MODELS
PERSONNAL MANLIFT

CE

OPERATOR'S AND SAFETY HANDBOOK

U.S.A.
JLG Industries, Inc.
1 JLG Drive
McConnellsburg
PA 17233-9533
Tel : (171) 485-5161
Fax : (717) 485-6417

C.E.
JLG Industries,
Kilmartin Place,
Tannochside Park
Uddingston, Scotland G71 5PH
Tel : +44(0)1698 811005
Fax : +44(0)1698 811055

C.E.
JLG Manufacturing Europe
Breitwaterstraat 12A
Oude Bunders 1034
B - 3630 Maasmechelen
Tel : +32(0)89 774 974
Fax : +32(0)89 777 427

FRANCE
JLG France SAS
Z.I. de Fauillet
BP 20 - 47400 TONNEINS
France
Tel : +33 553 84 85 11
Fax : +33 553 79 06 87

Révision: 04-2006

MA0116-07
English - Operator's & Safety handbook

CE MODELS

	AC	DC
P20AC/DC	☐	☐
P21AC/DC	☐	☐
P25AC/DC	☐	☐
P30AC/DC	☐	☐
P35AC/DC	☐	☐
P40AC/DC	☐	☐

Serial Number

_____

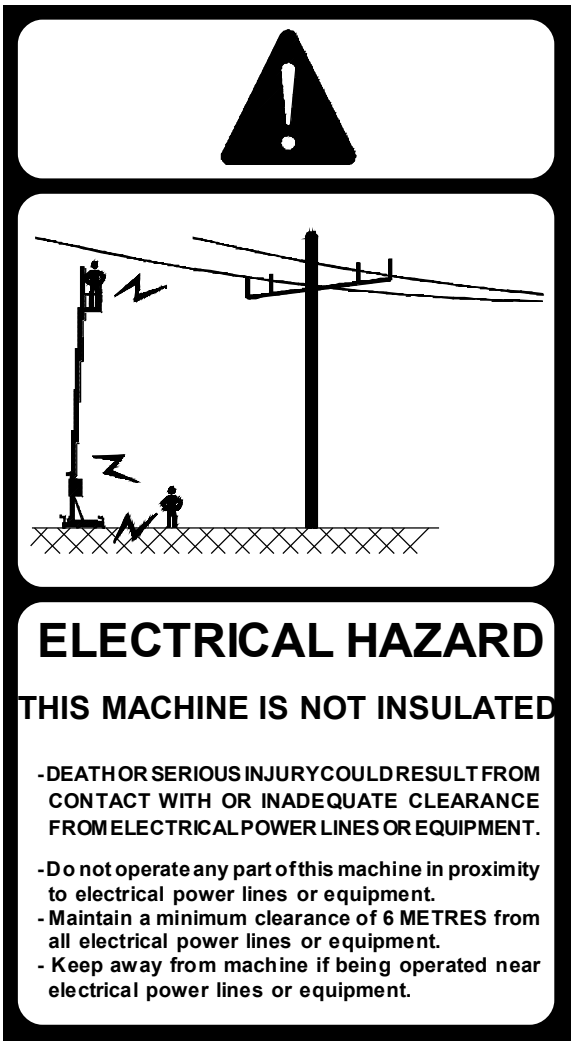
ISO 9001 BSI REGISTERED
Cert. N° FM 40826

MA0116-07

TYPE	P20 AC	P21 AC	P25 AC	PM30 AC	P35 AC	P40 AC
MADE IN	France					
GVW	345 kg	330 kg	365 kg	405 kg	435 kg	500 kg
CAPACITY	160 kg				120 kg	
OCCUPANTS	1					
VOLTAGE	220 V					
HEIGHT	1.99 m	1.72 m	1.99 m			
MAX. HYD. PRESSURE	11.0 MPa	13.5 MPa	13.5 MPa	18.0 MPa	18.5 MPa	12.0 MPa
WORKING HEIGHT	8.24 m	8.28 m	9.70 m	11.16 m	12.62 m	14.10 m

TYPE	P20 DC	P21 DC	P25 DC	P30 DC	P35 DC	P40 DC
MADE IN	France					
GVW	360 kg	345 kg	380 kg	420 kg	450 kg	515 kg
CAPACITY	160 kg				120 kg	
OCCUPANTS	1					
VOLTAGE	12 V					
HEIGHT	1.99 m	1.72 m	1.99 m			
MAX. HYD. PRESSURE	11.0 MPa	13.5 MPa	13.5 MPa	18.0 MPa	18.5 MPa	12.0 MPa
WORKING HEIGHT	8.24 m	8.28 m	9.70 m	11.16 m	12.62 m	14.10 m

Standards : Machine designed and made in accordance with the directive 98/37/EEC and on the basis of the standards project pr EN 280 (june 1998).



DANGER

DO NOT OPERATE THIS MACHINE UNLESS YOU ARE QUALIFIED BY TRAINING EXPERIENCE IN THE SAFE OPERATION OF THIS MACHINE.

TRAINING INCLUDES COMPLETE KNOWLEDGE OF YOUR EMPLOYER'S WORK RULES, THE OPERATOR'S AND SAFETY HANDBOOK AND ALL GOVERNMENTAL REGULATIONS RELATIVE TO THIS MACHINE.

AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

NOTICE TO OWNER USER

Should this work platform become involved in an accident, please contact your local JLG distributor immediately and relate details of the incident so he can notify JLG. If the distributor is unknown and/or cannot be reached, please contact

USA :

JLG Industries, Inc.
Product Safety & Reliability Department,
1 JLG Drive
McConnellsburg, PA
USA 17233-9533
Toll Free: (877) 554-7233
Tel.: (717) 485-5161
Fax: (717) 485-6573
Email : ProductSafety@JLG.com

C.E :

JLG Industries,
Kilmartin Place,
Tannochside Park
Uddingston,
Scotland G71 5PH
Tel : +44(0)1698 811005
Fax : +44(0)1698 811055
Email : ProductSafety@JLG.com

DISTRIBUTOR STAMP

FOREWORD

This handbook has been compiled to assist you in properly operating and maintaining your manually propelled elevating aerial Platform.

Before placing the Work Platform in service, take time to thoroughly familiarize yourself with the contents of this manual. After all sections have been read and understood, retain this manual in a readily accessible location in the work platform for future reference.

The Work Platform has been designed for maximum performance with minimum maintenance. With proper care, years of trouble-free service can be expected.

Constant improvement and engineering progress make it necessary that we reserve the right to make specification and equipment changes without notice.

Routine maintenance procedures are supplied in a separate manual with each Work Platform, and should be referred to for detailed information.

Information in this manual does not replace Community, state, or local regulations, safety codes, or insurance requirements.

The definitions of DANGER, CAUTION, and NOTE as used in this manual apply as follows

DANGER

A DANGER IS USED TO EMPHASIZE THAT IF AN OPERATION, PROCEDURE, OR PRACTICE IS NOT FOLLOWED EXACTLY, DEATH OR INJURY TO PERSONNEL MAY RESULT.

CAUTION

A CAUTION IS USED TO EMPHASIZE THAT IF AN OPERATION, PROCEDURE, OR PRACTICE IS NOT FOLLOWED EXACTLY, EQUIPMENT DAMAGE MAY RESULT.

NOTE

A note is used to emphasize an important procedure or condition

TABLE OF CONTENT

INTRODUCTION 1

GENERAL DESCRIPTION 2

2.1. General description.
2.2. Dimensions and range diagrams.
2.2.1. **P20**
2.2.2. **P21**
2.2.3. **P25**
2.2.4. **P30**
2.2.5. **P35**
2.2.6. **P40**
2.3. Technical characteristics.

SAFETY PRECAUTIONS 3

3.1. General.
3.1.1. Operator's information.
3.1.2. Operator's qualification.
3.2. Machine stability.
3.3. Crushing and falling hazard.
3.3.1. Crushing hazard.
3.3.2. Falling hazard.
3.4. Electrical power source.
3.5. Moving the machine.
3.6. Maintenance.

WORK PLATFORM CONTROLS 4

4.1. Platform controls.
4.2. Emergency and breakdown control panel.

OPERATING PROCEDURES 5

5.1. Pre-start checks and set up.
5.1.1. Battery (DC models only).
5.1.2. 230 V supply (AC models only).
5.1.3. Outrigger system.
5.1.4. Levelling.
5.1.5. Control operation.
5.1.6. Platform.
5.2. Operating tips
5.2.1. Starting procedure.
5.2.2. Emergency stop.
5.2.3. Operation from the ground.
5.2.4. Shut down procedure.
5.3. Daily check list

TRANSPORTATION INSTRUCTIONS 6

6.1. Loading on a pick up truck.
6.2. Using a fork-lift.
6.3. Using a truck with a tailgate.
6.4. Fastening on the bed of a truck.
6.5. Lifting machine.

TABLE OF CONTENT

EXAMPLE OF A LOG BOOK 7

HYDRAULIC SCHEMATIC 8

ELECTRICAL SCHEMATIC 9

OPTIONAL EQUIPMENT 10

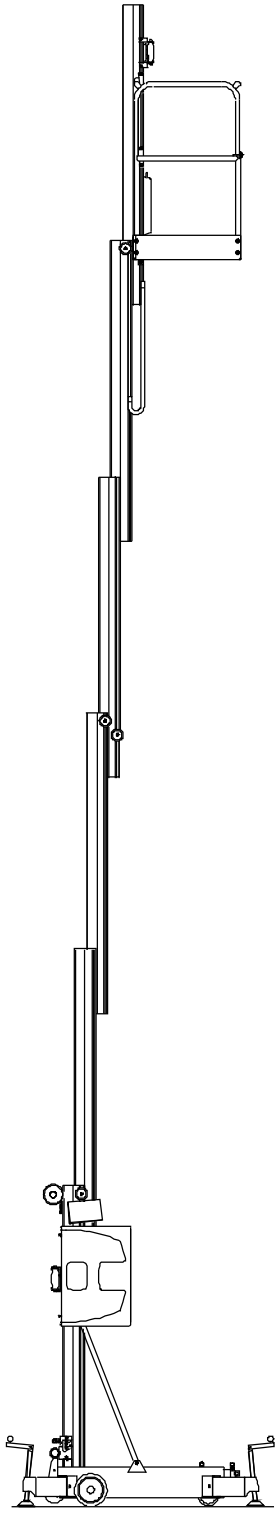
10.1. Extinguisher.
10.2. Narrow platform.
10.3. Tool tray.
10.4. Tube holder.

This handbook provides important information for the operation and maintenance of JLG manually propelled elevating aerial platform Models **PERSONNEL MANLIFT**.

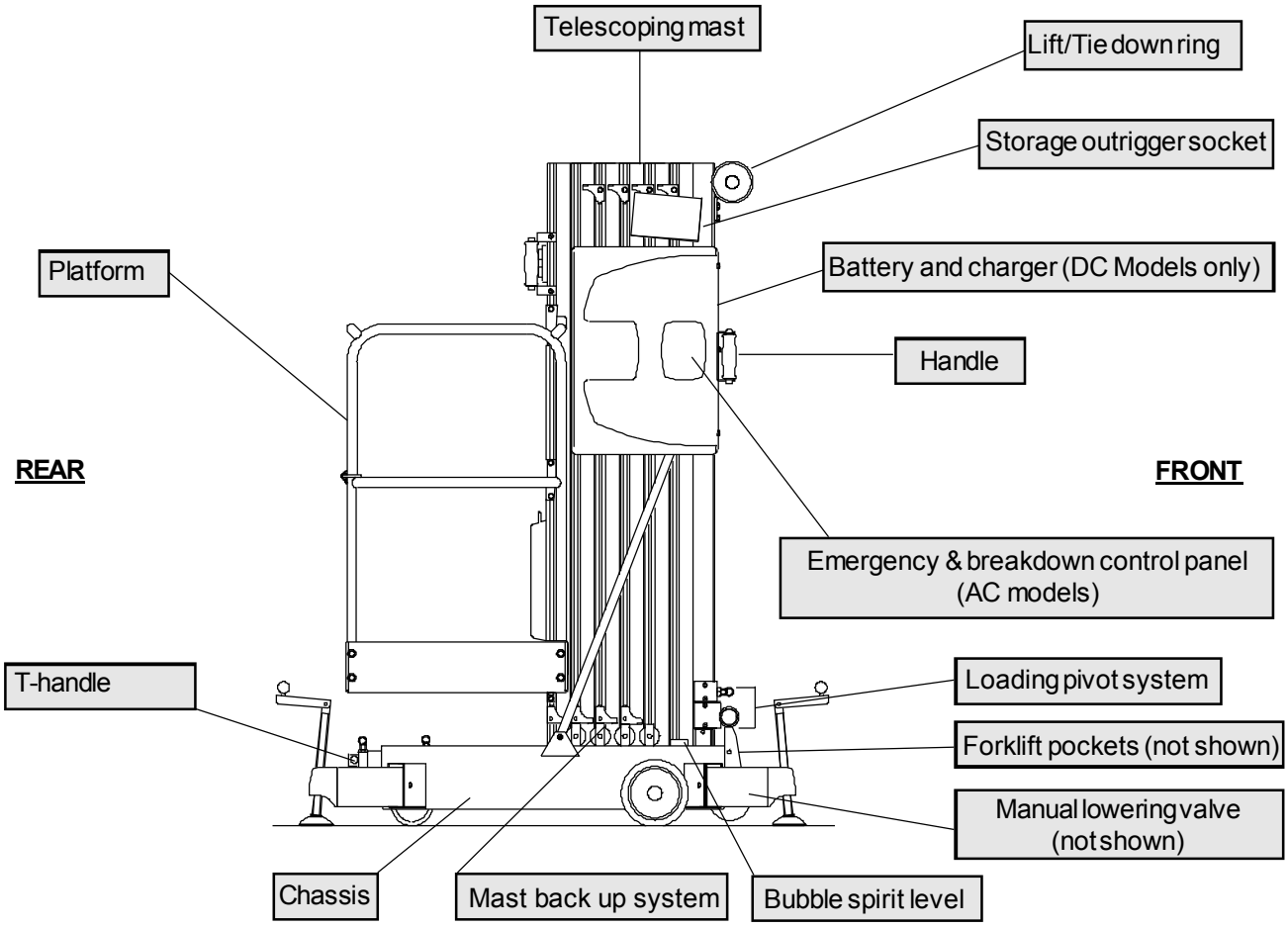
The JLG (Aerial) Elevating Work Platform is a manually propelled type with an all welded steel frame. The hydraulic power unit is located on the side of the mast and provides hydraulic energy for the work platform operations. The electrical energy is provided by a 12 V DC battery or by 230 VAC mains.

