

# OPTIMUM 8 - OPTIMUM 1931 E

## Operator's manual

OPTIMUM 8 - OPTIMUM 1931 E

4001058450

E 12.19

USA / GB





**A****FOREWORD**

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# A - Foreword

You have just purchased a HAULOTTE® product and we would like to thank you for your business.

The aerial work platform is a device for lifting people designed and manufactured with the intent to enable users to access overhead elevated temporary workplaces with the necessary tools and equipment. All other uses or alterations/modifications to the aerial work platform must be approved by HAULOTTE®.

This manual shall be considered a permanent component of the machine and shall be kept with the aerial work platform in the designated Manual Holder, at all times.

Safe operation of this product can only be assured if you follow the operating instructions contained in this manual. To ensure proper and safe use of this equipment, it is strongly recommended that only trained and authorized personnel operate and maintain the aerial work platform.

We would particularly like to draw your attention to 2 essential points :

- Comply with safety instructions.
- Use the equipment within the specified/published performance limits.

With regard to the designation of our equipment, we stress that this is purely for commercial purposes and not to be confused with the technical specifications. Only the specifications in this manual should be used to study the suitability of the equipment for the intended use.

This operator's manual is specific to the HAULOTTE® products listed on the cover page of this manual.



**Original language and version :**

**Manuals in English and French are the original instructions. Manuals in other languages are translations of the original instructions.**

The operator's manual does not replace the basic training required for equipment operators. HAULOTTE® has compiled this manual to assist in safe and efficient operation of the products covered in the manual.

The manual must be available to all operators and must be kept in a legible condition. Additional copies can be ordered from HAULOTTE Services®.

Stay Safe and keep working with HAULOTTE® !

# A - Foreword

## 1 - User responsibility

### 1.1 - OWNER'S RESPONSIBILITY

The owner (or hirer) has the obligation to :

- To inform operators of the instructions contained in the Operator's Manual.
- For applying the local regulations regarding operation of the machine.
- To replace all manuals or decals that are either missing or not legible. Additional copies can be ordered from HAULOTTE Services®.
- To establish a preventive maintenance program in accordance with the manufacturer's recommendations, taking into account the environment and severity of use of the machine.
- To perform periodic inspections in accordance with HAULOTTE® recommendations and local regulations.

All malfunctions and problems identified during the inspection shall be corrected before the aerial work platform is returned to service.

### 1.2 - EMPLOYER'S RESPONSIBILITY

The employer has the obligation :

- To authorize the operator to use the machine.
- To inform and familiarize the operator with the local regulations.

Forbid anyone from operating the machine if :

- Under the influence of drugs, alcohol, etc.
- Subject to fits, loss of motor skills, dizziness, etc.

### 1.3 - TRAINER'S RESPONSIBILITY

The trainer must be qualified to provide training to operators in accordance with applicable local regulations. The training must be given in an obstacle-free area until the trainee is considered competent as defined by the training program undertaken.

# A

## - Foreword

### 1.4 - OPERATOR'S RESPONSIBILITY

The operator has the obligation to :

- Read and understand the contents of this manual and familiarize himself with the decals affixed on the machine.
- To inspect the machine before use according to HAULOTTE®'s recommendations..
- Inform the owner (or hirer) if the manual or any decals are missing or are not legible.
- To inform of any malfunctioning of the machine.

Operators must ensure that the inspections have been carried out by the owner and that they can use the machine for the purpose intended by the manufacturer.

Only authorized and qualified operators may operate HAULOTTE® machines.

All operators must become familiar with and fully understand the emergency controls and be able to operate the machine in an emergency.

The operator has the obligation to stop using the machine in the event of malfunction or safety problems on the machine or in the work area and report the problem immediately to his/her supervisor.

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## - Foreword

## 2 - Safety

### 2.1 - SAFETY INSTRUCTIONS

#### 2.1.1 - Misuse Hazards

- Do not use the machine for other purposes than to lift people, their tools and equipment to the desired position.
- Do not use the machine as a crane, material lift or elevator. Only use the machine as it was intended.
- Do not attach overhanging loads when raising or lowering the platform.
- Do not tie the platform to an adjacent fixed or mobile structure.
- Do not use/operate the machine when alone. A survey person or immediate Supervisor must be present on the ground in case of emergency.
- Do not use a faulty or poorly maintained machine. Remove defective/damaged machine from service.
- Do not climb onto the compartment covers of the machine.
- Do not replace items critical to machine stability with items of different weight or specification.
- Do not replace factory-installed tires with tires of different specifications or ply rating.
- Do not alter or disable machine components that in any way affect safety and stability.
- Do not disable the safety devices.
- Do not deface, modify or obscure any decals or markings on the aerial work platform.



# A - Foreword

## 2.1.2 - Falling Hazards

### To enter or exit from the platform :

- The machine must be completely stowed.
- Face the machine to access the entry opening to the platform.
- Keep 3 points of contact (both hands and a foot) on the steps and the guardrail.



### Before commencing operation :

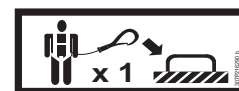
- Ensure that guard rails are correctly installed and secured.
- Ensure that gate or sliding bar is in its proper closed position.



- Remove oil or grease from the steps, floor, handrail and the guardrails.
- Clean the floor of the platform (no debris).

### When in the platform :

- If local regulations require the wearing of a harness, use only the anchor points provided for this purpose.
- The correct use of the harness requires the lanyard to be connected to an anchorage point designated by the decals. Refer to this decal located on the platform.
- Hold on securely to the guardrails.
- Always keep your feet firmly on the floor of the platform.
- Do not sit, stand, or climb on the platform guard rails.
- Do not lean over the guard rails or climb over them. Only work in the platform area within the guard rails.
- Do not exit the platform until it is in the completely stowed position.
- Do not use the guardrail as a means of access to climb in or out of the platform.



# A - Foreword

## 2.1.3 - Overturning / Tip-over Hazards

### Before positioning and operating the machine :

- Ensure that the surface is capable of supporting the machine weight including the rated capacity.
- Do not exceed the maximum rated capacity that includes the weight of both material and allowed number of occupants. Do not exceed the allowable number of occupants.
- Do not increase the working height (using extensions, ladder, etc.).
- Do not place ladders or scaffolds in the platform or against any part of this machine.
- Place the loads uniformly distributed on the platform floor.
- Do not use the machine in winds exceeding the permissible limit.
- Do not increase the surface area of the platform exposed to wind. This includes adding panels, mesh, banners. Be aware when working with materials with a large surface area. This will add to the wind load on the machine.
- Do not raise the platform or drive with platform elevated on an incline exceeding the rated slope for the machine.
- Do not drive the machine on slopes or grades exceeding the specified limits.
- Do not replace components critical to stability with components of different weight or specification.
- Never use the machine with material or objects suspended from the guard-rail.
- Do not pull or push towards any object outside of the platform. Do not exceed the maximum allowable side force stated in the performance specifications.
- Do not use the machine to support any external structure.
- Do not use the machine to tow other machines or to drag materials.



# A - Foreword

## Using a machine on a slope



Do not drive the machine on slopes with gradients exceeding the authorised transversal and lateral limits for the machine.  Section B 4.1 - Technical specifications.

**WIND** : The aerial work platform can operate up to a maximum wind speed as indicated in the specifications. To identify the local wind speed, use the Beaufort scale below, use a wind gauge or an anemometer.

**N.B.:-THE BEAUFORT SCALE OF WIND FORCE IS ACCEPTED INTERNATIONALLY AND IS USED WHEN COMMUNICATING WEATHER CONDITIONS. A WIND SPEED RANGE AT 10 M (32 FT 9 IN) ABOVE FLAT, CLEAR LAND IS ASSOCIATED WITH EACH DEGREE.**

Beaufort scale

| Force | Meteorological description | Observed effects                                                                           | m/s         | km/h    | mph           |
|-------|----------------------------|--------------------------------------------------------------------------------------------|-------------|---------|---------------|
| 0     | Calm                       | Smoke rises vertically.                                                                    | 0 - 0,2     | 0 - 1   | 0 - 0,62      |
| 1     | Very light breeze          | Smoke indicates the wind direction.                                                        | 0,3 - 1,5   | 1 - 5   | 0,62 - 3,11   |
| 2     | Light breeze               | Wind felt on the face. Leaves rustle. Weather vanes turn.                                  | 1,6 - 3,3   | 6 - 11  | 3,72 - 6,84   |
| 3     | Slight breeze              | Leaves and small twigs in constant motion. Flags move slightly.                            | 3,4 - 5,4   | 12 - 19 | 7,46 - 11,8   |
| 4     | Nice breeze                | Raised dust and loose papers. Small branches are moved.                                    | 5,5 - 7,9   | 20 - 28 | 12,43 - 17,4  |
| 5     | Nice breeze                | Small trees in leaf to sway. Crested wavelets form on inland waterways.                    | 8,0 - 10,7  | 29 - 38 | 18,02 - 23,6  |
| 6     | Cool wind                  | Large branches in motion. Power lines and chimneys 'sing'. Umbrellas used with difficulty. | 10,8 - 13,8 | 39 - 49 | 24,23 - 30,45 |
| 7     | Near gale                  | Whole trees in motion. Inconvenience felt when walking against wind.                       | 13,9 - 17,1 | 50 - 61 | 31 - 37,9     |
| 8     | Gale                       | Some branches break. Generally we cannot walk against the wind.                            | 17,2 - 20,7 | 62 - 74 | 38,53 - 45,98 |
| 9     | Strong gale                | The wind causes slight damage to buildings. Tiles and chimney stacks are blown off.        | 20,8 - 24,4 | 75 - 88 | 46,60 - 54,68 |

# A - Foreword

## 2.1.4 - Electrocution Hazards

The machine is not electrically insulated and does not provide protection from contact or proximity to electrically charged conductors.

Always position the lift at a safe distance from electrically charged conductors to ensure that no part of the machine is within an unsafe area.

Respect the local rules and the minimum safety distance from power lines.

**Minimum safe approach distances**

| Electric voltage | Minimum safety distance |      |
|------------------|-------------------------|------|
|                  | Mètre                   | Feet |
| 0 - 300 V        | Avoid contact           |      |
| 300 V - 50 kV    | 3                       | 10   |
| 50 - 200 kV      | 5                       | 15   |
| 200 - 350 kV     | 6                       | 20   |
| 350 - 500 kV     | 8                       | 25   |
| 500 - 750 kV     | 11                      | 35   |
| 750 - 1000 kV    | 14                      | 45   |

**N.B.:-USE THIS TABLE EXCEPT WHERE LOCAL REGULATIONS INDICATE OTHERWISE.**

- Do not operate the machine when close to live power lines, consider the movement of the machine and the sway of the electric power lines particularly in windy conditions.
- Do not operate the machine during lightning, thunderstorms, snow/ice or any weather condition that could compromise operator safety.
- Do not use the machine as a ground for welding.
- Do not weld on the machine without first disconnecting the battery terminals.
- Always disconnect ground cable first.
- The machine must not be used while charging the batteries.
- When using the platform AC power supply, ensure it is protected with a circuit breaker and residual current device.

Keep away from the machine if it contacts energized power lines. Personnel on the ground or in the platform must not touch or operate the machine until energized power lines are shut off.



# A - Foreword

## 2.1.5 - Explosion / Fire Hazards

Always wear protective clothing and eye wear when working with batteries and power sources/systems.

**N.B.:-ACID IS NEUTRALIZED WITH SODIUM BICARBONATE AND WATER.**

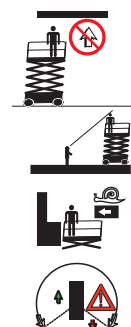
- Do not work on or operate a machine in an explosive or flammable atmosphere / environment.
- Do not touch hot components.
- Do not bridge the battery terminals with metallic objects.
- Do not service the battery in proximity of spark, open flame, lit cigarettes.
- ALWAYS avoid contact with battery acid. Battery acid causes serious burns and should be kept away from skin or eyes. If contact occurs, flush with water and consult a physician immediately.



## 2.1.6 - Crushing / Collision Hazards

### When in the platform :

- Check the work area for overhead clearance, for any obstacles besides and below the platform when raising/lowering the platform and or before driving.
- During movement, keep all the parts of the body inside the platform. Hold onto the guardrails on the opposite side to any surrounding structures. Take care to avoid trapping hands whilst holding the guardrails.
- To position machine close to a building/structure, use extension deck feature, instead of driving machine closer to structure.
- Always cordon off the area around the base of the machine to keep personnel and other equipment away from the machine while in use.
- Warn personnel not to work, stand, or walk under a raised boom/platform.
- Do not drive in reverse direction (opposite the field of vision).
- Always ensure that the chassis is never driven any closer than 1 m (3 ft 3 in) to holes, bumps, slopes, obstructions, debris and ground coverings that may hide holes and other dangers.
- Keep non-operating personnel at least 5 m (16 ft 5 in) away from the machine when driving.



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## - Foreword

- Be aware of driving direction.
  - Check the driving direction with the help of the red or green arrow on the chassis relative to the red and green arrows on the platform control box.
  - Also note that when changing the driving direction (Forward <> Reverse) the joysticks or switches must return to the neutral position before reversing the drive direction and for movement to occur.
- When driving, position the platform so as to provide the best possible visibility and to avoid any blind spots.
- Hold on securely to the guardrails.
- Occupants must wear a safety harness, in accordance with local regulations. Attach the lanyard to the designated fall restraint anchor provided in the platform.
- Lanyard must be attached to the designated anchorage point.
- Avoid contact with fixed or mobile obstacles (other machines).
- Other machines (crane, aerial work platform, etc.) operating in the work area increase the risk of crushing or collision. Restrict the operation of machines moving within the aerial work platform work area.
- Take into consideration the stopping distance, reduced visibility and blind spots of the machine.
- Limit travel speed to suit the ground surface condition, slope (incline), and people in the vicinity.

### 2.1.7 - Uncontrolled movement Hazards

Never use a damaged or malfunctioning machine.

Always respect the following rules :

- Maintain clearance from high voltage lines.
- Maintain clearance from generators, radar, electromagnetic fields.
- Never expose the batteries or electrical components to water (high pressure washer, rain).

# A - Foreword

## 3 - Safety inquiries

Inquiries relating to design criteria/specifications of a product, standards compliance, or overall machine safety should be sent to the HAULOTTE® PRODUCT SAFETY department.

Each inquiry or request should include all relevant information; including contact name, telephone number, mailing address, email address, plus the machine model and serial number.

The HAULOTTE® Product Safety department will evaluate each request/inquiry and will provide a written response.

## 4 - Incident notification

Notify HAULOTTE® immediately when a HAULOTTE® product has been involved in an incident/accident leading to personal injury or death, or when there is a major property damage.

Connect to our website :



# A - Foreword

## 5 - Compliance

### 5.1 - PRODUCT MODIFICATION

It is strictly forbidden to modify a HAULOTTE® product. Any modification may violate Haulotte design parameters, local regulations and industry standards.

All modifications must be submitted in writing (form) and approved by the manufacturer.

Do not hesitate to contact HAULOTTE Services®, should you have any questions relating to the issued bulletin(s) or with questions on the policy itself.

#### 5.1.1 - Implementing manufacturer safety campaigns

It is essential to implement the safety campaigns issued by the manufacturer. All of these campaigns are accessible on our website.

Connect to our website :



**Never place a machine on the market without having applied the Safety Bulletins.**

# A

## - Foreword

### 5.2 - PRODUCT SPECIFICATIONS

HAULOTTE® cannot be held liable for any changes to the technical characteristics/specifications contained in this manual. HAULOTTE® has a continuous improvement policy in place for its product range. Given this policy, the Company reserves the right to modify products technical characteristics / specifications without notice.

Certain options/accessories can modify the machine's operating characteristics and its' associated safety. If your machine was originally delivered with options fitted, replacing a safety component associated with a particular option does not require any particular precaution other than those associated with the installation itself (static test).

Otherwise, it is essential to follow the manufacturer's recommendations as stated below :

- Installation by authorised HAULOTTE® personnel only.
- Update the manufacturer's identification plate.
- Have stability tests carried out by a certified agency/competent person.
- Ensure decals are updated.

### 5.3 - CHANGE OF OWNERSHIP NOTIFICATION

It is important and necessary to keep HAULOTTE Services® updated with current ownership of the machine. This way, HAULOTTE® will be able to provide the necessary support for the product. If you have sold or transferred this machine(s); it is your responsibility to notify HAULOTTE Services®. It is not required to include Lessees/Renters of Leased/Rented machines on this form.

Connect to our website. :



# A - Foreword



## Notes

[illegible]

# B - Familiarization

## 1 - General safety

### 1.1 - INTENDED USE

Do not operate the product in the following situations :

- On soft, unstable or cluttered ground.
- With wind blowing faster than the permissible limit :
  - Check the allowable wind speed specified in the performance specifications tabulation.
  - Consult the Beaufort scale.
- Close to power lines. Keep a safe distance.
- If the machine is stored at a temperature out of range - 20°C / + 50°C (- 4°F / + 122°F).
- In an explosive atmosphere / environment.
- During storms.
- In the presence of strong electromagnetic fields.

***N.B.-:USE THE MACHINE UNDER "NORMAL" CLIMATIC CONDITIONS. IF YOU NEED TO USE THE MACHINE IN CLIMATIC CONDITIONS LIKELY TO CAUSE DETERIORATION (EXTREME : HUMIDITY, TEMPERATURES, SALINITY, CORROSIVENESS, ATMOSPHERIC PRESSURE), CONTACT HAULOTTE SERVICES®. REDUCE INTERVALS BETWEEN SERVICING.***

***N.B.-:WHILE THE MACHINE IS NOT IN USE, CARE MUST BE TAKEN TO BRING THE MACHINE TO THE FULLY STOWED POSITION. ENSURE THAT THE MACHINE IS LOCKED IN A SECURE LOCATION, AND THE CONTROL KEY IS REMOVED TO PREVENT UNAUTHORISED USE OF THE MACHINE.***

# B - Familiarization

## 1.2 - DECAL CONTENT

Decals are provided to alert the user of hazards inherent with the Aerial Work Platforms.

Decals provide the following information :

- The level of severity.
- The specific hazard.
- A method to avoid, suppress or reduce the hazard.
- Descriptive text (where required).

Familiarize yourself with the decals and the hazard severity levels.

Decals must be kept in good legible condition.

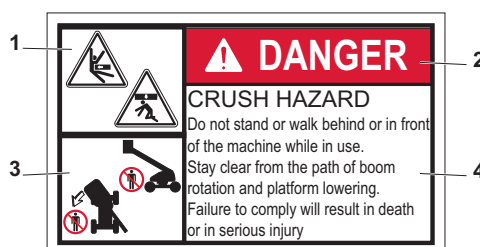
Familiarize yourself with the decals and their respective color codes.

Additional decals can be ordered from HAULOTTE Services®.

### CE and AS standards



### ANSI and CSA standards



| Marking | Description                |
|---------|----------------------------|
| 1       | Hazard symbol              |
| 2       | Level of severity          |
| 3       | Avoidance symbol pictorial |
| 4       | Avoidance text             |

# B - Familiarization

## 1.3 - SYMBOLS AND COLORS

Symbols and colors are used to alert the operator of safety precautions and/or to highlight important safety information.

The following safety symbols are used throughout this manual to indicate specific hazards and the hazard severity level when operating or maintaining the Aerial Work Platform.

| Symbol                                                                              | Description                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------|
|    | Danger : Risk of injury or death                             |
|    | Caution : Risk of material damage                            |
|    | Prohibited action                                            |
|    | Reminder to use good practice or follow pre-operation checks |
|   | Cross-reference to another part of the manual                |
|  | Cross-reference to another manual                            |
|  | Cross-reference to repair (contact HAULOTTE Services®)       |
| N.B. :                                                                              | Additional technical information                             |

## 1.4 - LEVEL OF SEVERITY

| Color                                                                               | Title                                                                               | Description                                                                                                                    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|  |  | Danger : Indicates a hazardous situation which if not avoided, WILL result in death or serious injury.                         |
|  |  | Warning : Indicates a hazardous situation which if not avoided, COULD result in death or serious injury.                       |
|  |  | Caution : Failure to comply could result in minor or moderate injury.                                                          |
|  |  | Notice : Indicates recommended practices if not followed, may result in a malfunction or damage the machine or its components. |
|  |  | Procedure : Indicates a maintenance operation.                                                                                 |

# B - Familiarization

## 1.5 - SYMBOLS LEGEND AND DEFINITIONS

Symbols are used throughout this manual to depict hazards, avoidance measures and indicate when information is required.

Refer to the following table to familiarize yourself with these symbols.

| Symbol                                                                              | Description                                                             | Symbol                                                                              | Description                                                                                                                    | Symbol                                                                                | Description                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|    |                                                                         |    | Foot crushing hazard                                                                                                           |    | High pressure fluid ejection hazard                                                              |
|    | Body crushing hazard                                                    |    | Hand crushing hazard                                                                                                           |    | Entanglement hazard                                                                              |
|    |                                                                         |    | Health/safety hazards related to chemicals                                                                                     |    | Health-damaging effects from hot work environment                                                |
|    | Electrical contact or lightning strike                                  |    | Burns and scalds from contact with flames, explosion or radiation from heat sources                                            |    | Injury from Electric arcs - Energy supply disconnecting devices - Batteries fire, emissions, etc |
|   | Risk of operator(s) falling                                             |   | Tip over due to excessive loading / wind load and excessive ground slope                                                       |   | Relate and coordinate directional arrows on the chassis with those on the control box            |
|  | Do not put foot in this area                                            |  | Do not put your hand in this area                                                                                              |  | Keep away from product working area                                                              |
|  | Never expose batteries and electrical component to high pressure washer |  | Ensure entry drop rail is down                                                                                                 |  | Overload                                                                                         |
|  | Flames prohibited                                                       |  | Maintain safe clearance from high voltage electrically charged conductors as described in manual - Do not use in thunderstorms |  | Use appropriate lanyard attached to dedicated anchor point.                                      |
|  | Refer to operator manual                                                |  | Safety belt                                                                                                                    |  | Use safety prop before attempting any maintenance work                                           |
|  | Wheel pressure                                                          |  | Enable switch                                                                                                                  |  | Lift point                                                                                       |
|  | Tow point                                                               |  | Tie down point                                                                                                                 |                                                                                       |                                                                                                  |
|  | Keep away from hot surfaces                                             |  | Wear protective equipment                                                                                                      |                                                                                       |                                                                                                  |

# B

## - Familiarization

### 2 - Models description

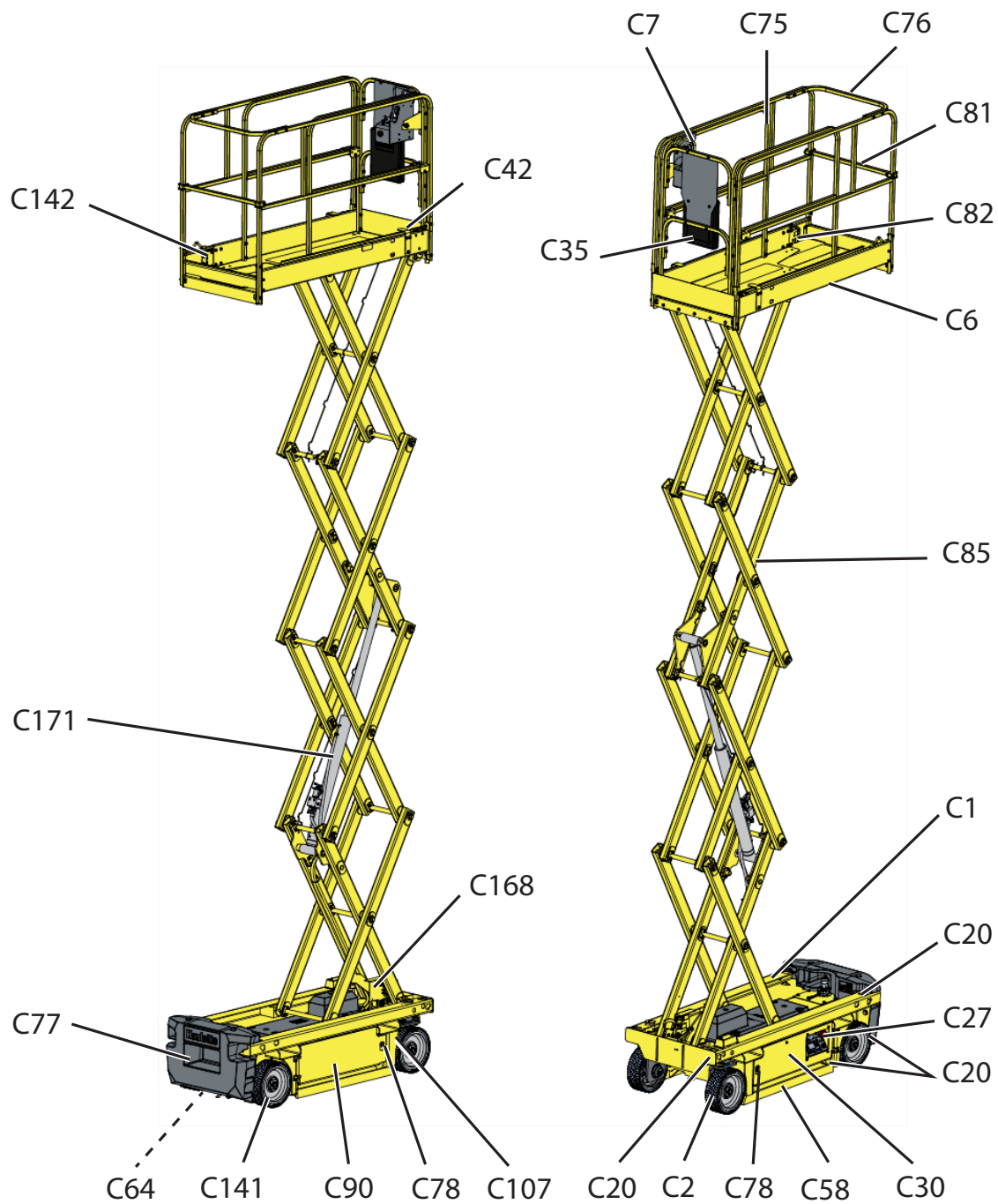
| Regulations              | Models         |
|--------------------------|----------------|
| ANSI and CSA standards   | OPTIMUM 1931 E |
| CE, AS and EAC standards | OPTIMUM 8      |

# B - Familiarization

## 3 - Primary machine components

### 3.1 - LAYOUT

OPTIMUM 8 - OPTIMUM 1931 E



# B - Familiarization

| Marking | Description                         | Marking | Description                                            |
|---------|-------------------------------------|---------|--------------------------------------------------------|
| C1      | Chassis                             | C77     | Platform access ladder                                 |
| C2      | Front drive wheels                  | C78     | Compartment locking latch                              |
| C6      | Platform                            | C81     | Sliding guardrail                                      |
| C7      | Platform control box                | C82     | Extension deck lock pin                                |
| C20     | Tie-down (and/or forklift loading)  | C85     | Scissors                                               |
| C27     | Ground control box + Universal plug | C90     | Battery bay (block)                                    |
| C30     | Hydraulic oil tank                  | C107    | Pull T-handle for emergency lowering                   |
| C35     | Document holder                     | C141    | Rear wheel                                             |
| C42     | Foot Switch (For Japan only)        | C142    | Lanyard attachment points                              |
| C58     | Pothole protection                  | C168    | Maintenance support                                    |
| C64     | Tilt sensor                         | C169    | Folding guardrails / Swing gate (Optional - Not shown) |
| C75     | Extension deck                      | C171    | Scissors lifting cylinder                              |
| C76     | Guardrail                           |         |                                                        |

Universal plug



# B

 - Familiarization

## 3.2 - MAINTENANCE SUPPORT

The maintenance stand must be in place before any maintenance operation is begun.

