

MANUAL DE INSTRUÇÕES

ESCADA - AMÉRICA



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Section 1: GENERAL WARNING

- Before using this machine, and in order to maximise safety and efficiency of operation, we strongly advise that you carefully read through this guide and respect the advice and warnings given.
- This guide should be kept and made available to each operator. Additional copies may be obtained by sending a written request giving the code number on the front cover.
- The manager of the establishment is responsible for compliance with statutory regulations. For guidance, refer to the CEN machines directive 89/392/CEE and 91/368/CEE.
- You must note and keep clearly visible the instructions fixed directly onto the machine.
- You must ensure that each person that uses the machine is capable of comprehending and following the safe operation procedures required for the correct use of the machine.
- Protect the machine from all possible interference while it is not in use.
- Never use a machine if it is not in good working order.
- Do not use the device if the wind speed exceeds 45 km/h.
Maximum allowable wind (when not in service): 110 km/h.
- Do not use device in an explosive or tropical atmosphere.
- Operating temperatures: - 5°C / + 40°C
- Never use the machine with a load in excess of its maximum lifting capacity.
- Never use the machine for a purpose for which it is not designed.
- The manufacturer will accept no responsibility for consequences which are the result of unauthorised modifications to the machine.
- Be aware of the regulations concerning operator safety applied to this type of machine and respect them.

**It is imperative that the area surrounding the ladder elevator be sufficiently protected in order to avoid all risks from falling materials.
From the control station, the operator must be able to ensure that there are no persons anywhere along the carriage route.**

Section 2: INSTRUCTIONS - PRESENTATION

This manual concerns all versions of the device.

The device always comes in the form of a compact unit. All accessories are separately delivered.

This device allows materials to be conveyed at height.

It is essential to use accessories suited to each material to ensure safe working.

The acoustic level of the device is less than 70 dB.

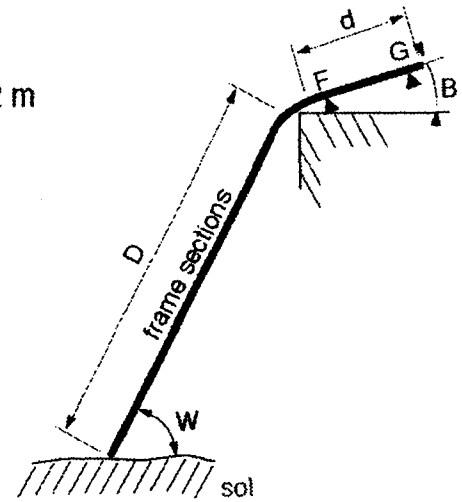
SERVICE FACTOR 50 %

SECTION 3 DESCRIPTION

Maximum Loading = 150 Kg
 Variable lengths from 2 m to 15 m using 1 m and 2 m frame sections and an articulated joint section.
 Working Angles $w = 45^\circ$ to 90°
 $B = 25^\circ$ minimum

d : distance after articulated joint : ≤ 6 m

D : distance between the ground and the first support



SUPPORT LOCATION								
W/D	2 m	4 m	6 m	8 m	10 m	12 m	14 m	15 m
$W \leq 75^\circ$	One support every 6 m max.							
$75^\circ < W \leq 90^\circ$	One support every 4 m							
$B : 25^\circ \text{ min}$	After articulated joint: 2 supports at F and G with $d \leq 6$ m							

Hoist unit: 230 V single phase
 Electrical plug: 16 A. - protection : IP 44
 Power: 0.75 kW
 Speed: ≈ 20 m/min depending on device length.
 Remote control: up/down + 220 V emergency stop - protection: IP 65.
 Safety: top and bottom limit switch by electrical contact and outlet cable slack bottom limit switch.

CONNECT DEVICE TO A 16 A POWER OUTLET PROTECTED BY A HEAD-OF-LINE 30 MA DIFFERENTIAL CIRCUIT-BREAKER.

Traction cable: 5 mm dia. steel core, minimal breaking load= 1350 kg

Use a 3 x 2.5 mm² section electrical cable with a max. length of 25 m.

In a vertical position, consider weight of accessories and use suitable accessories.

A 5.5 kVA generator is suitable for supplying the device.

N.B. It is normal for the motor to be hot during normal use.

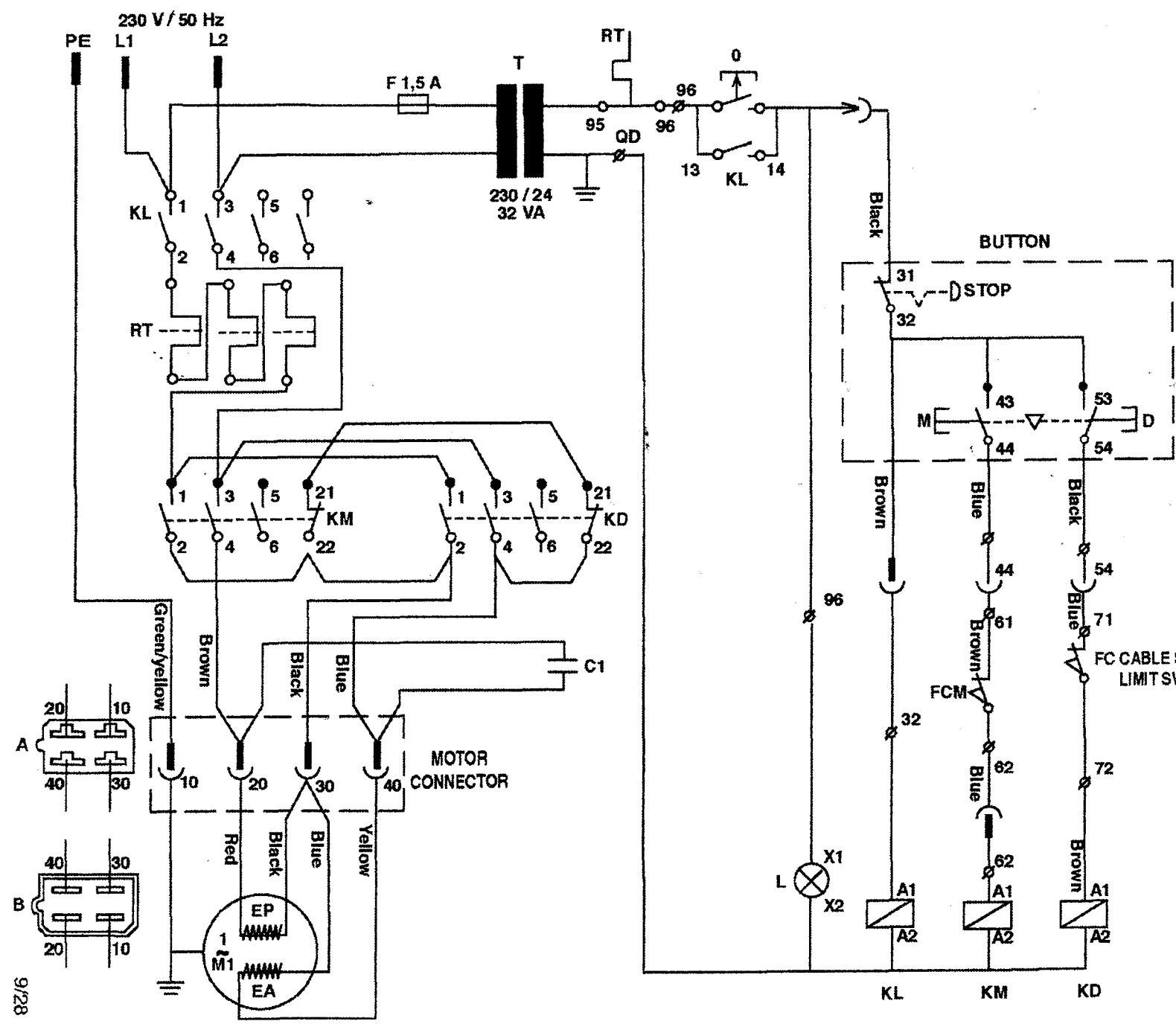
VERY IMPORTANT:

The hoist will only provide its full power if the motor is supplied using the appropriate cable section.

APACHE			10 m
Weight (kg)	DESIGNATION	CODE	5011/010
46,00	BASE: 1 x 0.65 m long bottom frame section incorporating hoist (220 V single phase, 0.75 kW + 32 m of 5 mm dia. galvanised cable + pushbutton control box, top limit switch, self-lifting shackle) and electrical box.	5011914	1
10,70	Intermediate Ladder Section, length 2 m	27300	4
13,00	Articulated Joint adjustable	33616	1
2,70	Top Pulley Section	33955	1
14,20	Platform with integrated mobile carriage	5011917	1
16,00	Universal Platform	5011915	1
4,50	Adjustable top support	5011909	2
5,00	Side panel	32708	2
2,00	Displacement wheels	33593	2
0,10	Clip SERFLEX	80466	12
7,00	Intermediate Ladder Section, length 1 m	27305	1
0,20	19 mm spanner	33960	2
0,75	Lower stroke stop for carriage	33962	1

Sales code	DESIGNATION	kg
ACCESSORY KITS		
5011901	Skip unit	45
32863	3- sided tile cage	6
5011904	Apache Builder Pack	53
STANDARD ACCESSORIES		
27305	Ladder Frame Section, 1 m (without clip)	6,5
33618	Top Support, adjustable from 0.80 m to 1.30 m	9,2
33614	Standard Telescopic Prop, adjustable from 3 m to 5 m (used with 1 x Standard rest)	20
5011902	5 m Comfort Pack	32
ACCESSORIES FOR VERTICAL ASSEMBLY (One anchor point or tie should be used every 4 metres and at the top)		
81440	Doubles Swivel Couplers type RCM 230, for tube diam. 40/49 (l'unité)	2
33908	1 Anchor Jack 1.20 m, Epoxy painted, type RCM 21	5,7
33907	1 Anchor Jack 1.00 m, Epoxy painted, type RCM 210	5,2
33906	1 Anchor Jack 0.80 m, Epoxy painted, type RCM 2100	4,8
5011905	"Anchoring and Propping" Pack	26
ACCESSORIES FOR "SOLAR PANEL" PACK		
5011911	"Solar panel" pack	10
5011912	Optional extra "rubber foam" pack	0,2
PLATFORM ACCESSORIES		
33951	Telescopic support for horizontal setting of the platform (2 are required)	1,5

Sales code	DESIGNATION	kg
MECHANICAL SPARE PARTS		
501191603	Spring for carriage safety device	0,01
09000079	Kit comprising 8 carriage rollers	0,2
09000102	Self-lifting shackle (8 mm shackle)	0,05
09030030	165 mm dia. plastic pulley	1
09000053	Nylon roller for carriage to skip suspension	0,02
09000004	Top limit switch support	0,5
09000100	Cable Diam. 5, 32 m long.	5
09000121	Rubber part for hoist frame	0,01
ELECTRICAL SPARE PARTS		
09000124	Complete 17 m top limit switch	5
09020034	Remote control only (excl. cable)	0,3
09000114	Limit switch antenna	0,05
09000113	Limit switch body	0,3
09020010	Complete remote control	0,8
<p>For any other electrical part such as condenser, motor, or contactors, etc..., please contact the COMABI After Sales Service.</p>		



LEGENDE :

- M1 - 0.75 kW, single phase
- A - Female motor connector
- B - Male motor connector
- EP - Primary Solenoid
- EA - Secondary Solenoid
- KL - Line contactor
- KM - Hoisting contactor
- KD - Lowering contactor
- C1 - Condensator 60 µF/450V
- T - Transformateur
- STOP - STOP Button
- M - UP Button
- D - DOWN Button
- FCM - Hoisting limit switch
- FC - Lowering/Cable slack limit switch
- - Connector
- RT - Thermal relay
- O - "On" indicator
- L - "On" lamp
- o - Cable identification

Section 6: HANDLING - TRANSPORT - STORAGE

Handling remains manual because of the low weight of the components.