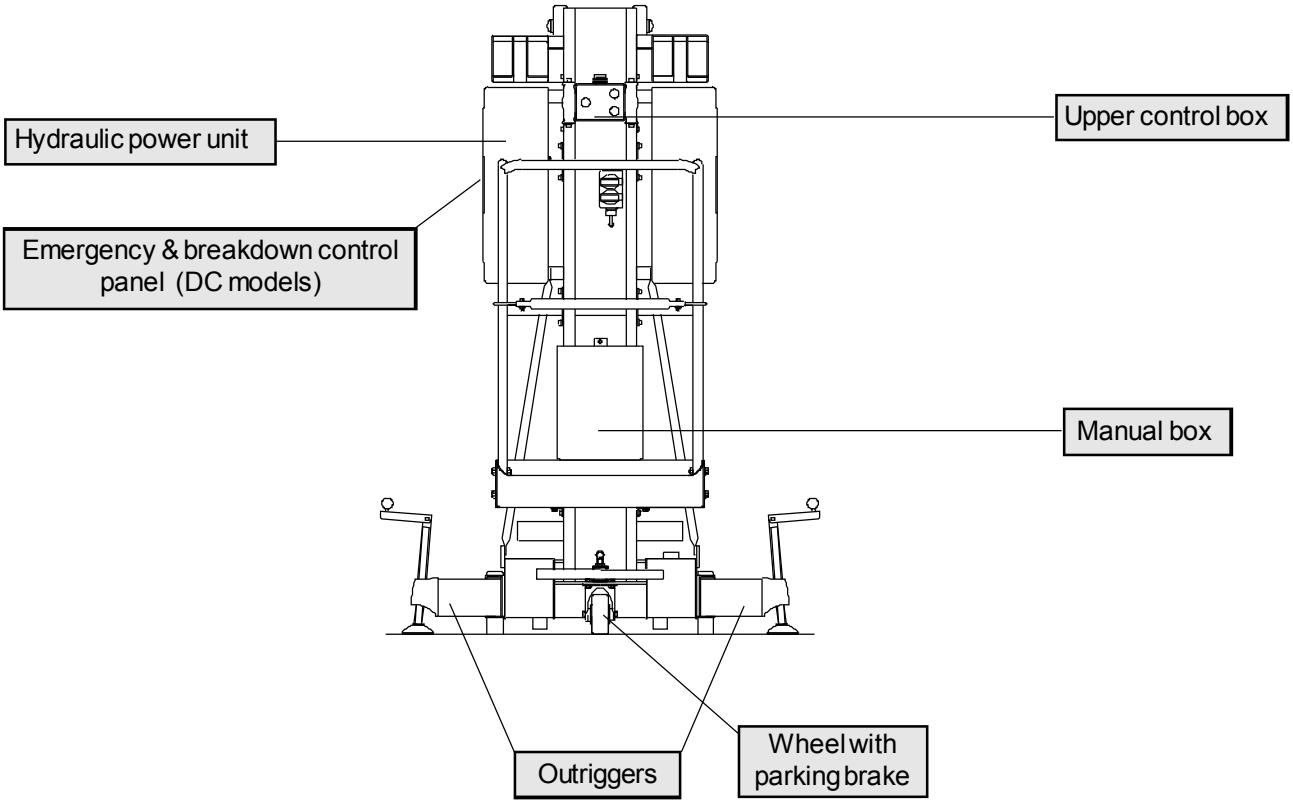
The work platform may be safely operated on firm, level and hard surfaces, when all four outriggers are properly in place and firmly supported. It can be operated with a weight equal to, but not exceeding the manufacturer's rated load in the platform with the mast in any position. The maximum rated load is indicated on the nameplate.

The work platform operations are primarily controlled from the upper control box mounted on the platform. The emergency and breakdown control panel is located on the side of the machine.



2.1. General description.

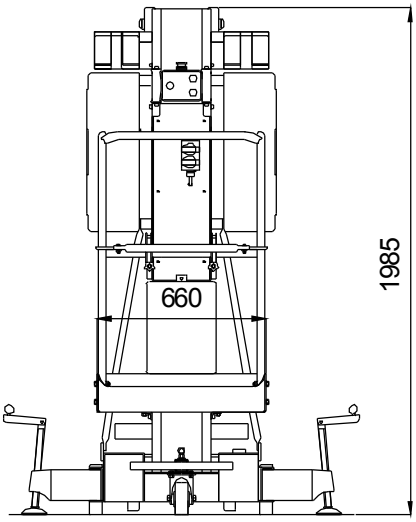


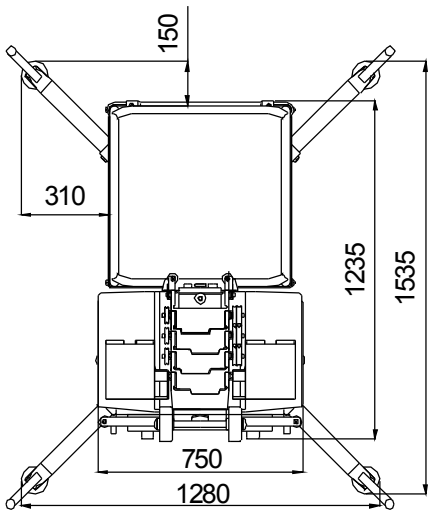


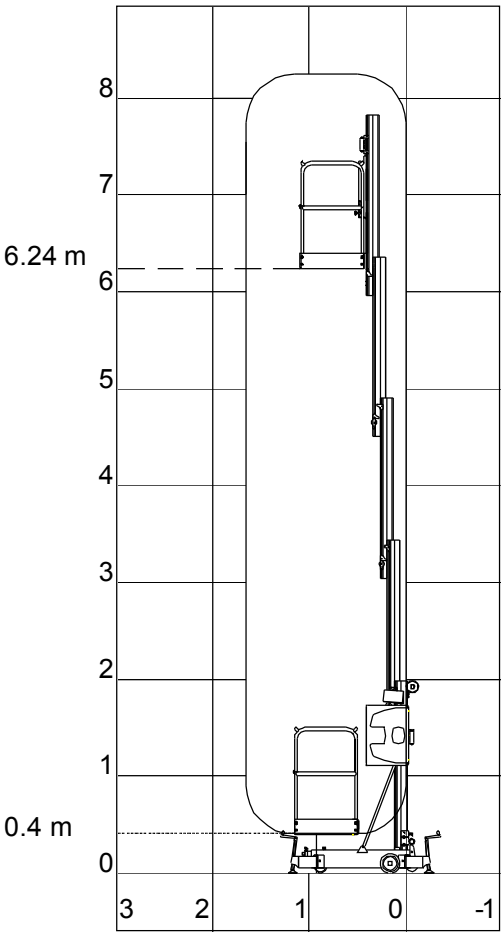
2.2 Dimensions and Range Diagrams.

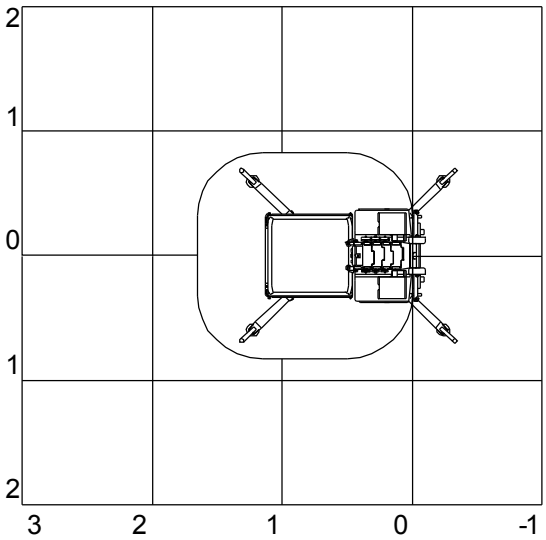
2.2.1. P20AC/DC

Dimensions in millimetres.



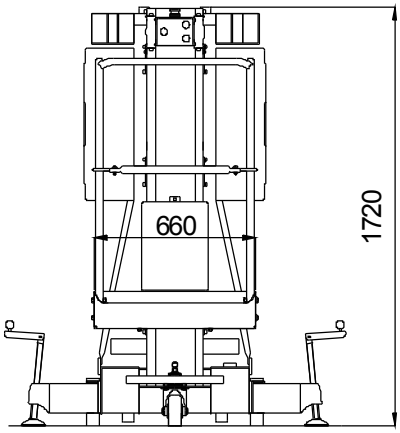


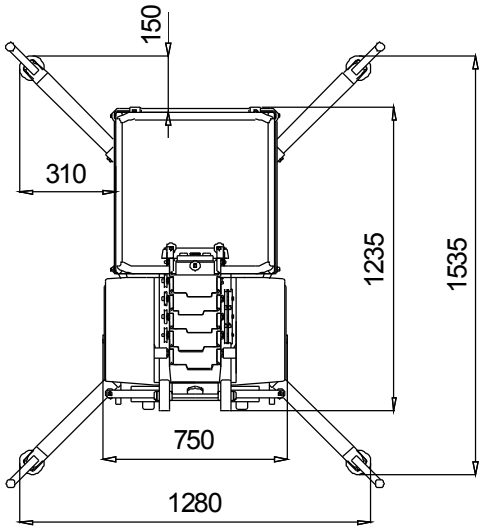


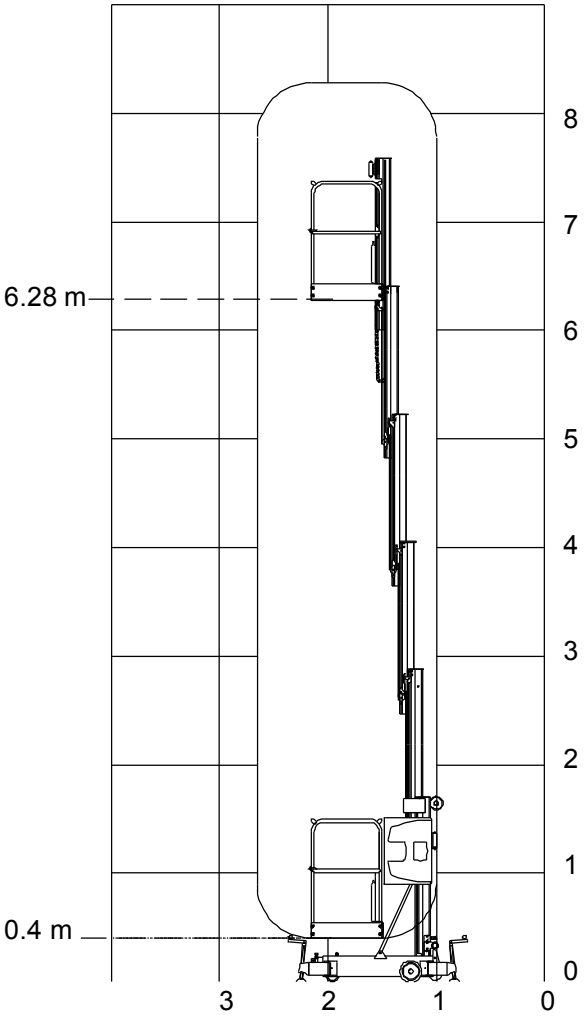


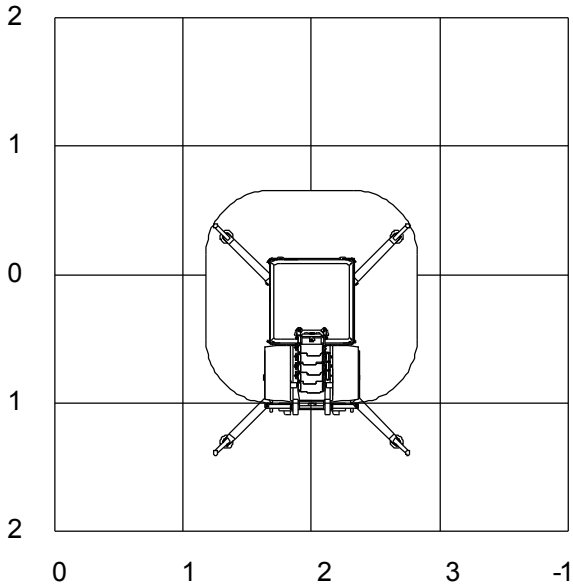
2.2.2. P21AC/DC

Dimensions in millimetres.



