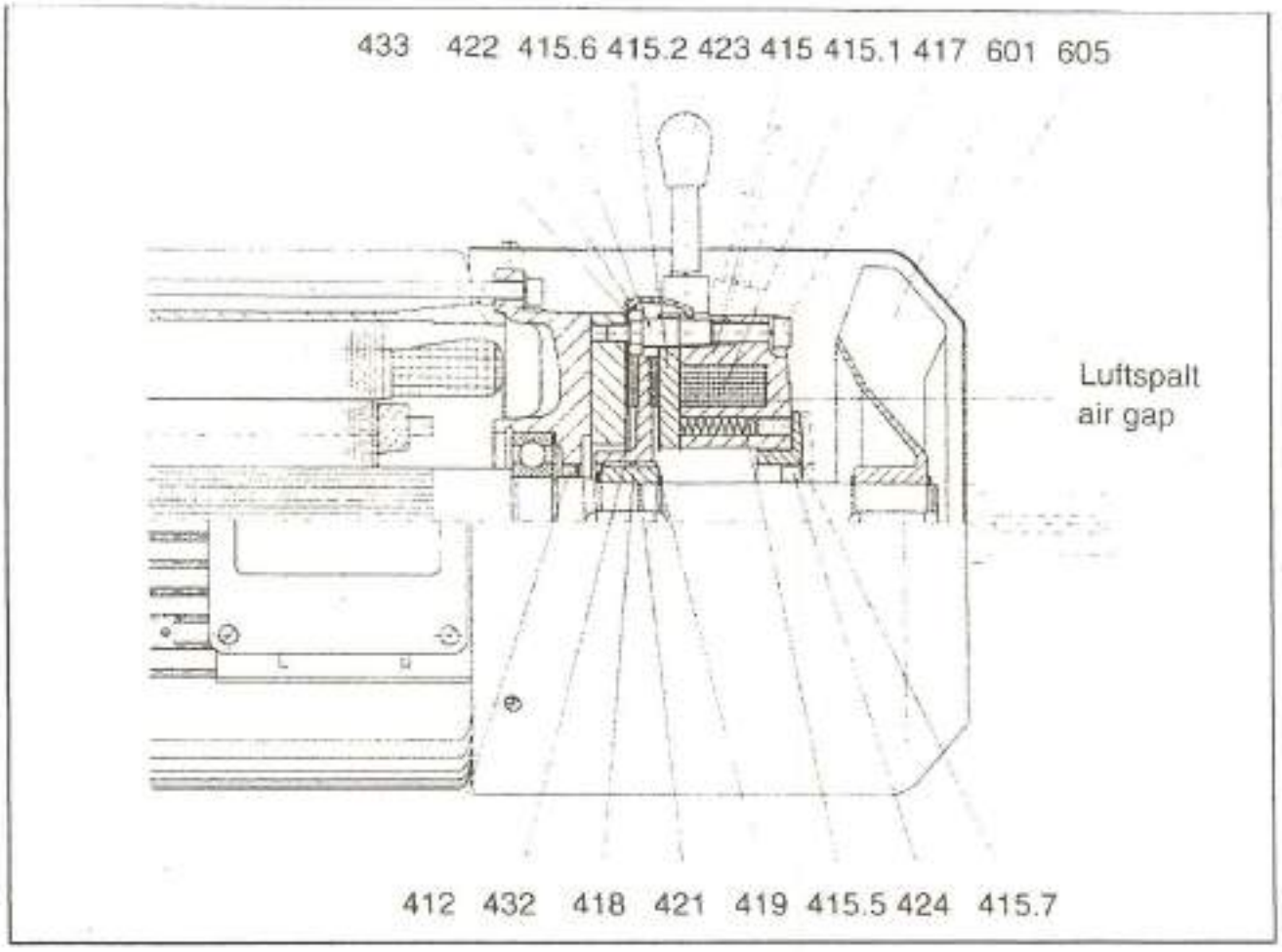


FIG. 8.3.1 Electric motor self-braking unit

Components of the self-braking unit

TAB. 15: Self-braking unit components

N.	DESCRIPTION
412	Snap ring
415	Field magnets
415.1	Brake coil
415.2	Brake cap
415.5	Brake springs
415.6	Adjustment ring nut
415.7	Adjustment ring
417	Fixing screw
418	Broached hub

N.	DESCRIPTION
419	Dust cover ring
421	Coupling key
422	Snap ring
423	Manual release lever
424	Snap ring
432	Pad (rotor)
433	Clutch sheet-steel
601	Fan
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 minimun 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.