Placing the machine in maintenance configuration :

- Lift scissor arms to a sufficient height (floor of the platform at around 2,5 m / 8 ft 2 in from the ground).
- Pull the plastic handle and put the stand in the vertical position.
- Release the handle. The stand should remain in the vertical position.
- Lower the scissor arms.
- Scissor arm pivoting rod should rest on the V groove of the stand.

Putting in use position :

- To put back the machine into its normal operation, reverse the steps used above.



# B

## - Familiarization

### 3.3 - EXTENSION DECK

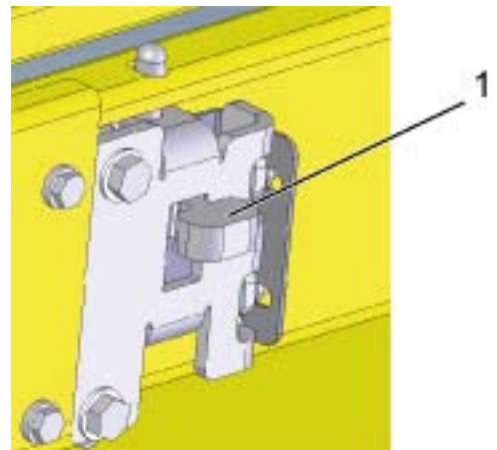
**N.B.:-DO NOT LOAD THE EXTENSION DECK, FOR EASE OF MANOEUVRING.**

Ensure that gate or sliding bar is in it's proper closed position.

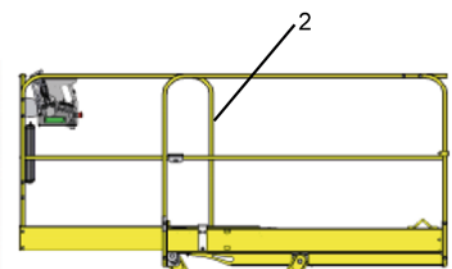
Perform the extending and retracting operations of the extension deck on flat, horizontal ground.

#### To extend the extension deck :

- Press the pedal ( 1 ) to release the extension deck lock pin.



- With pedal ( 1 ) pressed, push the extension deck guard rails ( 2 ) to the extended position.
- Keep hands clear of pinch points.



**Make sure that the extension deck is in locked position. Be aware of the extended platform position when moving the machine.**

#### To retract the extension deck :

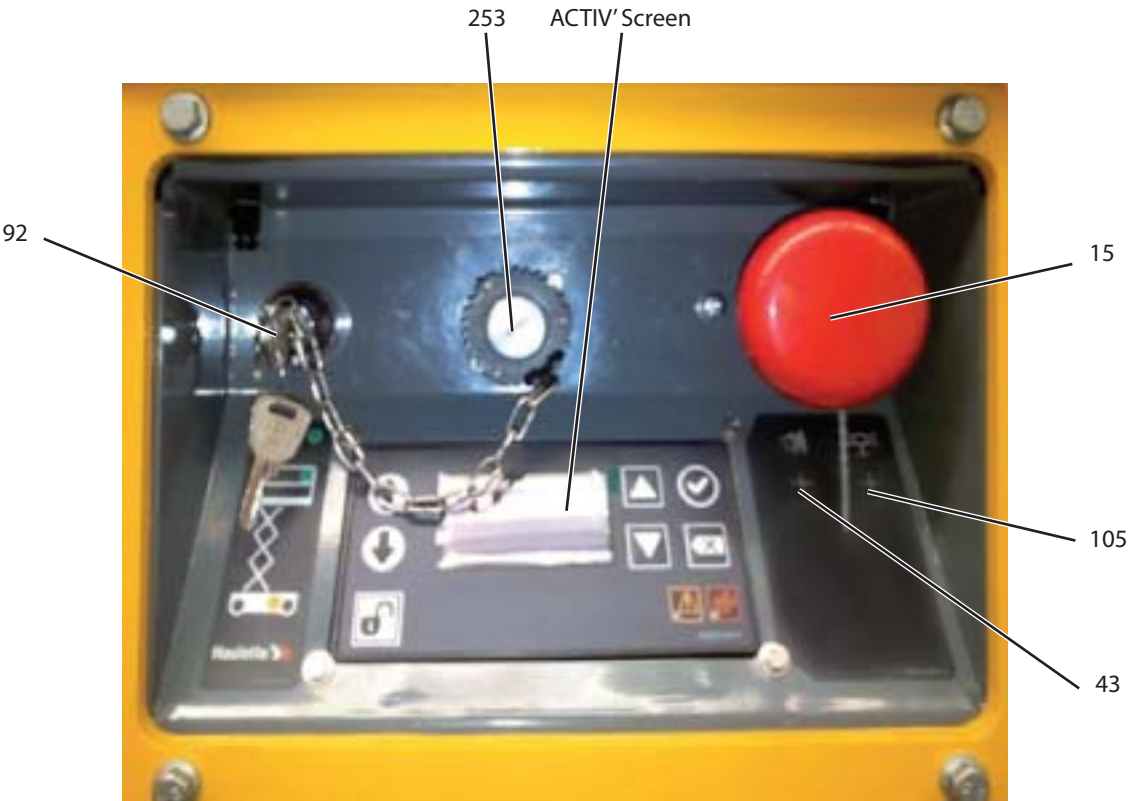
- Press pedal ( 1 ) and pull the extension deck rails ( 2 ) inwards to the locked position.
- Release the pedal.

B - Familiarization

3.4 - GROUND CONTROL BOX

3.4.1 - Layout

General view



Controls and indicators

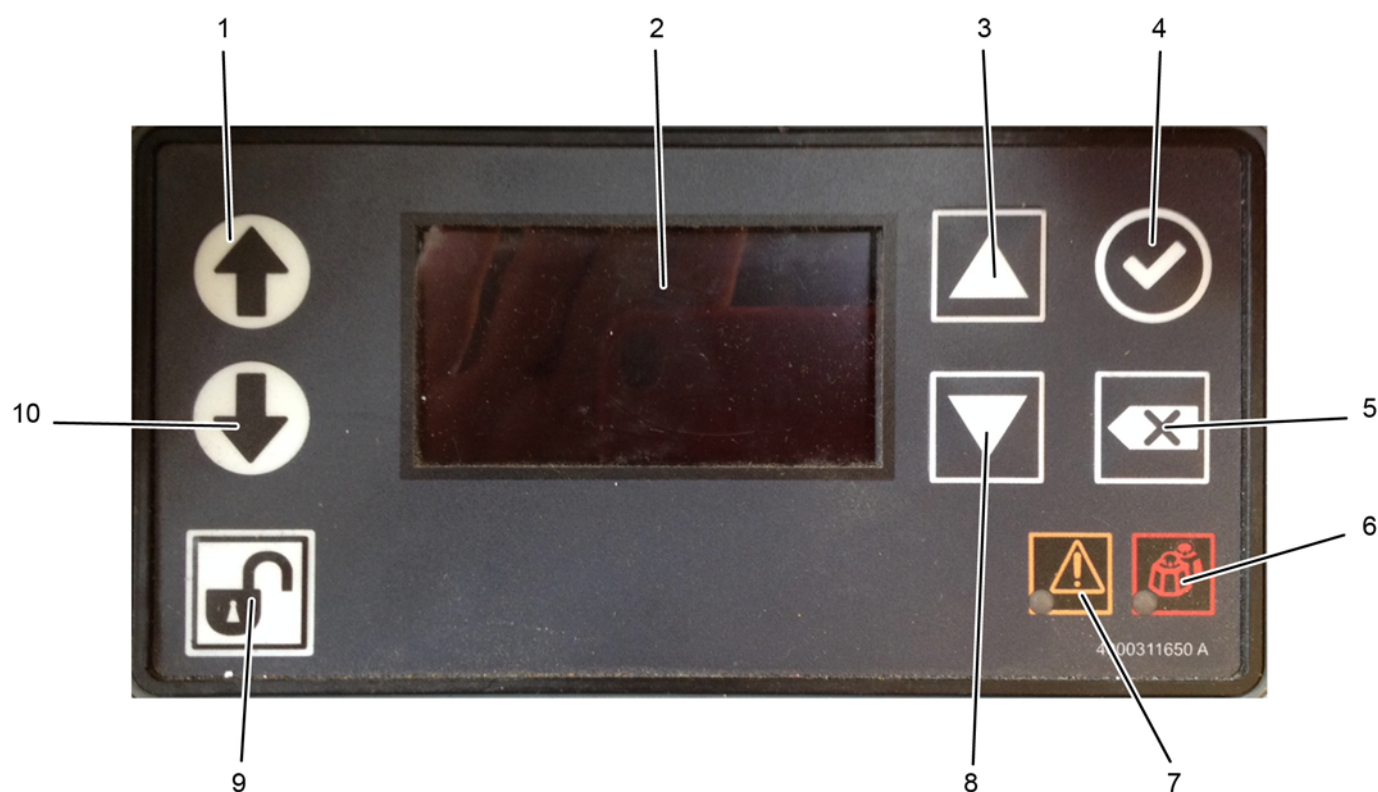
| Marking | Description                                    | Function                                                                                                              |
|---------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 15      | E-stop button                                  | Pulled out : Ground control box energized<br>Pushed in : De-energizes control system                                  |
| 43      | Horn button                                    | Not used                                                                                                              |
| 92      | Control box activation key switch <sup>0</sup> | Right : Ground control box energized<br>Center : De-energizes control system<br>Left : Platform control box energized |
| 105     | Beacon light (Optional)                        | Move upwards : Flashing light turn ON<br>Move downwards : Flashing light turn OFF                                     |
| 253     | Diagnostic tool socket                         | Connection to the diagnostic tool (HaulotteDiag)                                                                      |

# B - Familiarization

## 3.4.2 - HAULOTTE Activ'Screen

Upon starting and during operation of the machine, the LCD screen "Activ'Screen" located on the ground control box displays in real time the machine operating status.

HAULOTTE Activ'Screen



Controls and indicators

| Marking | Description                 | Function                                                |
|---------|-----------------------------|---------------------------------------------------------|
| 1       | Platform raising control    | Platform raises                                         |
| 2       | LCD screen                  | Display status of operation of the machine              |
| 3       | Navigation button           | Navigation of menu to select function - Scroll up       |
| 4       | Confirmation button         | Confirmation of the selected function                   |
| 5       | Cancellation button         | Go back                                                 |
| 6       | Platform overload indicator | Platform overload indicator                             |
| 7       | Machine fault indicator     | Constantly lit in the event of an operation malfunction |
| 8       | Navigation button           | Navigation of menu to select function - Scroll down     |
| 9       | Enable Switch               | Press in and hold : Enable switch                       |
| 10      | Platform lowering control   | Platform lowers                                         |

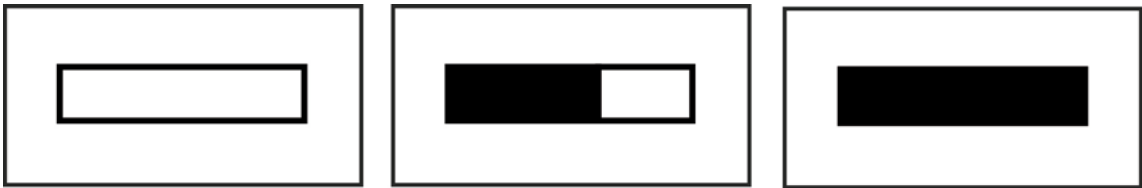
# B - Familiarization

### 3.4.2.1 - LCD screen

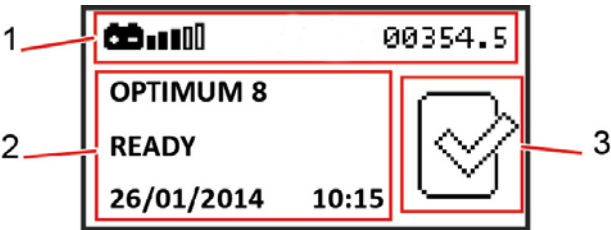
**At startup :**

At startup with the ground or platform controls selected; system initiates a self check :

- Bar gets filled up.



- Home screen comes on with status icon of the machine - okay to proceed functioning the controls.

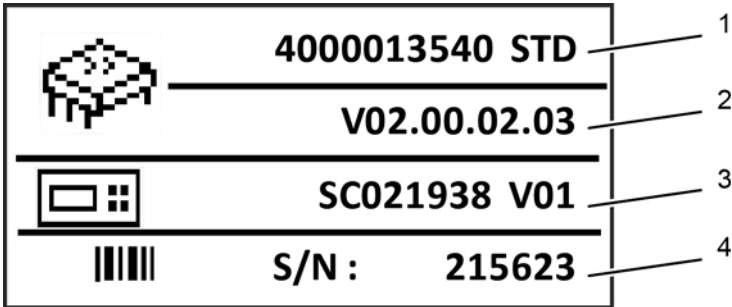


| Symbol | Description                |
|--------|----------------------------|
| 1      | Information icons          |
| 2      | Information text           |
| 3      | Status icon of the machine |

| Symbol | Description     |
|--------|-----------------|
|        | Battery status  |
|        | Maintenance use |
|        | Fault / alarms  |
|        | Hour meter      |

# B - Familiarization

- After pressing on   :



| Symbol | Description                                                 |
|--------|-------------------------------------------------------------|
| 1      | Software part number                                        |
| 2      | Software version + Screen software version + Screen version |
| 3      | Screen identification + Screen software version             |
| 4      | Machine serial number displayed                             |

- After again pressing on  
- Access code screen comes on - refer to maintenance manual for entering the access code



- Validation by pressing on is active only if access code is known and entered - refer to maintenance manual for the procedure for the different level code usage

# B

 - Familiarization**Alarm status :**

Alarm status displayed as applicable - samples shown below

**Tilt :****Overload :****Low battery :**

# B - Familiarization

Recharge the batteries :



Fully recharge the batteries.

Low battery water level :



Low water tank level :



Present fault :

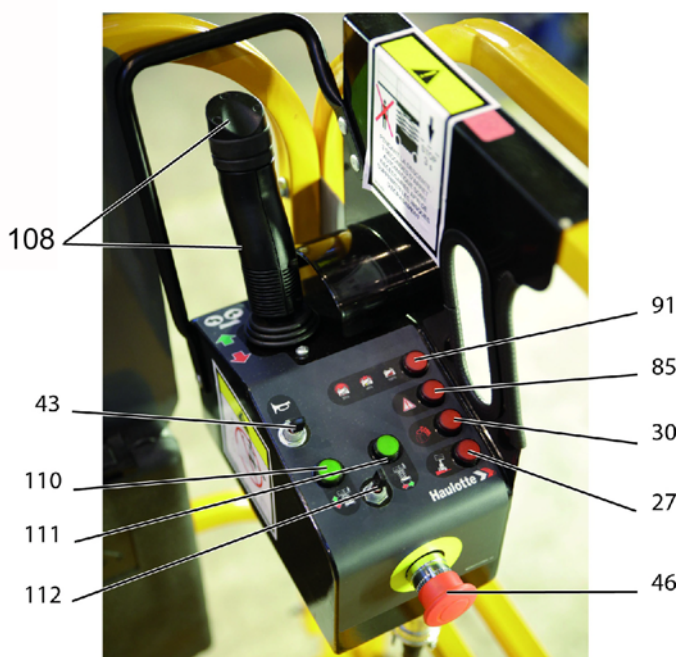
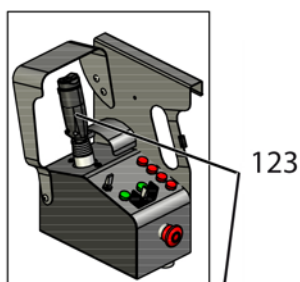


# B - Familiarization

## 3.5 - PLATFORM CONTROL BOX

### 3.5.1 - Layout

#### General view



#### Controls and indicators

| Marking | Item  | Description        | Function                                                                                            |
|---------|-------|--------------------|-----------------------------------------------------------------------------------------------------|
| 27      | HL800 | Tilt indicator     | Machine on excessive slope                                                                          |
| 30      | HL802 | Overload indicator | Platform overloaded                                                                                 |
| 43      | SA907 | Horn button        | Move upwards and hold to activate horn                                                              |
| 46      | SB802 | E-stop button      | Pulled out : Platform control box power supply energized<br>Pushed in : De-energizes control system |
| 85      | HL903 | Fault indicator    | Fault indicator Faulty or tilting or overloaded machine                                             |



Battery charged



Flashing : Batteries have 40 % charge left



Constantly on : Batteries have only 20 % charge left

# B - Familiarization

| Marking | Item  | Description                  | Function                                                                                                |
|---------|-------|------------------------------|---------------------------------------------------------------------------------------------------------|
| 108     | SM901 | Movement joystick            | Move forward : Forward drive or platform raising<br>Move backwards : Reverse drive or platform lowering |
|         |       | Front axle steering selector | Press right side of button : Right-hand steering<br>Press left side of button : Left-hand steering      |
| 110     | HL420 | Raising / lowering selector  | On : Raising / Lowering selection activated<br>Off : Raising / Lowering movement is not selected        |
| 111     | HL100 | Driving selection indicator  | On : Driving function activated<br>Off : Driving movement is not selected                               |
| 112     | SA908 | 2-position selector          | Move to the left : Platform raising / lowering<br>Move to the right : Drive movements                   |
| 123     | SA905 | Enable Switch                | Press in and hold : Associated command is validated<br>Press in and hold : Enable switch                |
| 245     | SB800 | Foot Switch (For Japan only) | Release : Associated command movement is halted<br>Press in and hold : Enable switch                    |

# B - Familiarization

## 4 - Performance Specifications

### 4.1 - TECHNICAL CHARACTERISTICS

Use the table to select the right Haulotte machine for the job.

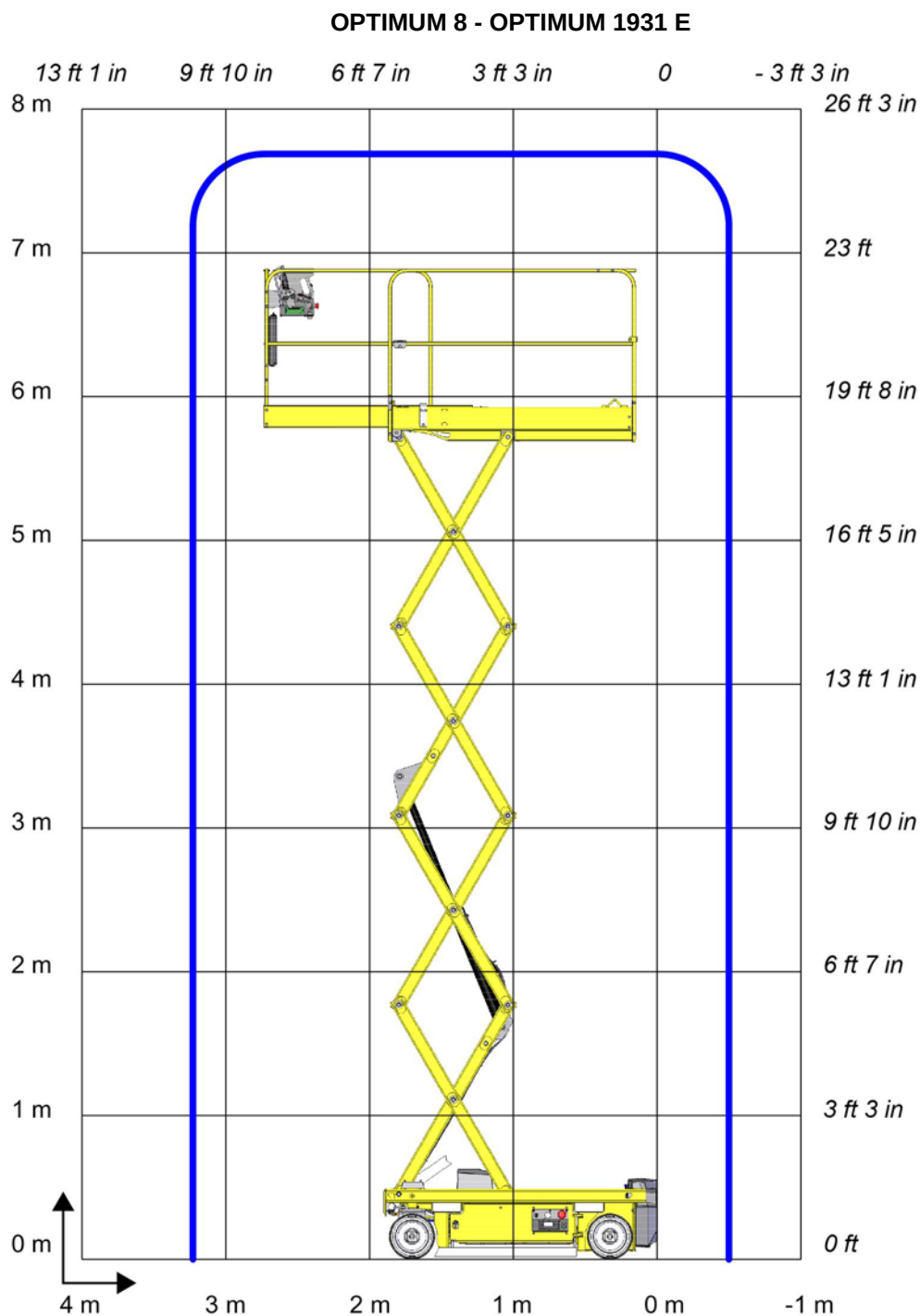
**N.B.:-DO NOT REPLACE PARTS THAT ARE ESSENTIAL TO THE STABILITY OF THE MACHINE, SUCH AS BATTERIES OR TYRES, WITH PARTS THAT HAVE A DIFFERENT WEIGHT OR DIFFERENT SPECIFICATIONS. THE STABILITY OF THE MACHINE COULD BE AFFECTED.**

CE, AS, EAC, CSA and ANSI A92.20 standards

| Machine                                          |        | OPTIMUM 8 - OPTIMUM 1931 E                                  |                                                  |            |
|--------------------------------------------------|--------|-------------------------------------------------------------|--------------------------------------------------|------------|
| Characteristics - Dimensions                     |        | SI                                                          | Imp.                                             |            |
| Maximum working height                           |        | 7,77 m                                                      | 25 ft 6 in                                       |            |
| Maximum platform height                          |        | 5,77 m                                                      | 18 ft 11 in                                      |            |
| Total weight                                     |        | 1590 kg                                                     | 3505 lbs                                         |            |
| Maximum platform capacity                        |        | 230 kg                                                      | 500 lbs                                          |            |
| Maximum number of occupants                      |        | Indoor use : 2<br>Outdoor use : 1                           |                                                  |            |
| Maximum wind speed                               |        | Indoor use :<br>0 km/h<br>Outdoor use :<br>45 km/h          | Indoor use :<br>0 mph<br>Outdoor use :<br>28 mph |            |
| Manual force                                     |        | Indoor use : 400 N (90 lbf)<br>Outdoor use : 200 N (45 lbf) |                                                  |            |
| Gradeability                                     |        | 25 %                                                        |                                                  |            |
| Maximum side rated slope                         |        | 1,5°                                                        |                                                  |            |
| Maximum longitudinal rated slope                 |        | 3°                                                          |                                                  |            |
| Maximum load on wheel                            |        | 960 kg                                                      | 2120 lbs                                         |            |
| Maximum ground pressure of wheel on paved ground |        | 16,6 kg/ cm2                                                | 34100 lb/ft2                                     |            |
| Drive speed :                                    |        |                                                             |                                                  |            |
| • Folded machine maximum speed                   |        | 4,5 km/h                                                    | 2.79 mph                                         |            |
| • Unfolded machine maximum speed                 |        | 0,5 km/h                                                    | 0.3 mph                                          |            |
| Maximum freewheel speed during towed operation   |        | 4,5 km/h                                                    | 2.79 mph                                         |            |
| Outside turning radius                           |        | 1,5 m                                                       | 4 ft 11 in                                       |            |
| Inside turning radius                            |        | 1 m                                                         | 3 ft 3 in                                        |            |
| Power source - Electric                          |        |                                                             |                                                  |            |
| Standard                                         | Option | Battery weight                                              | System voltage                                   | Capacity   |
| X                                                |        | 28 kg(62 lb)                                                | 24V                                              | 180Ah (C5) |
|                                                  | X      | 30 kg(66 lb)                                                | 24V                                              | 195Ah (C5) |
|                                                  | X      | 30 kg(66 lb)                                                | 24V                                              | 182Ah (C5) |
| For Japan only                                   |        |                                                             |                                                  |            |
| X                                                |        | 32 kg(71 lb)                                                | 24V                                              | 170Ah (C5) |
| For Australia only                               |        |                                                             |                                                  |            |
| X                                                |        | 28 kg(62 lb)                                                | 24V                                              | 185Ah (C5) |
| Hydraulic tank capacity                          |        | 6 l                                                         | 1.6 gal US                                       |            |