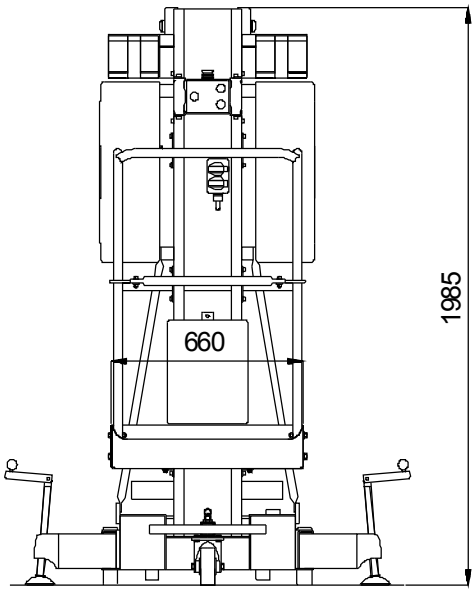


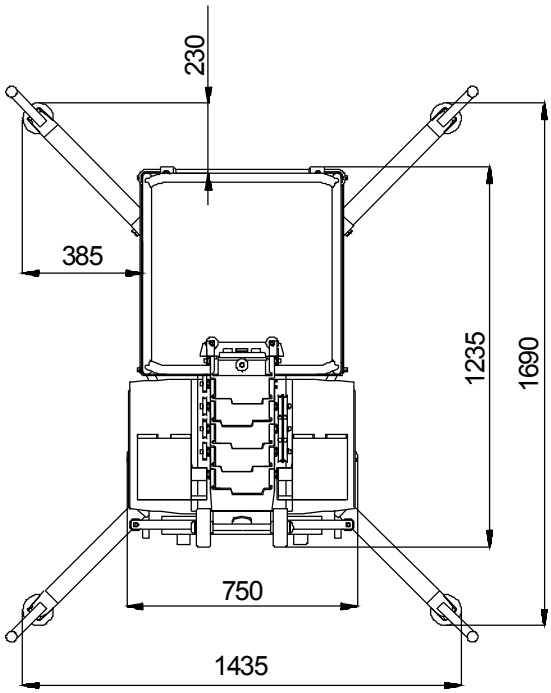


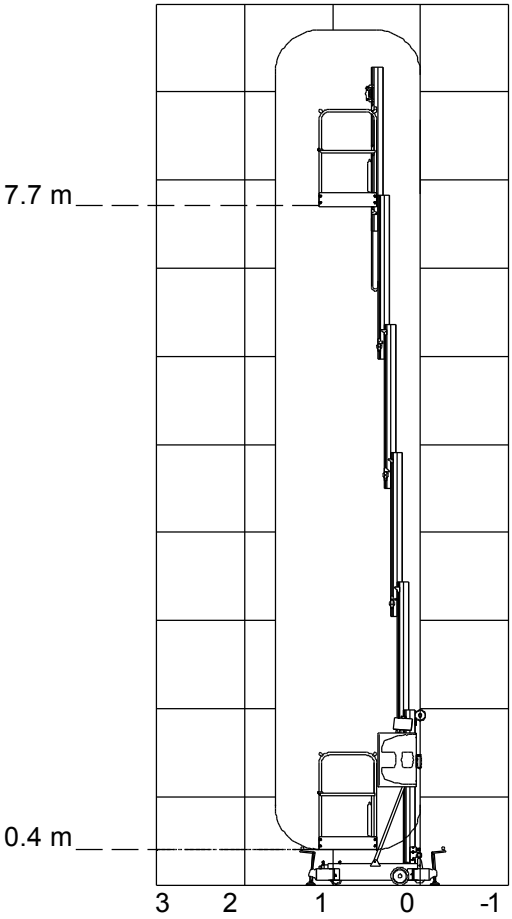


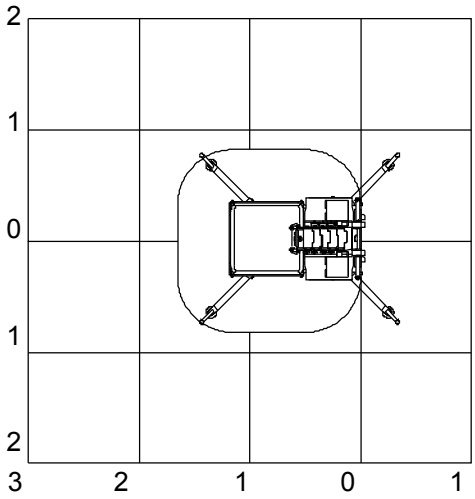
2.2.3. P25AC/DC

Dimensions in millimetres.



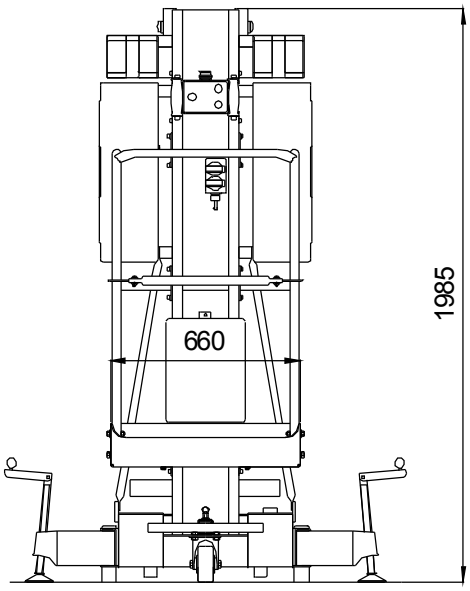


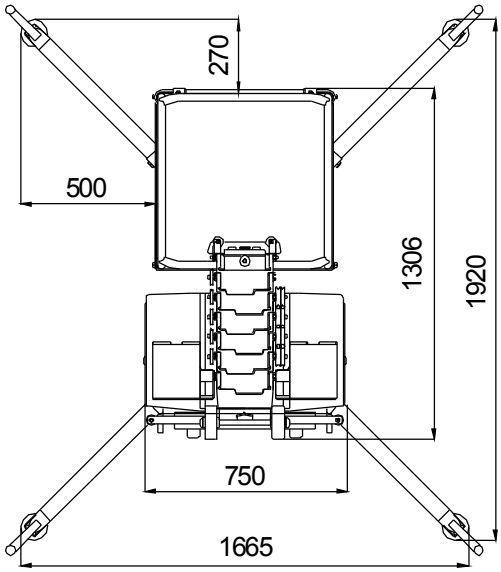


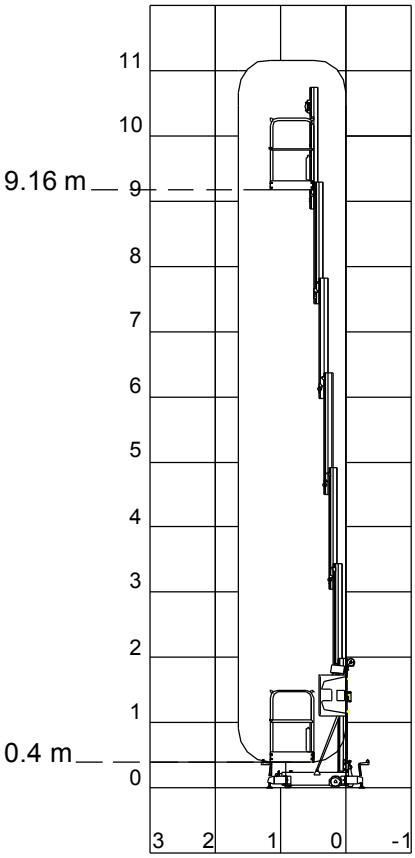


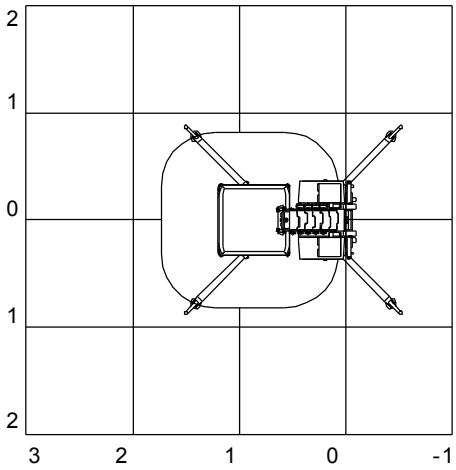
2.2.4. P30AC/DC

Dimensions in millimetres.



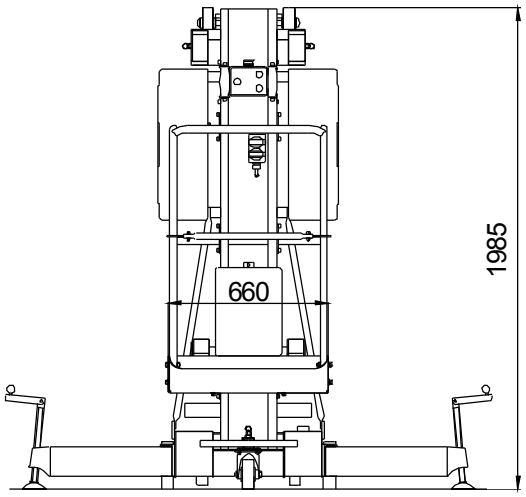


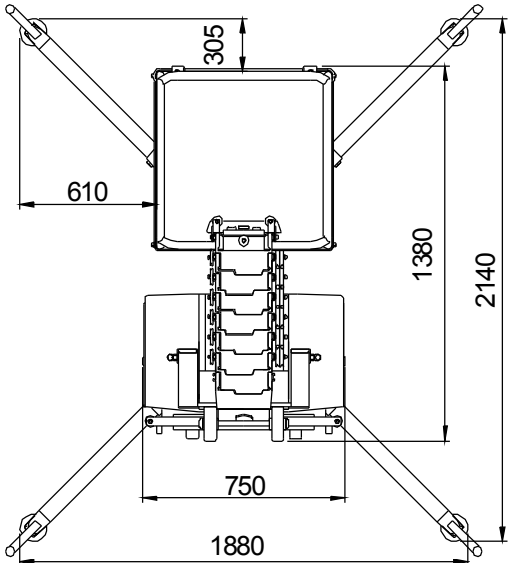


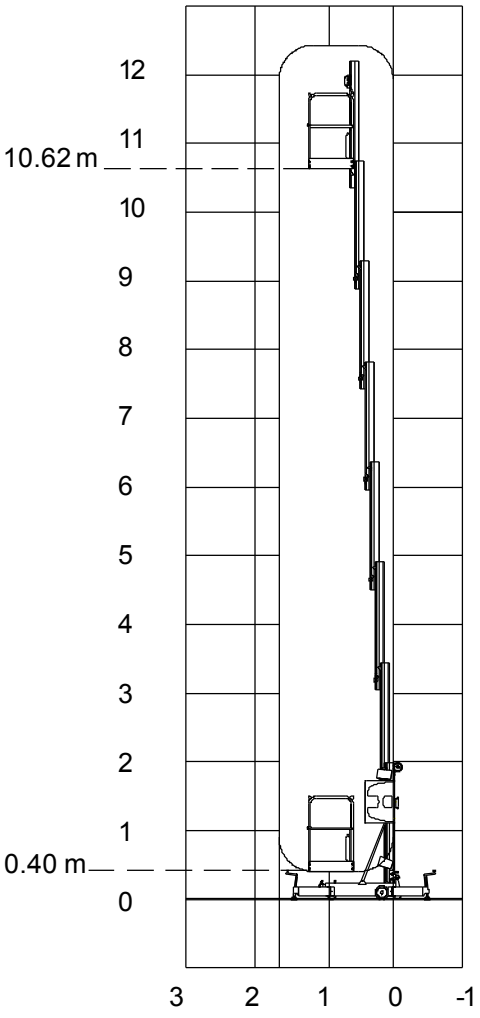


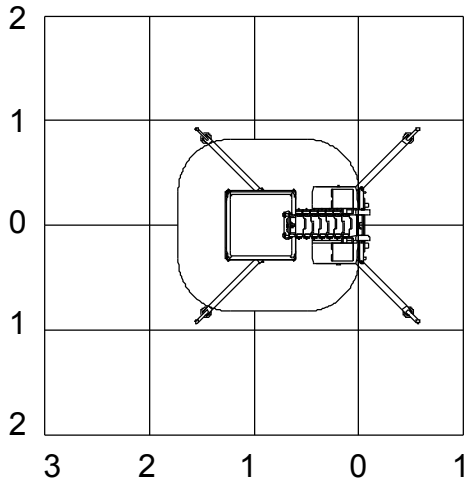
2.2.5. P35AC/DC

Dimensions in millimetres.



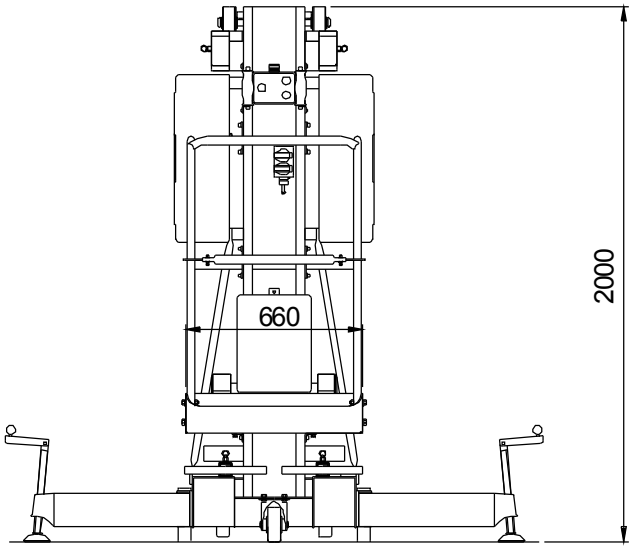


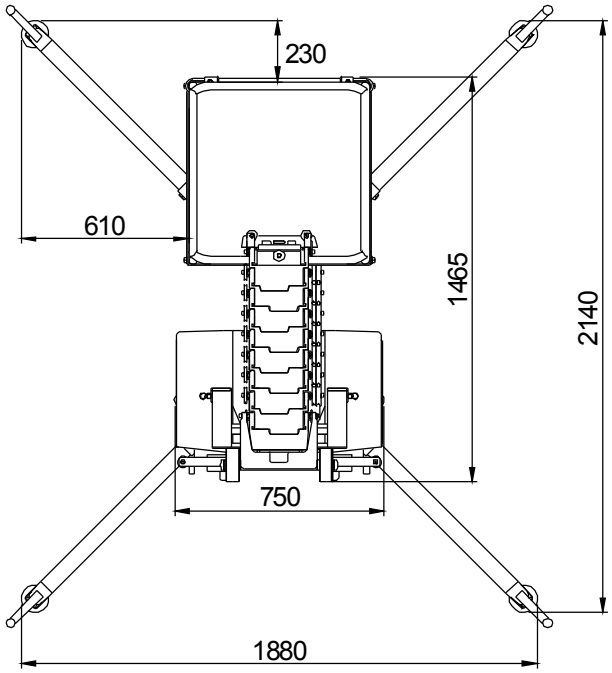


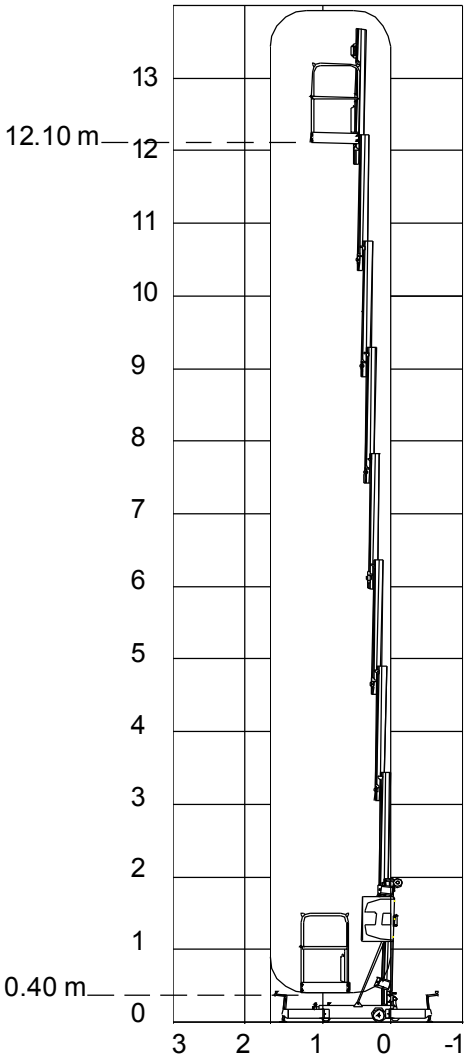


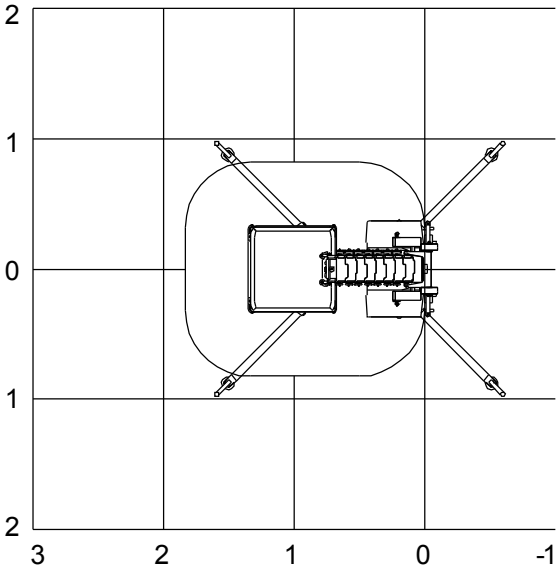
2.2.6. P40AC/DC

Dimensions in millimetres.