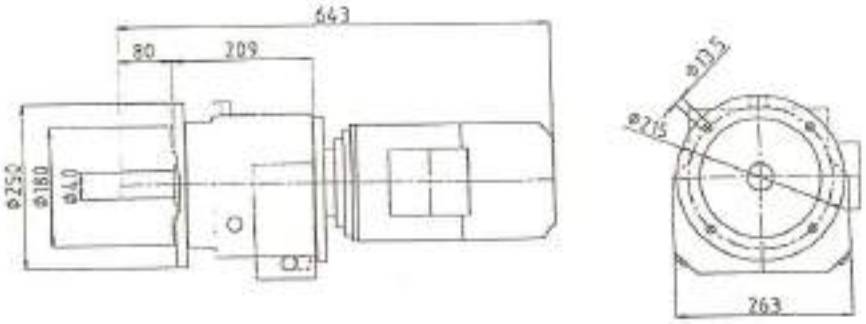
Maintenance

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

APPL.	TYPE of Lubricant	Ambient TEMP. °C	Kinematic Viscosity At 40°C cST mm2/5	AGIP	BP	ESSO	MOBIL	IP	TEXACO	FIAT
REDUCERS	Oil	+40 at 0	748 at 612	Blasia 680	BP Energol GR-XP 680	Spartan EP 680	Mobilgear 636	IP Mellana Oil 680	Meropa 680	EPZ 680
		+25 at -15	242 at 198	Blasia 220	BP Energol GR-XP 220	Spartan EP 220	Mobilgear 630	IP Mellana 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 Mellana 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	Mobilplex 44	IP Athesia 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.

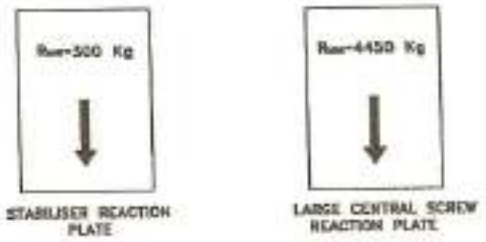
ATTENTION!
WHEN CHANGING THE OIL, IT IS FUNDAMENTAL TO USE THE TYPE OF OIL USED PREVIOUSLY. DO NOT MIX DIFFERENT TYPE OILS; IN PARTICULAR DO NOT MIX SYNTHETIC OILS WITH MINERAL OILS OR WITH OTHER SYNTHETIC OILS. IF IT IS NECESSARY TO CHANGE FROM A MINERAL TO A SYNTHETIC OIL OR FROM ONE SYNTHETIC OIL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

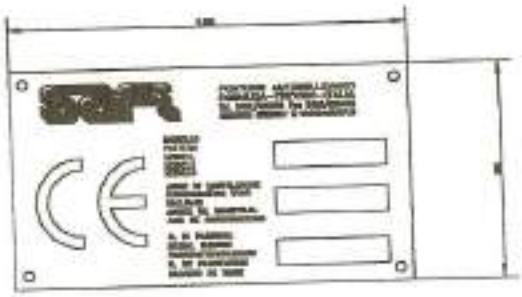
Tables should be clearly legible and permanently attached to the machine. The recommended tables and figures indicating their position on the machine are listed below.

- 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)