# B - Familiarization

## 4.2 - WORKING AREA / RANGE OF MOTION





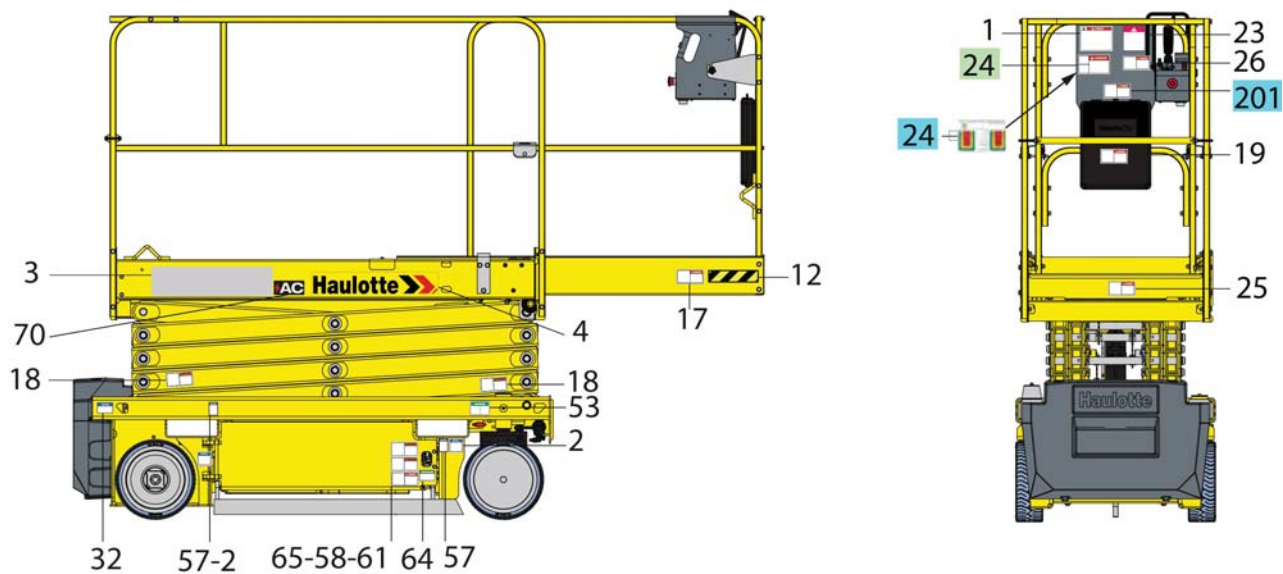
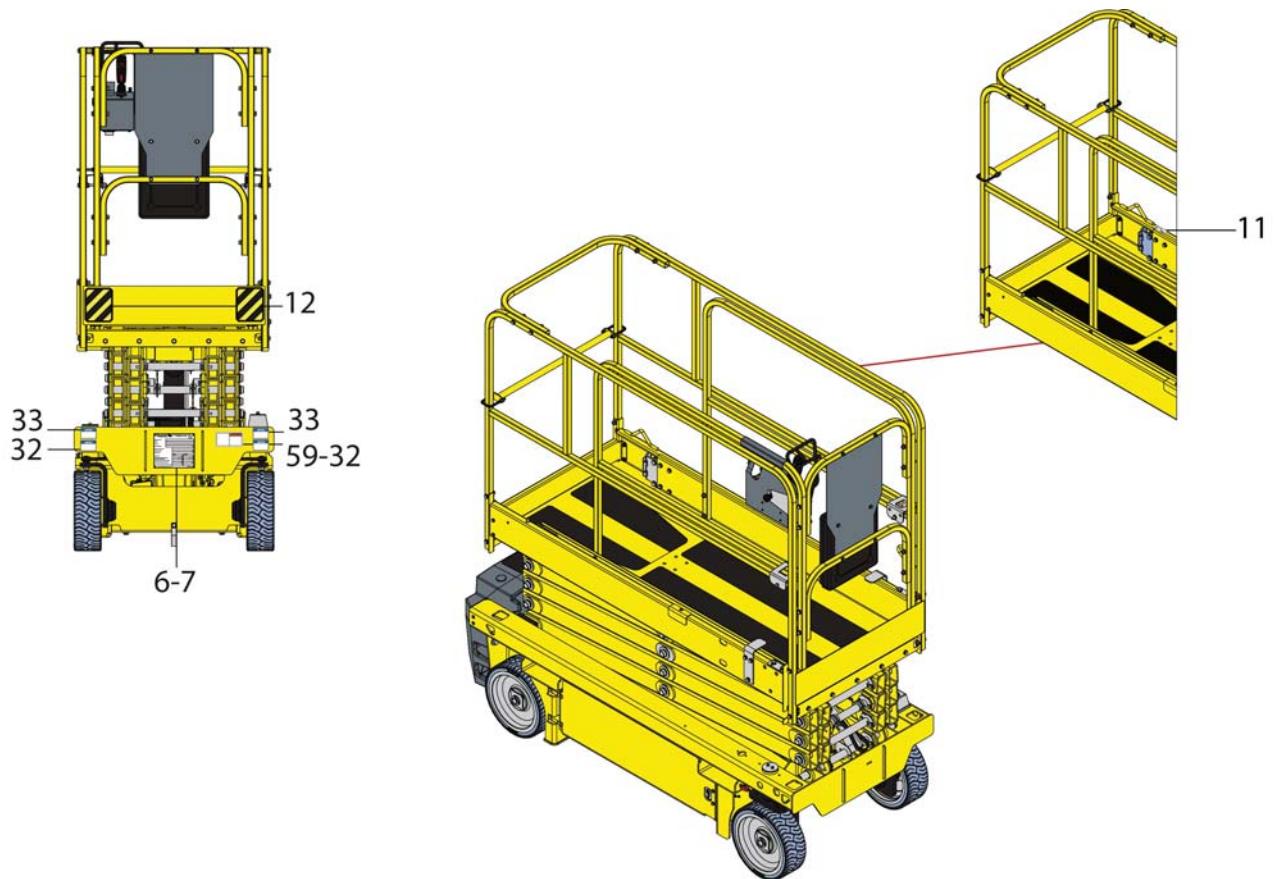
# Notes

[illegible]

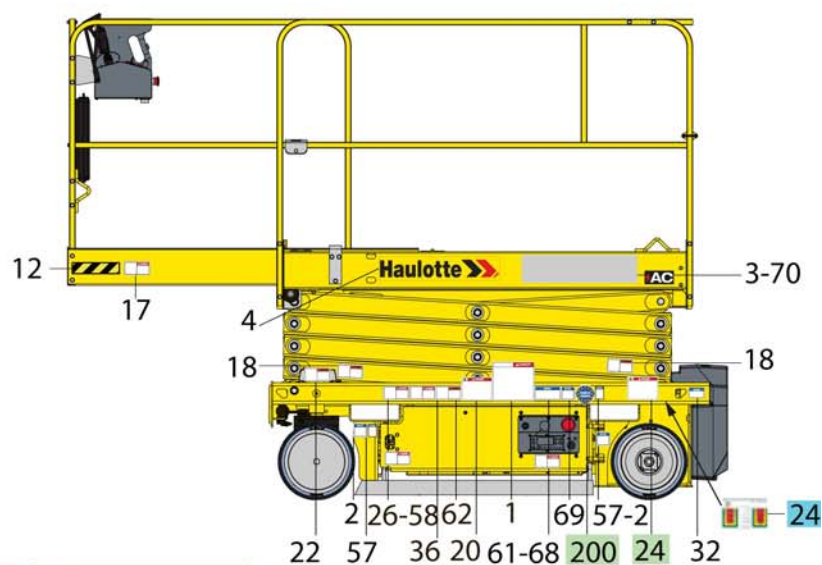
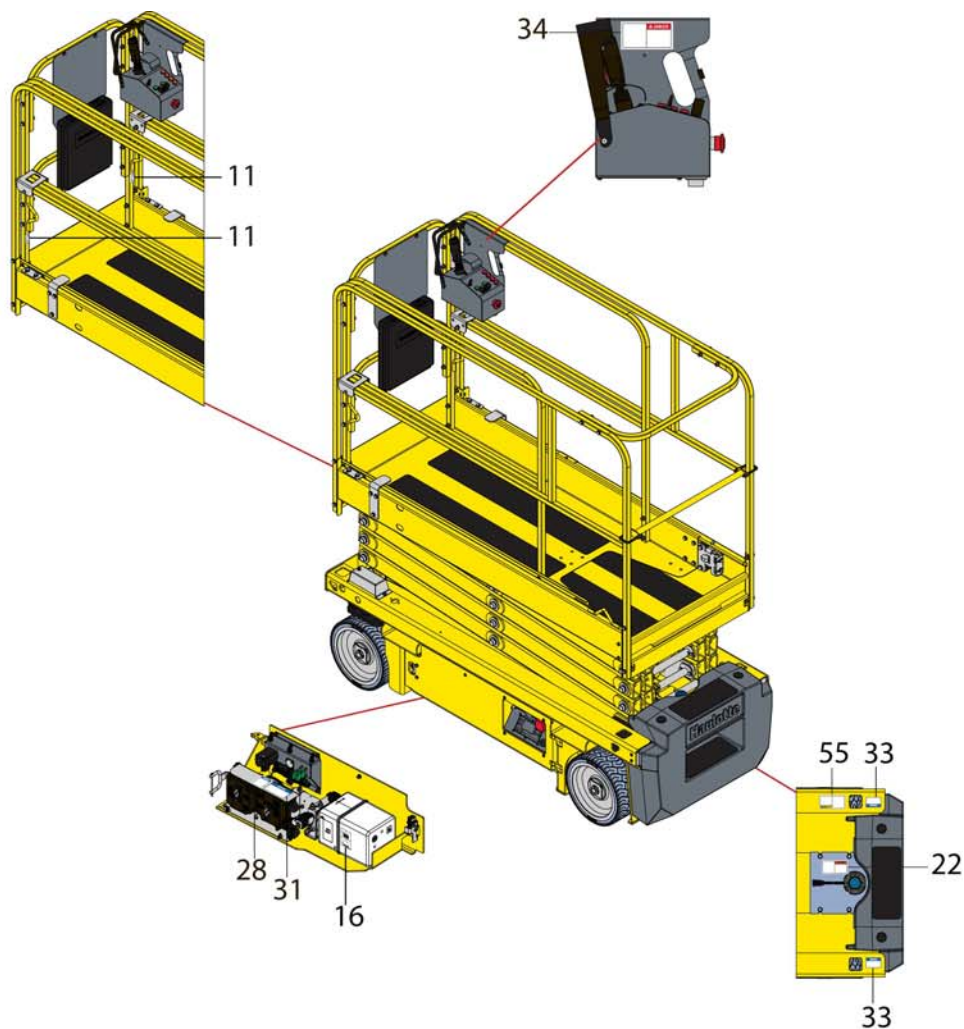
# B - Familiarization

## 5 - Decals and markings locations

CE and AS standards - 4000390350 K - OPTIMUM 8



# B - Familiarization



24 Pour Australie seulement  
201 For Australia only

24 Pour Europe - CE seulement  
200 For Europe - CE only

# B - Familiarization

## CE and AS standards

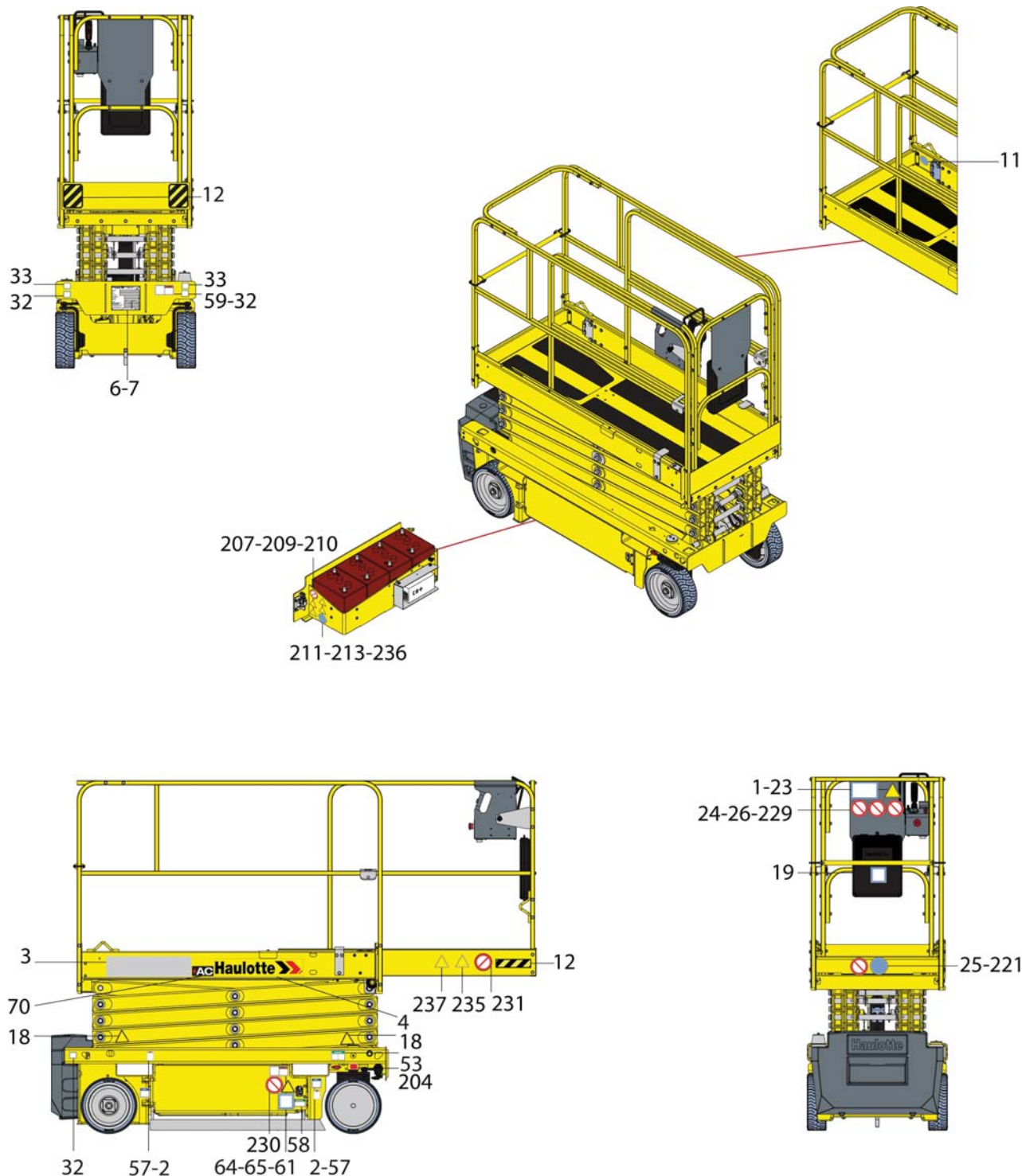
| Marking | Color  | Description                                    | Quantity | OPTIMUM 8                                                              |
|---------|--------|------------------------------------------------|----------|------------------------------------------------------------------------|
| 1       | Red    | Height of the floor and load                   | 2        | 4000706390                                                             |
| 2       | Blue   | Maximum Pressure per Tire - Floor Loading      | 4        | 4000761670                                                             |
| 3       | Other  | Commercial name - Bright machine               | 2        | 3078146730                                                             |
| 4       | Other  | Decal HAULOTTE® - 500 x 100 - Bright machine   | 2        | 307P217080                                                             |
| 4       | Other  | Decal HAULOTTE® - 500 x 100 - Dark machine     | 2        | 307P224740                                                             |
| 4       | Other  | Decal HAULOTTE® - 500 x 100 - Red machine      | 2        | 307P220360                                                             |
| 6       | Other  | Identification plate                           | 1        | 4000700140                                                             |
| 11      | Other  | Lanyard attachment points                      | 3        | 307P216290                                                             |
| 12      | Other  | Material risk - Yellow and black adhesive tape | 2        | 4000424630                                                             |
| 12      | Other  | Material risk - Yellow and black adhesive tape | 2        | 4000421700                                                             |
| 16      | Other  | Max and min oil level                          | 1        | 307P221060                                                             |
| 17      | Red    | Risk of crushing                               | 2        | 4000244370                                                             |
| 18      | Orange | Hand crushing hazard - Risk of crushed hands   | 4        | 4000024890                                                             |
| 19      | Red    | Operation instructions                         | 1        | 4000025140                                                             |
| 20      | Red    | Operation instructions                         | 1        | In english ( CE and AS standards ) :<br>307P222740                     |
|         |        |                                                |          | In german ( CE standard ) : 307P222730                                 |
|         |        |                                                |          | In chinese ( CE standard ) :<br>4000696620                             |
|         |        |                                                |          | In korean ( CE standard ) :<br>4000618590                              |
|         |        |                                                |          | In croatian ( CE standard ) : 4000360810                               |
|         |        |                                                |          | In danish ( CE standard ) : 307P222760                                 |
|         |        |                                                |          | In spanish ( CE standard ) : 307P222770                                |
|         |        |                                                |          | In estonian ( CE standard ) : 4000360870                               |
|         |        |                                                |          | In finnish ( CE standard ) : 307P222780                                |
|         |        |                                                |          | In french ( CE standard ) : 3078149030                                 |
|         |        |                                                |          | In greek ( CE standard ) : 4000561810                                  |
|         |        |                                                |          | In dutch ( CE standard ) : 307P222790                                  |
|         |        |                                                |          | In hungarian ( CE standard ) :<br>4000360890                           |
|         |        |                                                |          | In italian ( CE standard ) : 307P222800                                |
|         |        |                                                |          | In japanese ( CE standard ) : 4000359830                               |
|         |        |                                                |          | In latvian ( CE standard ) : 4000359840                                |
|         |        |                                                |          | In lithuanian ( CE standard ) : 4000359850                             |
|         |        |                                                |          | In norwegian ( CE standard ) :<br>4000359900                           |
|         |        |                                                |          | In polish ( CE standard ) : 4000359860                                 |
|         |        |                                                |          | In portuguese ( CE standard ) :<br>307P222810                          |
|         |        |                                                |          | In romanian ( CE standard ) : 4000359870                               |
|         |        |                                                |          | In slovakian ( CE standard ) : 4000359880                              |
|         |        |                                                |          | In slovenian ( CE standard ) : 4000359890                              |
|         |        |                                                |          | In swedish ( CE standard ) : 307P222820                                |
| 22      | Orange | Wound foot - Do not place foot                 | 2        | 4000027090                                                             |
| 23      | Red    | Risk of crushing - Driving direction           | 1        | 3078145100                                                             |
| 24      | Red    | Danger of electrocution                        | 2        | For CE standard only : 4000244350<br>For AS standard only : 4000227500 |
| 25      | Red    | Risk of crushing - Closing drop rail           | 1        | 4000025080                                                             |
| 26      | Red    | Danger of electrocution - Ground for welding   | 2        | 4000027100                                                             |
| 28      | Red    | Do not interchange                             | 1        | 4000504670                                                             |
| 31      | Red    | Brake release                                  | 1        | 4000361570                                                             |
| 32      | Blue   | Anchorage point - Traction                     | 4        | 4000027310                                                             |
| 33      | Blue   | Anchorage point - Lifting eyes                 | 4        | 4000027330                                                             |
| 34      | Red    | Risk of electrocution - Water projection       | 1        | 4000025130                                                             |
| 36      | Red    | Risk of crushing - Platform                    | 1        | 4000244340                                                             |
| 53      | Green  | Emergency lowering location                    | 1        | 4000227200                                                             |

# B - Familiarization

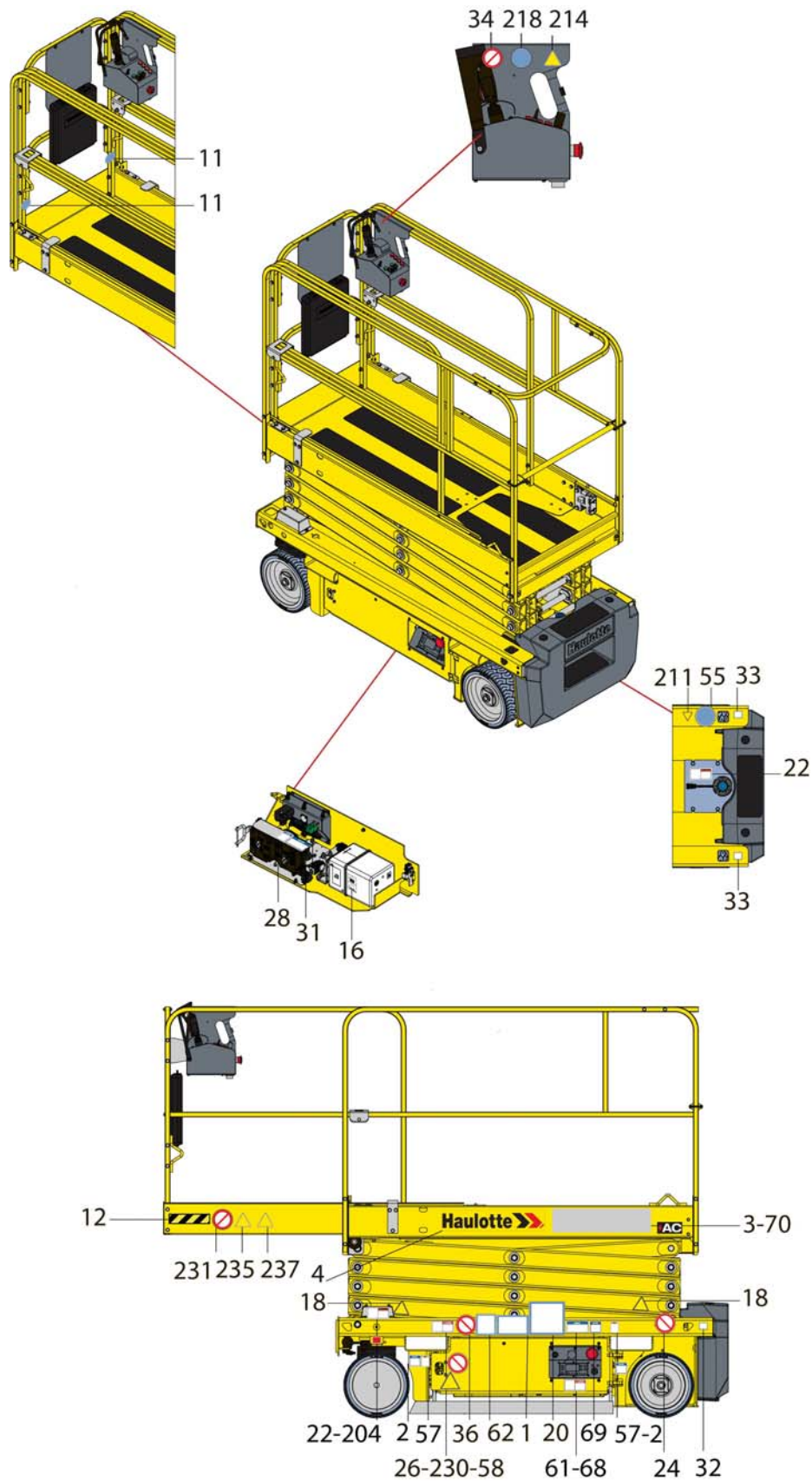
| Marking   | Color  | Description                              | Quantity | OPTIMUM 8                                                              |
|-----------|--------|------------------------------------------|----------|------------------------------------------------------------------------|
| 55        | Yellow | Risk of electrocution - Charger - 240 V  | 1        | For CE standard only : 4000273940<br>For AS standard only : 4000307410 |
| 57        | Other  | Position of the lift truck forks         | 4        | 3078143830                                                             |
| 58        | Other  | Battery compartment locking              | 2        | 4000310170                                                             |
| 59        | Red    | Scissors safety                          | 1        | 4000027550                                                             |
| 61        | Blue   | Risk of crushing                         | 2        | 4000025060                                                             |
| 62        | Red    | Stop time during descent                 | 1        | 4000271010                                                             |
| 64        | Green  | Battery verification                     | 1        | 4000274040                                                             |
| 65        | Orange | Hand crushing hazard - Battery           | 1        | 4000027440                                                             |
| 68        | Other  | Transport height                         | 1        | 4000417380                                                             |
| 69        | Other  | Battery isolation switch                 | 1        | 4000420660                                                             |
| 70        | Other  | Electric traction AC                     | 2        | 4000425350                                                             |
| 200       | Other  | "Made in Europe"                         | 1        | For CE standard only : 4000137690                                      |
| 201       | Red    | Wearing of a safety harness is essential | 1        | AS standard only : 4000275670                                          |
| Not shown | Blue   | Option - Power plug information          | 1        | 4000708280                                                             |