Heaviest parts (hoist, concrete skip, etc.) must be handled by 2 people.

The hoist unit can be handled using the displacement wheels on the base section.

Storage in a dry location is preferred, especially for the hoist unit.

Section 6: ASSEMBLY - PREPARATION FOR OPERATION:
 example on roofing version

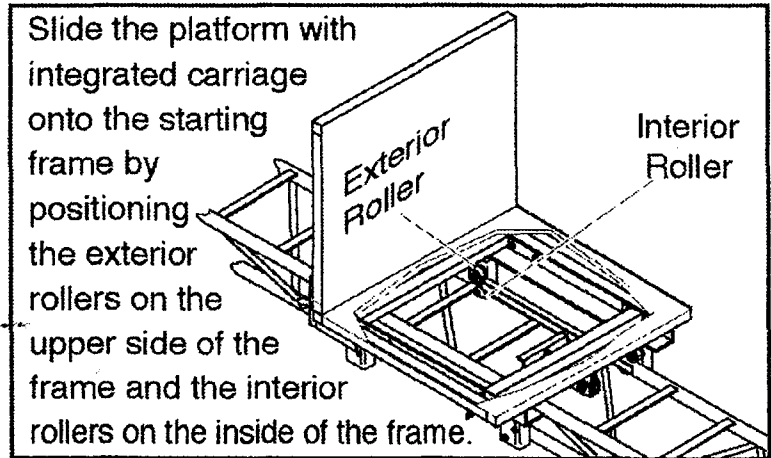
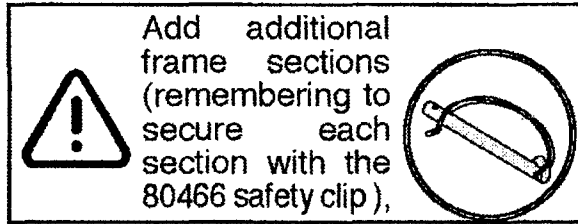
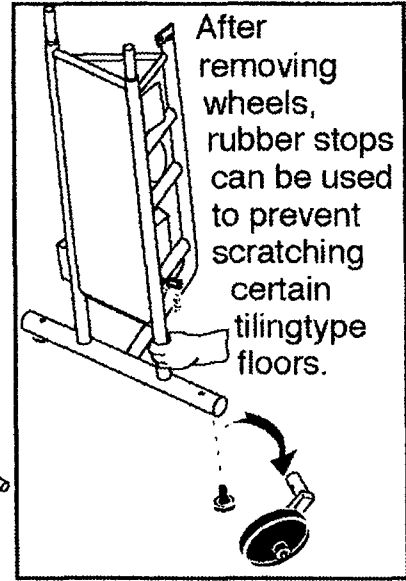
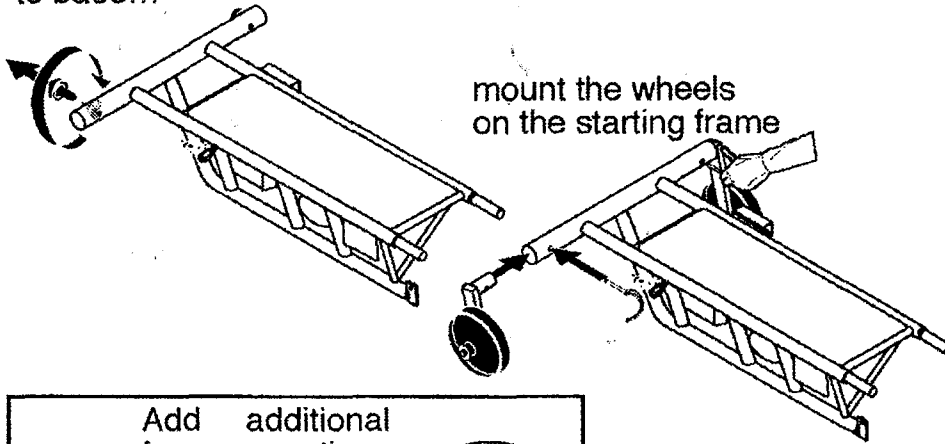
Assembly should be undertaken in compliance with the safety standards and regulations that apply (protective helmet, gloves ...)

The surfaces that the machine may lie against must be capable of resisting a minimum loading of 250 kg.

Ground, window and roof level supports must be correctly positioned.

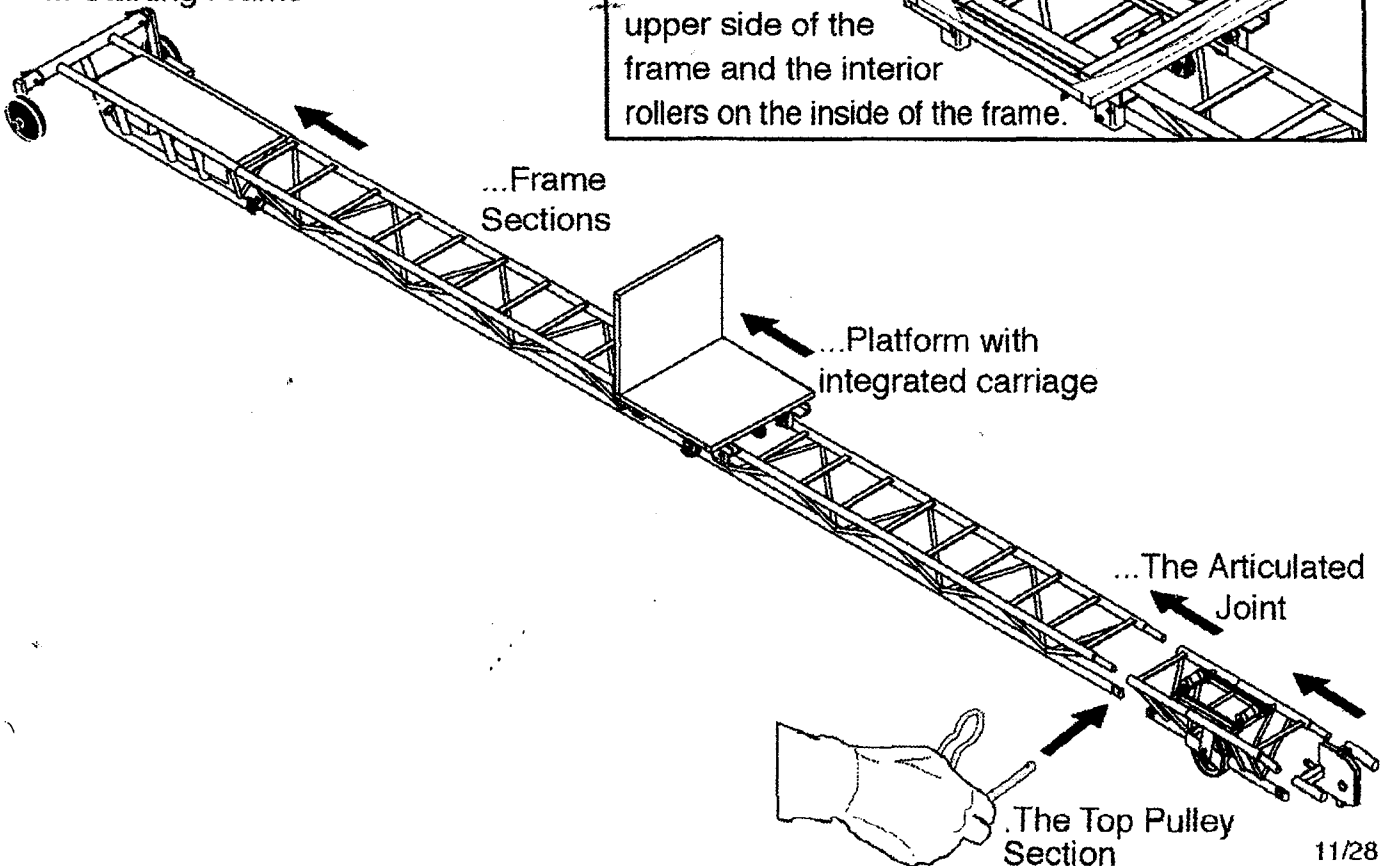
It is advisable to block these supports for improved safety.

Remove rubber stops fixed to base...



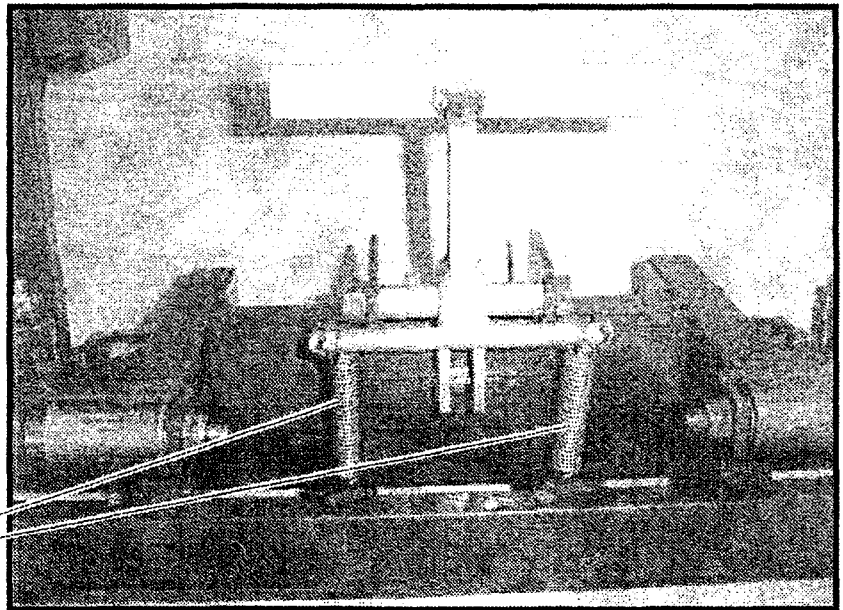
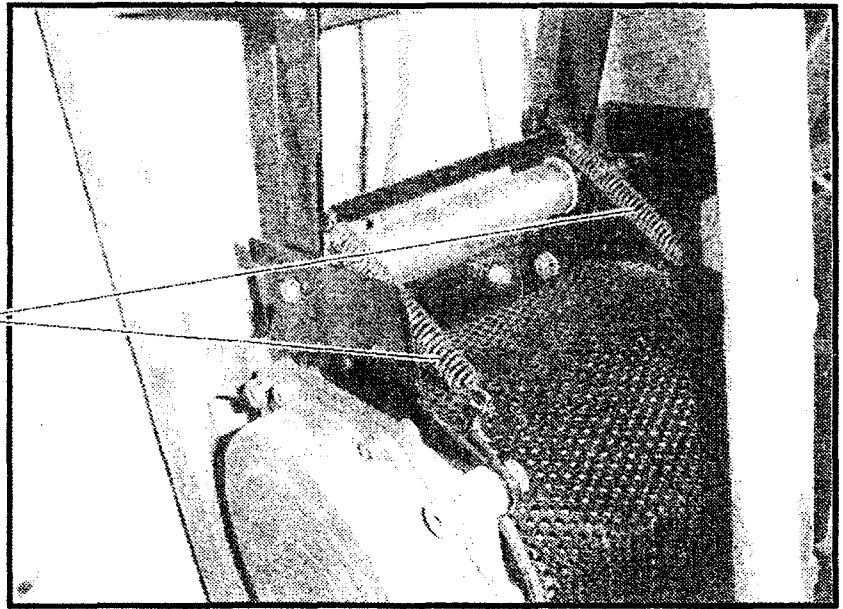
Assemble the Apache on the ground.