2.3. Technical characteristics.

Maximum load on one outrigger	350 kg
Manual force	200 N
Vibration levels	- The weighed root mean square acceleration value to which the arms are subjected (control levers) is inferior to 2,5 m/s/s. - The weighed root mean square acceleration value to which the feet are subjected (platform floor) is inferior to 0,5 m/s/s.
Acoustic pressure	- The equivalent continuous 'A' weighed sound pressure level at the work station is inferior to 70dB(A). - The measure has been made by placing the sonometer at 1,60 m above the floor of the platform.
Maximum wind speed	0 m/s = 0 km/h
Maximum tilt	0°

3.1. General.

NOTE

Illustrations have been included in this section to emphasize important points : READ AND FOLLOW PRINTED INSTRUCTIONS.

It is impossible to compile a list of safety precautions covering all situations. However, there are basic safety precautions that **MUST** be followed during your daily routine. Safety is **YOUR PRIMARY RESPONSIBILITY**, since any piece of equipment is only as safe **AS THE PERSON AT THE CONTROLS.**

With this thought in mind, this information has been provided to assist you, the operator, in promoting a safe working atmosphere for yourself and those around you. It is not meant to cover every conceivable circumstance which could arise. It is intended to present basic safety precautions that should be followed in daily operation.

If you have any questions on operating procedures, work platform usage, or any other applications, contact your local, authorized JLG distributor.

Definitions

Work Platform—(Elevating Work Platform) A manually propelled, integral frame machine with a mast-supported platform to position a person along with his tools and necessary materials at overhead work locations.
Platform—The portion of the work platform intended to be occupied by personnel, tools and materials.
Upper Control Box—A console in the platform containing operating controls for the work platform.
Emergency and Breakdown Control Box—A ground level console containing the emergency and breakdown controls for the work platform.

Because you, the operator, are the only part of the work platform that can think and reason, your responsibility is not lessened by the addition of warning devices or operational aids. Indeed you must guard against acquiring a false sense of security when using them. Warning devices and operational aids are there to assist, **NOT** direct the operation. Warning devices can be mechanical, electrical, electronic, or a combination thereof. They are subject to failure or misuse.
You, the operator, are the only one who can be relied upon to assure the safety of yourself and those around you. Be a **PROFESSIONAL** and follow the **RULES** of safety.

⚠ CAUTION

Remember, failure to follow just one safety precaution can cause that accident to people and equipment.
You are responsible for the safety of yourself and those around you.

IMMEDIATELY report all accidents, malfunctions, and equipment damages to your employer and the local, authorized JLG distributor. Following any accident or damage to equipment the JLG distributor must be immediately advised of the incident and consulted on necessary inspections and repairs. Should the distributor not be immediately available, contact should be made directly with JLG Product Support. The work platform must not be returned to service until it is thoroughly inspected for any evidence of damage and all damaged parts are repaired or replaced.

3.1.1. Operator's Information.

You must **READ** and **UNDERSTAND** the Operator's and Safety Handbook before operating the work platform. This handbook must be readily available at all times and remain with the work platform (in the manual box provided to this effect).

Ensure that all personnel occupying the platform and also ground personnel are thoroughly familiar with safe operating practices.

You must be thoroughly familiar with the location and content of all placards and decals on the work platform. Decals provide important instructions and warnings and must be read and understood prior to any operational or maintenance function.

You must be familiar with the regulations and standards governing work platforms and their operation. Work practice requirements may vary slightly between government regulations, industry standards, and employer policies so a thorough knowledge of all such relevant work rules is necessary.

DANGER

The machine must be used with a sufficient ambient llight.

DANGER

Do not use this machine in areas directly exposed to wind as it could overturn. Failure to respect this safety instruction could result in death or serious injury.

3.1.2. Operator's Qualification.

DANGER

DO NOT OPERATE THIS MACHINE UNLESS YOU ARE QUALIFIED BY TRAINING EXPERIENCE IN THE SAFE OPERATION OF THIS MACHINE.

TRAINING INCLUDES COMPLETE KNOWLEDGE OF YOUR EMPLOYER'S WORK RULES, THE OPERATOR'S AND SAFETY HANDBOOK AND ALL GOVERNMENTAL REGULATIONS RELATIVE TO THIS MACHINE.

AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

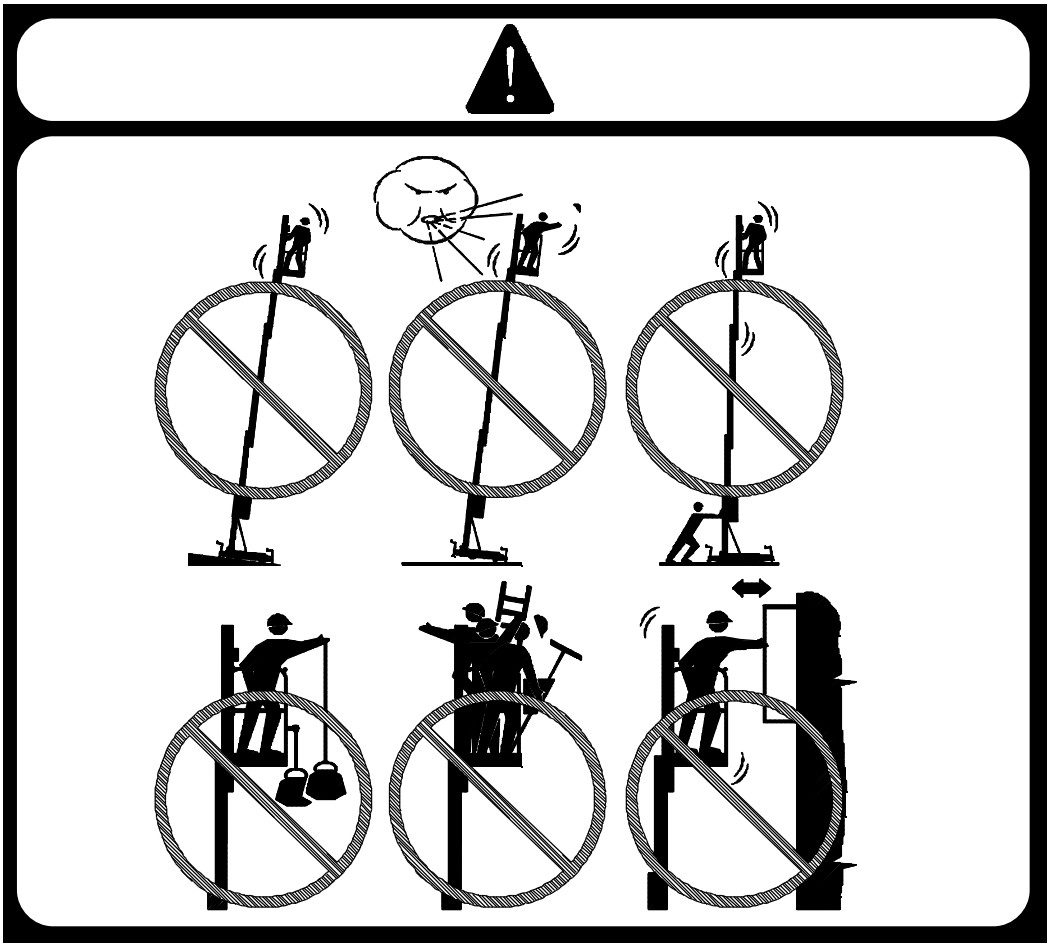
Do not attempt to operate the work platform unless you are trained and thoroughly familiar with all operational functions. Controls, features, and operating procedures may vary from work platform to work platform so it is **ESSENTIAL** that you have specific training given by competent, authorized personnel for the particular machine you will be using.

Never jeopardize your well-being or that of others by attempting to operate a work platform on which you have not been trained. Training is **ESSENTIAL** to proper operation and safe work practices depend on proper operation.

You must be mentally and physically fit to operate the work platform and not be under the influence of medication, narcotics or alcohol. **ANY** type of drug could impair physical, visual and mental reactions and capabilities.

After your day's shift, always remove the ignition key to prevent a non authorized use of the machine.

3.2. Machine stability.



Be aware of all conditions that could adversely affect the stability of the work platform. Death or serious injury could result from the machine tipping over and certain precautions must be taken to avoid such possibilities.

PRIOR to any operation, you must inspect the **ENTIRE** work-site and all ground conditions for bumps, holes, drop-offs, obstructions, and personnel where the work platform will travel during operation. Be sure that the surfaces where the work platform will be used are horizontal and will support a load greater than the work platform's weight.

Operate the work platform only on firm level surfaces. Do not position the work platform near holes or drop-offs, curbs or other obstacles on the ground.

To raise the platform, the base must be level, the four outriggers properly installed and all screw levelling jacks must be under load.

The components of the machine must not be altered as this could affect its safety and stability.

Do not move the machine if the platform is raised. The machine must not be used on moving or mobile surfaces or on the bed of a vehicle.

Avoid sudden movements which can produce motion, swaying and an increased loading effect. Never apply excessive force to the work platform controls.

Do not place or suspend any overhanging loads on any part of the machine.

DO NOT EXCEED THE PLATFORM'S RATED CAPACITY (printed on the manufacturer's name plate) and be sure that any load on the platform is secure and evenly distributed.

Do not elevate the platform when exposed to wind or other side forces.

Do not pull or push towards any object outside the platform.

Do not allow anybody to place a ladder or any objects against the machine.

3.3. Crushing and falling hazard.

3.3.1. Crushing hazard.

Always be aware of your working environment during operation of the work platform. Always avoid contacting the work platform and its occupants with external objects during operation. Should contact occur, lower the platform and inspect for damage before continuing operation.

You must always be aware of what is below, above, beside, before and behind the work platform during any elevating or lowering function. If you are unable to clearly see in the direction of motion you must post a look-out or signal person before operating the work platform.

Never position the platform into any obstruction or put yourself in a position of interference between the platform and another object. Take extreme caution to avoid such a situation. Keep all parts of your body inside the platform railing while it is in motion.

Exercise caution when lowering the platform to avoid descending onto objects or personnel below. Ensure that nothing has been placed under the platform while it is being lowered.

3.3.2. Falling hazard.

You must take every precaution to ensure you do not fall from the platform. Falling from any elevation could result in serious injury or death. It is recommended to wear a safety harness.

Do not operate the work platform unless the platform railing is in place and secure and all gates or openings are closed. Ensure all four outriggers are correctly installed.

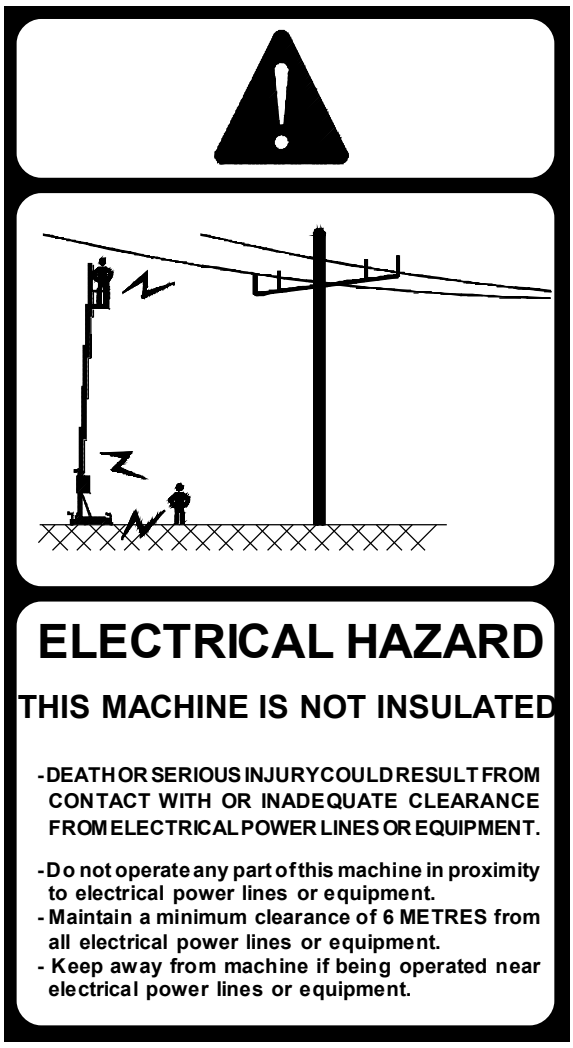
While occupying the platform, maintain a **FIRM FOOTING** on the floor of the platform at all times. **DO NOT LEAN OVER OR SIT ON THE PLATFORM RAILING. NEVER CLIMB ONTO THE PLATFORM RAILING OR ONTO ANY OBJECTS ON THE PLATFORM FLOOR TO ATTAIN ADDITIONAL WORKING HEIGHT.**

Do not jump on the platform floor if it is raised.