# B - Familiarization

EAC standard - 4000421910 J - OPTIMUM 8



# B - Familiarization



# B - Familiarization

## EAC standard

| Marking | Color  | Description                                    | Quantity | OPTIMUM 8                                           |
|---------|--------|------------------------------------------------|----------|-----------------------------------------------------|
| 1       | Red    | Height of the floor and load                   | 2        | 4000426450                                          |
| 2       | Blue   | Maximum Pressure per Tire - Floor Loading      | 4        | 4000761670                                          |
| 3       | Other  | Commercial name - Bright machine               | 2        | 3078146730                                          |
| 4       | Other  | Decal HAULOTTE® - 500 x 100 - Bright machine   | 2        | For Russia : 307P217080                             |
| 4       | Other  | Decal HAULOTTE® - 500 x 100 - Dark machine     | 2        | For Russia : 307P224740                             |
| 4       | Other  | Decal HAULOTTE® - 500 x 100 - Red machine      | 2        | For Russia : 307P220360                             |
| 6       | Other  | Identification plate                           | 1        | For Russia : 4000388680<br>For Ukraine : 4000054150 |
| 11      | Other  | Lanyard attachment points                      | 3        | 307P226710                                          |
| 12      | Other  | Material risk - Yellow and black adhesive tape | 2        | 4000424630                                          |
| 12      | Other  | Material risk - Yellow and black adhesive tape | 2        | 4000421700                                          |
| 16      | Other  | Max and min oil level                          | 1        | 307P221060                                          |
| 18      | Orange | Hand crushing hazard - Risk of crushed hands   | 4        | 307P227660                                          |
| 19      | Red    | Operation instructions                         | 1        | For Russia : 307P227190<br>For Ukraine : 307P227840 |
| 20      | Blue   | Operation instructions                         | 1        | For Russia : 4000359920<br>For Ukraine : 4000359910 |
| 22      | Orange | Wound foot - Do not place foot                 | 2        | 307P227010                                          |
| 23      | Red    | Risk of crushing - Driving direction           | 1        | For Russia : 4000010890<br>For Ukraine : 4000011390 |
| 24      | Red    | Danger of electrocution                        | 2        | 4000010920                                          |
| 25      | Red    | Risk of crushing - Closing drop rail           | 1        | 307P226950                                          |
| 26      | Red    | Danger of electrocution - Ground for welding   | 2        | 307P226970                                          |
| 28      | Red    | Do not interchange                             | 1        | 4000504670                                          |
| 31      | Red    | Brake release                                  | 1        | 4000361570                                          |
| 32      | Blue   | Anchorage point - Traction                     | 4        | 4000135970                                          |
| 33      | Blue   | Anchorage point - Lifting eyes                 | 4        | 4000135960                                          |
| 34      | Red    | Risk of electrocution - Water projection       | 1        | 307P226780                                          |
| 36      | Red    | Risk of crushing - Platform                    | 1        | 4000244340                                          |
| 53      | Green  | Emergency lowering location                    | 1        | 4000227200                                          |
| 55      | Yellow | Risk of electrocution - Charger - 240 V        | 1        | 307P227520                                          |
| 57      | Other  | Position of the lift truck forks               | 4        | 4000013830                                          |
| 58      | Other  | Battery compartment locking                    | 2        | 4000310170                                          |
| 59      | Red    | Scissors safety                                | 1        | 4000270960                                          |
| 61      | Blue   | Risk of crushing                               | 2        | 4000270970                                          |
| 62      | Other  | Stop time during descent                       | 1        | For Russia : 4000011400<br>For Ukraine : 4000011430 |
| 64      | Green  | Battery verification                           | 1        | For Russia : 307P227180<br>For Ukraine : 307P227860 |
| 65      | Orange | Hand crushing hazard - Battery                 | 1        | 4000027440                                          |
| 68      | Other  | Transport height                               | 1        | 4000417380                                          |
| 69      | Other  | Battery isolation switch                       | 1        | 4000420660                                          |
| 70      | Other  | Electric traction AC                           | 2        | 4000425350                                          |
| 204     | Red    | Lubrication point                              | 2        | 307P219370                                          |
| 207     | Red    | Smoking forbidden                              | 1        | 307P226760                                          |
| 209     | Yellow | Battery danger                                 | 1        | 307P226790                                          |
| 210     | Yellow | Fire Hazard                                    | 1        | 307P226800                                          |
| 211     | Red    | Electrical danger                              | 2        | 307P226810                                          |
| 213     | Yellow | Corrosion hazard                               | 1        | 307P226830                                          |
| 214     | Yellow | Danger unstable side                           | 1        | 307P226930                                          |
| 218     | Blue   | Caution helmet compulsory                      | 1        | 307P226680                                          |
| 221     | Blue   | Obligatory routing                             | 1        | 307P227510                                          |
| 229     | Red    | Do not travel down the ramp at a fast speed    | 1        | 307P226990                                          |
| 230     | Red    | No admittance to unauthorized persons          | 2        | 307P227560                                          |

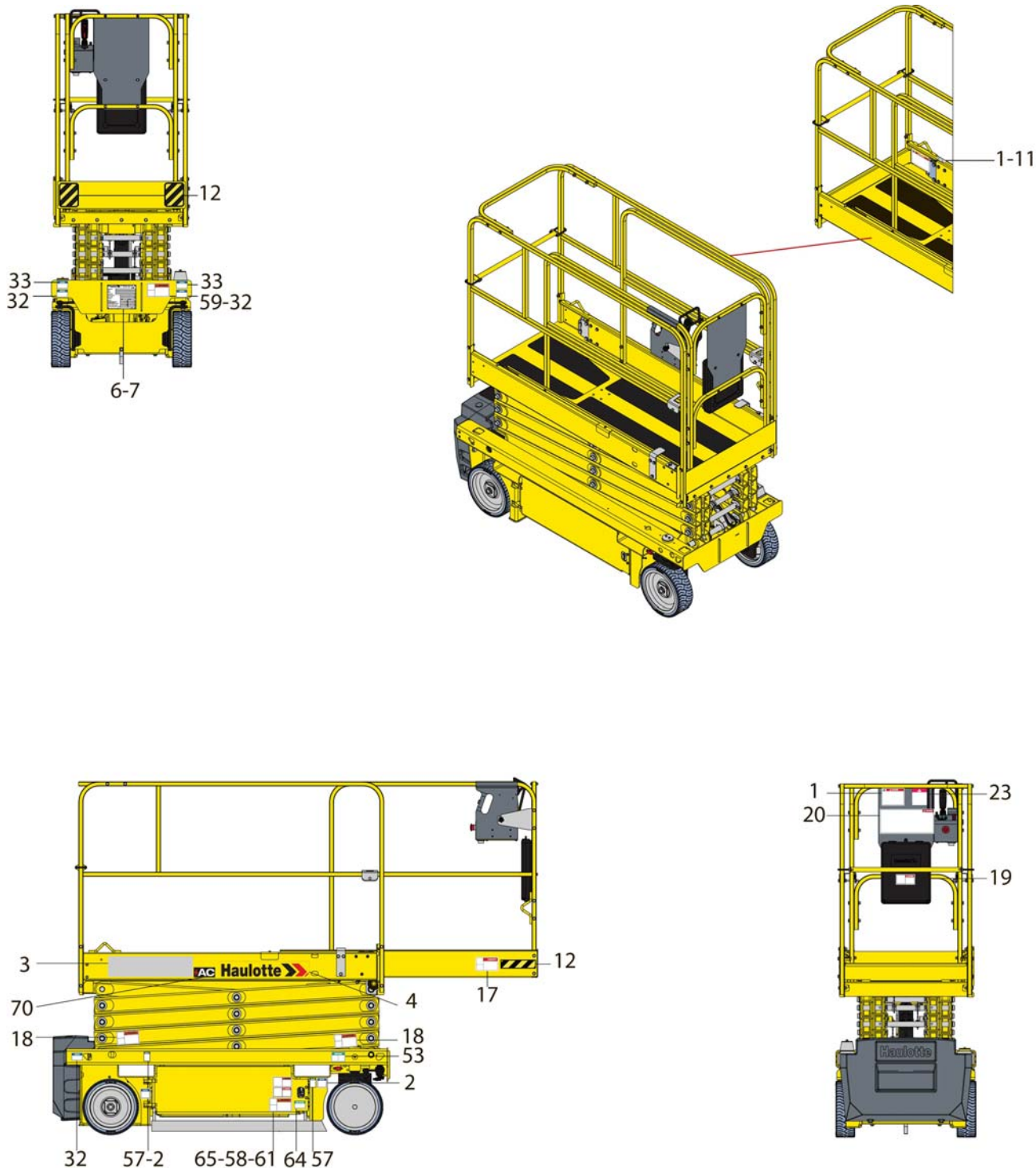
# B

## - Familiarization

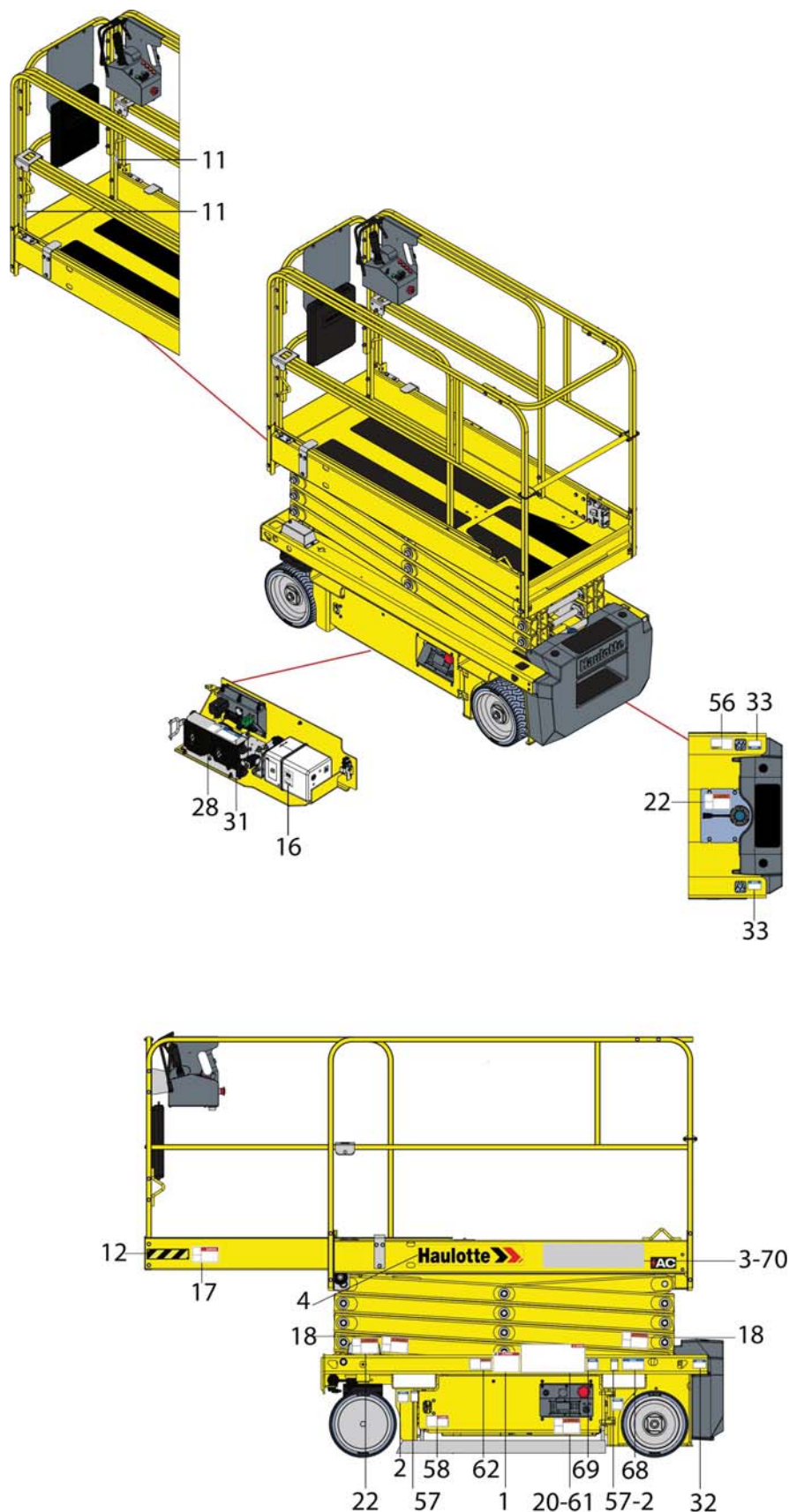
| Marking   | Color  | Description                      | Quantity | OPTIMUM 8  |
|-----------|--------|----------------------------------|----------|------------|
| 231       | Red    | Do not park in the work area     | 2        | 4000010910 |
| 235       | Yellow | Vertical crushing of the body    | 2        | 4000014270 |
| 236       | Blue   | Wearing eye protection mandatory | 1        | 307P226670 |
| 237       | Yellow | Risk of crushing                 | 2        | 307P227670 |
| Not shown | Blue   | Option - Power plug information  | 1        | 4000708280 |

# B - Familiarization

ANSI and CSA standards - 4000427210 K - OPTIMUM 1931 E



# B - Familiarization



# B - Familiarization

## ANSI and CSA standards

| Marking   | Color  | Description                                    | Quantity | OPTIMUM 1931 E                                                               |
|-----------|--------|------------------------------------------------|----------|------------------------------------------------------------------------------|
| 1         | Red    | Height of the floor and load                   | 3        | ANSI A92.20 and CSA B454.6 standards : 4000706390                            |
| 2         | Blue   | Maximum Pressure per Tire - Floor Loading      | 4        | 4000761670                                                                   |
| 3         | Other  | Commercial name - Bright machine               | 2        | 4000504010                                                                   |
| 3         | Other  | Commercial name - Dark machine                 | 2        | 4000504020                                                                   |
| 4         | Other  | Decal HAULOTTE® - 500 x 100 - Bright machine   | 2        | 307P217080                                                                   |
| 4         | Other  | Decal HAULOTTE® - 500 x 100 - Dark machine     | 2        | 307P224740                                                                   |
| 4         | Other  | Decal HAULOTTE® - 500 x 100 - Red machine      | 2        | 307P220360                                                                   |
| 6         | Other  | Identification plate                           | 1        | 4000700150                                                                   |
| 11        | Other  | Lanyard attachment points                      | 3        | 307P216290                                                                   |
| 12        | Other  | Material risk - Yellow and black adhesive tape | 2        | 4000424630                                                                   |
| 12        | Other  | Material risk - Yellow and black adhesive tape | 2        | 4000421700                                                                   |
| 16        | Other  | Max and min oil level                          | 1        | 307P221060                                                                   |
| 17        | Red    | Risk of crushing                               | 2        | In english : 4000130190<br>In french : 4000130200<br>In spanish : 4000130210 |
| 18        | Orange | Hand crushing hazard - Risk of crushed hands   | 4        | In english : 4000024770<br>In french : 4000067710<br>In spanish : 4000086490 |
| 19        | Red    | Operation instructions                         | 1        | 4000025140                                                                   |
| 20        | Red    | Operation instructions                         | 2        | In english : 4000243670<br>In french : 4000243680<br>In spanish : 4000243690 |
| 22        | Orange | Wound foot - Do not place foot                 | 2        | In english : 4000024840<br>In french : 4000068180<br>In spanish : 4000086610 |
| 28        | Red    | Do not interchange                             | 1        | 4000504670                                                                   |
| 31        | Red    | Brake release                                  | 1        | 4000361570                                                                   |
| 32        | Blue   | Anchorage point - Traction                     | 4        | 4000027310                                                                   |
| 33        | Blue   | Anchorage point - Lifting eyes                 | 4        | 4000027330                                                                   |
| 36        | Red    | Risk of crushing - Platform                    | 1        | 4000244340                                                                   |
| 53        | Green  | Emergency lowering                             | 1        | 4000227200                                                                   |
| 56        | Yellow | Risk of electrocution - Charger - 110 V        | 1        | 4000419150                                                                   |
| 57        | Other  | Position of the lift truck forks               | 4        | 3078143830                                                                   |
| 58        | Other  | Battery compartment locking                    | 2        | 4000310170                                                                   |
| 59        | Red    | Scissors safety                                | 1        | In english : 4000024850<br>In french : 4000068070<br>In spanish : 4000086500 |
| 61        | Blue   | Risk of crushing                               | 2        | In english : 4000024780<br>In french : 4000067700<br>In spanish : 4000086480 |
| 64        | Green  | Battery verification                           | 1        | 4000274040                                                                   |
| 65        | Orange | Hand crushing hazard - Battery                 | 1        | In english : 4000025030<br>In french : 4000068120<br>In spanish : 4000086550 |
| 68        | Other  | Transport height                               | 1        | 4000417380                                                                   |
| 69        | Other  | Battery isolation switch                       | 1        | 4000420660                                                                   |
| 70        | Other  | Electric traction AC                           | 2        | 4000425350                                                                   |
| Not shown | Blue   | Option - Power plug information                | 1        | 4000708280                                                                   |



## Notes

[illegible]

# C

## - Pre-operation inspection

### 1 - Recommendations

The owner, the site manager, the supervisor and the operator are all responsible to ensure the machine is fit for the work it is to perform; i.e. that the machine is suitable to carry out the work in complete safety and in compliance with this Operator's Manual. All managers who are responsible for persons operating the machine must be familiar with the local regulations currently applicable in the country of use and ensure that they are adhered to.

Before using the machine, read the previous chapters in this manual. Ensure that you have understood the following points :

- Safety precautions.
- Operator's responsibilities.
- Conditions and the operating principles of the machine.

### 2 - Working area assessment

Before carrying out any operations, ensure that the machine corresponds to the work to be done and the working environment :

- Carry out a thorough inspection of the site to identify any potential risks within the work zone.
- Take the necessary precautions to avoid collisions with other machinery within the work zone.

Ensure that :

- The weather conditions (wind, rain, etc.) allowing the machine to be used.
- The ground withstands the weight of the machine and has not been affected by the poor weather conditions.
- Check that the authorisations to work with the machine on the site in question have been obtained (g. chemical product factories).
- Define a rescue plan for all the risks, including the risk of falls and crushing.

# C - Pre-operation inspection

## 3 - Inspection and Functional test

### 3.1 - DAILY INSPECTION

Each day before the beginning of a new work session and with each change of operator, the machine must be subjected to a visual inspection and a complete functional test.



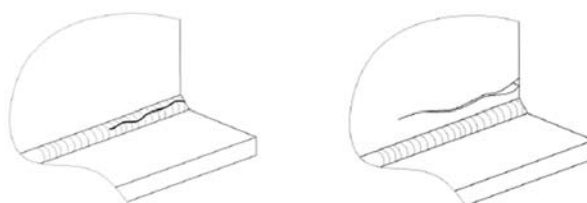
- Never use a defective or a malfunctioning aerial work platform.
- If any item on the check list is marked "No" during the inspection; machine must be tagged and placed out of service.
- Do not operate the machine until all identified items are corrected and it has been declared safe for operation.

In case of loose fasteners, refer to torque table value in maintenance book.

In case of leaks, replace the damaged part before use.

In case of structural part deformation (cracks, broken weld, paint chips) replace the part before use.

#### Sample of broken welds



We recommend these forms to be completed daily and stored to assist with your maintenance schedule.

Each action is depicted in the daily inspection sheet using the following symbols.

Use the detailed program below.

|                                                                                     |                   |                                                                                     |                         |                                                                                       |                                            |
|-------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------|--------------------------------------------|
|  | Oil change        |  | Lubrication-Lubrication |  | Tightening                                 |
|  | Levelling         |  | Systematic replacement  |  | Functional adjustments / Checks / Cleaning |
|  | Visual inspection |  | To check by test        |                                                                                       |                                            |

Serial number :  
Hours of operation :  
HAULOTTE Services® contract reference :  
Intervention record number :  
Date :  
Name :

Model :  
  
Signature :

# C

## - Pre-operation inspection

## OPTIMUM 8 - OPTIMUM 1931 E

|                                      |  | Page or associated procedure | Daily                                                                               | OK | NOK | Corrected | Comments |
|-----------------------------------------------------------------------------------------------------------------------|--|------------------------------|-------------------------------------------------------------------------------------|----|-----|-----------|----------|
| <b>Chassis assembly : Wheel, reducer, steering, wheel pivot</b>                                                       |  |                              |                                                                                     |    |     |           |          |
| Check state of tires/tyres and inflations                                                                             |  |                              |    |    |     |           |          |
| Clean the pads slide                                                                                                  |  |                              |    |    |     |           |          |
| <b>Batteries</b>                                                                                                      |  |                              |                                                                                     |    |     |           |          |
| Check the condition of the battery                                                                                    |  |                              |    |    |     |           |          |
| Check the operation of the lock on the engine casing                                                                  |  |                              |    |    |     |           |          |
| <b>Hydraulic : oils, filters and hoses</b>                                                                            |  |                              |                                                                                     |    |     |           |          |
| Check the hydraulic oil level (Top up the oil if necessary ; Machine stowed)                                          |  |                              |  |    |     |           |          |
| Check the clogging indicator on the hydraulic pressure filter (change if clogged)                                     |  |                              |  |    |     |           |          |
| Check the hoses, blocks and pumps, fittings, cylinders and the tank for the absence of leaks, deformations and damage |  |                              |  |    |     |           |          |
| <b>Platform</b>                                                                                                       |  |                              |                                                                                     |    |     |           |          |
| Test the automatic closure and locking of access basket                                                               |  |                              |  |    |     |           |          |
| Check that the harness anchor points are not cracked or damaged                                                       |  |                              |  |    |     |           |          |
| Clean the platform extension                                                                                          |  |                              |  |    |     |           |          |
| Check the quick ties and the good location of the guardrail                                                           |  |                              |  |    |     |           |          |

# C

## - Pre-operation inspection

## OPTIMUM 8 - OPTIMUM 1931 E

|                                                      |  | Page or associated procedure | Daily                                                                               | OK | NOK | Corrected | Comments |
|---------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|-------------------------------------------------------------------------------------|----|-----|-----------|----------|
| <b>General</b>                                                                                                                        |  |                              |                                                                                     |    |     |           |          |
| Check for the presence, cleanliness and readability of the manufacturer's plates, security labels, user manual and maintenance manual |  |                              |    |    |     |           |          |
| Check the cleanliness and readability of the control box                                                                              |  |                              |    |    |     |           |          |
| Test the opening and closure of covers (chassis, turntable, upper control box)                                                        |  |                              |    |    |     |           |          |
| Check the condition of electrical harnesses, cables and connectors                                                                    |  |                              |    |    |     |           |          |
| Check for the absence of abnormal noise and jerky movements                                                                           |  |                              |  |    |     |           |          |
| Check for the absence of visible deterioration and damage                                                                             |  |                              |  |    |     |           |          |
| Check for the absence of cracks, broken welds and chipped paintwork on the structure                                                  |  |                              |  |    |     |           |          |
| Check for the absence of missing or loose screws and bolts                                                                            |  |                              |  |    |     |           |          |
| Check for the absence of deformation, cracking and breakage of axis stops, bushing and axes                                           |  |                              |  |    |     |           |          |
| Check for the absence of foreign bodies in joints and sliding parts                                                                   |  |                              |  |    |     |           |          |
| <b>Safety devices</b>                                                                                                                 |  |                              |                                                                                     |    |     |           |          |
| Test the operation of the upper and lower control boxes: manipulators, switches, buttons, horn, emergency stops, screens and lights   |  |                              |  |    |     |           |          |
| Check the absence of visual and audible alarms                                                                                        |  |                              |  |    |     |           |          |
| Test the operation of the tilt system                                                                                                 |  |                              |  |    |     |           |          |
| Test the operation of the emergency lowering system                                                                                   |  |                              |  |    |     |           |          |
| Test the operation of the load control system - Calibrate if necessary                                                                |  |                              |  |    |     |           |          |

# C - Pre-operation inspection

## 4 - Safety functional checks

To protect the user and the machine, safety systems prevent the movement of the machine beyond its operating limits. These safety systems when activated immobilize the machine and prevent further movement.

The operator must be familiar with this technology and understand that is not a malfunction but an indication that the machine has reached an operation limit.

Aerial Work platforms are equipped with two control boxes which allow operators to safely use the machine. An auxiliary device (T-handle) is available on the chassis to assist with the emergency lowering of the machine. Each control box is equipped with an E-Stop button, which cuts all movements when pushed in.

The following checks describe the operation of the machine and the specific controls required.

The speed selector buttons at the ground control box and the platform control box act as the enable switch.

For the location and description of these controls :  refer to section B 3.2 and D 2 Ground control box and B 3.3 and D 3 Platform control box.

### 4.1 - E-STOP BUTTON CHECK

#### Ground control box E-stop button

| Step | Action                                                                                                                      |
|------|-----------------------------------------------------------------------------------------------------------------------------|
| 1    | Pull the E-stop button ( 15 ) at ground.                                                                                    |
| 2    | Turn the control box activation key switch ( 92 ) to the right to energize the ground control box. The indicators light up. |
| 3    | Push the E-stop button ( 15 ). The indicators go out.                                                                       |

#### Platform control box E-stop button

| Step | Action                                                                                                                       |
|------|------------------------------------------------------------------------------------------------------------------------------|
| 1    | Pull the E-stop push-button ( 46 ).                                                                                          |
| 2    | Turn the control box activation key switch ( 92 ) to the left to energize the platform control box. The indicators light up. |
| 3    | Push the E-stop button ( 46 ). The indicators go out.                                                                        |

### 4.2 - ACTIVATION OF CONTROLS

The deadman foot pedal (enable switch) must be activated to allow any movement.

The "Enable Switch" system depends on the machine configuration and will consist of one of the following :

- Enable trigger on platform control joystick.
- Foot pedal (enable switch) in the platform (Optional).
- Enable switch on the ACTIV'Screen on ground control box.

# C

## - Pre-operation inspection

### 4.3 - FAULT DETECTOR

The machine is equipped with an on-board fault detection system, which indicates the type of fault to the operator.

The fault is identified by a default code.

The default code is displayed at the ground control box.

According to the type of fault, the machine MAY switch into DOWNGRADEMODE mode and certain movements are prevented to maintain Operator's safety.

Do not use the machine until the fault has been corrected.

#### 4.3.1 - Buzzers test

##### From the ground control box

| Step | Action                                                                                                                               |
|------|--------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Pull the E-Stop buttons ( 15 ) at ground control box and ( 46 ) on the platform control box                                          |
| 2    | Turn the control box activation selector key ( 92 ) to the left or right to activate a control box. An audible signal (beep) sounds. |

### 4.4 - OVERLOAD SENSING SYSTEM

If the load on platform exceeds the maximum allowed load, no movement is possible.

At ground and platform control boxes a buzzer sounds and an indicator light warns the operator.

To return the machine to normal operation remove weight from the platform until the load is below the maximum allowed load.

***N.B.-:OVERLOAD DETECTION IS ALSO ACTIVE DURING LIFTING MOVEMENTS TO LIMIT THE EFFECTS OF CONTACT WITH AN OBSTACLE ABOVE THE PLATFORM. IN THIS CASE, THE LOWERING MOVEMENT CAN THEN BE ACTUATED TO DISENGAGE.***

# C - Pre-operation inspection

## 4.5 - SLOPE WARNING DEVICE

From each control box, a buzzer alerts the operator that the machine is not folded/stowed and is positioned on a slope exceeding the slope allowed.

**N.B.:-THE SLOPE SENSOR IS ONLY ACTIVE WHEN THE PLATFORM IS NOT IN THE STOWED POSITION.**

When machine is on a slope greater than the rated slope, with extending structure out of the stowed position.

- The DRIVE and LIFTING (RAISING) commands are deactivated.

All speeds are reduced

In this case, fully lower the platform and reposition the machine on level ground before raising the platform again :

### Daily check

| Step | Action                                                                                                                                                                                                                                  |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Put the machine in stowed position on a slope with an angle greater than the permitted inclination (Refer to  Section B 4.1 Technical specifications). |
| 2    | Check that the tilt indicator is on ( 27).                                                                                                                                                                                              |

## 4.6 - TRAVEL SPEED LIMITATION

Drive speed is proportional to control until the maximum speed is reached (machine in fully stowed position)

The only speed allowed when not in stowed position is microspeed (This speed is a default speed programmed into the machine).

## 4.7 - ELECTRONIC VARIABLE SPEED DRIVE

The machines are equipped with 2 electronic variable speed regulators configured for each function and manages the required power needed for each motor.



**Do not interchange the speed controllers/regulators between machines even if they are the same model.**

## 4.8 - MACHINE BRAKING

When electric power is cut off, the machine stops automatically.

Performance levels may be reduced in the following situations :

- Descending a bumpy ramp.
- Worn tires/tyres.
- Damp or muddy ground conditions.

Check that the brakes are applied automatically when the Drive joystick is released to the neutral position.