... Starting Frame

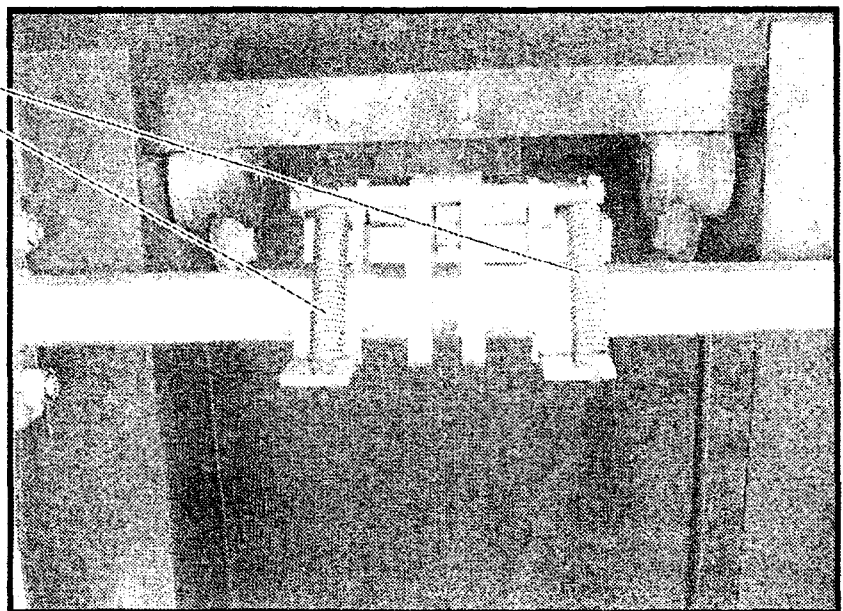




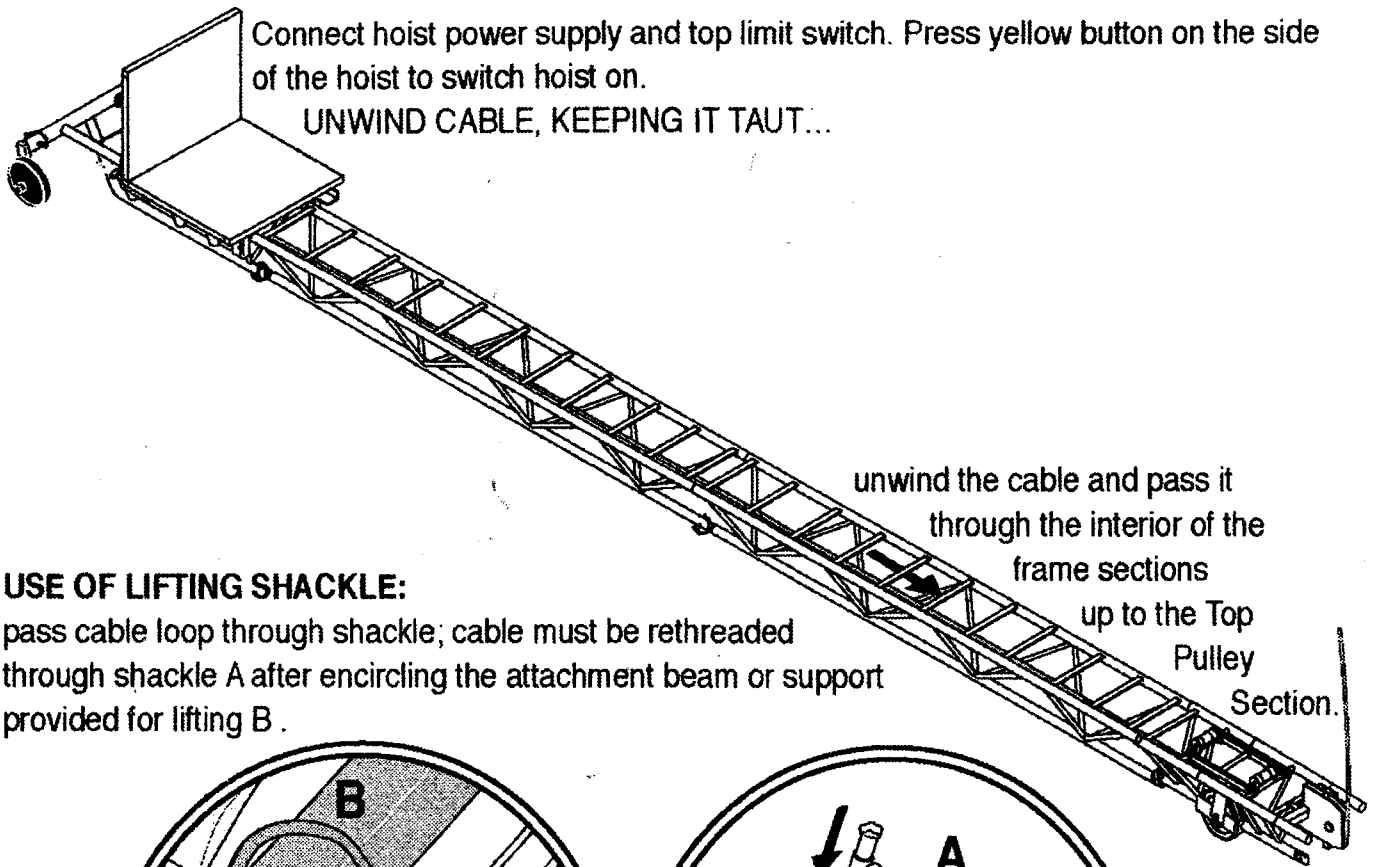
Prior to starting erection,
check presence of 2 wire
rope tensioning springs...



...and 2 parachute
mechanism springs

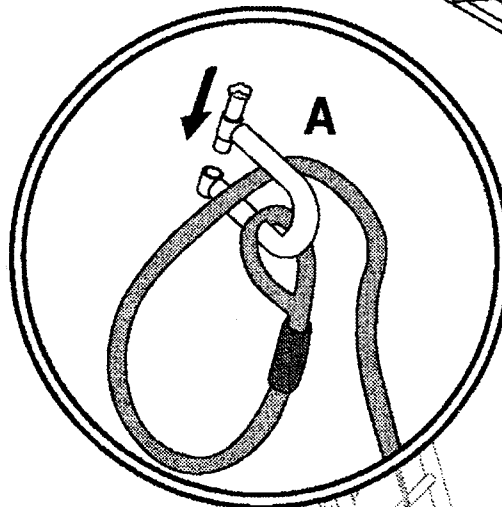
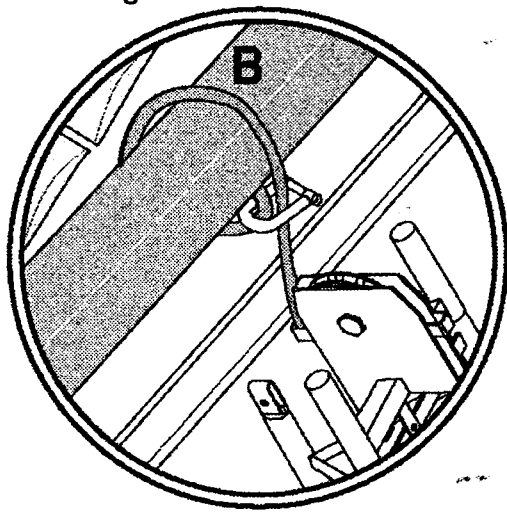


If just 1 of these springs is missing, it must be replaced before putting device into service

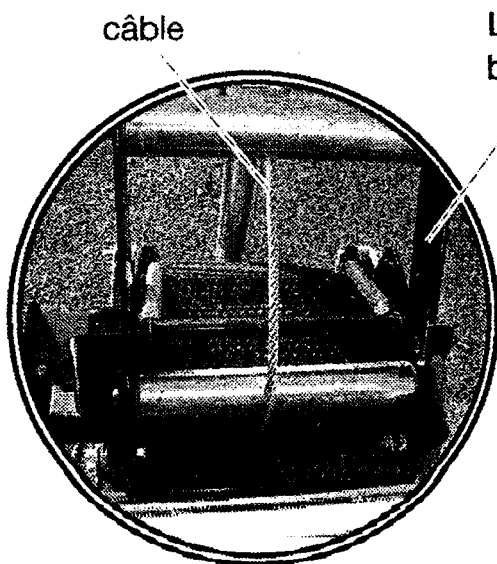


USE OF LIFTING SHACKLE:

pass cable loop through shackle; cable must be rethreaded through shackle A after encircling the attachment beam or support provided for lifting B.



Check proper operation of cable slack bottom limit switch



câble

Lever actuating bottom limit switch

snap hook in position

lower stroke stop for carriage

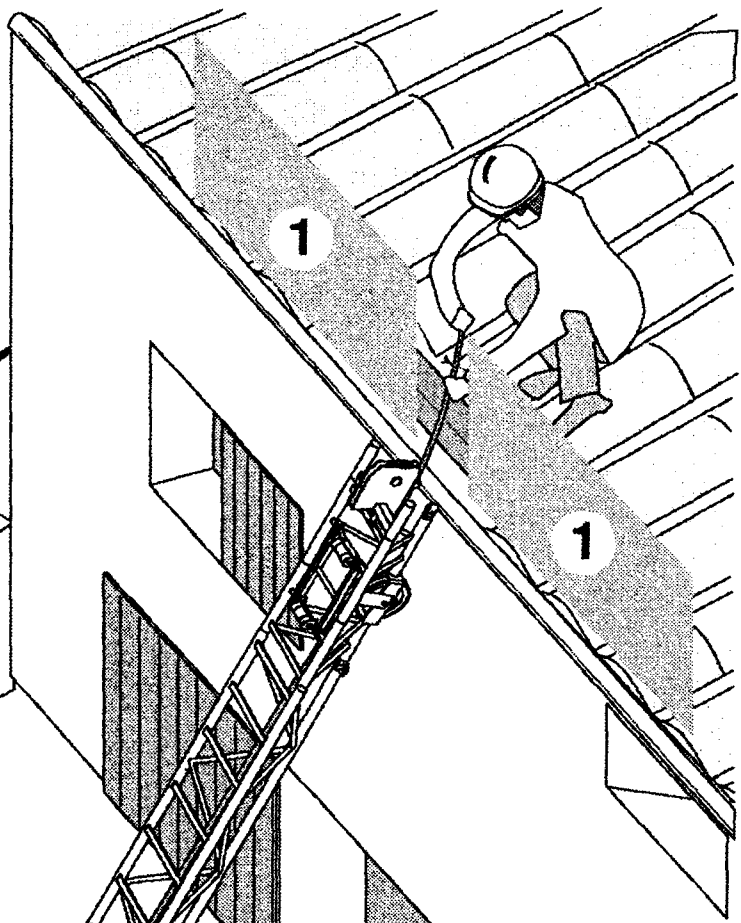
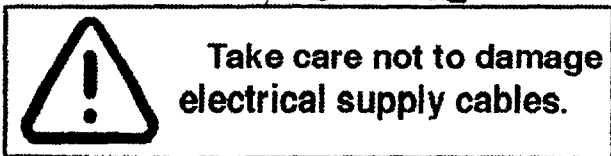
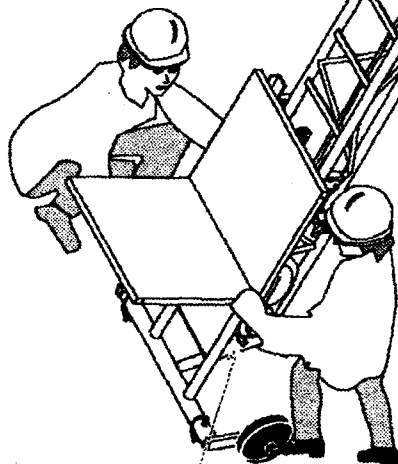
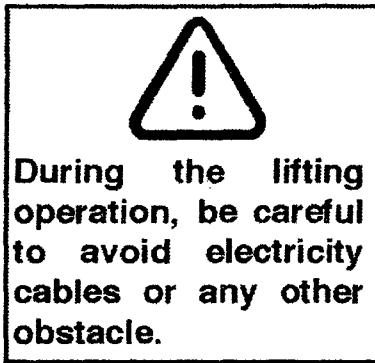
SELF-HOISTING FUNCTION

Having passed the cable through the pulley, let out additional slack and secure the cable to the roof or a window jack / reveal tie, beam etc.