STABILISER REACTION PLATE

LARGE CENTRAL SCREW REACTION PLATE



SERIAL NO. PLATE

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

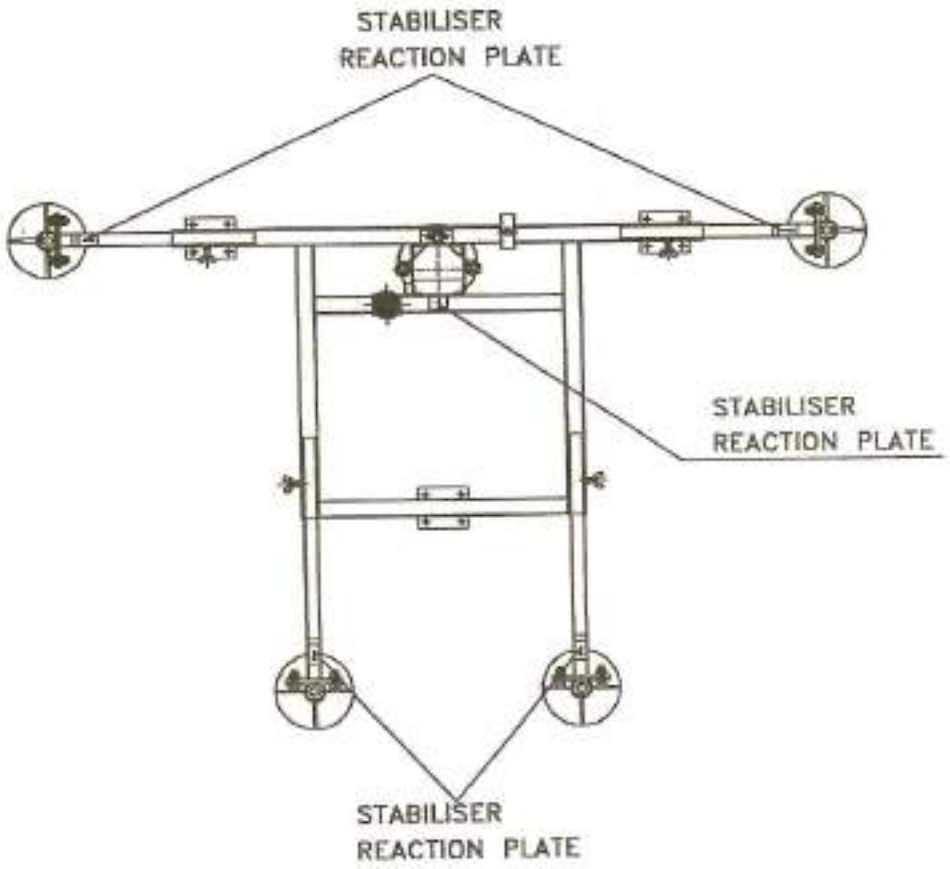


FIG. 9.0.2 Position of reaction plate

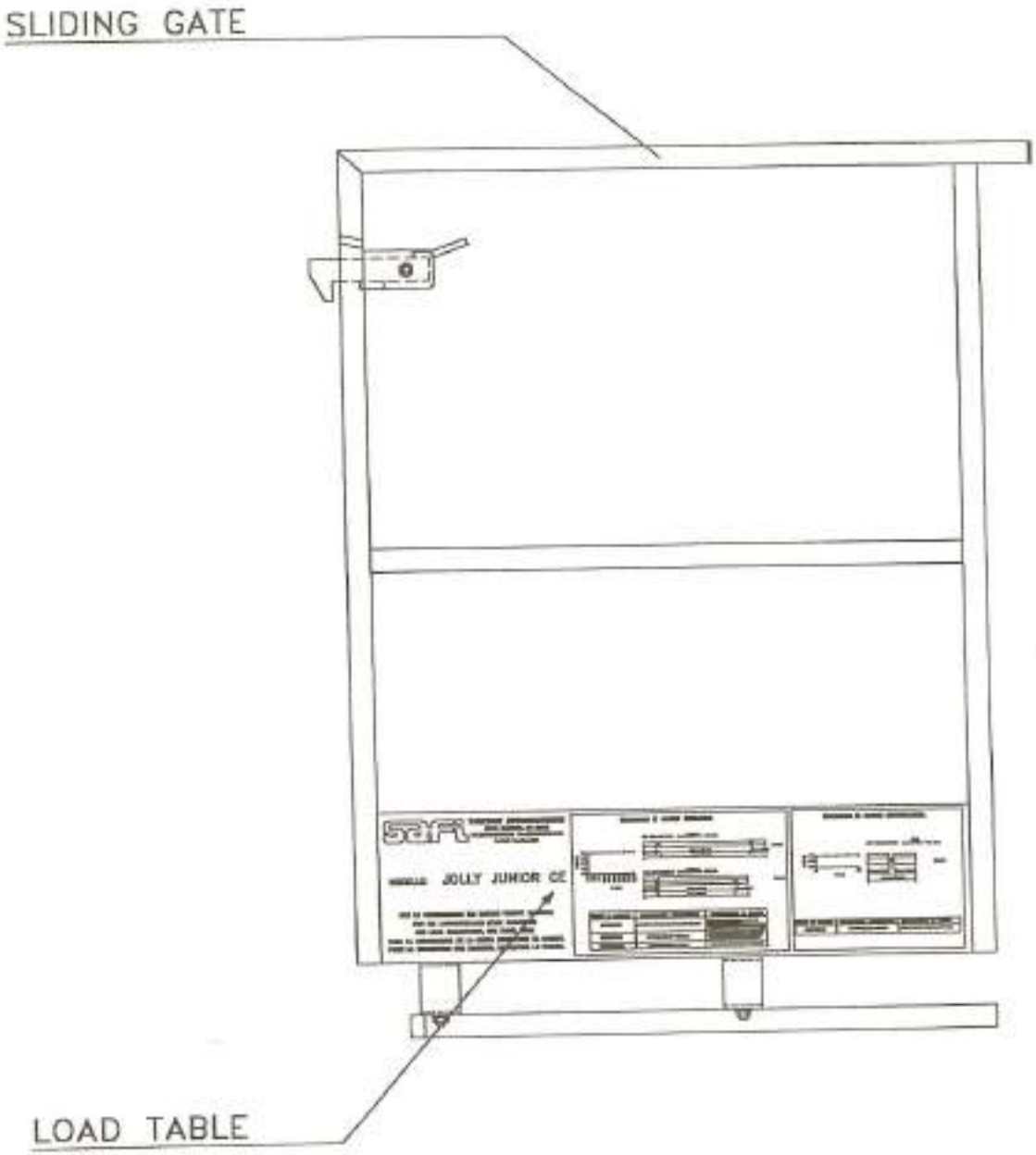


FIG. 9.0.3 Position of payload table

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
.....	.....

10.2) Periodic checks

The user is obliged to observe the maintenance and control schedule described in this instruction booklet.

Table of periodic checks

DATE	DESCRIPTION OF WORK	SIGNATURE

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 ø48
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 ø40/17-12 - 6203 2RS
J. JUNIOR /67	ROLLER WITH GROOVE ø80
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 ø40/17-12 – 6203 2RS
J. JUNIOR /74	SMOOTH ROLLER ø60
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 ø40/17-12 – 6203 2RS
J. JUNIOR /81	SPROCKET m=5 Z=15 ø85
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