# C

## - Pre-operation inspection

### 4.9 - WHEEL MOTOR BRAKE RELEASE

Each time a drive command is activated, electric power releases the brakes.

### 4.10 - POTHOLE PROTECTION SYSTEM

The machine is equipped with a pothole mechanism under the chassis that is deployed automatically when the platform is out of the stowed position.

Check the system for damage and ensure that it deploys when the platform is raised.

### 4.11 - ON-BOARD CHARGER

Battery charging starts as soon as an external supply is connected to the battery charger.



When the battery pack is being charged with an external power supply, the machine's electric system is automatically deactivated.

### 4.12 - ANTI-CRUSH SYSTEM WHEN LOWERING

A device alerts people on the ground of a risk of crushing :

- Between the lifting systems.
- Under platform extension.

This device automatically operates between the transport height position limit and the lower position (Refer to Driving speed).

All versions, lowering control from the platform and ground control boxes :

- Slows the downward movement and emits an audible signal.

Standard CE, lowering movement from platform control box :

- At the end of the lowering operation, a 3 (second) automatic delay is initiated before resuming lowering, to avoid the risk of crushing.

# D - Operation instructions

## 1 - Operation

### 1.1 - INTRODUCTION

Only trained and authorized personnel shall be permitted to operate this aerial work platform.  
Prior to operation :

- Read, understand and obey all instructions and safety precautions in this manual and attached to the aerial work platform.
- Read, understand and obey all local regulations.
- Become familiar with the proper use of all controls and emergency systems.

### 1.2 - OPERATION FROM THE GROUND CONTROL BOX

- Turning "ON" and "OFF" of the machine is performed with selector key switch (92).
- Activation of a desired control box is achieved by turning the control box energizing selector switch ( 92 ) to the desired position.
- The ground control box is energized and is active ONLY when :
  - The emergency stop on the ground control box is not pushed in.
  - The machine is switched on.
  - Ground control box is selected.
- An E-stop button at each control box stops all movements when pressed in (deactivated).

***N.B.-:-AN E-STOP BUTTON PRESSED IN DOES NOT TURN OFF THE MAIN POWER SUPPLY TO THE MACHINE.***

- An Enable Switch ( 9 ) provided must be activated and maintained to authorize one or more function movements. If Enable Switch ( 9 ) is kept engaged without selecting a function movement for more than 8 s; Enable Switch is automatically de-activated.
- The release of "Enable switch" ( 9 ) while performing a movement stops all the movements. The stop of movements is progressive. If the Enable Switch system is re-pressed, the movement doesn't restart. It could restart only when the selected function switch/joystick is released to neutral position.
- All switches and joystick operating a movement, return automatically to neutral when released.
- The ground control box is designed for maintenance and emergency rescue operations only. Refer to  Section D 4.2 To rescue operator in platform.

# D

 - Operation instructions

- The status of the switches is tested automatically when the machine is switched on, and checked at every starting. A switch will be active only after it has been detected to be in neutral position. The following switches are not controlled :

- Beacon light (if fitted)

A buzzer beeps in the following conditions :

- Overload (if fitted).
- Machine out of stowed position and on a slope greater than allowable slope.
- Movements option.
- Indicators / Cluster : All indicators are checked after powering on the machine

# D - Operation instructions

## 1.3 - OPERATION FROM THE PLATFORM CONTROL BOX

- The platform control box can only be used if :
  - The E-stop buttons on both ground and platform control boxes are not pressed in.
  - Machine switched on at ground control box.
  - Platform control box selected from ground control box.
- A faulty joystick is not taken into account to control a movement. If this fault disappears, the movement is authorised again.
- An E-Stop button is present at each control box. When pushed in, it stops all functions movements.
- An Enable switch ( 123 ) or Foot Switch in the basket ( 245 ) is present and should be activated to authorize one or more function movements. If the Enable Switch is kept active for more than 8 seconds without selecting a function movement, then movement is disallowed. The enable switch must be released (reset) before movement can occur.
- The release of "Enable switch" ( 123 ) or Foot pedal switch in the basket ( 245 ) while performing a movement stops all the movements. The stop of movements is progressive. It could restart only when the selected function switch/joystick is released to neutral position.
- All switches and joystick operating a movement, return automatically to neutral when released.
- The status of the switches and joysticks is tested automatically when the machine is switched on. A switch or joystick will be active only after it has been detected in neutral position.

A buzzer beeps in the following conditions :

- Overload.
- Machine elevated on a slope greater than the rated slope.
- Indicators - All the indicators are tested
  - When the machine is switched on.



**While driving on a slope :**

- Always orientate the machine in the direction of the slope.
- Stow the machine completely.
- Do not travel down slopes in high speed.
- Do not drive fast in narrow or cluttered areas. Keep speed under control while making turns or sharp bends.

# D - Operation instructions

## 2 - Ground control box

### 2.1 - TO START AND STOP THE MACHINE

- Ensure that the E-Stop buttons ( 15 ) and ( 46 ) at the ground and platform control boxes are pulled out.
  - Turn the key of the control box activation switch ( 92 ) to the right to energize the ground control box.
- To shut-down the machine from the ground control box :
- Turn the control box activation selector ( 92 ) key to the center.
  - Push in the E-stop button ( 15 ).

**N.B.-:-THE ACTIV'SCREEN AUTOMATICALLY GOES INTO STANDBY IF IT IS NOT USED FOR AN EXTENDED PERIOD. TO SWITCH THE ACTIV'SCREEN BACK ON, TURN THE KEY SELECTOR TO POSITION OFF THEN FOLLOW THE START-UP PROCEDURE.**

### 2.2 - MOVEMENT CONTROL



Even at low movement speeds, use the controls with caution.

**N.B.-:-RELEASING THE ENABLE SWITCH WILL STOP ALL MOVEMENTS.**

#### Ground box controls (emergency station)

| Command                                                    |  | Action                                                                                  |
|------------------------------------------------------------|--|-----------------------------------------------------------------------------------------|
| Platform raising / lowering                                |  | Push the platform raising / lowering selector ( 106 ) upwards to raise the platform.    |
|                                                            |  | Press the platform raising / lowering selector ( 106 ) downwards to lower the platform. |
| Emergency lowering /<br>Emergency platform lowering halted |  | Pull the T-handle ( C107 ) to lower the platform.                                       |
|                                                            |  | Release the T-handle ( C107 ) to stop platform lowering.                                |



Once rescue operations are complete, write an incident report.

# D - Operation instructions

Pull T-handle for emergency lowering



***N.B.-:-PULLING ON TO THE T-HANDLE, IMMEDIATELY ACTIVATES THE EMERGENCY LOWERING OF THE PLATFORM.***



**ALWAYS** keep personnel and obstructions clear of the aerial work platform that might block the lowering.

## 2.3 - ADDITIONAL CONTROLS FROM THE GROUND CONTROL BOX

For the machines equipped with beacon light :

- Push the beacon light selector switch ( 105 ) upwards to turn ON the beacon light.
- Push the beacon light selector switch ( 105 ) downwards to turn OFF the beacon light.

# D

 - Operation instructions

## 3 - Platform control box

### 3.1 - TO START AND STOP THE MACHINE

To start the machine :

At the ground control box :

- The E-stop button on the ground control box must be in ON position (pulled out / activated).
- Turn the key on the control box activation selector switch ( 92 ) to the left to energize the platform control box.

At the platform control box :

- Pull the E-stop button (46).

To stop the machine :

- Push in the E-stop button (46).

***N.B.-:-THE ACTIV'SCREEN AUTOMATICALLY GOES INTO STANDBY IF IT IS NOT USED FOR AN EXTENDED PERIOD. TO SWITCH THE ACTIV'SCREEN BACK ON, PRESS THE EMERGENCY STOP BUTTON THEN FOLLOW THE START-UP PROCEDURE.***

# D - Operation instructions

## 3.2 - DRIVE AND STEER CONTROL

To control the direction and drive :

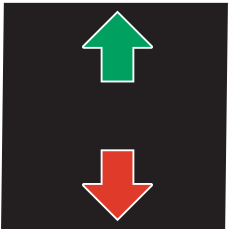
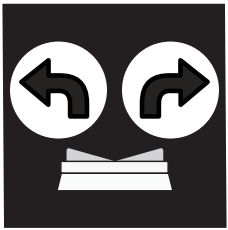
- Move the 2-position selector ( 112 ) to the right.
- The drive indicator ( 111 ) lights up.
- Simultaneously operate drive joystick ( 108 ) with joystick trigger (Enable switch ( 123 )) pressed in and maintained.

**N.B.-:FOR JAPAN ONLY - BOTH THE ENABLE SWITCH ( 123 ) AND FOOT PEDAL ( 245 ) MUST BE PRESSED TO ACTIVATE A FUNCTION.**

**N.B.-:FOR JAPAN ONLY - DRIVE AND STEER RESTRICTION WHEN ELEVATED, DEPENDING ON THE OPTION SELECTED AS SHOWN BELOW :**

- OFF-Drive and steering functions are allowed at full height.
- ON if > 0.5 m (1.6 ft) - Drive and steer functions are cut off
- ON if > 1.5 m (5.0 ft) - Drive and steer functions are cut off

**N.B.-:THE DRIVE AND LIFT SPEEDS ARE PROPORTIONAL TO THE POSITION OF THE JOYSTICK. PUSHING THE JOYSTICK COMPLETELY FORWARD OR BACKWARD, WILL RESULT IN MAXIMUM SPEED.**

| Command             |                                                                                     | Action                                                                                         |
|---------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Driving             |  | Move the drive joystick ( 108 ) forwards to drive the machine forwards.                        |
|                     |                                                                                     | Move the drive joystick ( 108 ) backwards to drive in reverse.                                 |
| Front-axle steering |  | Push the front-axle steering selector thumb switch ( 108 ) to the right to steer to the right. |
|                     |                                                                                     | Push the front-axle steering selector thumb switch ( 108 ) to the left to steer to the left.   |

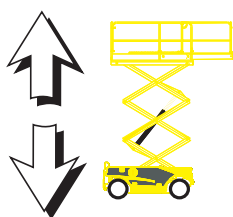
# D - Operation instructions

## 3.3 - MOVEMENT CONTROL

To operate raising/lowering function, move 2 position selector switch ( 112 ) to the left. Activate raising/lowering selector ( 110 ). Simultaneously operate joystick ( 108 ) with joystick trigger ( Enable switch ( 123 ) ) pressed in and maintained.

**N.B.:-FOR JAPAN ONLY - BOTH THE ENABLE SWITCH ( 123 ) AND FOOT PEDAL ( 245 ) MUST BE PRESSED TO ACTIVATE A FUNCTION.**

| Command                     | Action                                                                                |
|-----------------------------|---------------------------------------------------------------------------------------|
| Platform raising / lowering | Push the movement joystick ( 108 ) forwards to raise the platform.                    |
|                             | Push the movement joystick ( 108 ) backwards to lower the platform. (1). (2). (3) . . |



- (1.) When the platform is lowered to a height of 1,50 m(4 ft11 in) from the ground; a time delay is automatically activated for a few seconds, before any further lowering of the platform can commence  
 (2.) This is to avoid any risk of crushing  
 (3.) The alarm sounds

# D - Operation instructions

## 4 - Rescue and emergency procedures

### 4.1 - IN CASE OF POWER LOSS

In case of loss of the main power source, lower the basket (or platform) using the T-handle on the chassis.

In an emergency, if the operator has to exit the platform while it is elevated, the transfer of the operator must respect the following recommendations. :

- Exit onto a sturdy and safe structure.
- The occupant(s) must ensure that 2 lanyards are used for security/safety. One must be attached to the designated anchorage point on platform the occupant(s) is in and the other attached to the structure intended to get on.
- Occupant(s) must exit the current platform through the normal access.

***N.B.-:DO NOT DETACH THE LANYARD FROM THE CURRENT PLATFORM IF THE TRANSFER TO THE NEW STRUCTURE POSES ANY DANGER OR UNTIL THE TRANSFER IS SAFELY COMPLETED. DO NOT ATTEMPT TO CLIMB DOWN FROM THE PLATFORM. WAIT FOR ASSISTANCE TO LEAVE THE CRADLE SAFELY.***

### 4.2 - TO RESCUE OPERATOR IN PLATFORM

In a situation where an operator located in the platform needs to be rescued (for example in case of illness, injury or trapped against a structure making the control box inaccessible), the rescue personnel at ground level needs to obtain rapid and direct access to operating functions.

HAULOTTE® has implemented a control system for safely lowering the operator to the ground in the event of an emergency to enable him to receive the necessary treatment.

1. Turn the key of the control box activation switch ( 92 ) to the right to energize the ground control box. The platform box controls are de-energized.
2. Lower the platform from the ground control box.
3. Lower the platform using the platform raising/lowering selector ( 1 ) while simultaneously pressing and maintaining the Enable Switch ( 9 ).
4. Release it to halt lowering.

If a safety systems do not allow normal movement from the ground control box, lower the basket (or platform) using the T-handle on the chassis.



Once rescue operations are complete, write an incident report.

# D - Operation instructions

## 5 - Transportation

### 5.1 - PUTTING IN TRANSPORT POSITION

During loading, ensure that :

- The loading ramp can support the machine weight.
- The loading ramp is correctly attached to transport vehicle.
- The loading ramp has sufficient grip surface.
- The transport vehicle must be parked on a level surface and must be secured to prevent rolling away while machine is being loaded or unloaded.

To climb the slope, move progressively the drive joystick ( 108 ).

If the slope is too steep, use a winch in addition to traction.

Do not place yourself below or too close to the machine during loading.

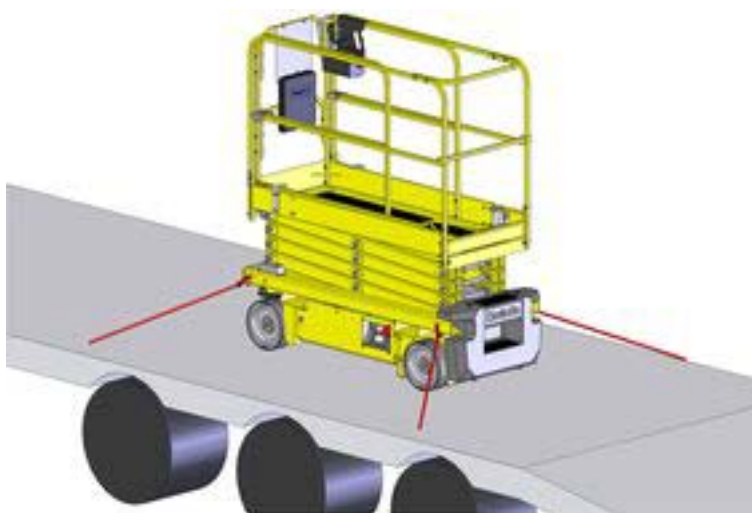
The machine must be completely in the stowed configuration :

- Check the platform is completely empty.
- Platform extension must be retracted in the locked position.
- Drive the machine onto the truck bed.
- Secure the machine to the tie down points provided (See picture).



The manual extension (if fitted) must be retracted and locked during transport or towing.

### 5.2 - MACHINE LAYOUT — OPTIMUM 8 AC — OPTIMUM 1931E



# D - Operation instructions

## 5.3 - UNLOADING

Before unloading, check that the machine is in good condition.

- Remove the tie downs.
- At ground control box turn control box activation switch ( 92 ) to the left to energize platform box.
- At the platform controls, with 2 position selector ( 112 ) turned to the right, carefully and progressively move drive joystick ( 108 ) with Enable switch ( 123 ) pressed and maintained.



**Warning :** Upon starting a machine that has been secured and transported, the safety system may detect a false overload preventing all movement from the platform control box.

To reinstate the system, lift the platform a few centimetres (inches) from the ground control box.

## 5.4 - TOWING



In the event of a machine breakdown, the machine can be towed a short distance to load it onto a transport vehicle :

- Ensure that no one is in the platform during towing.
- Before towing, ensure that the platform is fully lowered.
- The platform must be empty.
- ALWAYS keep personnel and obstructions clear of the aerial work platform when brakes are released.

To tow a broken-down machine, release brake (Refer to  Section D 5.4.1 - Brake release). Perform this operation on flat ground with wheels chocked.

In the towing configuration, the machine braking system is inactive. Use of a drawbar is recommended :

- Do not exceed the maximum freewheel speed (Refer to  Section B 4.1 - Technical specifications).
- Do not exceed a grade of 25%.

# D - Operation instructions

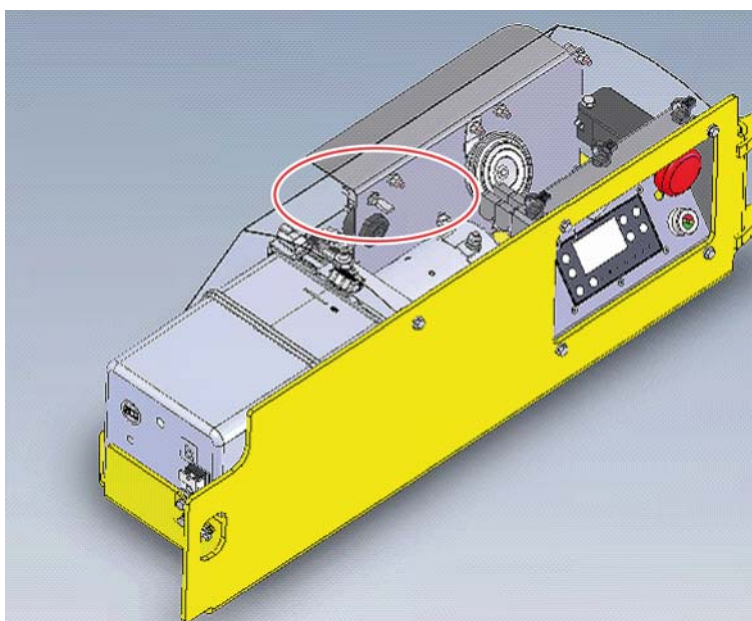
## 5.4.1 - Free wheel mode

To tow a broken-down machine, release brake.



Perform these operations on flat, horizontal ground. Failing that, block the wheels to immobilize the machine. During brake release operation, the machine is in free wheel mode and the brake system no longer functions.

If the machine is towed, the brakes on the drive wheels can be released using the switch located in the motor pump unit compartment.



**To release the machine's brakes, the following conditions must be met :**

- The platform control box or the ground control box must be selected.
- The machine must be completely stowed.
- No movement selected.
- The machine must not be tilted.

Push the brake release button for at least 3 s. An audible signal (beep) sounds.

Releasing the button disengages the brakes.

The brake release procedure stops automatically if the brake release button is pushed again, any actions are taken at the control boxes, the machine is turned off, or the control box in use is changed.



In the towing configuration, the machine is no longer slowed down. Use a drawbar to avoid any risk of accident.



Do not exceed 4.5 km/h (2.79 mph) .

# D - Operation instructions

## 5.5 - STORAGE



The machine can be stored in a designated area when not in use. If it has been stored for longer than 3 months without use then a periodic inspection must be conducted.



For engine storage condition follow engine supplier operator and maintenance manuals.

It is recommended that the machine is not stored or immobilized unfolded.

Ensure all access panels, doors and side compartment covers are shut and secured.

Turn the energizing key selector switch ( 92 ) at the ground control box to the "center" position to shut OFF the power.

Remove the energizing key to prevent unauthorized operation of the machine.



Storing of the machine with an obstacle under the extended platform is forbidden.



When machine is stored and not used for more than 1 week, check the battery's state of charge, recharge if necessary.



To avoid any risk of corrosion on rods of cylinders during a storage period of more than 1 month :

- In a normal atmospheric environment : perform a complete cycle for the cylinders every 2 months while they are in storage.
- In harsh environments (high levels of salinity in the atmosphere: close to the sea, industrial environment with chloride emissions and/or humidity >70%), we recommend applying the following protection process :
  - Wash and rinse the entire machine with plenty of clean water.
  - Dry all the cylinder rods using an air gun.
  - Apply a solvent-based oil leaving an oily film after evaporation of the solvent directly to all rods left exposed when the machine is in storage position.
  - Re-apply the product every month.



After washing the machine, make sure it is fully air-dry and does not contain moisture on corrosive parts (cylinders rods for example).

Do not wash any electrical components, particularly with high pressure washer. Wipe away dirt from around electrical components with a dry cloth.

# D

## - Operation instructions

### 5.6 - LOADING BY RAMP



To avoid any risk of sliding during loading, ensure that :

- The loading ramp can bear the load.
- The loading ramp is correctly attached.
- The loading ramp has sufficient grip.



If the slope exceeds 25% grade, use a winch to assist in loading on to the ramp.



Never place yourself below or too close to the machine during loading.

A wrong move can lead to the tipping over of the machine and cause serious bodily and material accidents.

### 5.7 - UNLOADING BY RAMP



Before operating, check that the machine is in good condition.

If the machine has been damaged during transportation, contact the transporter in writing

1. Remove the tie downs.
2. Start the machine.
3. The ramp is in good condition and of sufficient capacity. The lifting equipment ie. slings, shackles, hooks, lifting beam etc. are in good condition and of sufficient capacity.

D - Operation instructions

5.8 - LIFTING OPERATION

During loading / unloading operation, if it becomes necessary to lift the machine using an overhead crane, it is important to respect the following :

- Put the machine in stowed position (Extension retracted).
- Ensure the platform is empty.
- Verify that lifting accessories are in good operation and match the technical specifications listed below. It is important that the lifting devices are attached only to the designated lifting eyes.
- Each of the slings used for lifting the machine must be adjusted to keep the machine level and to minimize the risk of damage to the machine.

- Anchorage point for lifting are identified / labeled by the following symbol .
- ONLY trained and authorized personnel should attempt to lift the machine.



Never lift the machine with slings attached to counterweight.

Procedure for the use of slings



| Number of shackles | Number of slings | Length          | Maximum load per sling and shackle |
|--------------------|------------------|-----------------|------------------------------------|
| 4                  | 4                | 2 m / 6 ft 7 in | 1000 kg/ 2,205 lbs                 |

# D - Operation instructions

## 5.9 - LOADING AND UNLOADING WITH FORKLIFT

- Lower the platform.



**The machine must be in the fully stowed transport position.**

- Ensure that the machine controls are in the OFF position.
- Forklift used to load and unload must have adequate capacity (Refer to  Section B 4 Technical specifications).
- Adjust the forklift forks spread to match with the machine fork pockets.
- Carefully insert the forklift forks in the designated machine fork pockets.



**Never place yourself below or too close to the machine during loading.**

**A wrong move can lead to machine tipping over and may cause serious injuries and material damage.**  
Unloading

- Carefully lift the machine and make sure that the machine weight is properly balanced.
- Slowly lower the machine and place it on the ground.

# D - Operation instructions

## 6 - Cold Weather Recommendations

In extreme cold conditions, machines should be equipped with optional cold start kits.

**N.B.:-INITIAL STARTING SHOULD ALWAYS BE PERFORMED FROM THE GROUND CONTROL BOX.**

### 6.1 - ENVIRONMENTAL CONDITIONS

#### 6.1.1 - Hydraulic oil

External environmental conditions can reduce performance of the machine if the hydraulic oil temperature does not reach its optimum range.

It is recommended to use the hydraulic oil according to weather condition. Refer to the table below.

| Environmental conditions                                        | SAE Viscosity grade |
|-----------------------------------------------------------------|---------------------|
| Ambient temperature between - 15°C (5°F) and + 40°C (+ 104°F)   | HV 46               |
| Ambient temperature between - 35°C (- 31°F) and + 35°C (+ 95°F) | HV 32               |
| Ambient temperature between 0°C (+ 32°F) and + 45°C (+ 113°F)   | HV 68               |

**N.B.:-IT IS RECOMMENDED TO REPLACE LOW TEMPERATURE OIL AS THE AMBIENT TEMPERATURE REACHES + 15°C (59°F). IT IS NOT ADVISABLE TO MIX OILS OF DIFFERENT BRANDS OR TYPES.**

D - Operation instructions

7 - Battery care and maintenance

7.1 - BATTERY RECHARGE

7.1.1 - On-board charger

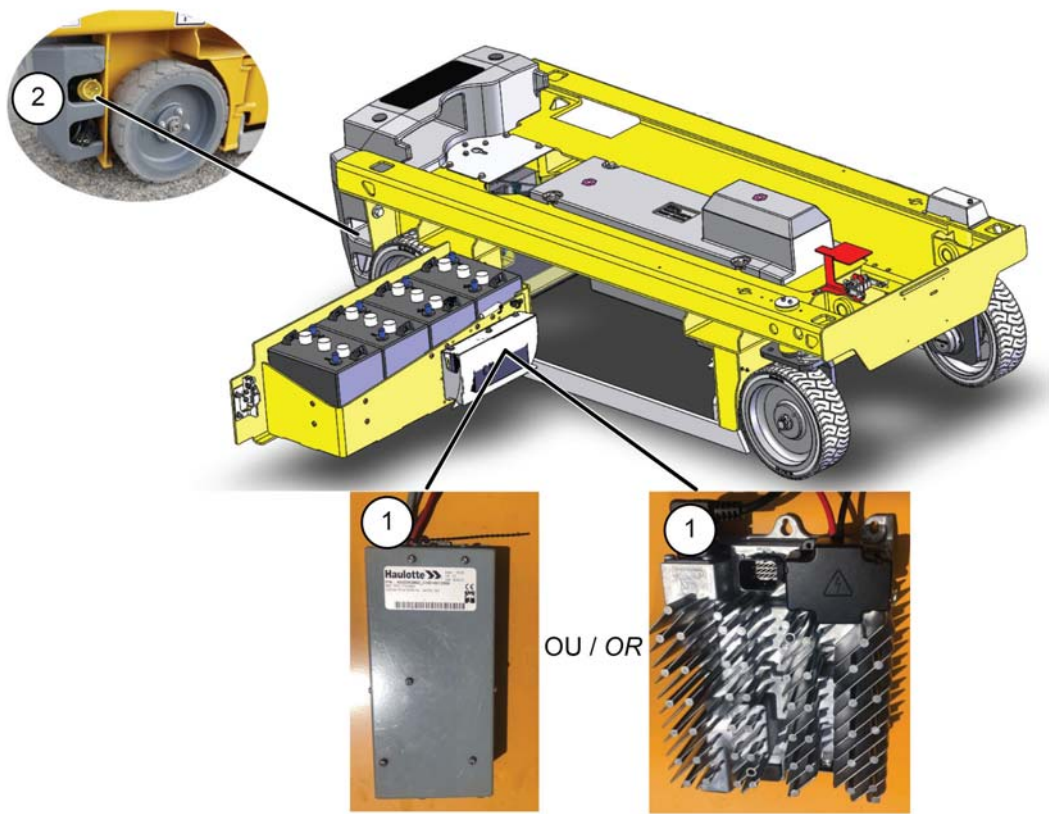
The on-board charger is used to charge the semi-drive batteries. The charger's power is 750W-1000W and the maximum intensity is 10A for 220V - 240V and 110V networks. Battery charging starts as soon as it is connected via the mains supply.