(ensure an anchor point resistance of at least 150 Kg). By pressing on the Up button of the Push-Button Control, the cable winds-in and will lift the assembly up to the anchor point.

Use one continuous press on the Up button and avoid unnecessary stops.

Up / Raise Button

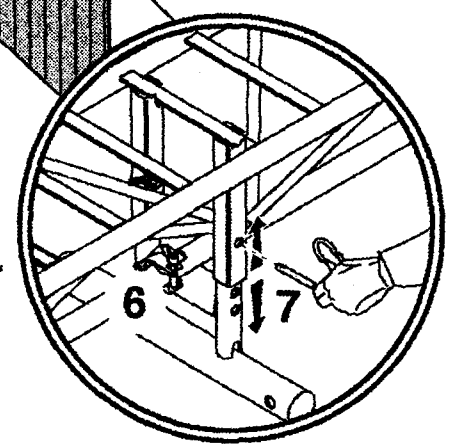
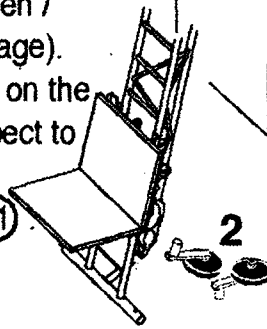
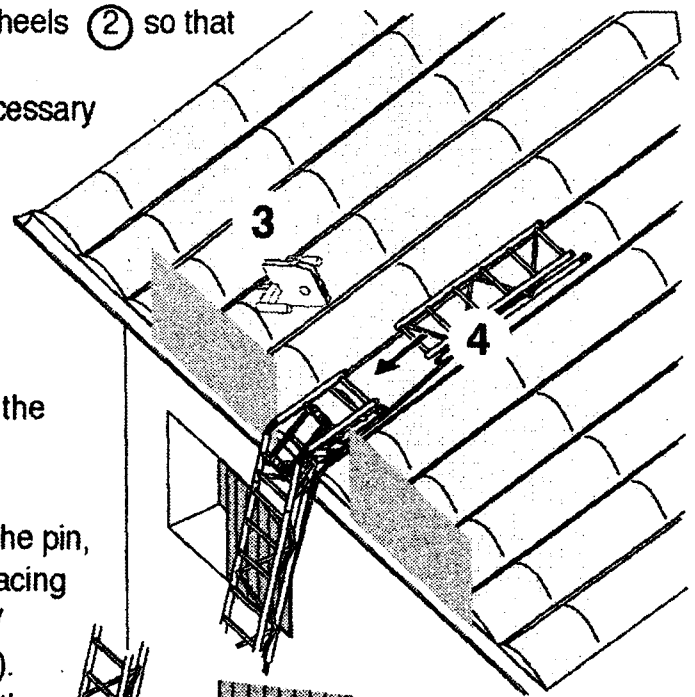


It is obligatory to use Roof-edge protection as illustrated ①

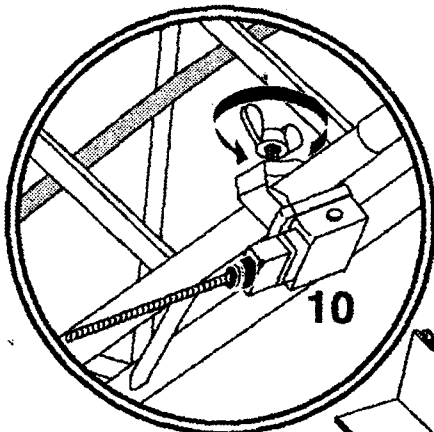
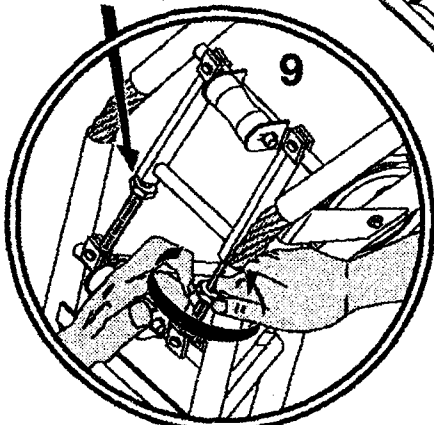
ELECTROMAGNETIC BRAKE ADJUSTMENT


After being used several times, the brake may require adjustment. Use the spanner supplied with the hoist (attached to the geared motor) to do this. Remove the white cap located at the centre of the left-hand side of the geared motor. Using the spanner, adjust gradually in the direction shown by the arrows (⊕ for a "harder" brake, ⊖ for a "softer" brake).

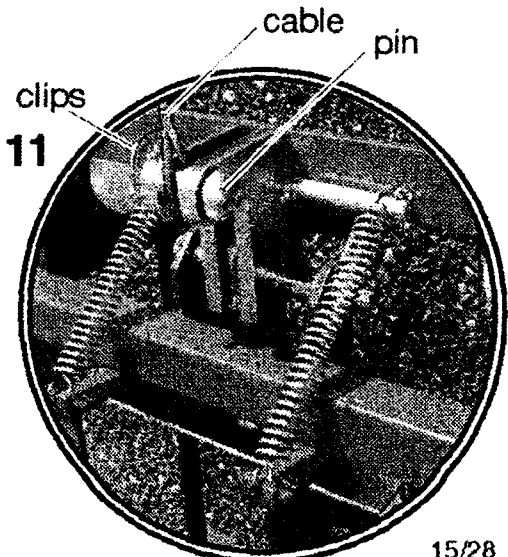
- After lifting to the desired position, remove the wheels (2) so that the base rests firmly on the ground.
- Remove the Top Pulley Section (3). Add the necessary frame sections (4) to reach the height required.
- Fix the standard supports (5) underneath the Articulated Joint and the Top Pulley Section and lock tight (6).
- Adjust height and pin (7).
- Re-assemble the Top Pulley Section (8).
- Slacken the cable, adjust the Articulated Joint to the appropriate angle (9).
- Pass it around the pulley. Attach it to the back of the carriage by removing the pin, putting the eyelet of the cable into place and replacing the pin. (It will probably be necessary to slacken / release more cable in order to reach the carriage).
- Fix top limit switch at required location (10), on the right-hand side of the ladder section with respect to the carriage hoisting direction.
- Hang the cable and secure it with the clip (11).



both nuts must be tightened hard against the frame



 Tie down the structure at top section and at articulated joint





IT IS ESSENTIAL TO CARRY OUT A TRIAL
RUN PRIOR TO LOADING THE PLATFORM.

TO DISMANTLE THE ELEVATOR, FOLLOW THE ASSEMBLY PROCEDURES IN
REVERSE ORDER.

KEEP CABLE TAUT AND ENSURE IT IS PROPERLY WOUND OVER FULL WIDTH OF
DRUM.

Section 8: ADDING AN EXTRA SECTION

Raise the carriage to the top of the assembly.

Slacken the cable and hook the parachute mechanism to one of the bars of the frame.

Detach the cable.

Take off the Top Pulley Section.

Add the required number of ladder frames.

Unwind an additional length of cable and pass it through the interior of the ladder frames.

Re-assemble the Top Pulley Section.

Attach the cable to the carriage.

Different anchoring systems are available which offer improved safety for a variety of site conditions.

Section 9: CHECKING WHEN PUTTING INTO SERVICE

Check that the cable passes around the pulley and over the rollers of the articulated joint.

Check the overall stability of the assembled structure and conduct a no-load test.

Visually check the overall assembly before each use, according to your national regulations covering the use of lifting devices.

Inspect erection prior to each utilization.

Check that the power reaching the hoist complies with the recommendations (200 V supply, head-offline 30 mA differential circuit-breaker).

Section 10: OPERATING OF THE MACHINE

When using the machine, it is **STRONGLY ADVISED** to regularly check the parachute system.

Regularly check the contacts for the top and lower limit switches.

ENSURE THAT THE CABLE WINDS CORRECTLY ON THE CABLE-DRUM. When necessary, it is preferable to unwind completely and then rewind the cable onto the drum to avoid twists and bunching...



To be inspected regularly



To be changed immediately

If the case of a possible cable rupture and activation of the parachute mechanism under load, you must unload the accessory in use, change the cable and check for damage to other components. All components must be changed, even those that are only slightly damaged.

Never put any obstacles on the ladder sections.

Never put your hands on the ladder sections during operation of the machine - **THEY CAN BE BADLY CUT.**

Never pass your hand inside the motorised base or between the cable and the hoist unit.

Section 11. INCORRECT FUNCTIONING OF THE MACHINE

The carriage does not return, or the parachute mechanism is activated. Check:

- the minimum inclination of 25° of the section above the articulated joint.
- the functioning and condition of the rollers on the articulated joint.
- the condition of the ladder sections.
- that wire rope tensioner is not activated.

The carriage does not lift the load or the hoist does not work. Check:

- the electric power level reaching the hoist should be above 220 V.
- the electric cable section.
- that the lower limit switch is working properly.
- the push-button control and its cable.
- the fuse in the electrical box (or the circuit-breaker).

The machine is not working at full capacity. Check:

- the real weight of the load.
- the electric cable section.
- the release of the brake as soon as the up or down button is pressed.

Abnormal heating of the motor unit or frequent tripping of the circuit-breaker or the fuse. Check:

- that the hoist is not being overloaded.
- same solutions as previously mentioned.

If you have checked all the above points and the hoist still does not function correctly, please contact the After Sales Service of our local agent.