Keep the platform clean and remove debris from shoes before entering the platform. Dirt, debris, liquids and ice on the platform could cause a slipping accident.

Never exit or enter the platform by any other means than the access system provided and when the platform is at ground level.

3.4. Electrical power source.



Do not operate any parts of this machine in proximity to electrical power lines or equipment.

Maintain a minimum clearance of **6 metres** from all electrical power lines or equipment at all times.

Death or serious injury could result from contact with or inadequate clearance from electrical power lines or equipment.

You must never operate this work platform within any distance of a power source or power line without first notifying the power or utility company. Always obtain positive and absolute assurance that the power has been turned **OFF**.

During work platform use, assume that every line is energized and take the necessary precautions accordingly.

When connecting the machine to an AC source (AC model, DC charger, platform plug), always use a 3-wire grounded extension cord connected to a grounded AC circuit.

If the machine contacts an energized power source, do not touch the machine as long as the power has not been cut off.

You, the operator, are responsible for alerting all personnel of dangers associated with electrical power lines and equipment. The platform is not insulated. Do not allow unnecessary personnel in the vicinity of the work platform while it is in use.

Even if a work platform operator is not affected by an electrical contact, others in the area may become seriously injured or killed.

It is not always necessary to contact a power line or power source to become electrocuted. Electricity, depending on magnitude, can jump or become induced into a work platform. Low voltages can also be dangerous.

Set-up (park) the work platform in a position such that no part of the machine can be moved to within **6 metres** of power lines and equipment.

A suitable barricade should be erected to physically restrain the work platform and all attachments from entering into an unsafe distance from power lines and equipment.

Thoroughly **READ** and **UNDERSTAND** all applicable Community, state, and local regulations and operate the work platform in compliance with these regulations. The use of proximity devices or mechanical limit stops does not assure that electrical contact will not occur. You must follow the rules and precautions outlined in this handbook at all times regardless of the devices which the work platform is equipped with.

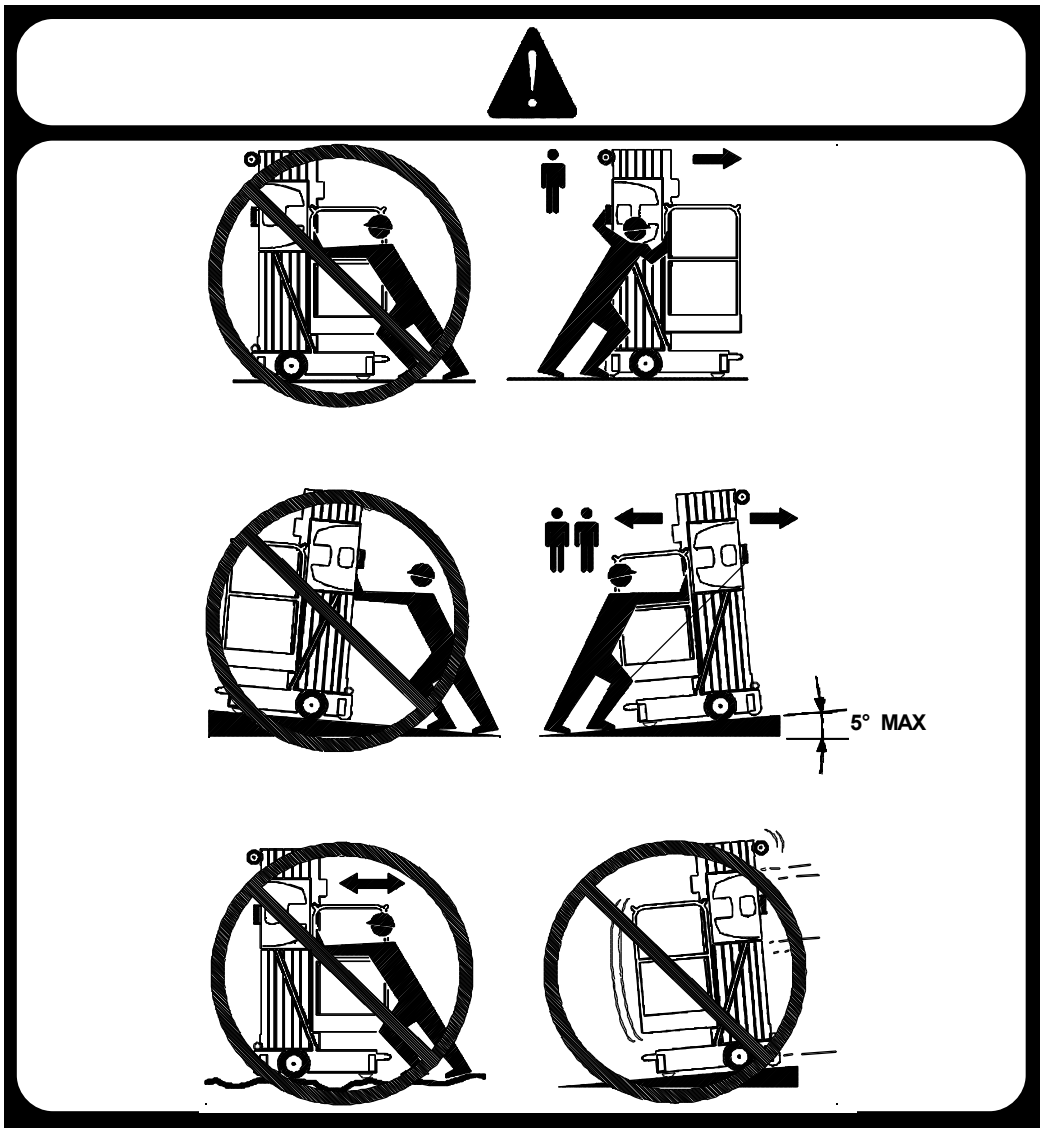
Grounding of a work platform affords little or no protection from electrical hazards. **DO NOT** depend on grounding.

Overhead lines tend to sway so allow for this when determining safe operating distances.

If the work platform should come in contact with an energized power source, you must immediately warn those in the vicinity to stay away. Allow no one to use the emergency and breakdown controls at ground level in this situation. You, the operator on the platform, should attempt to move the work platform away from the power source using the platform controls which are likely to remain functional. Should the operator become incapacitated or the work platform lose functional capability, the power company should be contacted to de-energize the electrical source. **NO ONE** must attempt to use the lower work platform controls until the power has been turned off.

Following a contact with an energized electrical source, the local JLG distributor must be immediately advised of the incident and consulted on necessary inspections and repairs. Should the distributor not be immediately available, contact should be made directly with JLG Product Support. The work platform must not be returned to service until it is thoroughly inspected for any evidence of damage and until all damaged parts are repaired or replaced.

3.5. Moving the machine.



When moving the machine :

- The platform must be fully lowered,
- No one must be in the platform,
- The outriggers must be stored in their housings.
- Disconnect the AC cord and clear from moving route.

Keep clear from behind or in front of the unit when moving. Inspect the entire route and all ground conditions where the unit will be moved. Do not move the unit on soft and uneven surfaces, into holes or other obstacles on the ground.

Only push the unit from the sides. On a level surface, always travel with the platform end leading the way. Move the unit with the handle and platform railing.

Do not push the work platform on flat ground from the platform as it could tip over if coming into contact with an obstacle.

Exercise extreme caution when moving the unit through narrow passageways.

For machine equipped with Tilt Back frame, push the machine only with T-handle fully or half retracted. The guardrail can be used to assist when turning corners.

Handle the machine with extreme care on slopes. Always travel with the platform end on the low side of the slope. Handle the unit from the side with the platform railing.

Two people are required on slopes up to 5 degrees. A forklift is required on slopes greater than 5 degrees.

Never position the machine sideways on a slope or leave it unattented.

Do not stand at the front of the unit when tilting it forward.

3.6. Maintenance.

DANGER

FAILURE TO PROPERLY SERVICE, MAINTAIN AND INSPECT THIS MACHINE COULD RESULT IN DEATH OR SERIOUS INJURY.
THIS MACHINE MUST NOT BE USED UNLESS IT IS OPERATING PROPERLY.

- PERFORM ALL PERIODIC INSPECTIONS AND MAINTENANCE SPECIFIED BY THE MANUFACTURER AND OTHER GOVERNMENT AGENCIES.
- ALLOW ONLY AUTHORIZED SERVICE AND REPAIRS TO BE PERFORMED ON THIS MACHINE.
- DO NOT MODIFY MACHINE, SUBSTITUTE PARTS, OR CHANGE ANY HYDRAULIC, ELECTRICAL OR OPERATOR AID SETTING WITHOUT OBTAINING WRITTEN APPROVAL FROM JLG.
- SEE SERVICE MANUAL FOR ADDITIONAL INSTRUCTIONS AND LIMITATIONS.
- DO NOT REMOVE ANY DECAL OR THE OPERATOR'S AND SAFETY HANDBOOK FROM THIS MACHINE.

NEVER operate a damaged or poorly maintained work platform.

Before work platform use:

- Conduct a visual inspection for cracked welds, leaks, damaged controls or cables, chains, pulley fixation points and loose wire connections. Any item or component that is found to be damaged (broken, leaking, cracked, worn, etc...) must be repaired or replaced.
- Inspect wheels and outriggers.
- Ensure all bolts and lug-nuts are properly torqued.

Keep work platform clean at all times, free of mud, dirt and grease. Dirty equipment wears-out faster and makes good maintenance difficult. Cleaning solutions used should be appropriate for the job and non-flammable. Avoid spraying cleaning solutions directly onto electrical components.

Do not clean electrical components (boxes, motor, etc...) with a high pressure cleaner. Failure to respect this precaution can result in serious damages to components.

ROUTINE MAINTENANCE and **INSPECTION** of this work platform must be performed by a qualified person(s) according to the recommendations in this Manual. Any questions regarding procedures and specifications should be directed to the local, authorized JLG distributor or JLG Product Support.

Service and repairs to the work platform must only be performed by a qualified person. All service and repairs must be performed in accordance with manufacturer's recommendations, this handbook, and the Service Manual for this machine. All replacement parts must be JLG-approved.

Unless authorized and approved by JLG, do not make any modifications, alterations, or changes to a work platform which in any way affects its original design. Such action invalidates all warranties and makes the owner/user liable for any resultant accidents.

Before performing any maintenance, service or repairs on the work platform:

1. The mast should be fully retracted and lowered and the machine should in the position indicated in the Service Manual.
2. Controls should be properly tagged. Never operate the work platform if it is **TAGGED-OUT** nor attempt to do so until it is restored to proper operating condition and all tags are removed.
3. The batteries should be disconnected with the charger plug removed (DC models) or the mains plug disconnected (AC models) and the ignition key removed.
4. Recognize and avoid pinch-points while performing maintenance.

After performing maintenance, service or repairs on the work platform:

1. Replace all guards and covers that were removed.
2. Reconnect batteries (DC models) or main plug (AC models) and remove tags.
3. Perform a function check of operating controls to ensure proper operation. Load test must be performed when a structural or lifting member is involved in repair.

LUBRICATION

The work platform must be lubricated according to the factory recommendations for lubrication points, time intervals and types.

Exercise care when servicing the hydraulic system of the work platform. Pressurized hydraulic oil can cause serious injury.

The following precautions must be taken when servicing the hydraulic system:

1. Follow the manufacturer's recommendations when adding oil to the system.
2. Be certain all lines, components and fittings are tight before resuming operation.
3. When checking for suspected leaks, place underneath a piece of wood or cardboard.
4. Never exceed the manufacturer's recommended relief valve settings.

BATTERIES (DC models only)

DANGER

Battery electrolyte may cause painful burns if allowed to contact the hands and other parts of the body. Use with extreme care when you move the battery, when you fill a battery cell or when you check the charge.

DANGER

The battery must be charged in a clean and well ventilated area. Do not charge the batteries near fire, flame or other souce of heat because of explosive hydrogen gas while servicing the batteries.

DANGER

Before performing any maintenance on the machine, the battery should be disconnected from the charger, and the charger from the mains plug. The key switch must be on "O" and the key removed.

Battery electrolyte must not be allowed to contact the skin or eyes. If this does occur, flush the affected area with water and consult a doctor immediately.

When checking and maintaining batteries, exercise the following proper procedures and precautions:

- Do not short across the battery posts to check charge as could cause battery explosion.
- Wear safety glasses when servicing batteries.
- Do not disconnect the positive battery clamp first. Disconnect the grounded battery clamp first when removing a battery and connect it last when installing a battery.

Charge batteries only in an open, well ventilated area free of flame, smoking, spark and fire.

WORK PRACTICE.

Job preparation

You must inspect the work platform prior to your work shift checking for cracked welds, other damaged components (consult Service manuals).

You must ensure that the work platform is fully and properly equipped including platform railing, covers, gates, guards and controls. You must also check that this manual is in its box and the good condition of the decals on the machine.

Wear proper clothing and personal protective equipment as required by local or job regulations. It is recommended to wear a safety harness. One harness attachment ring is fitted on the work platform

Before entering the platform, you must be **THOROUGHLY** familiar with the area of operation, including the presence of over-head obstructions and power lines.

Be familiar with the location and use of the nearest fire extinguisher.

Always keep the platform clean, free of dirt, debris, and grease. Anyone entering the platform must first clean his shoes. Do not store flammable materials on the work platform.

Working

Do not use platform for any operation it was not designed for by the manufacturer. It is by definition intended to bring one person, tools and **NECESSARY** materials at overhead work locations not for handling bulk materials.

Do not use the work platform in dusty conditions unless it has been protected to this effect.

Keep all equipment, tools and materials used on the platform well organized and evenly distributed. Do not exceed rated platform capacity. Do not allow ropes, electrical cords and hoses to become entangled during operation. Never use guardrails to handle materials.

Operate the work platform cautiously, looking carefully in the direction of movement. Do not use the work platform in a dangerous manner.

Never operate the work platform outdoors or in areas exposed to the wind.

Do not use a high pressure cleaner or hose on the platform.