***N.B.-:No MOVEMENTS ARE ALLOWED DURING BATTERIES CHARGING CYCLE AND WHILE CONNECTED TO AN EXTERNAL POWER OUTLET.***

|                       |                                                                                    |                                                                                      |
|-----------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                       |  |  |
| Battery charger       | 36V / 35A                                                                          | 36V / 27A                                                                            |
| Electric power supply | 190 - 265 Vac / 50Hz / 10A                                                         | 85 - 265 Vac / 50-60Hz / 8A max                                                      |
| Battery voltage       | 24V                                                                                |                                                                                      |
| Charging time         | 10h                                                                                |                                                                                      |

D - Operation instructions

Locations



| Marking | Description                 |
|---------|-----------------------------|
| 1       | On-board charger            |
| 2       | Battery charger mains cable |



Never replace the charging cable without written permission from HAULOTTE®.

# D - Operation instructions

## 7.1.2 - Battery charging



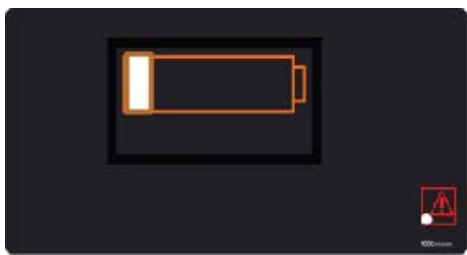
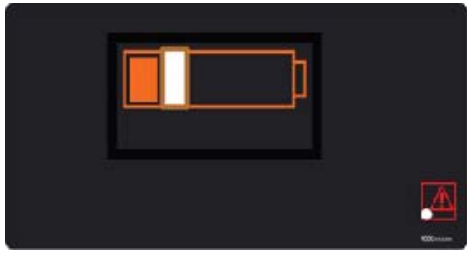
- Do not use an external charger or jump the batteries.
- Ensure the mains supply is compatible :
- Do not use a cable reel with the cable wound up.
- The socket must be able to deliver a current of 10 A.

Duration of charge cycle :

- 10 hours approximately, on 220 - 240 V AC network.

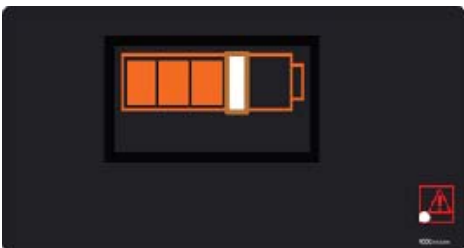
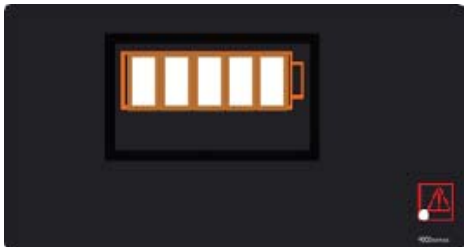
The charge cycle stops automatically when charging is complete.

It can take up to 24 hours for a full charge if the battery levels are very low (Charge status less than 5 %).

|                            |                                                                                     |                          |
|----------------------------|-------------------------------------------------------------------------------------|--------------------------|
| Internal parameter update  |   |                          |
| Charging is going to start |  |                          |
| The first segment flashes  |  | Charge from 0 % to 20 %  |
| The second segment flashes |  | Charge from 20 % to 40 % |

# D

## - Operation instructions

|                            |                                                                                     |                                            |
|----------------------------|-------------------------------------------------------------------------------------|--------------------------------------------|
| The third segment flashes  |    | Charge from 40 % to 60 %                   |
| The fourth segment flashes |    | Charge from 60 % to 80 %                   |
| The fifth segment flashes  |   | Charge from 80 % to 100 %                  |
| Battery equalisation       |  | Leave the batteries on charge(3h)          |
| Charging is complete       |  | Unplug the charging cable from the machine |

# D - Operation instructions

## 7.2 - BATTERY CARE AND MAINTENANCE

### 7.2.1 - Filling batteries

The procedure described below only applies to open lead acid batteries. 6 V open lead-acid battery blocks are composed of 3 2 V single cells connected together in series. The cells are immersed in an electrolyte composed of 1/3 sulfuric acid and 2/3 deionized water.



The batteries must **ONLY** be filled after charging them fully. Failure to comply with these instructions may lead to the electrolyte overflowing, etc...



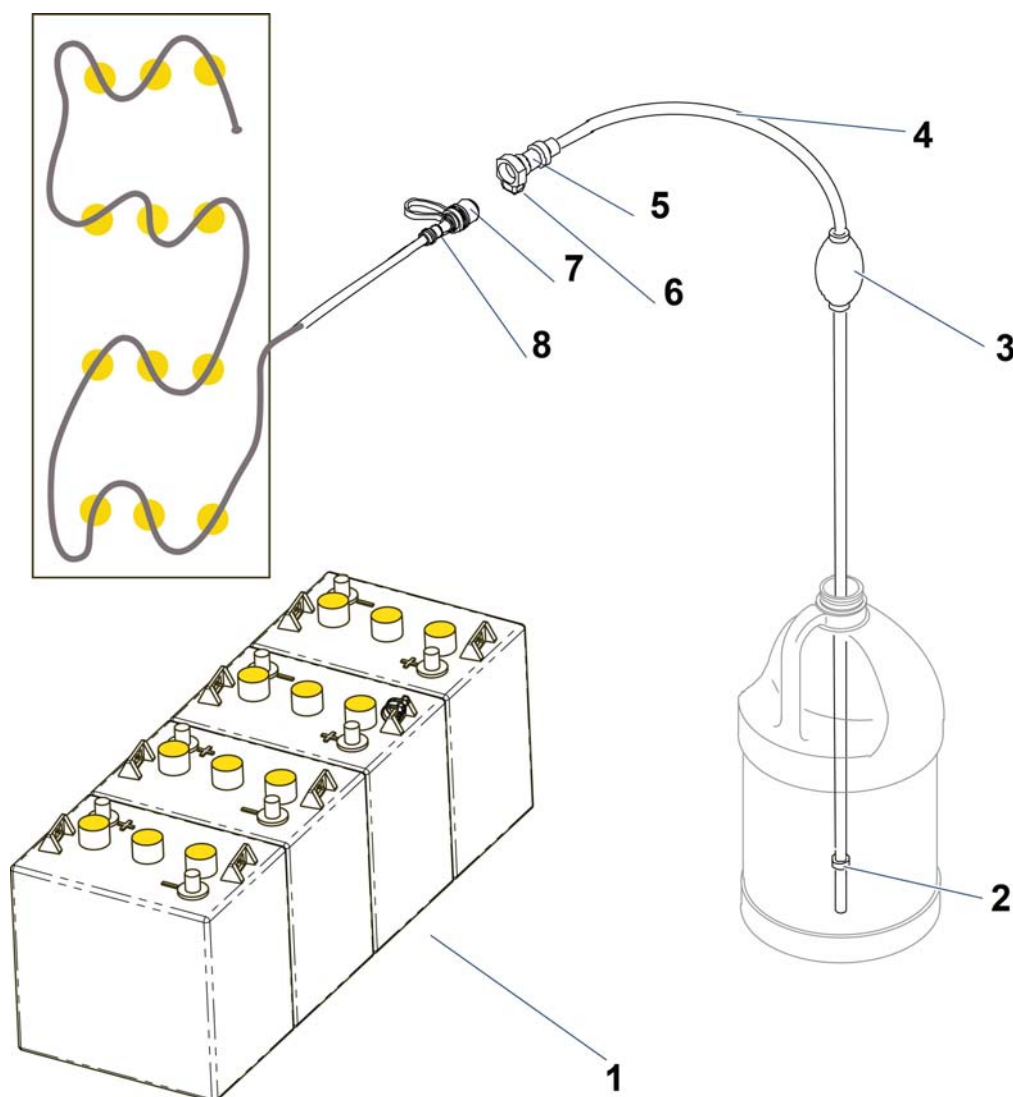
The batteries **MUST** be filled when necessary or the batteries may be irreparably damaged. The lead plates oxidize in the air. They must always be covered with electrolyte.



The water level in the batteries cannot be topped up if the temperature is lower than 0° as the distilled or deionized water freezes in the centralized filling system.

#### 7.2.1.1 - Procedure to fill the batteries manually – Option

##### Single-Point Watering System



# D

## - Operation instructions

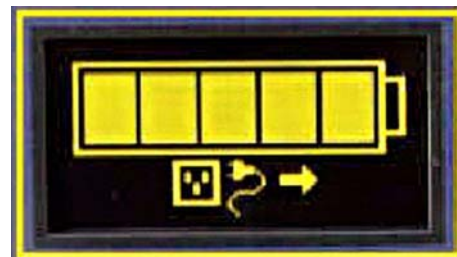
| Marking | Description     |
|---------|-----------------|
| 1       | Battery         |
| 2       | Filtered intake |
| 3       | Hand pump       |
| 4       | Hose            |
| 5       | Female adapter  |
| 6       | Push-button     |
| 7       | Dust cover      |
| 8       | Male adapter    |

***N.B.-:-COMPLETELY CHARGE THE BATTERIES BEFORE CONNECTING THE DISTILLED-WATER-FILLING UNIT.***

# D - Operation instructions

## Procedure :

1. Launch a full charge of the battery and check the charge indicator.
2. Disconnect the batteries charger and put back the plug in its housing.



Levelling of the elements should always be done after charging the batteries. Watering a battery before charge (or with a low charge level) can lead to boil-over, resulting in potential bodily injury and potential damage to the watering system and the battery.

3. Open the battery compartment.



4. Immerse the filtered inlet ( 2 ) of the transparent hose ( 4 ) fitted with a hand pump ( 3 ) in a demineralized water canister (Supplied with the machine).
5. Press the hand pump ( 3 ) to prime it until the water rises in the hose ( 4 )
6. Once the hand pump ( 3 ) is primed, remove the male connector ( 8 ) cap ( 7 ) from the black supply tube assembly
7. Connect the female connector ( 5 ) quick-hitch from the centralized filling system, including the hand-pump, to the male connector ( 8 ).
8. Press firmly on the hand pump to bring the distilled water to the batteries ( 1 ).
9. When the bulb ( 3 ) becomes resistant, this means that all the battery cells are filled appropriately.
10. Then uncouple the female connector ( 5 ) from the male connector ( 8 ) filling tube by pressing on the yellow button ( 6 ), then replace the cap ( 7 ) on the machine hose.
11. Close the battery compartment again.

# D

## - Operation instructions

### 7.2.1.2 - Procedure to fill the batteries automatically – Option

1. Open the battery compartment.
2. Open the cap.
3. Fill the can with demineralized water.
4. Correctly close the plug and battery compartment.
5. Fully recharge the batteries in order to restart an automatic filling or activate the automatic filling from the Activ'Screen of the ground control box.



# D - Operation instructions

## 7.2.2 - Desulfation charge

Normal battery use leads to sulfatation of the lead plates during discharge (Formation of lead sulfate). Recharging the battery dissolves the lead sulfate. The plates are desulfated.

Moreover, sulfatation also appears if the battery self-discharges during storage in a low state-of-charge (< 70%).

As the battery ages, the lead sulfate may become harder and harder and increasingly difficult to eliminate by normal charging. This leads to a loss of autonomy. The desulfation charge is a way of regenerating the battery.



To improve the efficiency of the desulfation charge, you are advised to launch it for a battery discharged to a state-of-charge less than 30%.

Procedure :

- Go to the machine set-up menu → 3.3 Machine config → 3.3.1 Option setting → Desulfation charge.

### Desulfation charge



- The option is active and will be implemented during the next mains charge.
- Charging time is increased up to 72 h.
- For high efficiency in this charging mode, the batteries must be below 30%.

# D - Operation instructions

## 7.3 - OPTIMISE BATTERY LIFE

To optimize battery performance and life-time, you are advised to follow the recommendations below :

- Carry out regular battery maintenance as described.
- Do not store the machine discharged (Duration greater than 72 hours).
- Carry out full charges regularly.
- Do not keep a machine in a state-of-charge less than 70% for no useful purpose.
- **A full recharge of the batteries is recommended every 30 days that the machine is used.**



Keep the top of the batteries clean and dry. Incorrect connection or corrosion may cause a high loss of power.

|                                                      | Full charge | Filling control | Desulfation charge |
|------------------------------------------------------|-------------|-----------------|--------------------|
| <b>In use</b>                                        |             |                 |                    |
| As soon as possible                                  | X           |                 |                    |
| If state-of-charge < 50% at the end of a working day | X           |                 |                    |
| Every 30 days of use                                 | X           |                 |                    |
| Before placing in storage                            | X           |                 |                    |
| 1 time a week                                        | X           | X               |                    |
| 1 time every 2 weeks                                 |             | X               |                    |
| 1 time a month                                       |             | X               |                    |
| 1 time every 6 months                                |             |                 | X                  |
| <b>In storage</b>                                    |             |                 |                    |
| 1 time a month                                       | X           |                 |                    |



The battery's water consumption depends on its use. You are advised to check the water level 1 time a week.



# Notes

[illegible]

## E - General Specifications



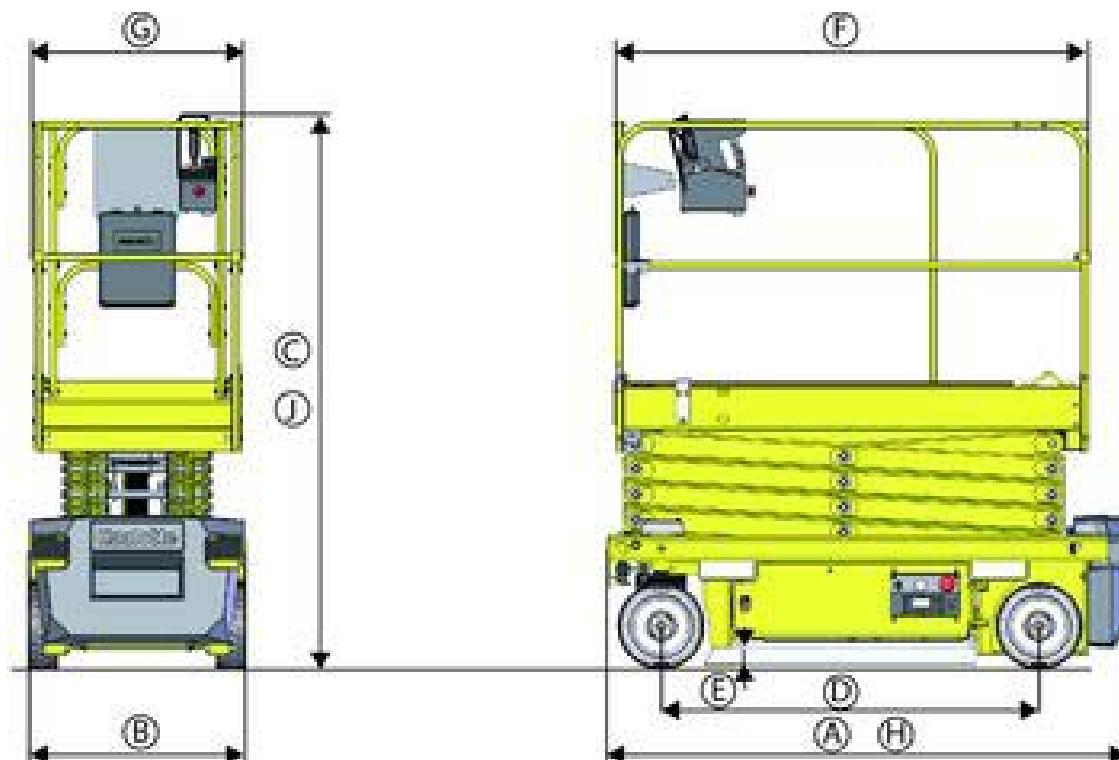
## Notes

[illegible]

# E - General Specifications

## 1 - Machine dimensions

**Stowed / Transport position :** Configuration that takes the minimum floor space necessary for storage and / or delivery of the machine - **Access position.**



# E - General Specifications

## CE, AS and EAC standards

| Machine |                                                                            | OPTIMUM 8       |                       |
|---------|----------------------------------------------------------------------------|-----------------|-----------------------|
| Marking | Specifications - Dimensions                                                | SI              | Imp.                  |
| A       | Overall length of machine                                                  | 1,89 m          | 6 ft 2 in             |
| B       | Overall width of machine                                                   | 0,79 m          | 2 ft 7 in             |
| C       | Overall height of machine                                                  | 1,99 m          | 6 ft 6 in             |
| D       | Wheel base                                                                 | 1,38 m          | 4 ft 6 in             |
| E       | Ground clearance - Pothole mechanism deployed with platform raised         | 2,2 cm          | 1 in                  |
|         | Ground clearance - Pothole mechanism retracted with platform fully lowered | 6 cm            | 3 in                  |
| F X G   | Platform dimensions                                                        | 1,73 m x 0,74 m | 5 ft 8 in x 2 ft 5 in |
| H       | Storage length                                                             | 1,89 m          | 6 ft 2 in             |
| J       | Storage height                                                             | 1,99 m          | 6 ft 6 in             |

## ANSI and CSA standards

| Machine |                                                                            | OPTIMUM 1931 E  |                       |
|---------|----------------------------------------------------------------------------|-----------------|-----------------------|
| Marking | Specifications - Dimensions                                                | SI              | Imp.                  |
| A       | Overall length of machine                                                  | 1,89 m          | 6 ft 2 in             |
| B       | Overall width of machine                                                   | 0,79 m          | 2 ft 7 in             |
| C       | Overall height of machine                                                  | 1,99 m          | 6 ft 6 in             |
| D       | Wheel base                                                                 | 1,38 m          | 4 ft 6 in             |
| E       | Ground clearance - Pothole mechanism deployed with platform raised         | 2,2 cm          | 1 in                  |
|         | Ground clearance - Pothole mechanism retracted with platform fully lowered | 6 cm            | 3 in                  |
| F X G   | Platform dimensions                                                        | 1,73 m x 0,74 m | 5 ft 8 in x 2 ft 5 in |
| H       | Storage length                                                             | 1,89 m          | 6 ft 2 in             |
| J       | Storage height                                                             | 1,99 m          | 6 ft 6 in             |

# E - General Specifications

## 2 - Major component masses

| Specifications                     | OPTIMUM 8 | OPTIMUM 1931 E |
|------------------------------------|-----------|----------------|
|                                    | SI        | Imp.           |
| Frame assembly mass                | 948 kg    | 2090 lbs       |
| Scissors assembly mass             | 430 kg    | 950 lbs        |
| Platform assembly mass             | 125 kg    | 275 lbs        |
| Drive wheel mass                   | 19 kg     | 40 lbs         |
| Steer wheel mass                   | 19 kg     | 40 lbs         |
| Central counterweight mass         | 248 kg    | 550 lbs        |
| Moulded (Steps) counterweight mass | 244 kg    | 540 lbs        |

## 3 - Acoustics and vibrations

The acoustics and vibrations specifications are based upon the following conditions :

- The airborne noise emissions at workstation are determined per European Directive 2006/42/CE.
- The guaranteed sound power level LWA (displayed on the product) is determined per European Directive 2000/14/CE.
- The vibrations transmitted by the machinery to the hand/arm system and to the whole body are determined per European Directive 2006/42/CE.

| Specifications                      |                                                                                                                     |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Sound pressure level at workstation | < 70 dBA                                                                                                            |
| Vibrations hand/arm                 | Vibration transmitted by this MEWP to the hand-arm does not exceed 2,5 m/s <sup>2</sup> (98,4 in/s <sup>2</sup> )   |
| Vibrations whole body               | Vibration transmitted by this MEWP to the whole body does not exceed 0,5 m/s <sup>2</sup> (19,6 in/s <sup>2</sup> ) |

# E - General Specifications

## 4 - Wheel/Tire assembly

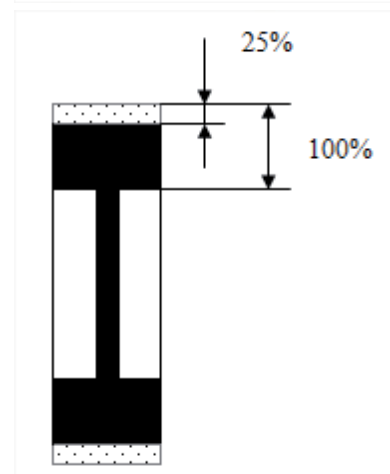
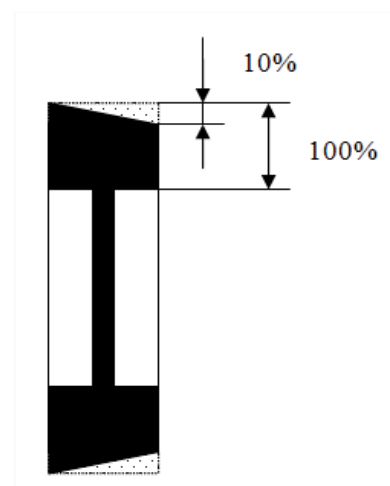
### 4.1 - TECHNICAL SPECIFICATIONS

| Component        | Standard wheel                     |
|------------------|------------------------------------|
| Reference number | Solideal                           |
| Type             | Solid tires/tyres                  |
| Size             | 316 mm / 108 mm (12,5 in/ 4,25 in) |
| Torque           | 115 Nm (84.81 ft lbs)              |

### 4.2 - INSPECTION AND MAINTENANCE

Replace the wheels and the tires if any of the following conditions exist :

- Presence of cracks, damage, deformation or other faults on the hub
- Damage to the tire :
  - Cut or hole > 3 cm (2 in) in the rubber side wall.
  - Blister or pronounced lump on the external and lateral wall.
  - Damaged wheel stud.
  - Damage or wear on the side wall to the extent that the reinforcing wire is visible.
- Consistent wear of the ground contact surface greater than 25%



Tires and rims are critical components for the stability of the machine. For safety reasons :

- Use only HAULOTTE® spare parts according to the technical characteristics of the machine. Refer to the spare parts catalog.
- Do not replace factory-installed tires with tires of different specifications or ply rating.

# E

## - General Specifications

### 4.2.1 - Procedure of replacement

- Slightly lift the machine using the lifting points of the frame.
- Place a wooden spacer under the frame to support the machine after lifting off the ground.



- Straighten the bent tooth of the washer which restricts the nut rotation. Use a screwdriver and a hammer.

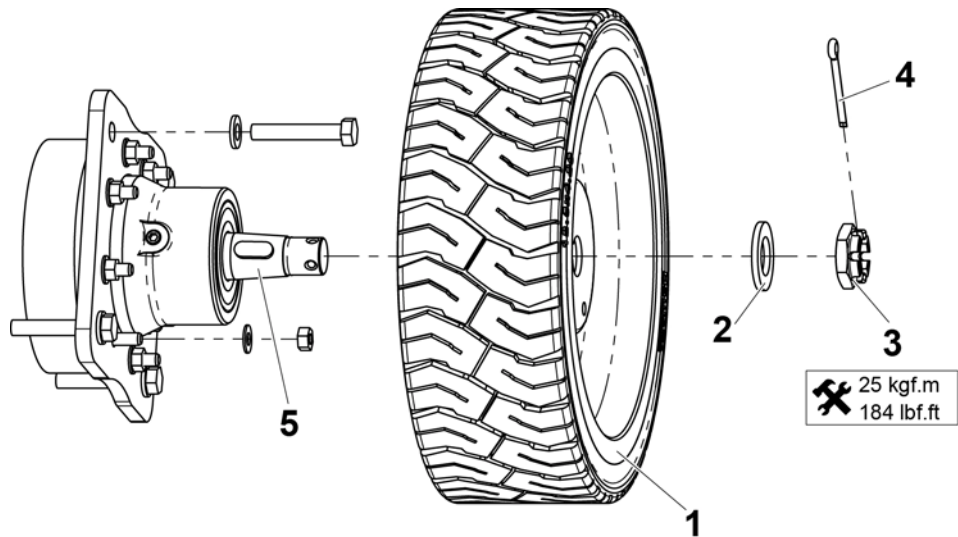


- Use the locknut socket TMFS5 to loosen the nut.
- Remove the nut and the washer.
- Remove the wheel (use an extractor if necessary).



# E - General Specifications

Reassembly of the wheel



| Marking | Description |
|---------|-------------|
| 1       | Wheel       |
| 2       | Washer      |
| 3       | Nut         |
| 4       | Pin         |
| 5       | Motor shaft |

- Use a new flat washer (2700500110).
- Use a new nut (4000503700).

# E

## - General Specifications

1. Check that the shaft key is well positioned in the motor shaft.
2. Mount the wheel on the motor shaft.
3. Install the washer first then the nut.
4. Tighten the wheel nut to the recommended torque : 250 Nm (184 ft.lbs).
5. Add tightening until a groove of the nut is in coincidence with one hole of the shaft of the motoreducer.
6. Insert the pin (2352101250) into its seating.
7. Bend over the cotter pin legs to secure the nut.



# E - General Specifications

## 5 - Options

### 5.1 - PIPE HOLDER OPTION

#### 5.1.1 - Description

This attachment is an assembly designed to transport pipes and tubes. The assembly comprises of 2 cradles securely attached to the platform. The tube should be placed in the cradles and securely fixed to them with a strap.

#### 5.1.2 - Characteristics

| Specifications                         | OPTIMUM 8                          | OPTIMUM 1931 E                   |
|----------------------------------------|------------------------------------|----------------------------------|
|                                        | SI                                 | Imp.                             |
| Weight of the carrier                  | 9 kg                               | 20 lbs                           |
| Weight of the equipment on the carrier | 50 kg                              | 110 lbs                          |
| Maximum load surface                   | 0,6 m <sup>2</sup> (Ø 0,2 m x 3 m) | 6.46 sq.ft (Ø 8 in x 9 ft 10 in) |
| Maximum wind speed allowed             | 0 m/s - 0 km/h                     | 0 mph                            |

#### 5.1.3 - Safety precautions



- Please read and assimilate the instructions before using the attachment.
- This attachment is designed for transporting pipes and tubes. Do not use this attachment for transporting other types of load. .
- Do not suspend loads.
- Do not overload the attachment and ensure that the material is correctly attached by straps.
- Do not exceed the maximum allowable platform capacity. The combined weight of the attachment, load, the occupants, the tools and any other equipment must not exceed the maximum allowable platform capacity.
- Do not load tubes whose surface area exceeds the maximum authorized surface area. Exposing an additional surface area to the wind reduces machine stability. Do not install any other attachments that increase the surface area exposed to the wind.
- Do not use the machine if the wind speed exceeds the authorized limit of the attachment.
- The cradles should always be positioned such that they are within the platform. Position the bottom end of the cradles such that they are resting on the platform floor.
- When maneuvering, ensure you maintain a safe distance between the load and the obstacles in the work environment.