PLATFORM + DOUBLE FUNCTION SIDE PANELS 32708

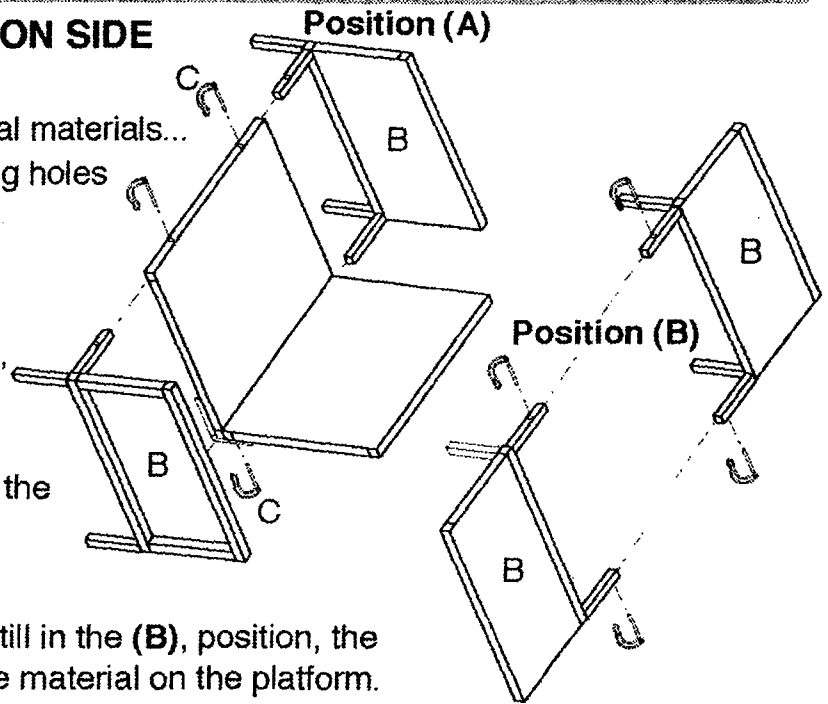
Position (A): Tile Carrier, tools, general materials...

- Insert the panels (B) into the locating holes in the carriage platform.
- Secure with the clip (C).

Position (B): Planks, rolls of material, lengths of

- Reverse and invert the panels (B). Insert them into the locating holes on the platform..
- secure with the clip (C).

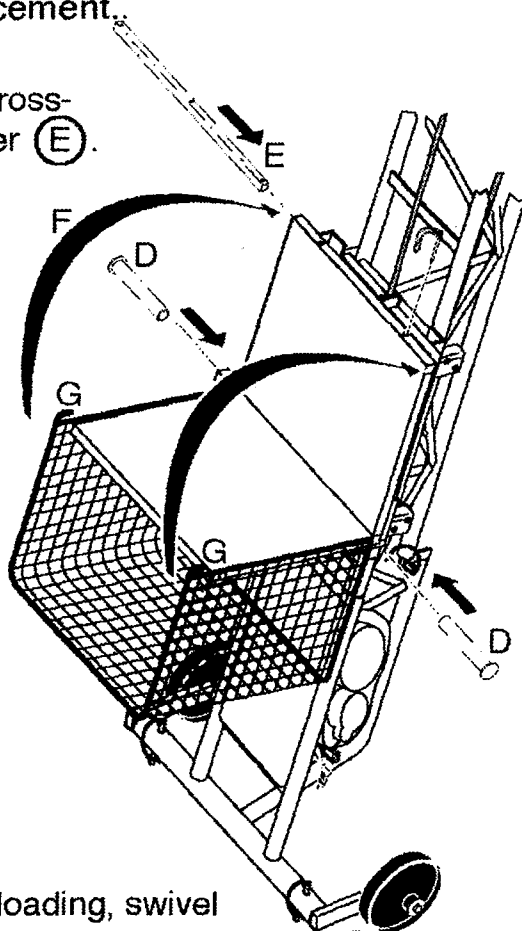
NB . if the panels are reversed but still in the (B), position, the projecting tubes may serve to secure material on the platform.



TILE CAGE 32863

• Position cage beneath the material box such that both basket shafts (D) and cross-member (E) can be inserted into the box reinforcement.

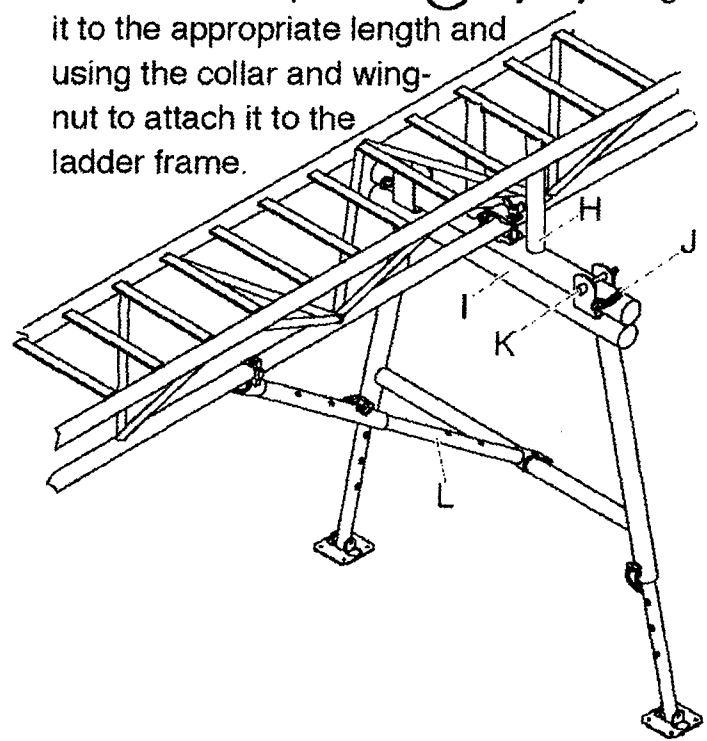
- Pin cross-member (E).



- After loading, swivel the basket on material box (F).
- Lock cage using both shafts (G).

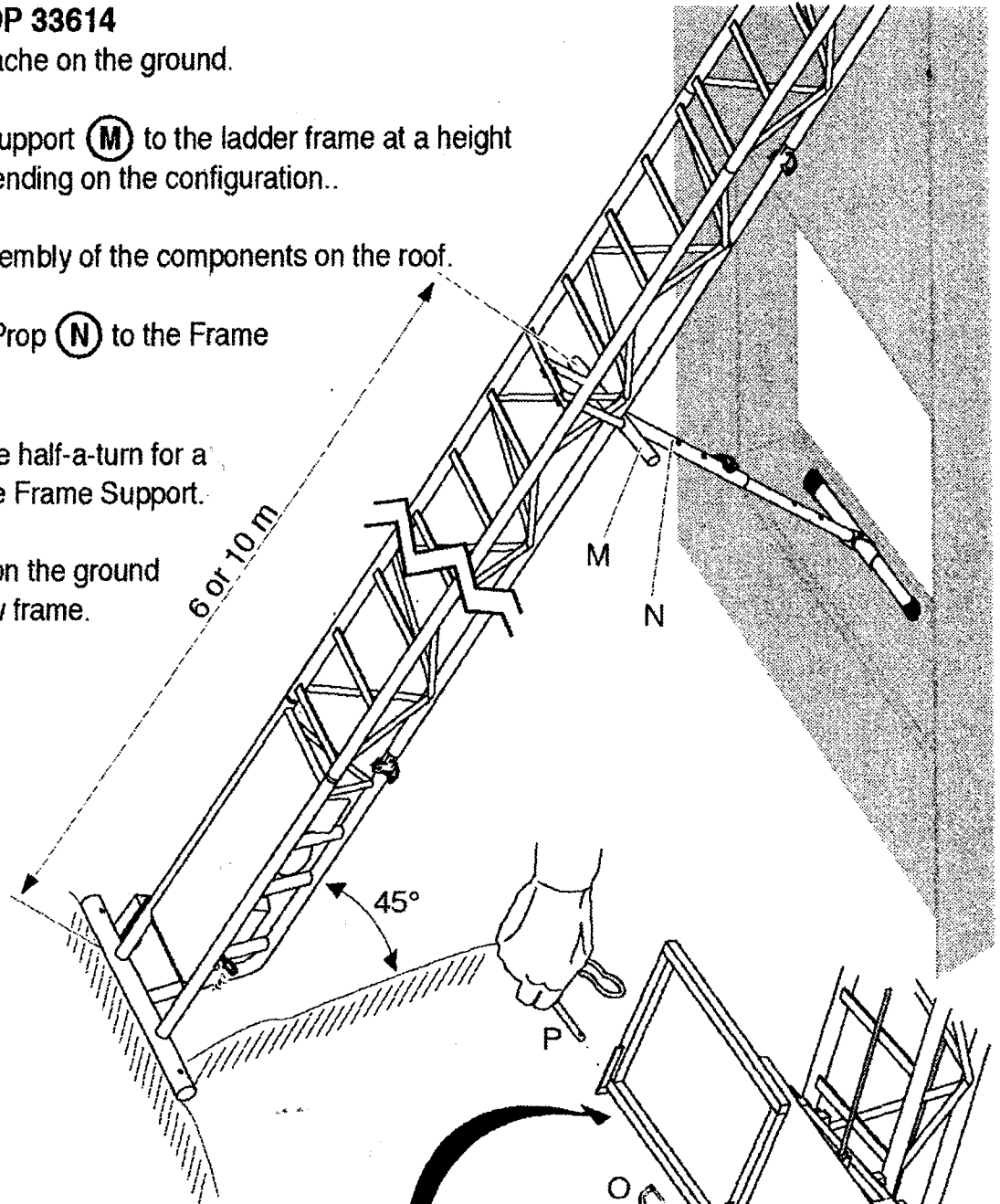
ADJUSTABLE SUPPORT 33618

- For deployment on roofs or reception of materials inside a building.
- Assemble a Standard Rest (H) onto the end section of the ladder frame.
- Position the support (I) just underneath and in contact with the Standard Rest.
- Secure the new assembly using the clips (K).
- Secure (horizontally) the new assembly using the clips (J).
- Install the telescopic arm (L) by adjusting it to the appropriate length and using the collar and wing-nut to attach it to the ladder frame.



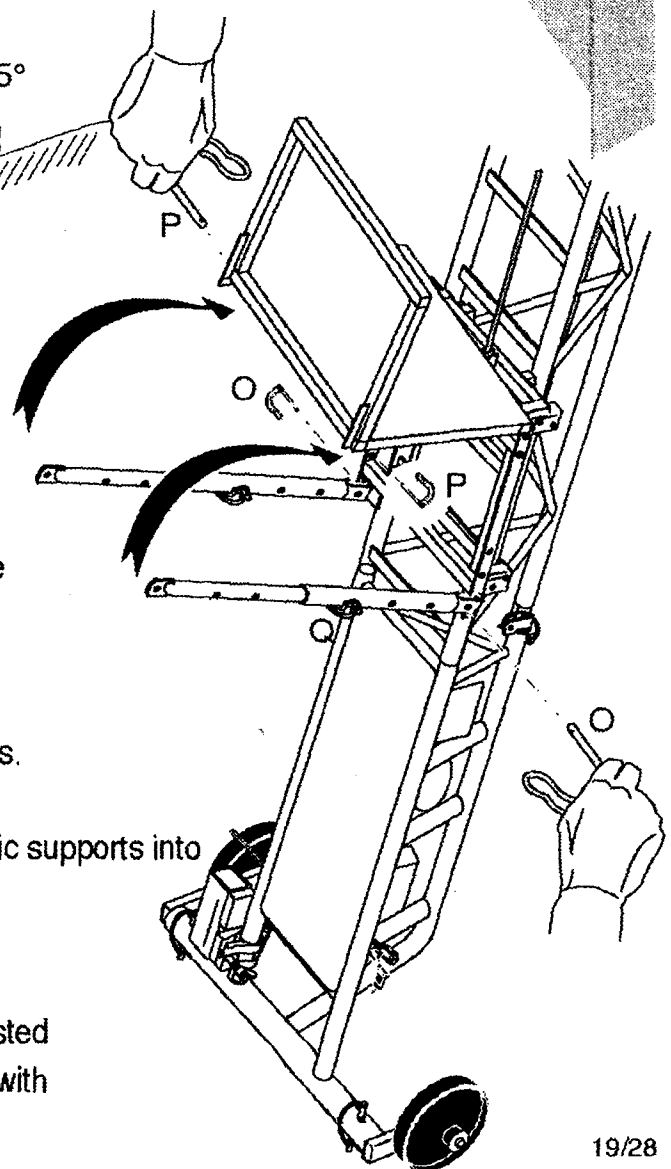
STANDARD PROP 33614

- Assemble the Apache on the ground.
- Attach a Frame Support (M) to the ladder frame at a height of 6 m -10 m depending on the configuration..
- Complete the assembly of the components on the roof.
- Fit the Standard Prop (N) to the Frame Support (M)
- Turn the prop tube half-a-turn for a firm contact with the Frame Support.
- Secure the prop on the ground or against a window frame.