Avoid whenever possible to travel in areas presenting risks of objects falling on the platform occupant. Should this be impossible, you must wear all individual protections required by the regulations in force and by the employer safety rules.

Do not allow personnel on the ground to operate, service, or in any other way tamper with the work platform when the platform is occupied, except in an emergency situation where platform personnel are unable to fully lower and exit the platform.

If welding is being performed by an occupant of the platform, electrodes and holders must be protected from contact with metal components of the platform. Electronic components can be damaged during welding.

Use the following steps when shutting down the work platform:

- Lower the platform to ground level,

- **Depress both emergency stop switches,**

- Position the key switch to "0",

- Remove the key,

- DC models : Verify the electrolyte level in the battery and fill to appropriate level if necessary. Charge the battery (refer to paragraph 5.2.4)

- AC models : Unplug the machine from the AC power supply.

- Place the outriggers in the sockets provided,

- Park the work platform in a safe and sheltered area,

- Put the parking brake on.

In cold weather, never allow skin to directly contact metal surfaces. Do not park the work platform where the wheels can become frozen to the ground. Cold weather requires special starting procedures and ample time for hydraulic oil to warm-up. Keep the platform free of ice and snow.

4.1. Platform controls.

The upper control box is located on the platform.

a- Electrical control box.

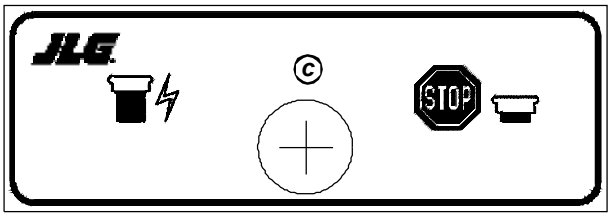
b - 230 V AC supply (Option).

c- Emergency Stop Switch : Pushing in on the switch removes all electrical power from the hydraulic unit, stopping all work platform functions. The switch must be turned by 1/4 turn before starting operation is resumed.

d - Enable switch (dead man type) : Pressing and holding the ENABLE switch while activating the UP or DOWN switches

e - Up switch : Pressing and holding the UP switch to raise the platform.

f - Down switch : Pressing and holding the DOWN switch to lower the platform.



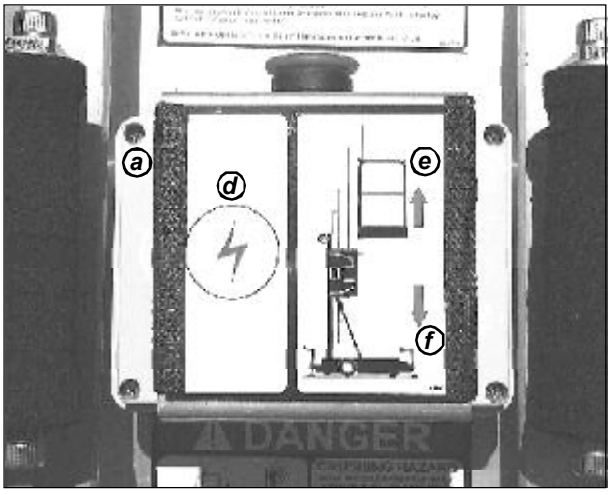


Fig. 4.1 - Upper control box.

4.2. Emergency and breakdown control panel.

The emergency and breakdown control panel is located on the side of the machine. It is used to operate the emergency and breakdown functions from the ground.

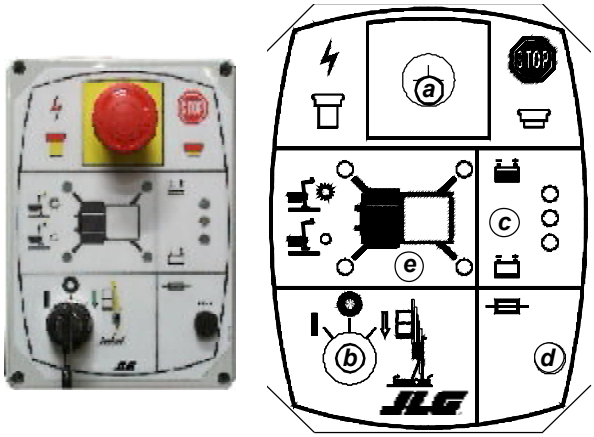


Fig.4.2 - Emergency and breakdown control decal (DC)

a - Emergency stop switch : Pushing in on the switch removes all electrical power from the hydraulic unit, stopping all work platform functions. The switch must be turned by 1/4 turn before starting operation is resumed.

b - Key switch : This switch is key operated :

- Positioning the switch to '**O**' removes all electrical power to the upper control box and emergency and breakdown control panel.
- Positioning the switch to '**I**' to operate the upper control box.
- Positioning and holding the switch to "**1**" to lower the platform using the electrical controls.

c - Battery discharge indicator
DC models : 3 LEDs
AC models : 2 LEDs

d - Fuse holders.

e - Outrigger indicator lights.

f - Manual emergency lowering valve (at front bottom of chassis) : Pull and hold this valve to lower the platform using the manual controls.

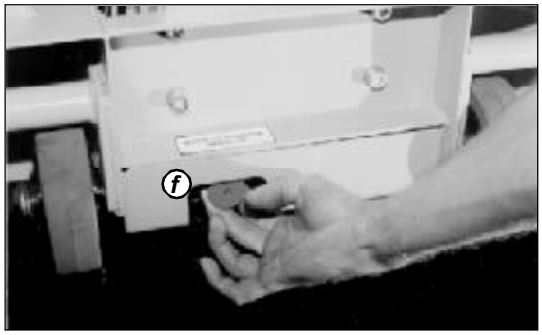


Fig.4.3 - Manual emergency lowering

5.1. Pre-Starting Checks, Set Up.

DANGER

Failure to properly service, maintain, and inspect this machine could result in death or serious injury.

DANGER

This machine is equipped with interlocks to prevent positioning the machine without a firm contact on the floor of the four outriggers. Do not tamper with or override interlocks.

DANGER

The serial number stamped on the end of the outriggers must be identical to the serial number stamped on the manufacturer's plate.

Position the machine on firm and level surfaces below the working location, making sure there are no obstacles or overhead obstructions.

A complete walk-around visual inspection of the work platform should always be made with special attention to structural damage, loose equipment, leaks, or other conditions that would require immediate correction for safety of operation.

5.1.1. Battery.

DC Models :

CAUTION

Operating the machine with insufficiently charged battery can cause damage to both the battery and the electrical motor.

CAUTION

New batteries do not have their full capacity until they have been cycled a few times. Nevertheless, to obtain the maximum battery life, a discharge below 80% of its capacity can damage battery element.

Check the state of charge of the batteries. Ensure the battery indicator light is green. Ensure the cables and clamps are tight and not corroded.

AC Models :

If the battery discharge indicator is orange, the autonomy of the auxiliary battery is not sufficient to lower the platform in case of power cut out.

5.1.2. 230 V supply (AC Models only).

Before operating the work platform :

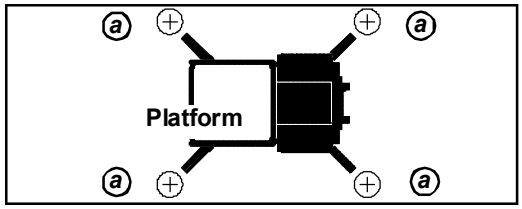
- Ensure the circuit breaker of the AC plug is in good working order.
- Connect the machine to a grounded 230V 16 A power supply. Ensure the extention cord is properly in place, will not create a tipping hazard with personnel on the ground, and will not get caught in the mast elements. To guarantee the performances and the service life of the AC models, the extensions used must conform to the following criterias :

Network voltage	Cable section	Corresponding maximum length
230 V	1,5 mm²	50 m
	2,5 mm²	100 m
115 V	1,5 mm²	25 m
	2,5 mm²	40 m
100 V	1,5 mm²	25 m
	2,5 mm²	40 m

- Ensure the 230 VAC supply (option) on the work platform is in good working order.

5.1.3. Outrigger System.

The outrigger indicator LED lights (***a***) are located on the emergency and breakdown control panel.



Release the lower emergency stop switch. Turn the key switch to "**I**" on the emergency and breakdown control panel. Unlock the upper emergency stop switch. Check that all indicator lights are off. If any one is lit, do not operate the machine. Do the necessary repairs following the procedure described in the Service Manual.

Pull the outriggers out of their storage socket, install them on the unit and ensure that all lock pins are properly locked in place.

The outrigger light indicators are on only when the outriggers are under load. Turn clockwise the screw jacks on the outriggers one at a time until the outrigger indicator lights are on : each light indicates the corresponding outrigger is properly locked and under load. If one light does not come on, verify that the outrigger is properly in place. If that outrigger is properly in place, refer to the Service Manual for necessary repairs.

NOTE

The UP switch remains disabled as long as any one of the four outrigger indicator lights is not on.

5.1.4. Levelling.

Level the machine with the screw jacks, using the bubble level located on the chassis. It is a spirit level type indicator. When the bubble is centered in the circle of the bubble level, the machine is level.

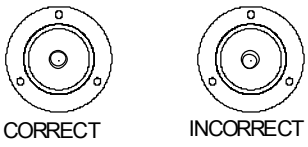


Fig. 5.1- Level indicator.

Check that all three wheels are slightly off the ground and all four outrigger indicator lights are on. Do not use the machine unless all four lights are on.

5.1.5. Control Operation.

1. Verify all switches on the Upper Control Box are operational,
2. Verify all switches on the Emergency and breakdown Control Panel are operational,
3. Verify the manual emergency lowering valve is operational.

5.1.6. Platform.

The platform can be repositioned to allow easier access : the platform can be entered in the front or from the sides.

DANGER

DO NOT remove the platform if it is not fully lowered.

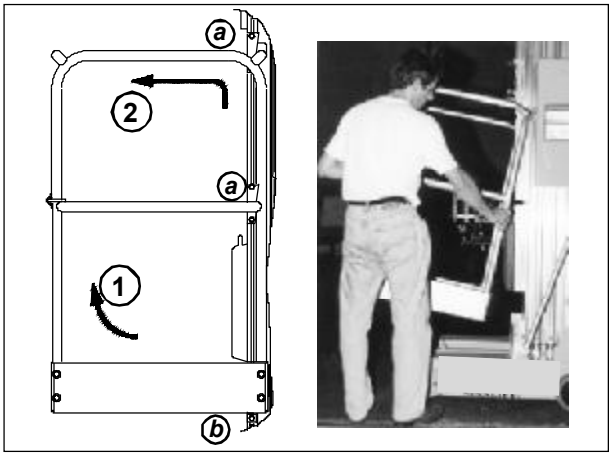


Fig. 5.2- Platform removal .

To remove the platform :

1. Loosen bolts and remove platform retainers ***(a)***.
2. Remove the two upper bolts ***(b)*** located on the bottom of the platform.
3. Lift and remove the platform in order and in the direction as shown in Fig. 5.2.

To install the platform :

Follow the above procedure in reverse order.

5.2. Operating Tips.

1. The rated capacity shown on the decal in the platform includes the total weight of the work platform occupant and the required tools to perform a desired task. DO NOT exceed this capacity.

2. Do not let the work platform remain idle for long periods of time. At least once a week, turn on the key switch and ensure all the functions of the work platform are in good working order. **AC Models : leave the machine plugged in the mains for one day to recharge the auxiliary battery.**

3. You should only operate the work platform after the pre-start checks and set up operations have been performed.

4. In cold climates, the higher oil viscosity will reduce the machine's performances (i.e. speed).

5.2.1. Starting procedure.

DANGER

Do not raise the platform unless the chassis is levelled, the outriggers are properly installed and are under load.

DANGER

Beware of conditions that could adversely affect machine stability. Death or serious injury could result from tip-over.

DANGER

Ensure that the load on the platform is secured and evenly distributed.

DANGER

The work platform must not be operated unless all controls are functioning properly.

DANGER

Death or serious injury could result from falling out of the platform. Do not operate the work platform unless all platform railing, platform and gates are in place and secured. Maintain a firm footing on platform floor at all times.

DANGER

Do not operate work platform when exposed to wind and other side forces.

DANGER

Death or serious injury could result from crushing or other external contacts. Be aware of surroundings at all times while elevating and clear all personnel and obstacles from the platform before lowering the mast. Do not position platform into overhead obstruction.

DANGER

Before operating the machine, inspect the worksite and ground conditions where the machine will be moved.

DANGER

Operate the machine only on firm and level ground. Do not move or position the platform near holes or other obstacles which could cause abnormal stresses on the work platform and even cause it to tip over.

DANGER

Do not operate the machine in an atmosphere presenting risks of explosion (volatile gazes, fine dust, etc...

DANGER

Do not set the work platform on surfaces on which the platform cannot be leveled.

1. Enter the platform and close the gate.
2. Ensure the EMERGENCY STOP switch on the upper control box is unlocked.
3. Depress and hold the ENABLE switch (with the left hand) and
4. Depress and hold the UP or DOWN switch (with the right hand) to raise or lower the platform.
5. The lower control box includes a battery discharge indicator. It keeps the state of charge of the battery in memory.

DC Models : Start up as soon as the emergency stop on the emergency and breakdown control panel is released. Check the battery discharge indicator on the lower control box regularly :

- **Green :** The battery is between full charge and 70% discharge,
- **Orange :** The battery is between 70% and 80% discharge. The battery must be charged.
- **Red :** The battery is below 80% discharge. The battery must be charged. Do not use the machine as it will result in damage to the battery elements.

AC Models : Check the condition of the emergency battery when connecting the machine to the power supply.

- **Green :** Sufficient autonomy to perform a complete platform lowering in case of power supply cut-off.
- **Orange :** Insufficient autonomy (the platform lowering is disabled in case of power cut-off). Charge the battery (24h for a complete charge) keeping the lower emergency push button pulled.

5.2.2. Emergency stop.

NOTE

Emergency shutdown is accomplished by depressing the EMERGENCY STOP switch. Pushing in on the EMERGENCY STOP (emergency and breakdown control panel) removes all electrical power from the controls and all work platform functions. The EMERGENCY STOP (on the upper control box) cuts the power supply from the platform functions.

- Push the EMERGENCY STOP switch to cut off the electrical power supply.