# E - General Specifications

## 5.1.4 - Pre-operation inspection

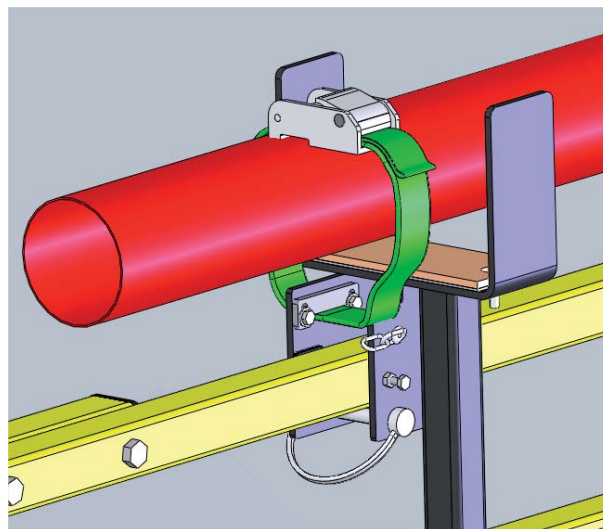


- Check that the cradle has no cracks or other damage.
- Check that the cradle is correctly installed and secured to the platform (Ensure fastening screws are tightened and pins correctly positioned).
- Check that the information decal is present on the cradle and is legible.
- Check that the strap(s) is(are) not twisted or torn.
- Check that the position of the load and attachment is not obstructing access to the platform or the controls.
- Check that the position of the attachment and the load is not reducing visibility during maneuvers in the work environment.

## 5.1.5 - Operation

- Position and centre the load to rest on the 2 cradles.
- Securely attach the load to each cradle with supplied straps.

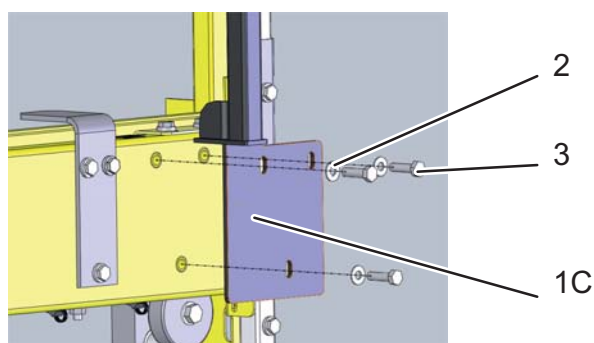
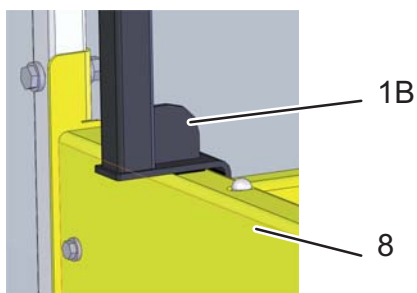
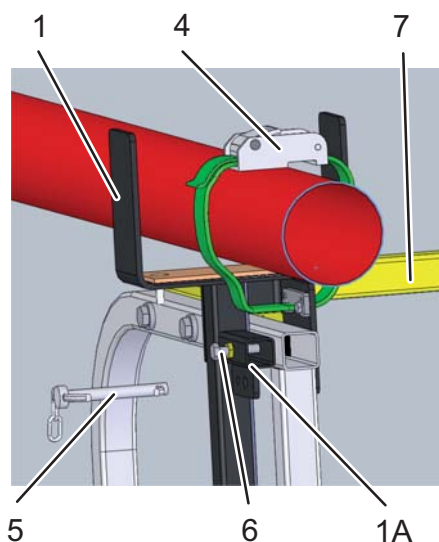
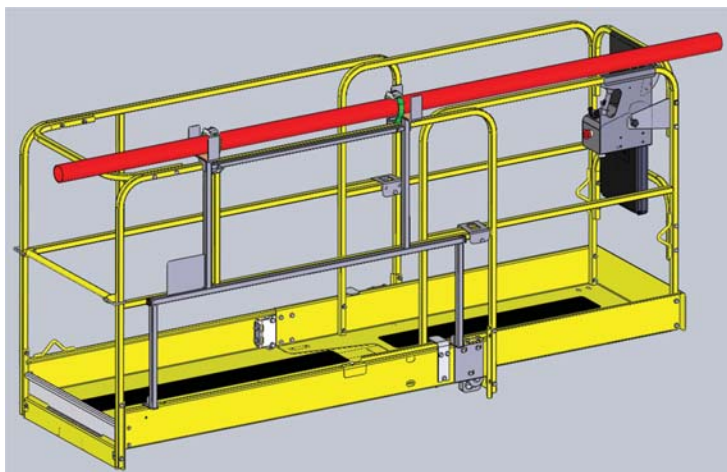
### Strapping example(s)



# E - General Specifications

## 5.1.6 - Disassembly - Assembly

### OPTIMUM 8 / 1931E



| Marking          | Description      |
|------------------|------------------|
| 1 - 1A - 1B - 1C | Carrier          |
| 2                | Spring washer    |
| 3                | Fastening screw  |
| 4                | Strap            |
| 5                | Dowel pin        |
| 6                | Adjustment screw |
| 7                | Guardrail        |
| 8                | Platform         |

- Straddle the support pipes (1, 1A, 1B) and (1C) on the structure of the fixed or folding guard rails (7).
- Lock in place with the pin (5).
- Tighten the 3 screws (3) and 3 washers (2) to the recommended torque

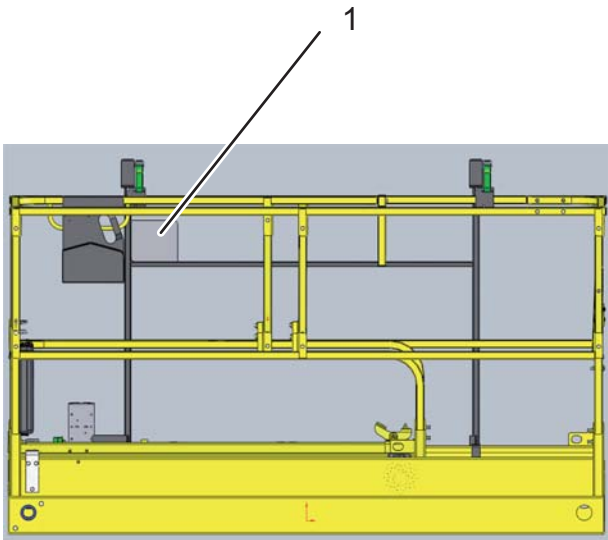
**N.B.-:-TORQUE REQUIREMENTS : 22 NM (16 FT LBS)**

- Pre-operation test : Place and secure the load of 50 kg (110 lbs) max. on the cradle. Ensure that the cradle can support the load and that there is no visual structural damage.

# E - General Specifications

## 5.1.7 - Specific decals

Location of the decals



OPTIMUM 8 / 1931E

| Marking | Description         | Quantity | Part number                                                                                                                                  |
|---------|---------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Risk of overturning | 1        | In english CE - ANSI : 4000676730<br>In french CE - ANSI : 4000676710<br>In spanish CE - ANSI: 4000676720<br>In german CE - ANSI: 4000673340 |

# E

## - General Specifications

### 5.2 - FOLDING GUARDRAILS

#### 5.2.1 - Description

Folding guardrails system is designed to allow guardrails to be lowered to reduce the overall height of the machine.

This system facilitates moving the machine through low height doorways/passages.

#### 5.2.2 - Safety precautions



- Fully lower the platform to the stowed position.
- Take care to avoid trapping the hands while folding the guardrails.
- User must wear gloves.
- Keep hands clear of pinch points.
- Perform the folding of the guardrails from outside of the platform.

A

B

C

D

E

F

G

H

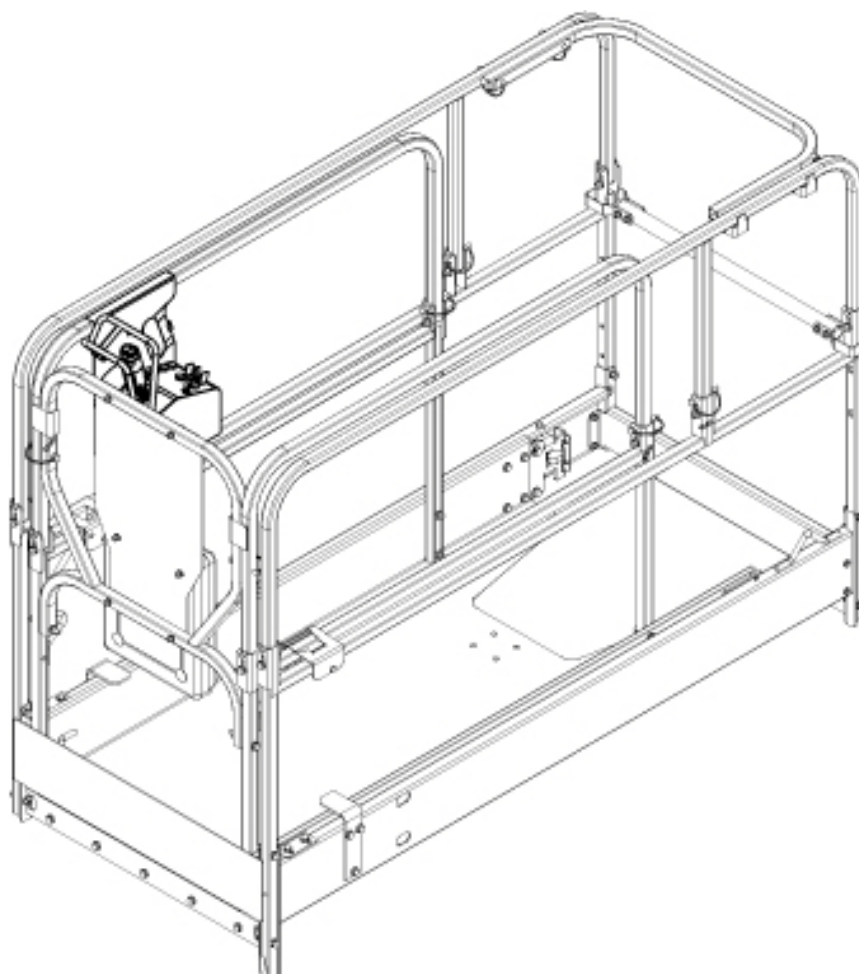
I

# E

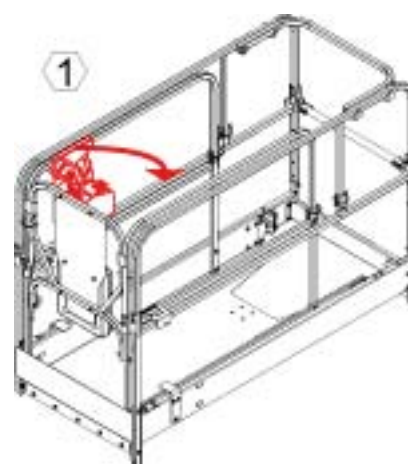
 - General Specifications

## 5.2.3 - Fold down operation

- Extension deck must be fully retracted and in locked position.
- The intermediate sliding entrance bar must be at its lowest position.



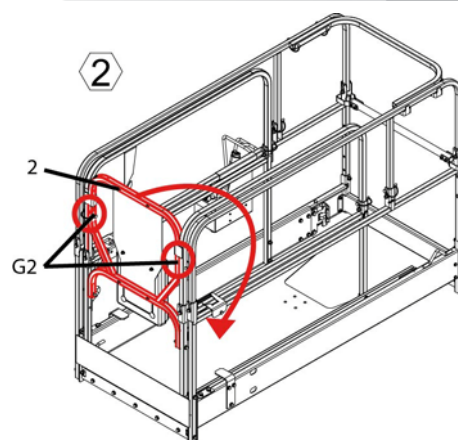
Remove platform control box from its designated position and place it on platform floor



# E - General Specifications

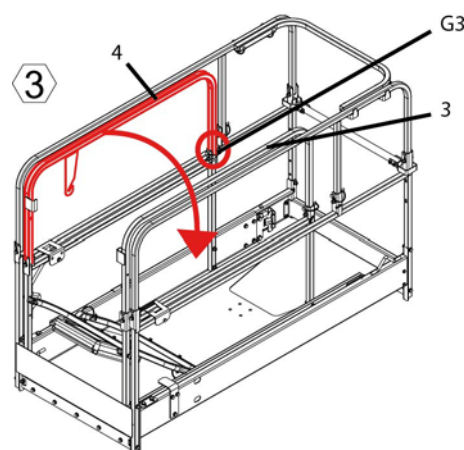
Remove the 2 pins ( G2 ) from the platform front guardrails.

Tip element ( 2 ) inwards onto the platform floor.



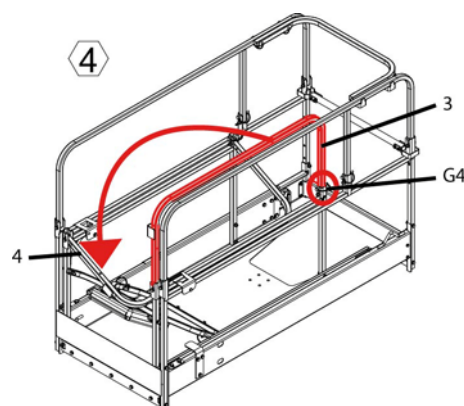
Remove pin ( G3 ) from the right hand extension guardrail.

Lift the guardrail and slowly tip it inwards until it contacts element ( 3 ).



Remove pin ( G4 ) from the left hand extension guardrail.

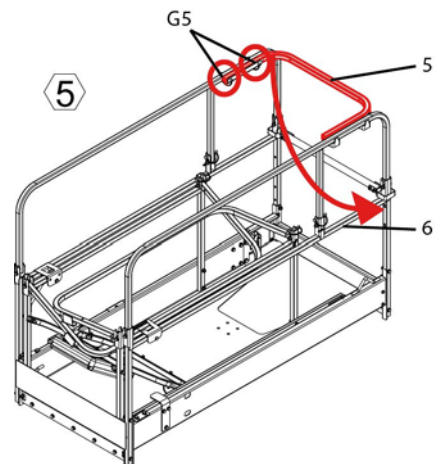
Lift the guardrail and slowly tip it inwards until it contacts element ( 4 ).



# E - General Specifications

Remove the 2 pins ( G5 ).

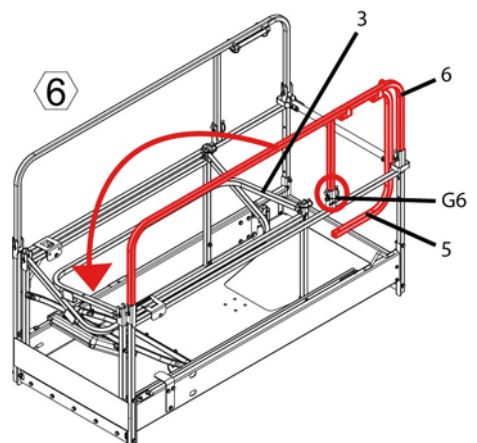
Lift and tip inwards and down until it contacts the element ( 6 ).



Remove the pin ( G6 ).

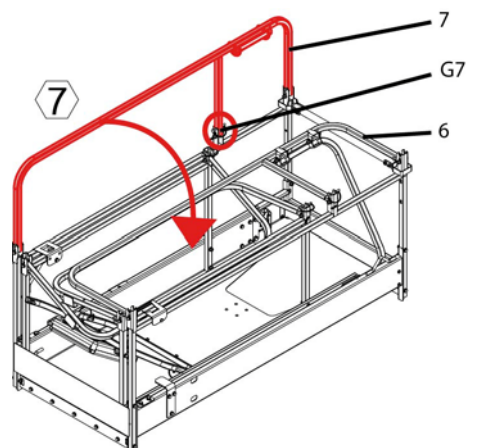
Lift and tip left hand main railing inwards until it contacts the element ( 3 ).

Do not release the element ( 5 ).



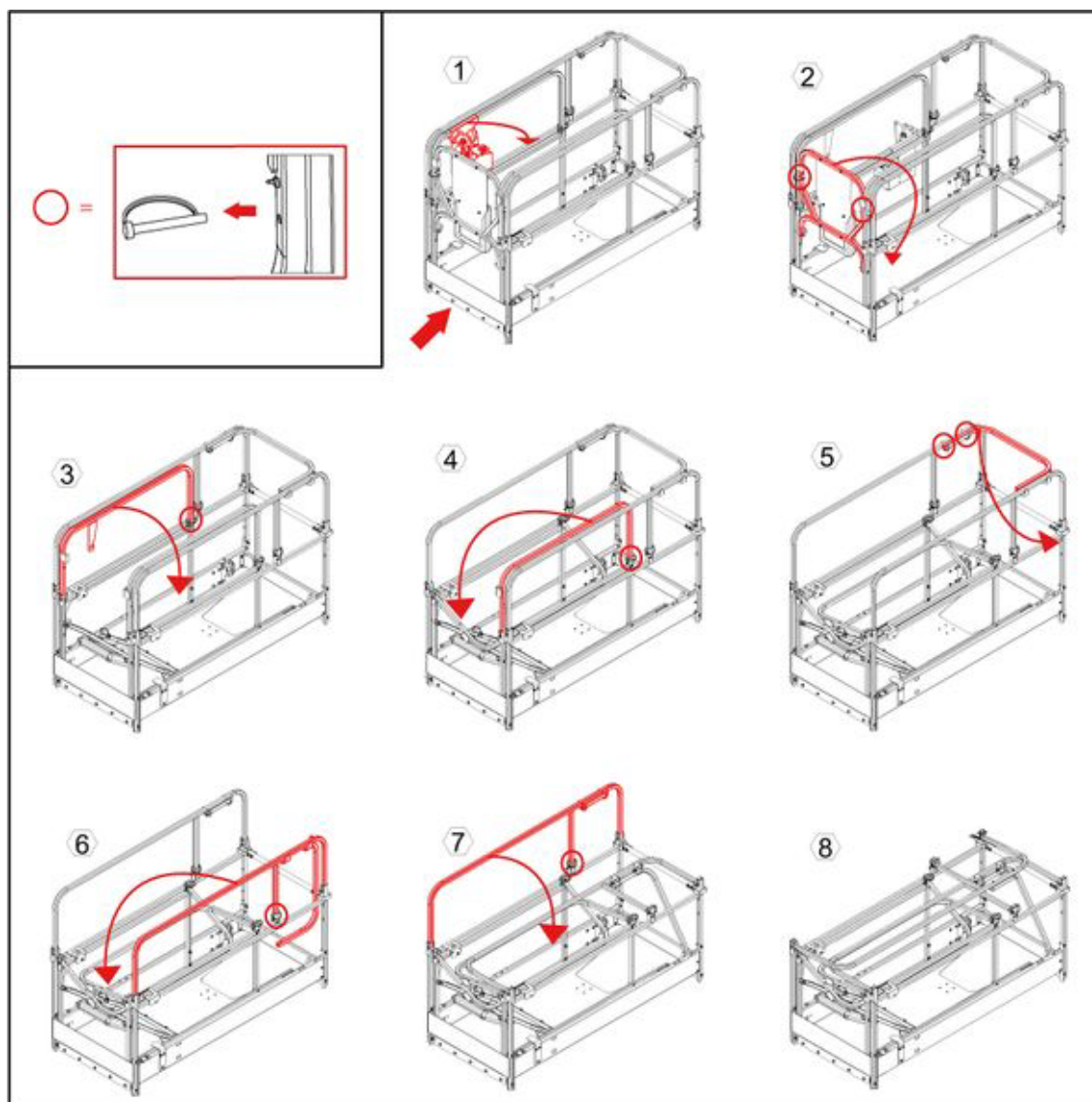
Remove the pin ( G7 ).

Lift and tip right hand main railing inwards until it contacts the element ( 6 ).



# E - General Specifications

## 5.2.4 - Specific decals



| Marking | Description                              | Quantity | Part number |
|---------|------------------------------------------|----------|-------------|
| 8       | Explanation work and transport positions | 1        | 4000557230  |

## 5.2.5 - Raising guardrails to working position

To raise the folded guardrails to the vertical working position :

- Follow the fold down operational sequence in the reverse order.
- Ensure all pins are installed and secured.

# E - General Specifications

## 5.3 - PANEL CARRIER

### 5.3.1 - Description

This attachment is an assembly designed to transport panels. The assembly comprises of a tray that extends along the length of the floor. The panel(s) should be placed in the tray and secured to the guard rail with a strap (not supplied).

### 5.3.2 - Characteristics

| Specifications                                        | OPTIMUM 8                            | OPTIMUM 1931E              |
|-------------------------------------------------------|--------------------------------------|----------------------------|
|                                                       | SI                                   | Imp.                       |
| Weight of the carrier                                 | 7 kg                                 | 15 lbs                     |
| Maximum allowable weight of the panels on the carrier | 50 kg                                | 110 lbs                    |
| Maximum load surface                                  | 3 m <sup>2</sup> (L 2,5 m x H 1,2 m) | 32 sq.ft (L 8 ft x H 4 ft) |
| Maximum wind speed allowed                            | 0 m/s - 0 km/h                       | 0 mph                      |

### 5.3.3 - Safety precautions



- Please read and assimilate the instructions before using the attachment.
- This attachment is designed for transporting panels. Do not use this attachment for transporting other types of load.
- Do not suspend loads.
- Position the panel(s) centrally on cradle with deck extended.
- Secure the panel in place with the use of strap.
- Do not overload the attachment and ensure that the panels are secured with straps.
- Do not exceed the maximum allowable platform capacity. The combined weight of the attachment, load, the occupants, the tools and any other equipment must not exceed the maximum allowable platform capacity.
- Do not load panels whose surface area exceeds the maximum authorized surface area. Exposing an additional surface area to the wind reduces machine stability. Do not install any other attachments that increase the surface area exposed to the wind.
- Do not use the machine if the wind speed exceeds the authorized limit of the attachment.
- When maneuvering, ensure you maintain a safe distance between the load and the obstacles in the work environment.

# E

## - General Specifications

### 5.3.4 - Pre-operation inspection

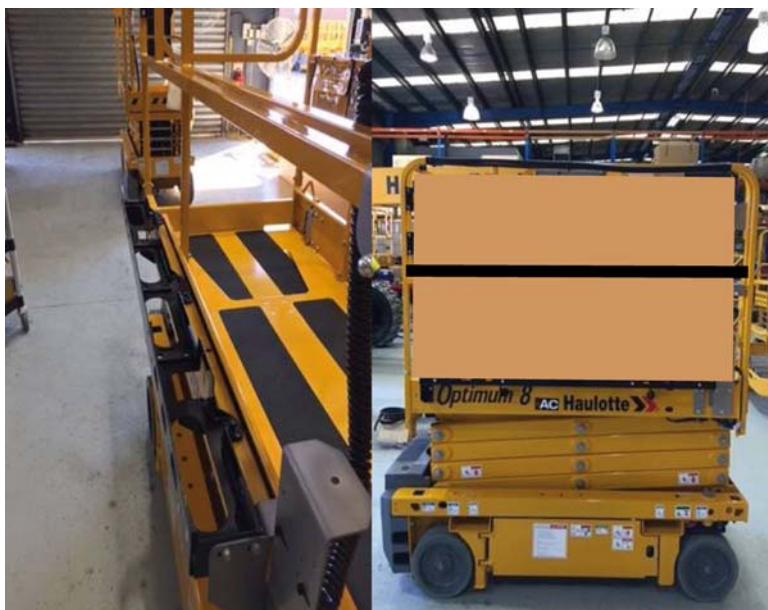


- Check that the cradle has no cracks or other damage.
- Check that the cradle is correctly installed and secured to the platform (Ensure fastening screws are tightened and pins correctly positioned).
- Check that the information decal is present on the cradle and is legible.
- Check that the strap(s) is(are) not twisted or torn.
- Check that the position of the load and attachment is not obstructing access to the platform or the controls.
- Check that the position of the attachment and the load is not reducing visibility during maneuvers in the work environment.

### 5.3.5 - Operation

- Position and center the load to rest on the cradle.
- Securely attach the load on the cradle with straps.