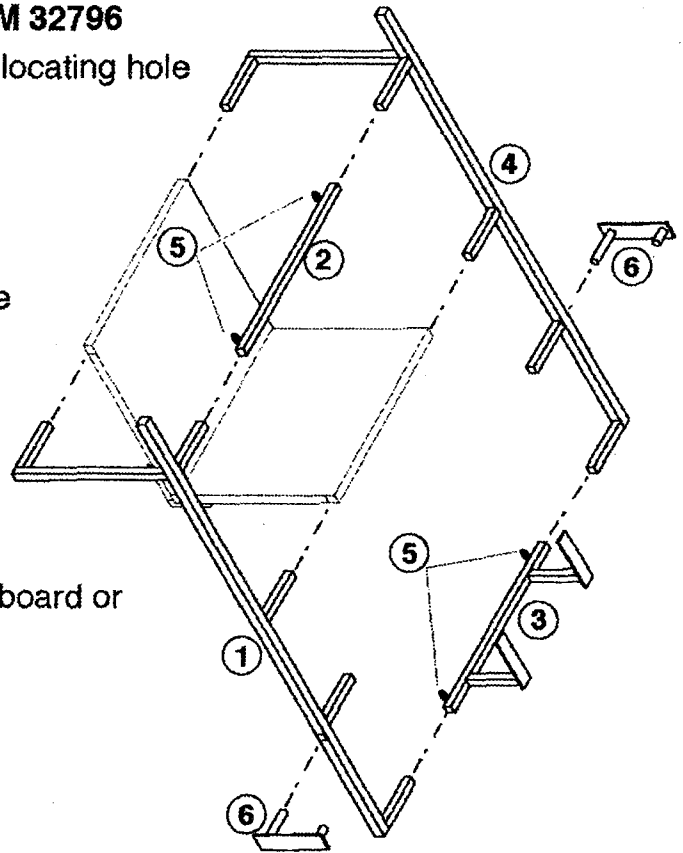
INCLINATION POSITIONER 33951

- Fit the platform to the carriage by aligning the platform with the locating holes (O) on the carriage and secure with the appropriate clips.
- Next, fit the two telescopic supports to the lower section of the carriage (P) and secure with the clips.
- Lift up the platform and fit the end of the telescopic supports into the corresponding retainers. Secure with the clips.
- The pitch of the platform may now be easily adjusted by simply repositioning the clip (Q) to correspond with the angle desired.



PLASTERBOARD AND PANEL PLATFORM 32796

- Slide the lefthand component (1) into the locating hole in the carriage platform.
- Fit the components (2) and (3).
- Slide the righthand component (4) into the locating holes in the carriage platform and components (2) and (3).
- Tighten the 4 eye-bolts (5) to make the assembled components more rigid.
- Insert components (6) to keep the plasterboard or other kinds of panel in place during lifting.



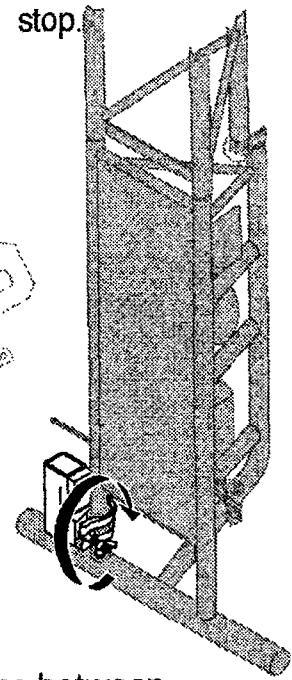
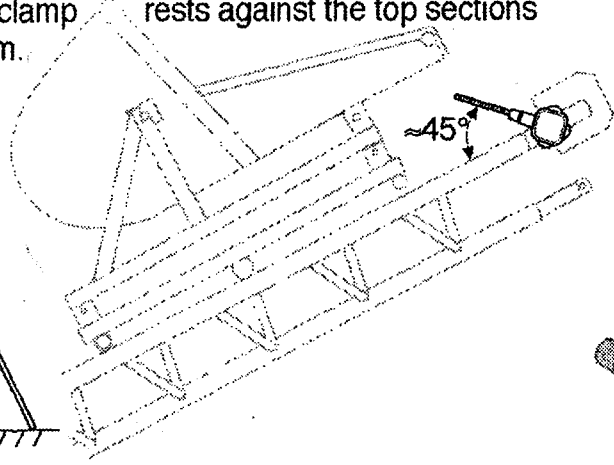
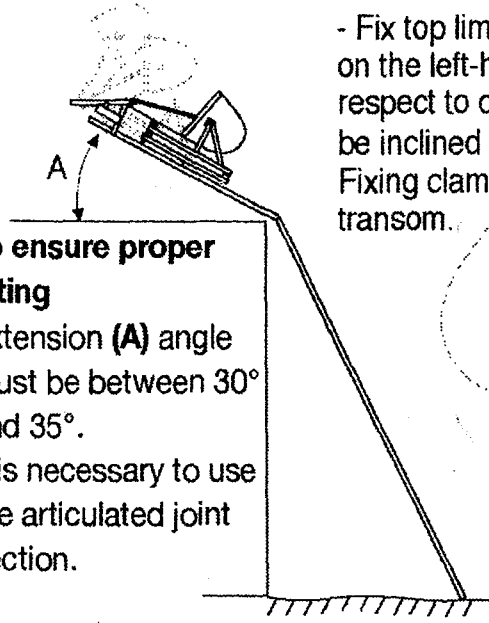
Note : All panels must be correctly centred, and their dimensions should not exceed 1.40 m x 3.00 m.

60 L. or 120 kg SELF-STABILISING CONCRETE SKIP 5011901

- Install end-of-travel stop.

To ensure proper tilting
 Extension (A) angle must be between 30° and 35°. It is necessary to use the articulated joint section.

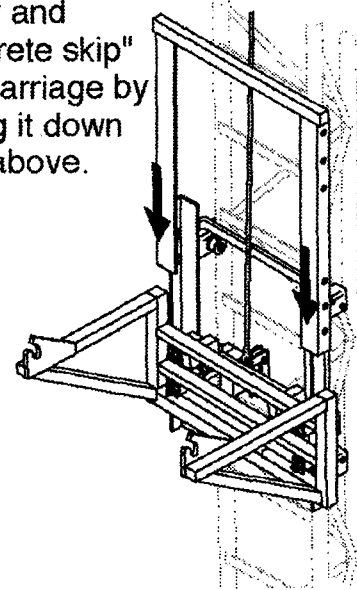
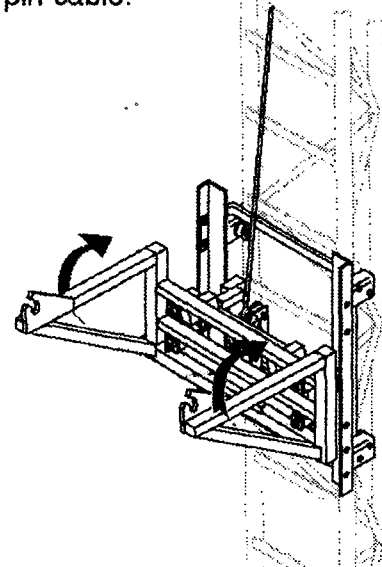
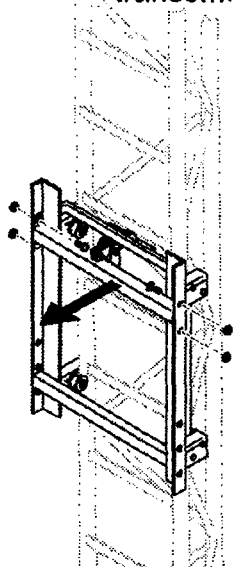
- Fix top limit switch, which should be positioned on the left-hand side of the ladder section with respect to carriage hoisting direction and should be inclined at $\approx 45^\circ$.
 Fixing clamp rests against the top sections transom.


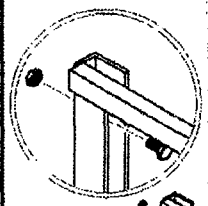
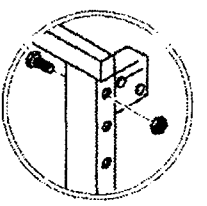
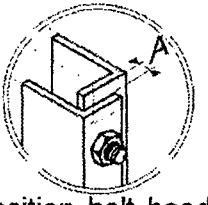
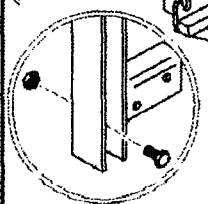
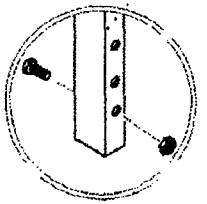


- Remove 4 nuts and bolts followed by transom.

- Position "concrete skip" semicarriage and pin cable.

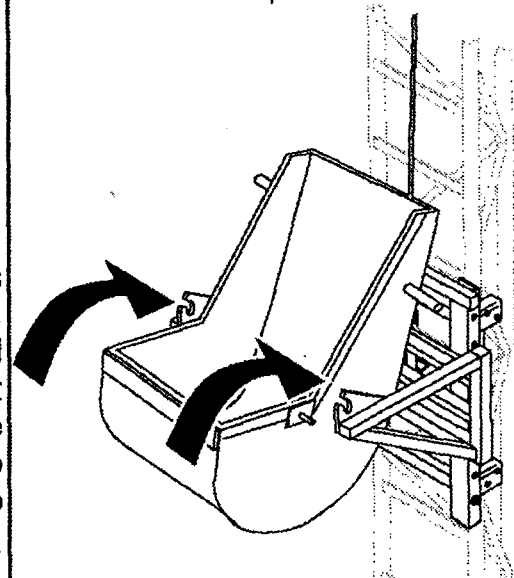
- Insert frame between trolley and "concrete skip" semicarriage by sliding it down from above.