If the lower emergency stop switch has been depressed, and after the problem has been eliminated, to resume operations :

- Turn the key switch to "**O**".
- Unlock the lower emergency stop switch,
- Turn the key switch to "**I**"

CAUTION

Before restarting, you must eliminate the problem which caused the emergency stop.

5.2.3. Operation from the ground.

NOTE

The emergency and breakdown control box controls should be checked every day prior to work platform operation.

DANGER

Operate emergency and breakdown controls only when operator is unable to use upper controls. Failure to do so may result in death or serious injury.

DANGER

Use extreme caution when operating the work platform from the emergency and breakdown control box. If possible, obtain permission from the operator in the platform before using the emergency and breakdown controls.

- **To lower the platform in emergency mode :**
  - Turn and hold the key to " " on the emergency and breakdown control box to lower the platform.
- **To lower the platform from lower controls in manual mode:**
  - Depress the lower emergency stop switch.
  - Pull and hold the red MANUAL LOWERING VALVE located on the front bottom of machine chassis.

5.2.4. Shut Down Procedure.

1. Depress the upper control box emergency stop once the platform has been fully lowered.
2. Exit the platform.
3. **Depress the lower emergency stop switch.**
4. Turn the keyed ignition switch on the emergency and breakdown control box to the "**O**" position and remove the key.
5. **DC models** : Charge the battery.

CAUTION

Use only the integrated charger to charge the battery.

a. Connect the charger to a grounded power supply.

- If the charge condition indicator is not lit, unplug the charger from the power supply and refer to the Service Manual for necessary repairs.
- The charge condition indications are :
  - **red led** : 1st charge cycle.
  - **Orange led** : 2nd charge cycle. Duration of the cycle : approximately 4 hours. Battery charge > 80%.
  - **green led** : battery fully charged. This indicator stays lit as long as the charger is connected to the power supply (a maintenance charge occurs).

b. Disconnect the charger from the power supply.

c. When the battery is fully charged, refill the battery elements with distilled water up to the bottom of the filling tube. **DO NOT OVERFILL**.

CAUTION

Refill the battery with distilled water only.

6. **AC models** : Unplug the machine from the AC power supply.

5.3. Daily Check List.

The following checklist items are suggested specifically for the operator's benefit to ensure the work platform is prepared for starting the day's work.

- Controls,
- Safety devices (emergency stops)
- Hydraulic system operation and absence of leaks,
- Electrical wiring and cables,
- Outriggers and frame structure,
- Wheels and caster,
- Lifting chains and pulleys,
- Mast and slide blocks,
- Mast back up system,
- Guardrails,
- Hydraulic oil level,
- Loose or missing parts,
- Decals and Operator's and Safety handbook,
- The tilt Back frame's good working order.

6.1. Loading Machine on a Pickup Truck.

WEIGHT	
P20AC P20DC	345 kg. 360 kg.
P21AC P21DC	330 kg. 345 kg.
P25AC P25DC	365 kg. 380 kg.
P30AC P30DC	405 kg. 420 kg.
P35AC P35DC	435 kg. 450 kg.
P40AC P40DC	500 kg. 515 kg.

LOADING PIVOT HEIGHT		
Maximum	P20 - P25 - P30 - P35	94 CM
	P40	84 CM
	P21	78 CM
Minimum	P20 - P25 - P30 - P35 - P40	61 CM
	P21	45 CM

DANGER

- **Check that the capacity of the truck and of the tailgate exceeds the weight of the machine.**
- **Ensure that all machine components are properly in place and secure and cannot fall or prevent loading.**
- **Load the machine on a pickup truck only on level ground. Ensure the pick up truck is level**
- **Make sure the brakes of the truck are on.**

- Fully lower the platform.
- Depress both emergency stop switches and remove the key.
- Store the outriggers in their storage sockets.
- Slide the stop bracket (***a***) to the top lock position.
- Hook the loading pivot (***b***) to the stop bracket (***a***).

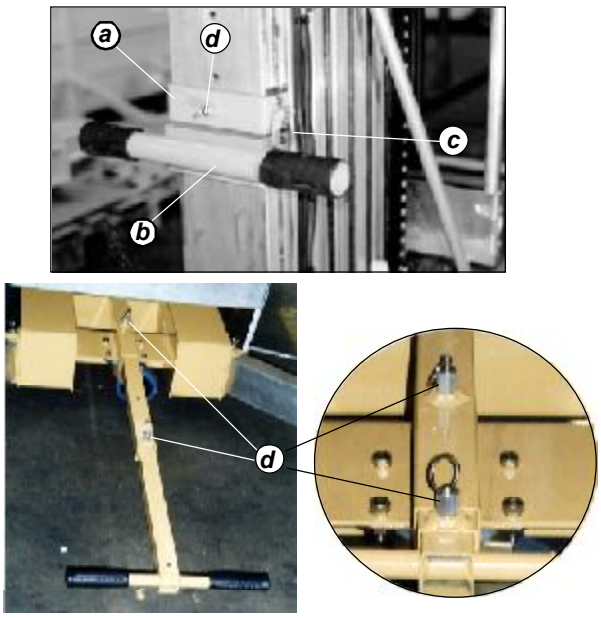


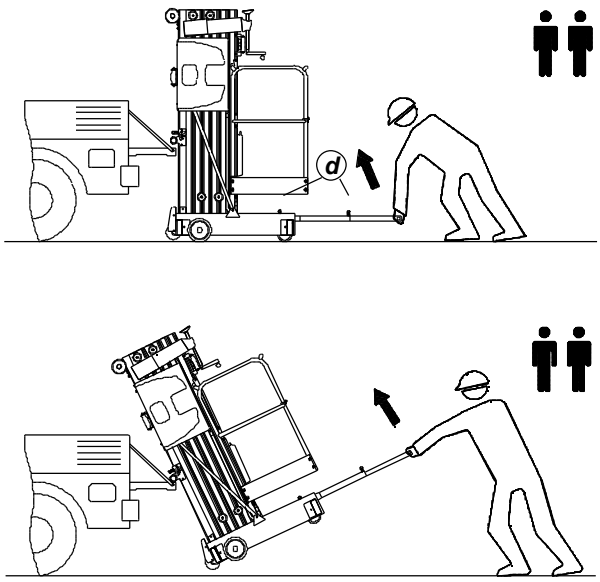
Fig. 6.1. Loading system.

- Bring the masts of the machine against the tail gate.
- Adjust the loading pivot and stop bracket to be approximately 50 mm above the tail gate.
- Extend the T-handle (double extention).

CAUTION

Make sure all the locking pins (*d*) are fully locked.

- Lift the T handle to tilt the machine onto the loading surface.



P20-P21-P25-P30 Models : 2 persons **recommended**
P35-P40 Models : 2 persons **mandatory**

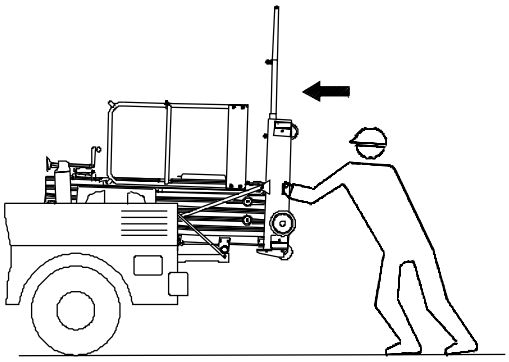


Fig. 6.2. Loading on a pick up.

- Push the machine until it rests completely on the bed of the truck.
- Retract the T-handle.
- Secure the machine base and mast firmly on the truck with ropes.

To unload, proceed in the reverse order.

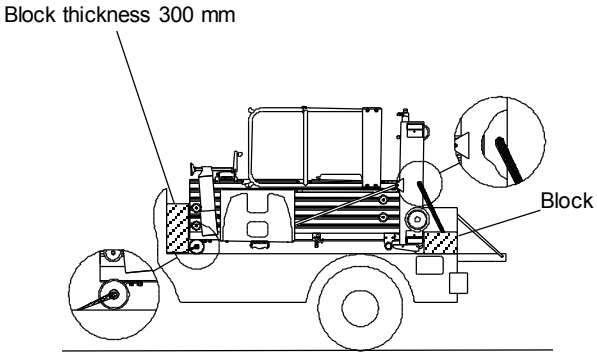


Fig. 6.3. Securing on the pick up bed.

6.2. Using a fork lift.

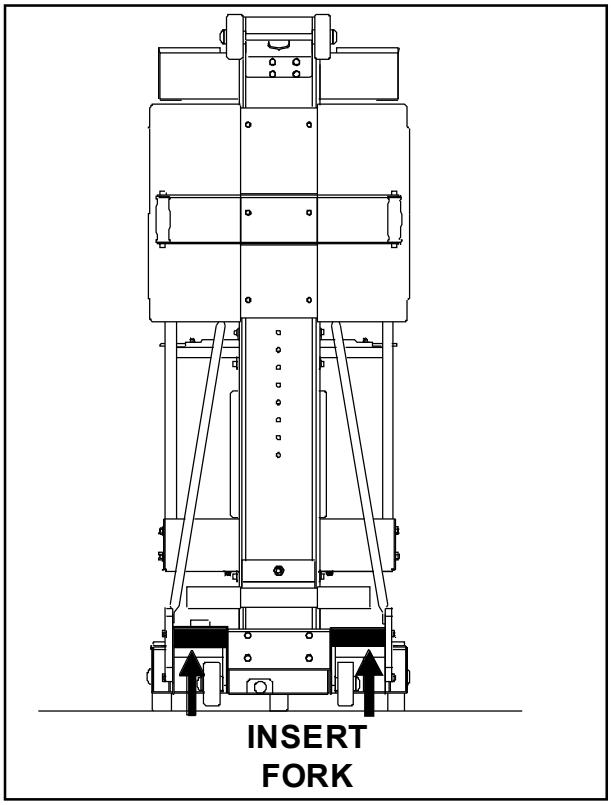


Fig. 6.4 - Positioning the forks of the fork lift.

DANGER

- **Check the capacity of the fork-lift truck and its equipment.**
- **Position the fork lift's forks as shown in Fig.6.4.**
- **Any other position of the forks will cause the machine to tip over.**
- **No personnel allowed on the platform during the loading or unloading operation.**
- **Do not stay in the evolution zone of the fork lift truck during manoeuvre.**
- **Do not load the machine on a pick up truck with a fork lift truck.**

This operation can only be done by 2 persons :
- One person to guide and hold the machine,
- The other to drive the fork lift truck.

The mast of the fork lift truck must be tilted back to secure the machine on the forks.

6.3. Using a truck with a tailgate.

⚠ CAUTION

Check the capacity of the tailgate.
Position the machine in the center of the tailgate to distribute the load evenly.
No one should be on the platform or on the tailgate during the loading, towing, or unloading operation.

6.4. Fastening on the bed of a truck.

- Chock the wheels in both directions (Fig. 6.5).
- Tie down and chain the machine securely (Fig. 6.5).

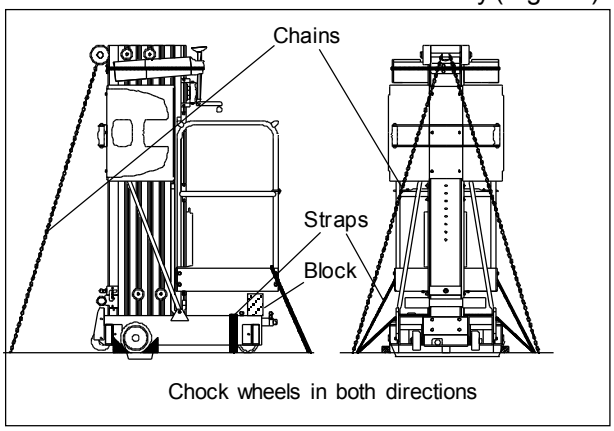


Fig. 6.5 - Transport instructions.

6.5. Lifting the machine.

⚠ CAUTION

Check the capacity of the equipment used to lift the machine.

⚠ DANGER

Do not stay in the lifting area.

⚠ DANGER

Ensure that all machine components are fully in place and secure and cannot fall from the machine.

Fig. 6.7 - Lifting point.

NOTES

	Verification interval WEEKLY																							
OPERATIONS TO BE DONE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Date																								
Hydraulic oil level check Battery water level check **VISA**																								

	Verification interval MONTHLY					
OPERATIONS TO BE DONE	1	2	3	4	5	6
Date Absence of hydraulic leaks check						
Mechanical check						
Electrolyte density measure per battery cell						
Electrical motor cleaning						
Battery tray cleaning						
VISA						

	Verification interval BI-YEARLY					
OPERATIONS TO BE DONE	1	2	3	4	5	6
Date						
Safety mechanisms check						
Lift cylinder check						
Hydraulic circuit general pressure check						
Check of electrical safety devices						
VISA						

	Verification intervals 18 MONTHS											
OPERATIONS TO BE DONE	1	2	3	4	5	6	7	8	9	10	11	
Date												
Hydraulic circuit oil change												
Oil filter cleaning												
VISA												