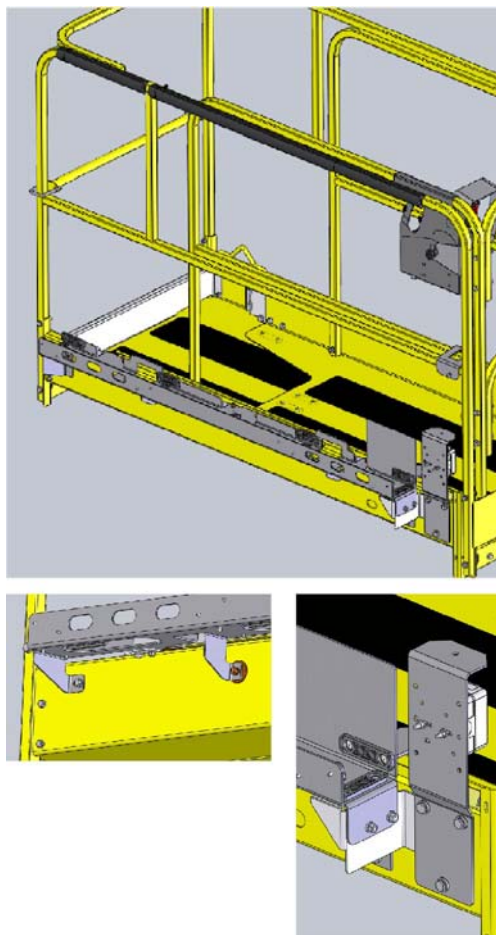
#### Strapping example(s)



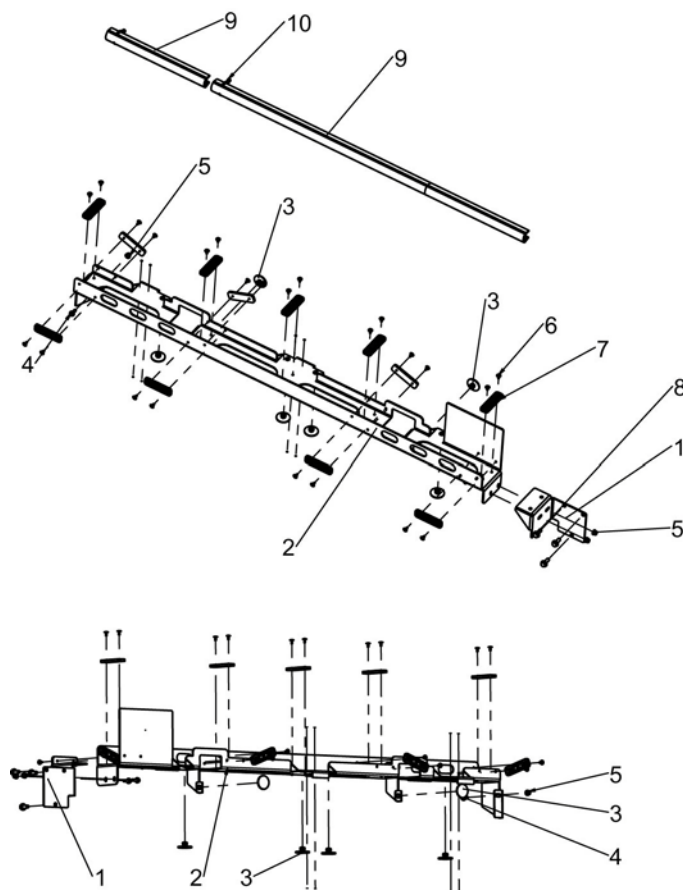
# E - General Specifications

## 5.3.6 - Disassembly - Assembly

### OPTIMUM 8 - OPTIMUM 1931E



# E - General Specifications



| Marking | Description         |
|---------|---------------------|
| 1       | Sheet metal support |
| 2       | Sheet metal support |
| 3       | Stop                |
| 4       | Screw               |
| 5       | Nut                 |
| 6       | Rivet               |
| 7       | Protection pad      |
| 8       | Screw               |
| 9       | Bumper              |
| 10      | Clamp               |

# E

## - General Specifications

1. Position the sheet metal support ( 2 ) against the sheet metal support ( 1 ). Tighten the screws ( 4 ) and the nuts ( 5 ) to the recommended torque.
2. Place the protection pads ( 7 ), the rivets ( 6 ) and the stops ( 3 ).
3. After checking that the decal is on the cradle, position the sheet metal support ( 1 ) on the outside of the guardrail on the side of the control box.
4. Tighten the screw ( 4 ) and the nut ( 5 ) to the recommended torque. Tighten the screws ( 8 ) to the recommended torque.
5. Position the bumpers ( 9 ) and fasten with clamps ( 10 ).

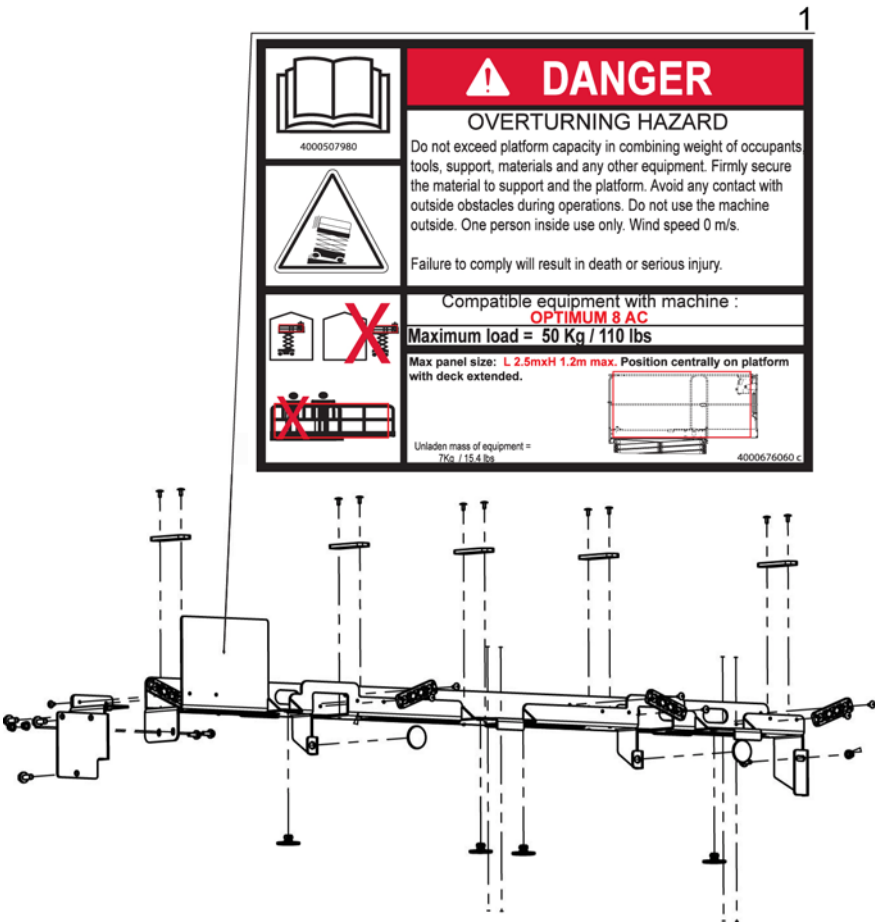
***N.B.-:-TORQUE REQUIREMENTS : 10 NM (7 LBS/FT) FOR M6 AND 22 NM (16 LBS/FT) FOR M8.***

- Pre-operation test : Place and secure the load of 50 kg (110 lbs) max. on the cradle. Ensure that the cradle can support the load and that there is no visual structural damage.

# E - General Specifications

## 5.3.7 - Specific decals

### Location of the decals



OPTIMUM 8 - OPTIMUM 1931E

| Marking | Description | Quantity | Part number                                                                  |
|---------|-------------|----------|------------------------------------------------------------------------------|
| 1       | Danger      | 1        | In french : 4000676050<br>In english : 4000676060<br>In spanish : 4000676070 |

# E

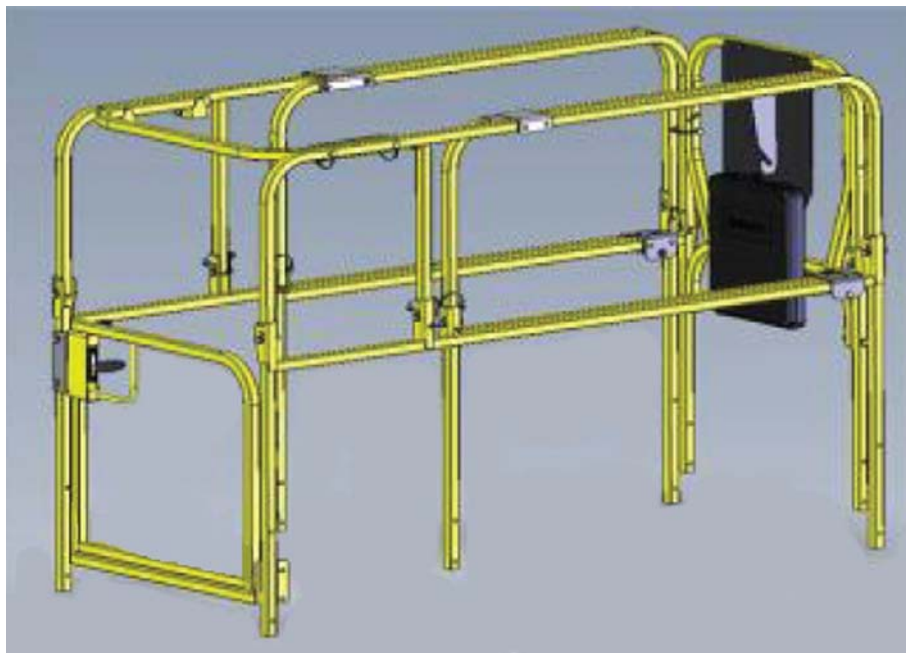
## - General Specifications

### 5.4 - SWING GATE

#### 5.4.1 - Description

"SWING GATE" consists of a laterally mounted pivoting  $\frac{1}{2}$  gate with closing latch, which enables a better access to platform. Spring loaded hinges and a latching mechanism allows the gate to swing inwards only.

Swing gate



#### 5.4.2 - Characteristics

Width of the gate : 600 mm / 24 in

#### 5.4.3 - Safety precautions



- The gate is part of the guardrail system and must be securely fastened after entering the platform.
- Pay attention to the toe board when entering or exiting the platform.

#### 5.4.4 - Pre-operation instructions

- Inspect that the latching mechanism is securely fastened.
- Check the hinges and latch operate correctly and are not deformed.
- Ensure that the gate returns automatically to the closed and fastened position after entering or exiting the platform.

# F - Maintenance

## 1 - General

As an owner and/or operator of Haulotte equipment, your Safety is of utmost importance to HAULOTTE®, which is why HAULOTTE® places such a high priority on product safety.

INSPECTIONS are not only required by HAULOTTE®, but may also be required by industry standards and/or local regulations.

To ensure your equipment continues to achieve the level of performance set in the factory, it is important to maintain it regularly. We remind you that it is strictly forbidden to make any modifications. Regular and timely inspections will reduce equipment down time as well as prevent possible injury.

***N.B.-:DO NOT OPERATE UNLESS YOU ARE FAMILIAR AND TRAINED IN THE PRINCIPLES OF SAFE MACHINE OPERATION.***

Overview :

- Walk-around inspections take only a few minutes at the beginning and end of each shift – one of the best ways to prevent mechanical problems and safety hazards.

What to Do :

- Use your senses: sight, smell, hearing and touch.

Frequency :

- Check your machine periodically during your entire workday.
- Make sure to do your inspection the same way every time.
- Complete one of these inspections at the start and end of each shift.

***N.B.-:IF DAMAGE OR UNAUTHORIZED MODIFICATIONS ARE DISCOVERED, THE MACHINE MUST BE REMOVED FROM SERVICE UNTIL REPAIRS ARE MADE BY A QUALIFIED SERVICE TECHNICIAN.***

It is the owner's responsibility to ensure the required maintenance as recommended by Haulotte is completed prior to the operation of the machine.

If regular maintenance is not carried out, this may :

- Void the warranty.
- Cause machine malfunction.
- Reduce machine reliability and shorten its service life.
- Jeopardize operator safety.

HAULOTTE Services® technicians are specially trained to carry out extensive repairs, interventions or adjustments on the safety systems or elements of HAULOTTE® machines. They carry genuine HAULOTTE spare parts and tools as required, and also provide fully documented reports on all work completed.

The inspection and maintenance table, identifies the role and the responsibilities of each party in periodical machine maintenance.  Section C 3 - Inspection and Functional test.

# F

## - Maintenance

### 2 - Maintenance Schedule

This section provides the necessary information needed to place the machine in safe operation. In accordance with the regulations that are currently applicable, this machine is designed to have a 10 year life span in normal usage conditions. The life may be extended or reduced dependent on the severity of operating conditions, the machine condition itself and by conducting effective inspections and maintenance in addition to other external factors. There are a number of factors which can affect the design life including but not limited to, severity of operating conditions/routine maintenance which should be carried out in accordance with this manual.

Severity of operating conditions may require a reduction in time between maintenance periods. Machines that have been out of service or have not been in use for more than 3 months must undergo a periodic inspection before the machine is put back into service.

Maintenance must be carried out by a competent company or person familiar with mechanical procedures.

Maintenance operations performed must be recorded in a register / log book of the machine.

# F - Maintenance

## 3 - Inspection program

### 3.1 - GENERAL PROGRAM

The machine must be inspected on a regular basis at intervals of no less than once 1 per year. The purpose of the inspection is to detect any defect which could lead to an accident during routine use of the machine. Local standards and regulations may require more frequent inspections.

HAULOTTE® requires Reinforced and Major Inspections to be carried out on the product to extend its service life.

Inspections must be carried out by a competent company or person.

The inspection results must be recorded in the safety register or machine log book controlled and overseen by the company manager. This register or machine log book and the list of competent repair persons must be made available to the government work inspector and HAULOTTE Services®.

| When                               | Responsible       | Stakeholder                                                        | What                  |
|------------------------------------|-------------------|--------------------------------------------------------------------|-----------------------|
| Before sale                        | Owner (or renter) | Competent technician or qualified technician<br>HAULOTTE Services® | Periodic inspection   |
| Before rent                        | Owner (or renter) | Competent technician or qualified technician<br>HAULOTTE Services® | Daily inspection      |
| Before use or every change of user | User              | User                                                               |                       |
| Annually ( 1 year)                 | Owner (or renter) | Competent technician or qualified technician<br>HAULOTTE Services® | Periodic inspection   |
| 5 years                            | Owner (or renter) | Qualified technician<br>HAULOTTE Services®                         | Reinforced inspection |
| 10 years                           | Owner (or renter) | Qualified technician<br>HAULOTTE Services®                         | Major inspection      |

### 3.2 - DAILY INSPECTION

The Daily inspection includes a visual inspection, operational checks and testing of the safety systems. This must be conducted by the operator before using the machine.

This inspection is the responsibility of the user. Refer to  Section C 3.1 - Daily inspection.

# F

## - Maintenance

### 3.3 - PERIODIC INSPECTION

The Periodic inspection is a thorough evaluation of the operation and safety features of the machine.

It must be conducted before the sale / resale of the machine and/or at least once every year.

Local regulations may have specific requirements on frequency, and content of inspections.

The severity of operating conditions may require frequent inspections.

This inspection is the responsibility of the owner, and inspections must be carried out by a competent company or person.

This inspection is in addition to the daily inspection.

This inspection should also be conducted after :

- Extensive dismantling and reassembly of major components.
- Repairs involving the machine's essential components.
- Any accident causing stress to the machine.

### 3.4 - REINFORCED INSPECTION

The Reinforced inspection is a thorough evaluation of the machine's structural components, to ensure proper functionality of the machine.

This evaluation must occur at a frequency of 5000 hours or every 5 years.

This inspection is the responsibility of the owner, and it must be conducted by a HAULOTTE Services® technician or by a competent company or person.

This inspection includes :

- Daily inspection
- Periodic inspection

***N.B.-:-REFER TO THE MAINTENANCE MANUAL FOR DETAILS.***

### 3.5 - MAJOR INSPECTION

The Major inspection is a thorough evaluation of the machine's integrity and proper functioning; after a normal service life of 10 years.

This evaluation must take place after 10 years of operation and then repeated every 5 years thereafter.

The severity of operating conditions may require frequent inspections.

This inspection is the responsibility of the owner, and it must be conducted by a HAULOTTE Services® technician or by a competent company or person.

This inspection includes :

- Daily inspection
- Periodic inspection
- Reinforced inspection

***N.B.-:-REFER TO THE MAINTENANCE MANUAL FOR DETAILS.***

# F

## - Maintenance

### 4 - Repairs and adjustments

Extensive repairs, interventions or adjustments on the safety systems or components must be performed by a HAULOTTE Services® technician. Use original spare parts and components only.

***N.B.: -HAULOTTE SERVICES® TECHNICIANS ARE TRAINED PROFESSIONALS TO PERFORM EXTENSIVE REPAIRS, INTERVENTIONS AND ADJUSTMENTS ON THE SAFETY SYSTEMS OR COMPONENTS OF HAULOTTE® MACHINES. THE TECHNICIAN CARRIES GENUINE HAULOTTE® SPARE PARTS AND TOOLS AS REQUIRED, AND ALSO PROVIDES FULLY DOCUMENTED REPORTS ON ALL WORK COMPLETED.***

HAULOTTE Services® will not take responsibility for any outcomes resulting from inferior services or repairs performed by other unauthorised personnel.

HAULOTTE® reminds that NO modifications SHALL be carried out without the written permission of HAULOTTE®.

Any unauthorised repairs/modifications will void HAULOTTE® warranty.

To check for safety campaigns, consult our website :



***N.B.: -WHEN DISPOSING OR SCRAPPING THIS MACHINE, PLEASE CONSIDER APPROPRIATE METHODS OF RECYCLING. ANY ITEMS THAT REQUIRE SPECIFIC DISPOSAL ARE LISTED WITH INSTRUCTIONS IN THE MAINTENANCE MANUAL.***

F - Maintenance



Notes

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# G - Other information

## 1 - Warranty disclosure

### 1.1 - AFTER SALES SERVICE

Our HAULOTTE Services® After Sales Service is at your disposal throughout your machine's service life to ensure the optimum use of your HAULOTTE product :

- When contacting our After Sales Service, ensure that you provide the machine model and serial number.
- When ordering any consumables or spare parts, please use this manual and the HAULOTTE® Essential catalogue to receive your genuine HAULOTTE® spare parts, your only guarantee of parts interchangeability and correct machine operation.
- If there is an equipment malfunction involving a HAULOTTE® product, then contact HAULOTTE Services® immediately even if the malfunction does not involve material and/or bodily damage.

### 1.2 - MANUFACTURER'S WARRANTY

#### 1.2.1 - Warranty acceptance

On reception of his machine, the owner or rental company must check the machine's condition and fill out the machine reception slip provided.

#### 1.2.2 - Warranty period

The present warranty is valid for a period of 12 months or up to a maximum of 1000 operating hours for lifting and handling equipment and 2000 operating hours for public works machinery, starting from delivery and terminating when the first limit is reached.

Spare parts are covered by a 6 month warranty.

#### 1.2.3 - Procedure conditions

To benefit from the warranty, the owner or rental company must inform the nearest HAULOTTE® subsidiary or the subsidiary that delivered the machine (the only dealer authorised to carry out an intervention under the manufacturer's warranty agreement) of the defect in writing as quickly as possible.

The subsidiary will decide whether to repair or replace the part that proves to be faulty.

The owner or rental company must present the duly completed maintenance book supplied with the machine as proof that the maintenance operations recommended by the manufacturer have been carried out.

The owner or rental company must ensure that the defect covered by the HAULOTTE® warranty is reported to and acknowledged by the HAULOTTE® subsidiary as rapidly as possible or must report the defect in writing.

Work carried out under the HAULOTTE® warranty will be performed by the subsidiary which delivered the machine, wherever possible.

# G

 - Other information

## 1.2.4 - Conditions of warranty

HAULOTTE® guarantees its products against defects, faults or manufacturing defects when the owner or rental company has informed HAULOTTE® of the defect.

The warranty does not cover the consequences of normal wear, nor any defects, failure or damage resulting from poor maintenance or abnormal usage, in particular overloading, impact by an external source, faulty installation or any modification made to products marketed by HAULOTTE® and performed by the owner or rental company.

In the event of operation or use which does not comply with the instructions or recommendations in the maintenance book, warranty claims will not be accepted.

The machine utilisation period must be recorded by reading the engine hour meter whenever an intervention is made. The engine hour meter must be maintained in good working order to guarantee maximum working life and to justify maintenance at the recommended time.

Warranty obligations for the time period stated above will cease immediately in situations where the defect is due to the following reasons :

- Use of spare parts that are not HAULOTTE® originals.
- If elements or products other than those recommended by the manufacturer are used.
- If the HAULOTTE® name, serial numbers or identification marks are removed or altered.
- After an unreasonably long delay before reporting a manufacturing problem.
- If the owner or rental company continues to use the machine despite problems.
- If damage is caused by modifications that do not comply with HAULOTTE® specifications.
- If lubricants, hydraulic oils or fuels that do not comply with HAULOTTE® recommendations are used.
- If the machine is incorrectly repaired or used by the customer.
- In case of an accident caused by a third party.

If no particular agreement has been made, any claims made after the previously established warranty period has expired will be refused.

# G

## - Other information

The present warranty does not cover damage that may result directly or indirectly from any flaws or defects covered by the latter :

- Consumables : No claims will be accepted for objects or parts replaced in the context of normal machine usage.
- Settings : Adjustments of all sorts may become necessary at any time. Therefore adjustments are considered a part of normal machine usage conditions and are not covered by the warranty.
- Hydraulic and fuel circuit contamination : Every possible precaution is taken to ensure that fuel and hydraulic liquid delivered is clean. HAULOTTE® will not accept any claims concerning cleaning of the fuel circuit, filter, injection pump or any other equipment in direct contact with fuel or lubricants.
- Wearing parts (pads, bearings, tires/tyres, connections, etc.) : These parts are, by definition, subject to deterioration during the period of operation. Wearing parts will therefore not be covered by the warranty agreement.

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# G - Other information

## 2 - Subsidiary contact information

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|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>HAULOTTE FRANCE<br/>PARC DES LUMIERES<br/>601 RUE NICEPHORE NIEPCE<br/>69800 SAINT-PRIEST<br/><b>TECHNICAL Department:</b><br/><b>+33 (0)820 200 089</b><br/><b>SPARE PARTS : +33 (0)820 205 344</b><br/>FAX : +33 (0)4 72 88 01 43<br/>E-mail : <a href="mailto:haulottefrance@haulotte.com">haulottefrance@haulotte.com</a><br/><a href="http://www.haulotte.fr">www.haulotte.fr</a></p> |    | <p>HAULOTTE ITALIA<br/>VIA LOMBARDIA 15<br/>20098 SAN GIULIANO MILANESE (MI)<br/><b>TEL: +39 02 98 97 01</b><br/>FAX: +39 02 9897 01 25<br/>E-mail : <a href="mailto:haulotteitalia@haulotte.com">haulotteitalia@haulotte.com</a><br/><a href="http://www.haulotte.it">www.haulotte.it</a></p>                                                              |    | <p>HAULOTTE INDIA<br/>Unit No. 1205, 12th floor, Bhumiraj Costarica,<br/>Plot No. 1&amp;2, Sector 18,<br/>Palm Beach Road,<br/>Sanpada, Navi Mumbai- 400 705<br/>Maharashtra, INDIA<br/>Tel. : +91 22 66739531 to 35<br/>E-mail : <a href="mailto:sray@haulotte.com">sray@haulotte.com</a><br/><a href="http://www.haulotte.in">www.haulotte.in</a></p>                                               |
|    | <p>HAULOTTE HUBARBEITSBÜHNEN GmbH<br/>Ehrenkirchener Strasse 2<br/>D-79427 ESCHBACH<br/><b>TEL : +49 (0) 7634 50 67 - 0</b><br/>FAX : +49 (0) 7634 50 67 - 119<br/>E-mail : <a href="mailto:haulotte@de.haulotte.com">haulotte@de.haulotte.com</a><br/><a href="http://www.haulotte.de">www.haulotte.de</a></p>                                                                               |    | <p>HAULOTTE VOSTOK<br/>61A, RYABINOVAYA STREET<br/>Bldg. 3<br/>121471 MOSCOW<br/>RUSSIA<br/><b>TEL/FAX : +7 495 221 53 02 / 03</b><br/>E-mail : <a href="mailto:info@haulottevostok.ru">info@haulottevostok.ru</a><br/><a href="http://www.haulotte-international.com">www.haulotte-international.com</a></p>                                               |    | <p>HAULOTTE DO BRASIL<br/>AV. Tucunaré, 790<br/>CEP: 06460-020 - TAMBORE<br/>BARUERI - SAO PAULO - BRASIL<br/><b>TEL : +55 11 4196 4300</b><br/>FAX : +55 11 4196 4316<br/>E-mail : <a href="mailto:haulotte@haulotte.com.br">haulotte@haulotte.com.br</a><br/><a href="http://www.haulotte.com.br">www.haulotte.com.br</a></p>                                                                       |
|    | <p>HAULOTTE IBERICA<br/>C/ARGENTINA Nº 13 - P.I. LA GARENA<br/>28806 ALCALA DE HENARES<br/>MADRID<br/><b>TEL : +34 902 886 455</b><br/>TEL SAT : +34 902 886 444<br/>FAX : +34 911 341 844<br/>E-mail : <a href="mailto:iberica@haulotte.com">iberica@haulotte.com</a><br/><a href="http://www.haulotte.es">www.haulotte.es</a></p>                                                           |    | <p>HAULOTTE POLSKA Sp. Z o.o.<br/>UL. GRANICZNA 22<br/>05-090 RASZYN - JANKI<br/><b>TEL : +48 22 720 08 80</b><br/>FAX : +48 22 720 35 06<br/>E-mail : <a href="mailto:haulottepolska@haulotte.com">haulottepolska@haulotte.com</a><br/><a href="http://www.haulotte.pl">www.haulotte.pl</a></p>                                                            |    | <p>HAULOTTE MÉXICO, Sa de Cv<br/>Calle 9 Este, Lote 18, Cívac, Jiutepec,<br/>Morelos<br/>CP 62500 Cuernavaca<br/>México<br/><b>TEL : +52 77 7321 7923</b><br/>FAX : +52 77 7516 8234<br/>E-mail : <a href="mailto:haulotte.mexico@haulotte.com">haulotte.mexico@haulotte.com</a><br/><a href="http://www.haulotte-international.com">www.haulotte-international.com</a></p>                           |
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|  | <p>HAULOTTE SCANDINAVIA AB<br/>Taljegårdsgatan 12<br/>431 53 Mölndal<br/>SWEDEN<br/><b>TEL : +46 31 744 32 90</b><br/><b>FAX : +46 31 744 32 99</b><br/>E-mail : <a href="mailto:info@se.haulotte.com">info@se.haulotte.com</a><br/><a href="mailto:s pares@se.haulotte.com">s pares@se.haulotte.com</a><br/><a href="http://www.haulotte.se">www.haulotte.se</a></p>                         |  | <p>HAULOTTE TRADING (SHANGHAI)<br/>Co. Ltd.<br/>#7 WORKSHOP<br/>No 191 HUA JIN ROAD<br/>MIN HANG DISTRICT<br/>SHANGHAI 201108 CHINA<br/><b>TEL : +86 21 6442 6610</b><br/>FAX : +86 21 6442 6619<br/>E-mail : <a href="mailto:haulotteshanghai@haulotte.com">haulotteshanghai@haulotte.com</a><br/><a href="http://www.haulotte.cn">www.haulotte.cn</a></p> |  | <p>HAULOTTE ARGENTINA<br/>Ruta Panamericana Km. 34,300<br/>(Ramal A Escobar)<br/>1615 Gran Bourg<br/>(Provincia de Buenos Aires)<br/>Argentina<br/><b>TEL.: +54 33 27 445991</b><br/>FAX. +54 33 27 452191<br/>E-mail : <a href="mailto:haulotteargentina@haulotte.com">haulotteargentina@haulotte.com</a><br/><a href="http://www.haulotte-international.com">www.haulotte-international.com</a></p> |
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# G

## - Other information

### 2.1 - CALIFORNIA WARNING

For electric (battery operated) machines

#### CALIFORNIA



#### Proposition 65 Warning

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer.

WASH HANDS AFTER HANDLING.

For more information go to  [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



## Notes

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