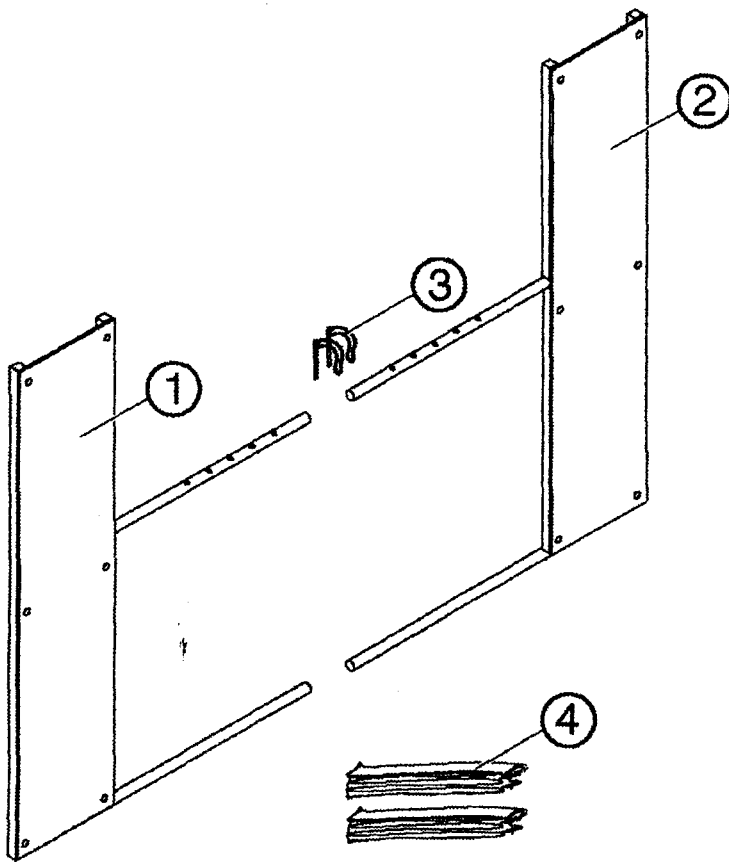







- Position bolt heads from inside. Screw on nuts until they are in contact with the frame external face but do not tighten them to conserve play (A).

- Connect skip to unit.

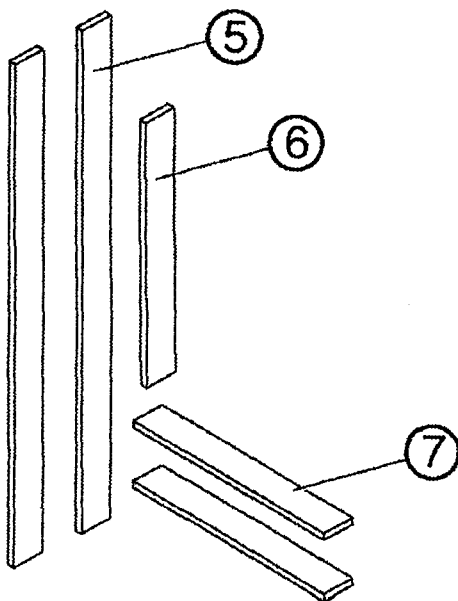


"SOLAR PANEL" PACK 05011911



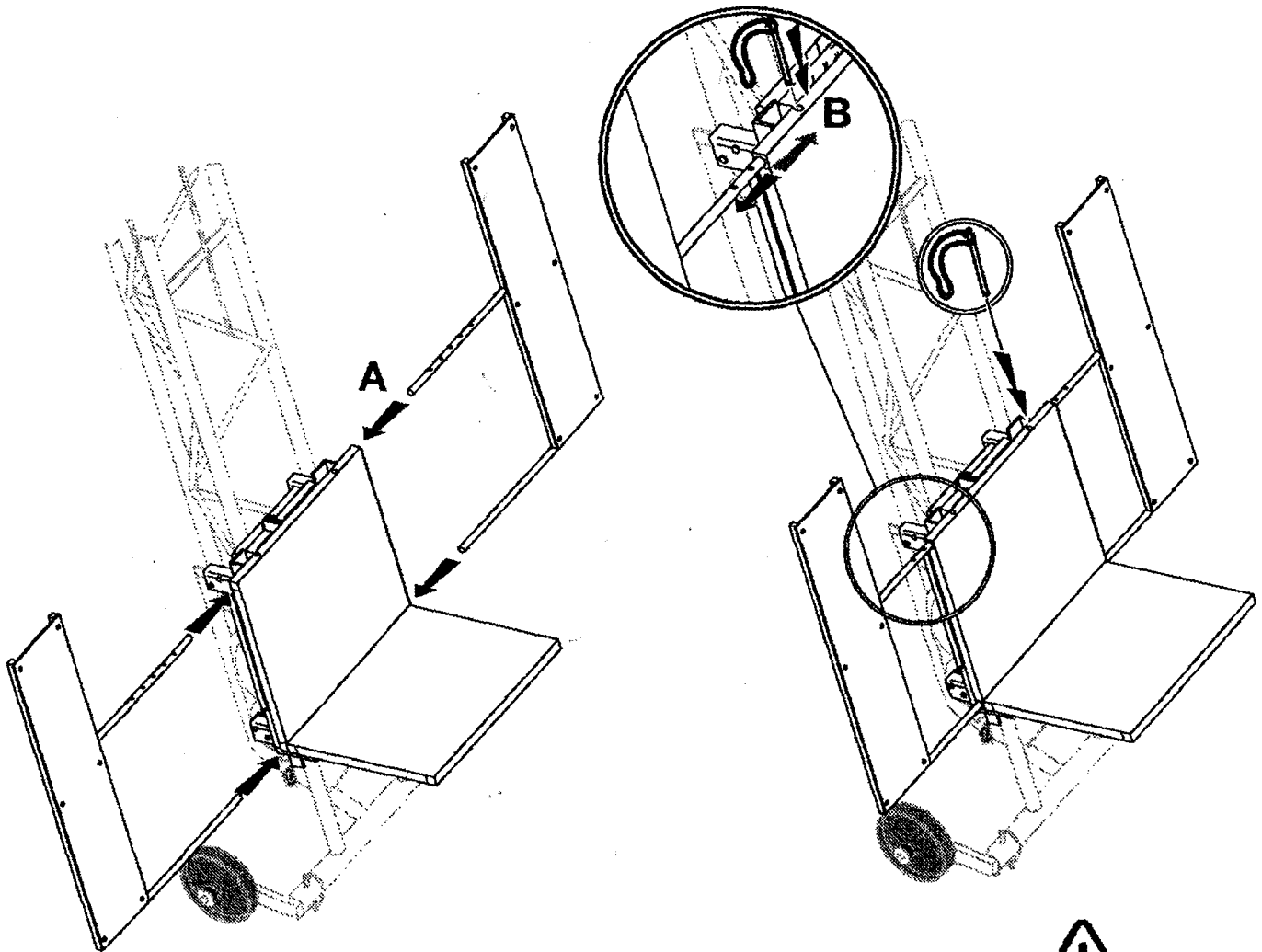
- Right panel ①
- Left panel ②
- Clips (2 pieces) SERFLEX D10 ③
- Straps (2 pieces) to tie solar panel ④

Optional extra "RUBBER FOAM" PACK 05011912

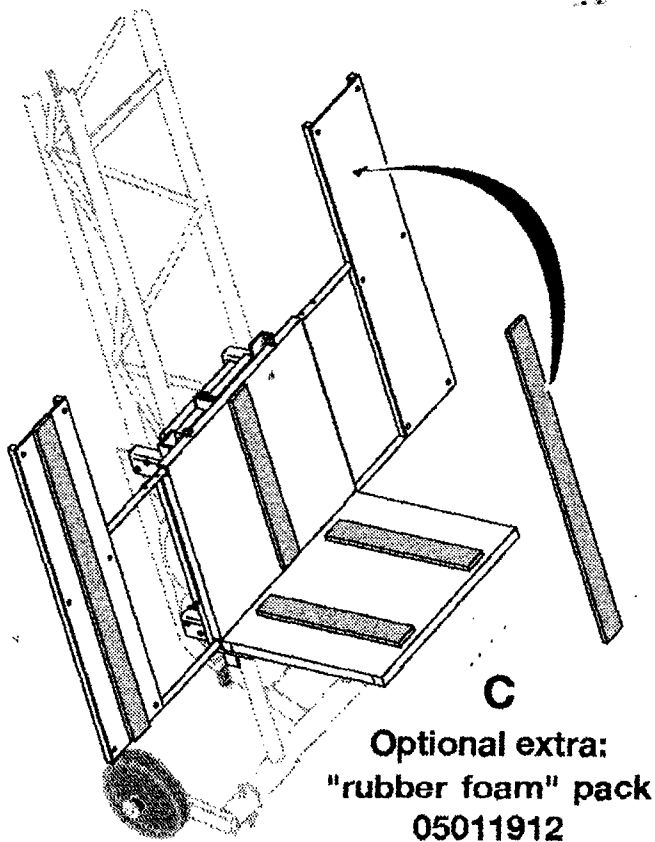


- Rubber foam (2 pieces) for right and left panel ⑤
- Rubber foam (1 piece) for the vertical side of the platform ⑥
- Rubber foam (2 pieces) for the lower side of the platform ⑦