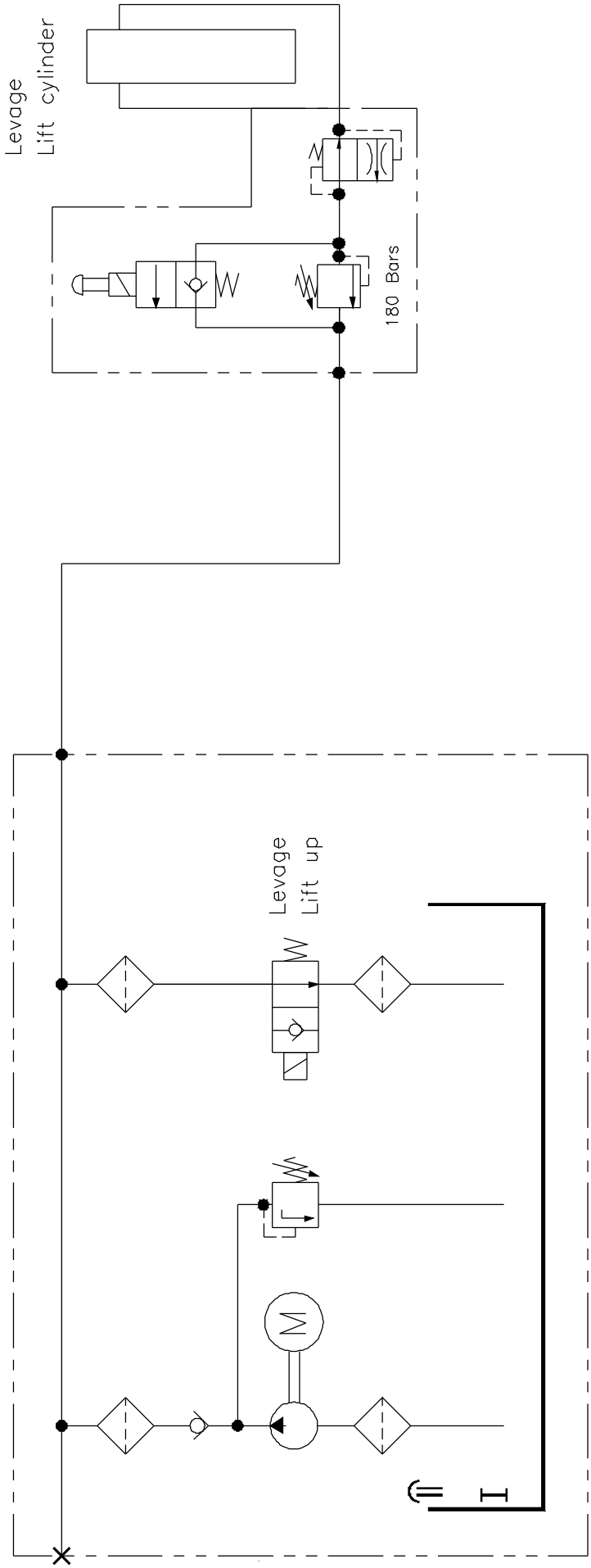
Verification interval WEEKLY																							
25 26	27 28	29 30	31 32	33 34	35 36	37 38	39	40	41	42	43	44	45	46	47	48	49	50	51	52

Verification interval MONTHLY						
	7	8	9	10	11	12	

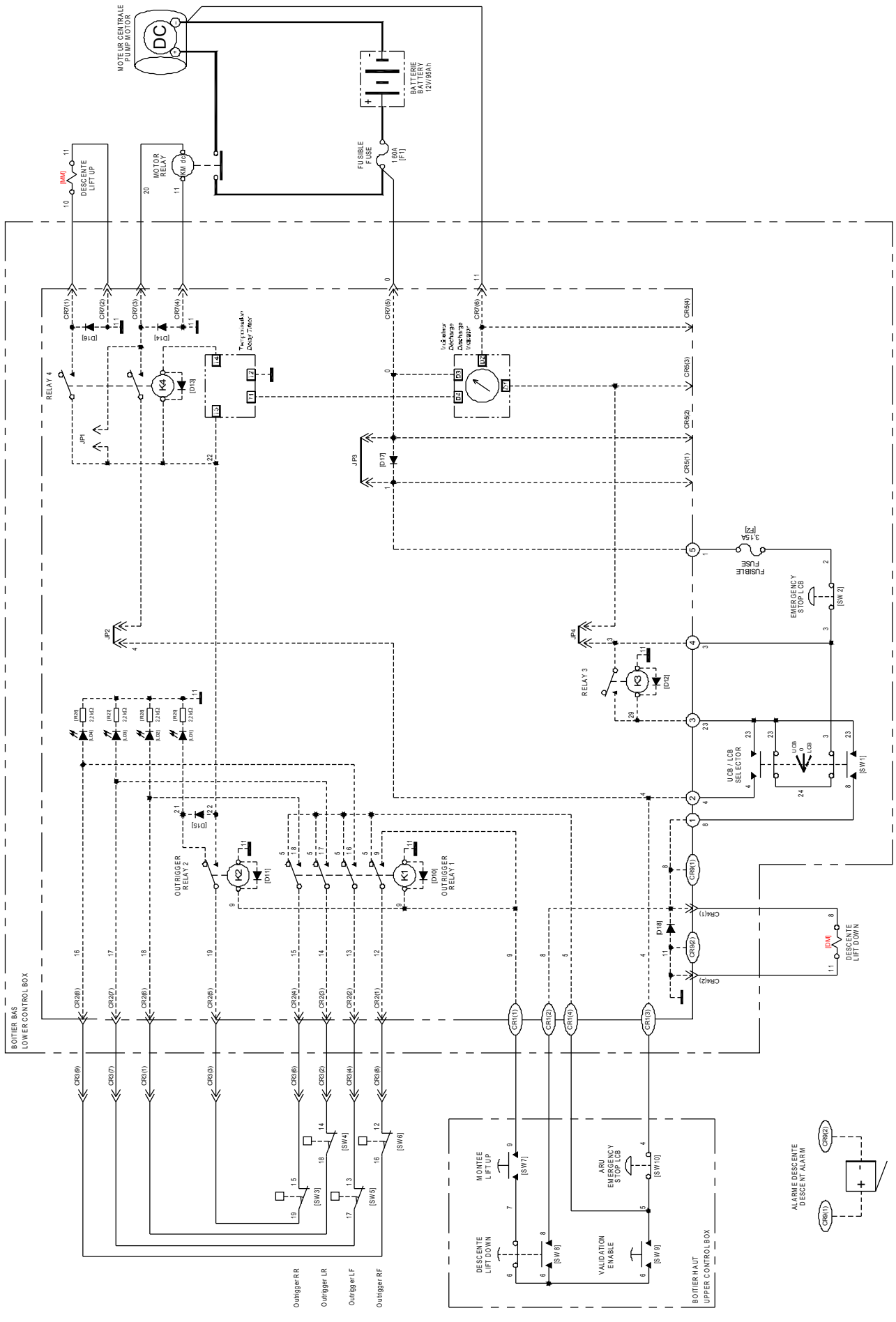
Verification interval BI-YEARLY						
	7	8	9	10	11	12	

Verification interval 18 MONTHS												
12	13	14	15	16	17	18	19	20	21	22	23	24	

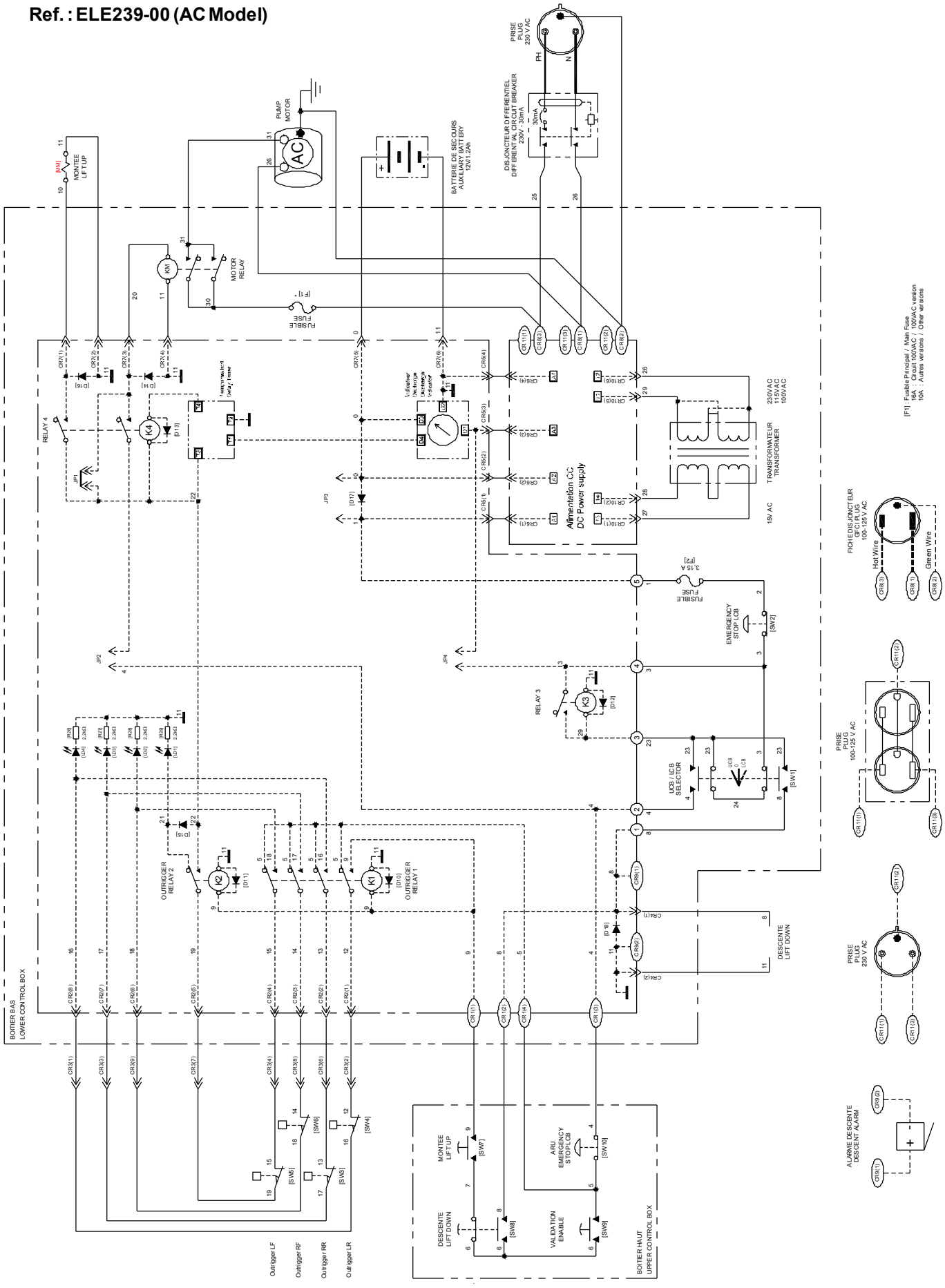
Ref. : FL0096-00



Ref. : ELE238-00 (DC Model)



Ref. : ELE239-00 (AC Model)



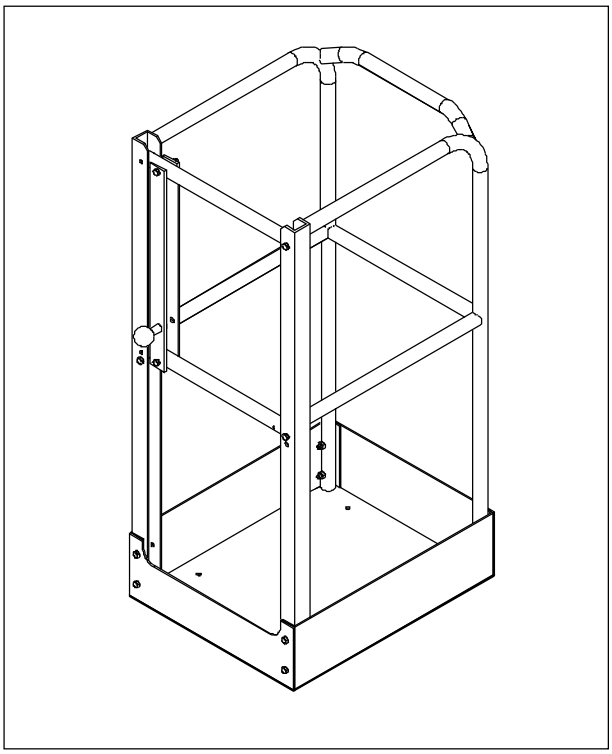
10.1. Extinguisher.

The platform can be fitted with a fire extinguisher on the side of the control box.

10.2. Narrow platform.

The machine can be fitted with a small platform to gain access to narrow overhead passageways.

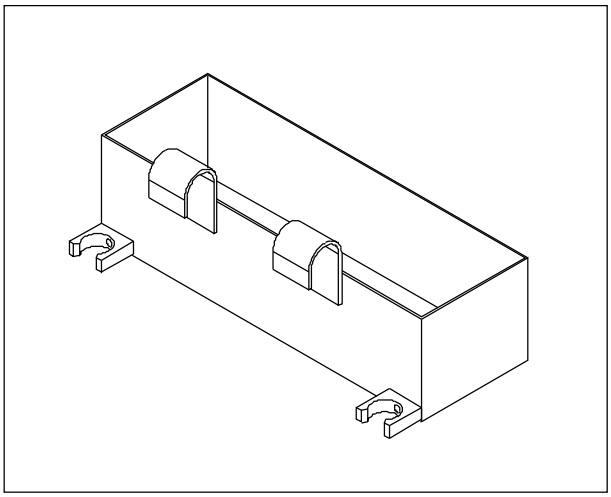
Dimensions of the basket : 56 x 46 cm.
56 x 56 cm.



10.3. Tool tray.

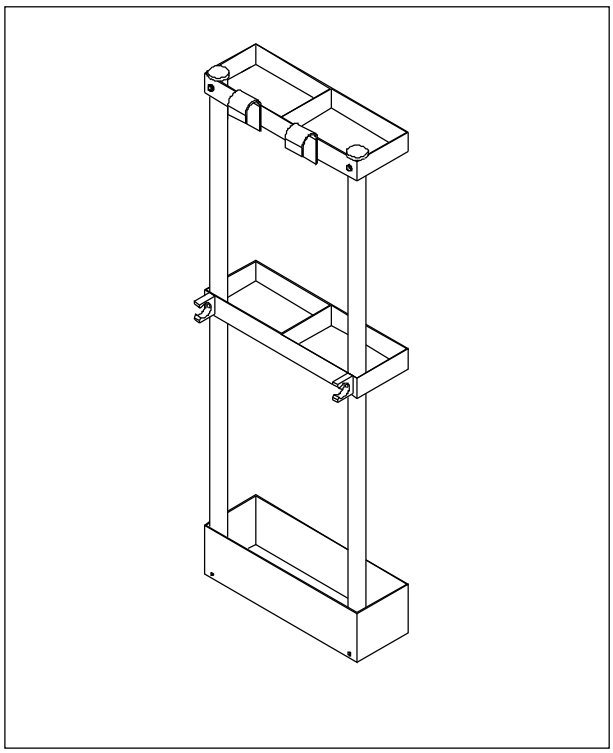
The machine can be fitted with a tool tray to facilitate storing of tools in the platform.

Dimensions of the tray : 36 x 12 x 10 cm.



10.4. Tube holder.

The machine can be fitted with a neon tube holder to facilitate transport of tubes to the overhead work location.



NOTES