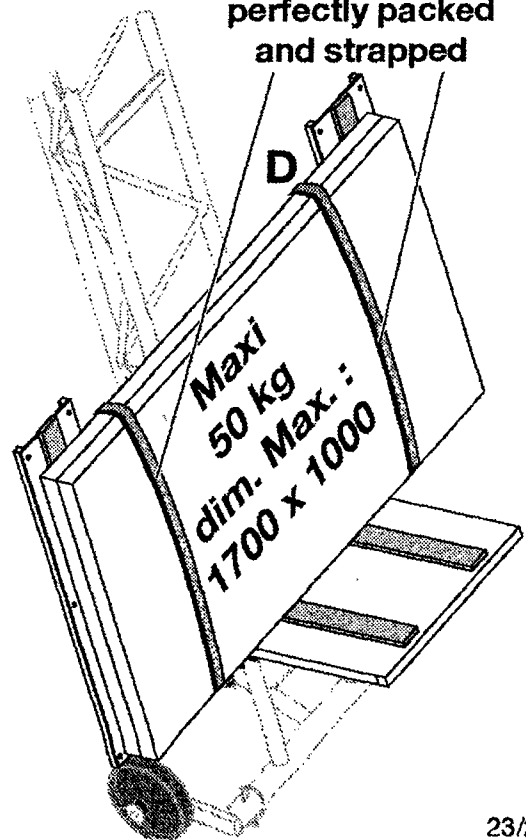
"SOLAR PANEL" PACK 05011911



Solar panel
perfectly packed
and strapped



C
Optional extra:
"rubber foam" pack
05011912

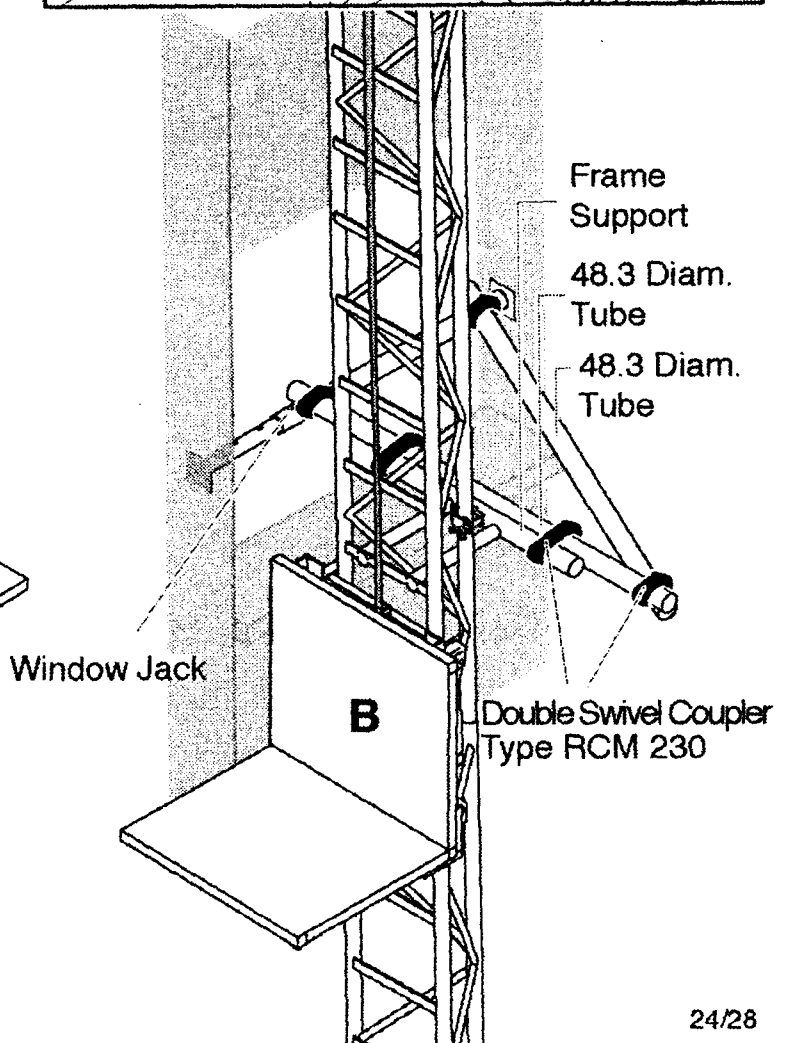
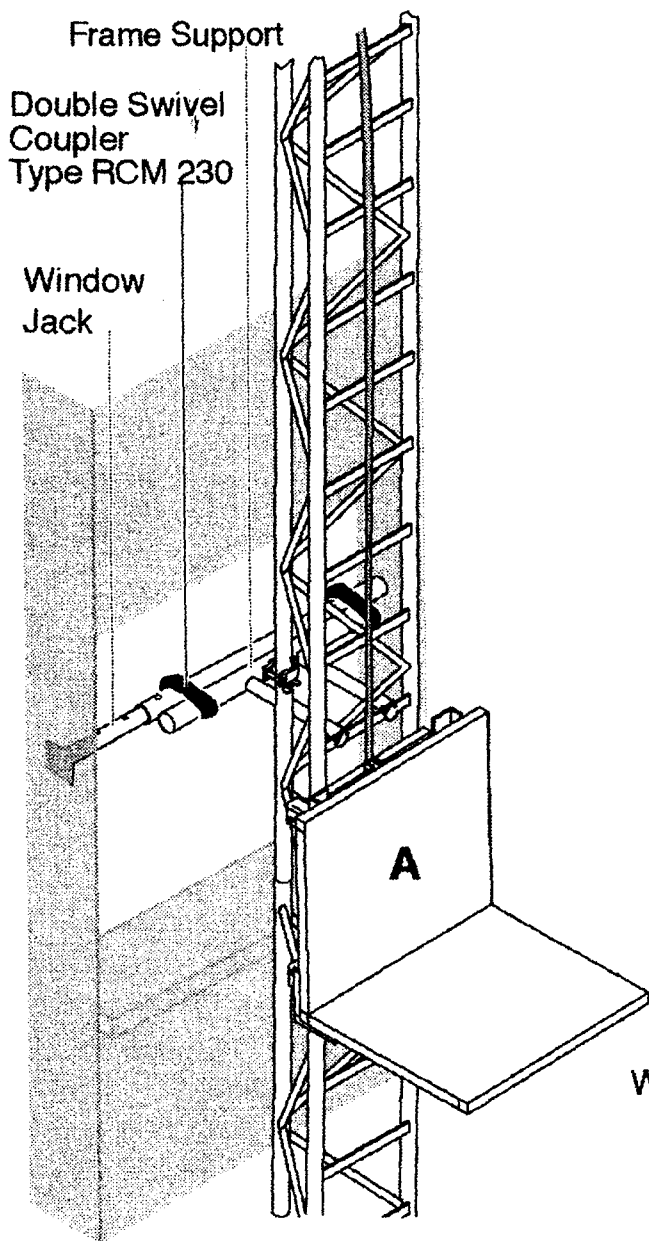
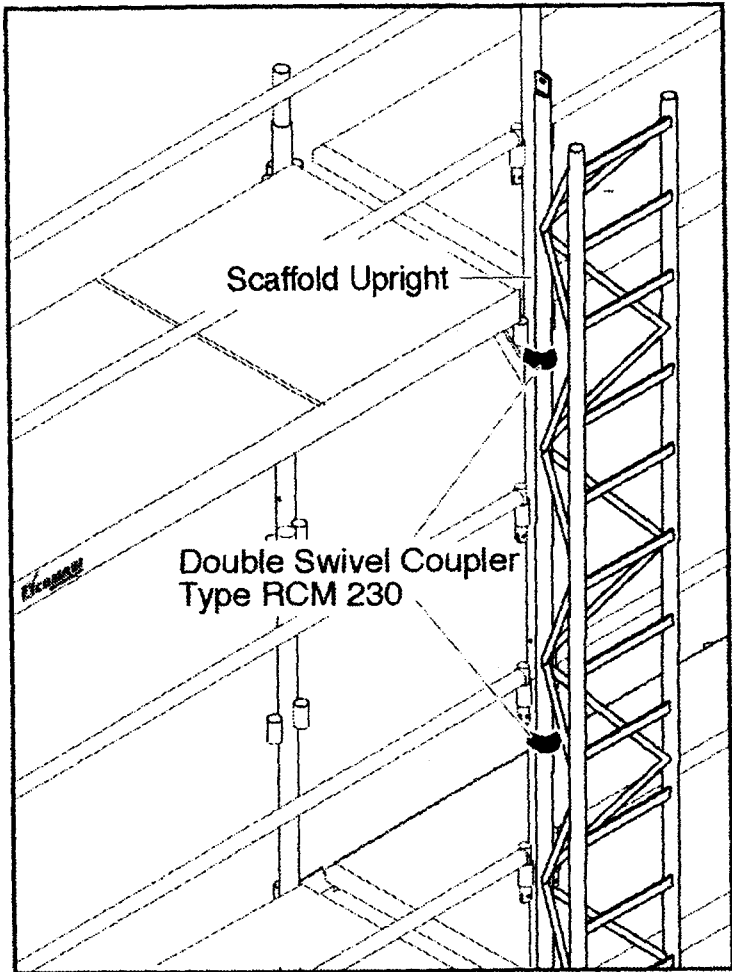


Section 13: VERTICAL ERECTION

- The Apache may be assembled and anchored to a scaffold as shown in diagram A.

- The Apache may also be anchored to a window opening with a similar disposition as shown in diagram A, or may be anchored perpendicularly to the face of the building as shown in diagram B.

- An Anchor Point or Tie is required every 4 m, and at the top.



Section 14: IMPROPER USE

- Incorrect use of the limit switches
- Overloading the platform
- Carrying personnel on the platform
- Improper use of the Push-button control (abusive starting / stopping of the machine)
- Inversion of operating direction before the carriage has completely stopped
- Transporting materials above personnel
- The absence of standard rests or props necessary to correctly stabilise the machine
- The absence of adequate anchoring or ties when lifting unstable loads
- Prohibited use in explosive environment
- The blocking of a functioning part of the machine, including the Up / Down buttons...
- Loading at intermediate levels.

Section 15: GUARANTEE AND REGULAR INSPECTIONS

GUARANTEE.

This material is guaranteed against manufacturing defects for a period of 6 months from the date of invoice to the end-user by COMABI or by our local distributor.

Our guarantee is subject to the purchaser meeting its contractual obligations, especially in relation to payment.

Our guarantee is limited to the simple exchange of components accepted as being faulty by our workshops, or authorised service agent, and formally excludes all other indemnities, no matter their origin.

This guarantee applies exclusively to products used in compliance with the assembly and operating procedures, and recommendations and advice contained in the operating manual.

IMPORTANT: keep your record of purchase (invoice or delivery note) in a safe place because it will be required to apply for guarantee.

REGULAR INSPECTIONS.

Carry out regular inspections of the following:

- the rollers on the carriage
- the lifting cable (**never grease nor oil the cable**)
- the rollers found on the articulated joint and the pulley of the top section.
- the wire rope tensioning springs and the parachute mechanism springs

The recording of a Maintenance and Servicing logbook is obligatory.

Remember that only the use of original spare parts ensures the proper functioning of the machine and allows to apply for guarantee.

Section 16: OBLIGATORY CHECKS FOR THE USER

The user must fulfill his obligations concerning the safety of personnel.

The user must ensure that inspections are being carried out in compliance with the national regulations.

The user must maintain an up-to-date safety logbook.

When storing, shut off all power to the machine and protect the sensitive components from bad weather (rain, frost, etc.).

In the case of changing site, changing position of the machine or its equipment, you must follow the dismantling procedure, disconnect the machine from the power source, and respect the environment.

Carry out a visual inspection of the condition of all parts, especially welded joints, at every assembly and dismantling operation.

If a machine presents signs of ageing liable to cause an accident, it is obligatory for the user to eliminate the components concerned, that is to say : ensure the impossibility of using the component, and if necessary the dismantling of the machine.

The destruction of any component part (or of the machine) must be approved and carried out by a competent person.

Static test coefficient: 1,25

Dynamic test coefficient: 1,1

Section 17: MARKING

- All the component parts of the APACHE 4 / BA 150 ST are subject to strict controls at our factory premises thereby guaranteeing the quality of manufacture.
- The most important components carry the CE marking, attesting to the control procedures. Example;

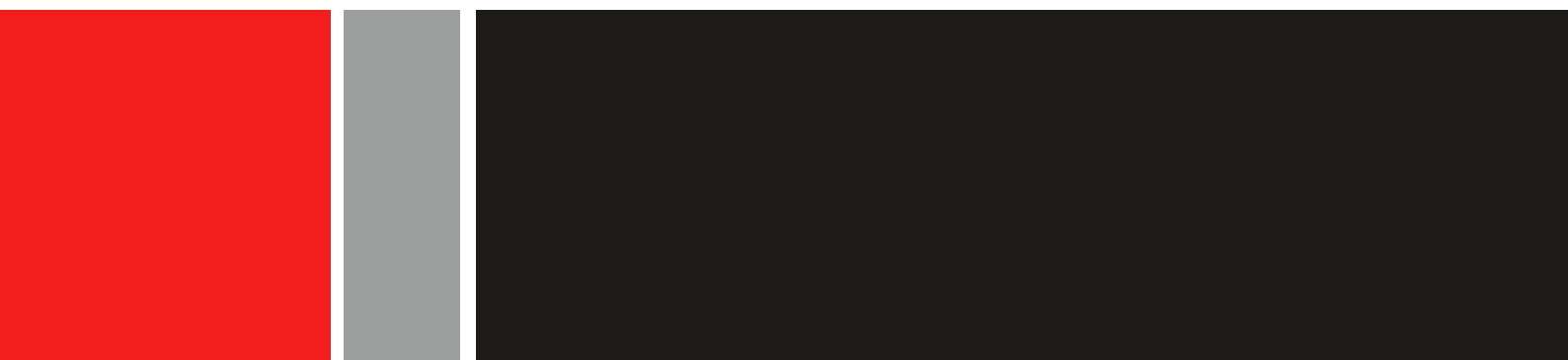


year of
manufacture

week of
manufacture

product
code

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